2020 ANNUAL LONG-TERM MONITORING REPORT

Former LO-58 Nike Missile Battery Launch Site
Caribou, Maine
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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
µS/cm	microSiemens per centimeter
ADR	Automated Data Review
AFNS	Acid Fueling/Neutralization Station
AMAC	Adult Multiple Alternative Center
AMSL	above mean sea level
APH	air-phase petroleum hydrocarbons
ARAR	Applicable or Relevant and Appropriate Requirement\
AST	above-ground storage tank
bgs	below ground surface
CENAE	Corps of Engineers, New England District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cis-1,2-DCE	cis-1,2-dichloroethylene
COC	contaminant of concern
COLOG	Layne Christensen Company
COPC	contaminant of potential concern
COVID-19	Coronavirus Disease 2019
CSM	conceptual site model
CVOC	chlorinated volatile organic compound
DD	Decision Document
DERP	Defense Environmental Restoration Program
DO	dissolved oxygen
DoD	Department of Defense
DRO	diesel range organics
DW	drinking water well
EDB	1,2-Dibromoethane
EGAD	Maine Environmental and Geographic Analysis Database
eQAPP	electronic Quality Assurance Project Plan
FS	Feasibility Study
ft	feet
FUDS	Formerly Used Defense Site
FUDSChem	Formerly Used Defense Sites Chemical Database
GAC	granular activated carbon
GPR	ground penetrating radar
GRO	gasoline range organics
HI	hazard index
HVAC	heating, ventilation, and air conditioning
JCI	Johnson Companies, Inc.
JP-4	jet propellant-4
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LOD	limit of detection
LOQ	limit of quantitation
LTM	long-term monitoring
LTMP	Long-Term Monitoring Plan
MassDEP	Massachusetts Department of Environmental Protection

ACRONYMS AND ABBREVIATIONS (Continued)

MCL	Maximum Contaminant Level
MEDEP	Maine Department of Environmental Protection
MEFUDS	Maine Formerly Used Defense Site
mg/L	milligrams per liter
MGS	Maine Geologic Society
MNA	monitored natural attenuation
MS	matrix spike
MSD	matrix spike duplicate
mV	millivolt
MW	monitoring well
NTU	nephelometric turbidity unit
ORP	oxidation-reduction potential
OTV	optical televiewer
PAH	polycyclic aromatic hydrocarbon
PAL	Project Action Limit
PCB	polychlorinated biphenyl
PID	photoionization detector
POET	Point-of-Entry Treatment
PP	Priority Pollutant
ppm	parts per million
PSI	Preliminary Site Investigation
PVC	polyvinyl chloride
PWS	Performance Work Statement
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
RAG	Remedial Action Guideline
RAO	Remedial Action Objective
RG	Remediation Goal
RI	Remedial Investigation
RSL	Regional Screening Level
SAP	Sampling and Analysis Plan
SEDD	Staged Electronic Data Deliverable
SIM	selective ion monitoring
SOP	standard operating procedure
SVOC	semi-volatile organic compound
SWL	static water level
TBC	to-be-considered
TCE	trichloroethylene
TPH	total petroleum hydrocarbons
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
VERINA	Verina Consulting Group, LLC
VFW	Veterans of Foreign Wars
VI	vapor intrusion

ACRONYMS AND ABBREVIATIONS (Continued)

VIMS	vapor intrusion mitigation system
VOC	volatile organic compound
VPH	volatile petroleum hydrocarbon

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1.0 – INTRODUCTION

This Annual Long-Term Monitoring (LTM) Report was prepared by the United States Army Corps of Engineers (USACE), North Atlantic Division, New England District (CENAE) for the Former LO-58 Nike Missile Battery Launch Site Caribou in Caribou, Maine (herein referred to as "the LO-58 Site"). The work detailed in this report was completed under the Defense Environmental Restoration Program (DERP) for Formerly Used Defense Sites (FUDS) for Hazardous, Toxic, and Radioactive Waste (HTRW), Project Number D01ME0077 02. Work conducted under the DERP FUDS Program is compliant with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process, as amended by the Superfund Amendments and Reauthorization Act of 1986. The work described in this report was conducted pursuant to the Final Decision Document (DD) for the LO-58 Site, dated 14 February 2019 (USACE, 2019).

1.1 – Purpose and Scope

This report summarizes the annual LTM activities performed in 2020 and February 2021 at the LO-58 Site. Two field events were conducted that are addressed in this report, including annual sampling performed 14 to 18 December 2020 and a follow-up sampling event that occurred 5 to 6 February 2021.

1.2 – Site Location and Features

The LO-58 Site is a 17-acre parcel of land located at 253 Van Buren Road (Route 1) in Caribou, Maine. The LO-58 Site is owned by the Lister-Knowlton Veterans of Foreign Wars (VFW) Post 9389 and is identified by the City of Caribou Assessor's Office as Map 14/Lot 50. The entrance to the LO-58 Site from Van Buren Road is located at latitude 46º 52′ 55″ North and longitude 68º 0′ 38″ West (USACE, 2011). A Site location map is presented as **Figure 1**.

The LO-58 Site consists of the former Nike Missile Launcher Area, the former Engine, Generator, and Frequency Changer Building (Generator Building), the former Missile Assembly and Test Building (Test Building), the Acid Fueling/Neutralization Station (AFNS), and the former Barracks Building. The former Generator Building has been expanded and is used by the Adult Multiple Alternative Center (AMAC) as an adult learning center. The former Barracks Building has been repurposed as the Lister-Knowlton VFW Building. Aside from the former sentry station, the only other building that remains standing is the former Test Building, behind which an abandoned 500-gallon fuel oil above-ground storage tank (AST) is located. A concrete block building was demolished, and a new storage building for AMAC was constructed west of the Test Building (USACE, 2011).

Municipal water supply and sanitary sewer utilities are not available to any properties in the vicinity of the LO-58 Site, and the properties are served by private drinking water wells and private septic systems. There are two drinking water supply wells on the LO-58 Site: wells DW-01 and DW-02R. DW-01 services the AMAC Building and well DW-02R services the VFW Building. DW-02R was recently installed as a replacement well for DW-02, which is still in place but is not used. DW-02R was initially sampled in June 2020. The nearest offsite drinking water well DW-03 is located at the Morin's Auto Detailing property, which abuts the LO-58 Site to the southwest. The drinking water well for this property is located approximately 750 feet (ft) west of the former Launcher Area (Weston, 2007). An additional offsite drinking water well DW-04 is located on a private residence at 271 Van Buren Road and is located approximately 1000 ft northwest of the former Launcher Area.

There are five bedrock monitoring wells (MW-01 through MW-05) and one overburden monitoring well (MW-06) located throughout the LO-58 Site. The monitoring well network and drinking water wells associated with the LO-58 Site are depicted on **Figure 2**.

1.3 – Site History

The LO-58 Site property was acquired from the Town of Caribou in 1955 by the United States Government for the construction of a Nike missile launching facility. The LO-58 Site was deactivated by the Department of Defense (DoD) in 1966. Following its decommissioning as a military facility in 1969, the LO-58 Site was conveyed to the City of Caribou and used for storage of municipal property. In 1970, the property was purchased by the current owner, the Lister-Knowlton VFW Post 9389.

Between 1955 and 1957, the LO-58 Launch Area was constructed as part of the LO-58 Site facility. The Launch Area originally consisted of the former Nike Missile Launcher Area, the former Generator Building, the former Test Building, the warhead building, the AFNS, and the former Barracks Building. The LO-58 Site began operations in 1957. The launcher facility was originally designed to carry and deploy the Ajax-type guided missile. The Ajax missile used a blend of jet propellant-4 (JP-4), inhibited red fuming nitric acid, and approximately one pint of unsymmetrical dimethylhydrazine to make the mixture hyperbolic; hence, it was capable of spontaneous ignition without the need for an additional ignition source. Reportedly, the missiles were periodically de-fueled at the AFNS so the maintenance checks could be performed. There were reportedly 10 Ajax missiles within each of the three missile silos.

In 1960, the LO-58 Site operations converted to the Hercules missile. Several changes occurred at Nike missile launching sites because of the conversion from Nike Ajax to Nike Hercules missiles (Bender, 2004). Some of these changes included the construction of the Warhead Building within the AFNS area, the construction of a larger Test Building, and an upgrade to the launchers, missile elevators, motors, and related power elements associated with the three onsite missile silos. Each silo contained six Hercules missiles. Nike Hercules missile propellants contained polysulfide-ammonium perchlorate; however, contamination resulting from the Hercules missiles is unlikely because the solid rocket fuel arrived onsite already incorporated into the missile boosters, and maintenance and/or replacement of the fuel was not performed. In addition, the missiles were never fired and there is no evidence to suggest that the propellant was disposed of onsite.

In 1966, the LO-58 Site was deactivated. In 1969, the LO-58 Site was decommissioned as a military facility and the property was transferred back to the Town of Caribou, which used the area for storing municipal property. In 1970, the LO-58 Site was purchased by the current owner, Lister-Knowlton VFW Post 9389.

The former Generator Building (now the AMAC) has had two or three additions built by AMAC over the life of their lease. Prior to May 2010, AMAC had a new storage building constructed west of the Test Building at the location of a block shed which was removed, the septic system serving AMAC had some improvements made, and the drain field was relocated across the driveway/road from the AMAC. The former Warhead Building was present at the LO-58 Site until the summer of 2006 when it was destroyed by fire; currently only the concrete foundation slab remains (USACE, 2010). In addition, a small farm machinery repair facility operated for less than a year in the former Test Building following decommissioning.

1.4 – Summary of Previous Work

According to available documents for the LO-58 Site, including an Inventory Project Report for the LO-58 Site, at least three site visits were performed between the mid-1980s and 1993 for the purpose of identifying environmental hazards associated with the Site (USACE, 1993). Plans for the LO-58 Site indicated that three fuel storage tanks were originally at the facility and included:

- A 2,000-gallon underground storage tank (UST) associated with the former Barracks Building.
- A 500-gallon fuel oil AST located outside the former Test Building.
- A 4,000-gallon fuel oil UST located adjacent to the southwest corner of the former Generator Building.

Records indicated that the 2,000-gallon UST had been removed. The 500-gallon AST had been utilized by a previous tenant at the property, and therefore was not eligible for removal under the DERP-FUDS program. There was no indication that the 4,000-gallon UST was still present at the property, and it was assumed to have been removed (Weston, 2011). Inspections also noted that the ANFS area was still in place but that it posed no threat to the environment and required no further action.

The three missile silos at the LO-58 Site were closed by Mason and Maine Environmental Engineering Co. between August 1994 and October 1994. The closure activities of each missile silo included the sampling of infiltrated water in the three silos and the laboratory analysis for polychlorinated biphenyls (PCBs) and flashpoint; removal and disposal of the water within the silos; removal and disposal of hydraulic systems; and capping the three silos with concrete planks. Topside silo closure demolition work consisted of removing several vent pipes, manholes, and bulkhead doors (Mason Environmental Services, Inc., 1995).

USACE has conducted a series of investigations at LO-58 Site to characterize soil and groundwater impacts. The narrative below describes the history of investigations subsequent to closure activities, including lists of the corresponding investigation reports and work plans.

In the fall of 1996, Maine Department of Environmental Protection (MEDEP) responded to a complaint made by the current owner concerning odors in the water from the well serving the AMAC Building. Two rounds of drinking water sampling and analysis for volatile organic compounds (VOCs), using United States Environmental Protection Agency (USEPA) Method 8260, of well DW-01 by MEDEP documented and confirmed the presence of trichloroethylene (TCE) in the well water. Thereafter, MEDEP immediately installed a point of entry treatment (POET) system (i.e., where the waterlines would enter the building) consisting of a dual granular activated carbon (GAC) filtering system to remove organic contaminants in the drinking water and initiated a quarterly monitoring program. USACE took over the maintenance and monitoring of the POET system at the AMAC Building in 2009. This POET system remains in use by the AMAC Building and filter changes in the POET system are completed every 5 years based on a conservative estimate of 300,000 gallons of water usage by the facility per year, calculated using the United States Geological Survey (USGS) estimates for domestic water use in Maine, and the manufacturer's suggestion for the carbon change-out interval for Calgon Carbon Centaur 12x40 catalytic GAC used in the 2 ft^3 Pentair CH30546 filter used at the LO-58 Site. Filter changes are also conducted upon contaminant exceedances detected in the mid-filter sample (USACE, 2017).

During a site visit by MEDEP on 21 May 1998, MEDEP staff investigated an area located southwest of the former Generator Building, where a 4,000-gallon UST was previously located during the time the LO-58 Site was in operation by the government. Although this tank had reportedly been removed, a magnetometer survey of the area detected a significant anomaly located approximately 3 ft east and 9 ft south of the southwest corner of the building. This magnetometer detection suggested that a large metallic object may still exist in this portion of the property (USACE, 2017).

Following the 21 May 1998 site visit by MEDEP, the drinking water well which services the VFW Building, well DW-02, was added to the ongoing quarterly monitoring program. Because this well is located topographically downhill from well DW-01, the area of known TCE contamination, it was added to the program as a precautionary measure. During the summer of 1998, a drinking water sample was collected from DW-02 and analyzed for VOCs by USEPA Method 8260 (Weston, 2011). Analytical results of the sample indicated all analyzed compounds were not detectable at laboratory reporting limits.

In October 1998, representatives of Weston and MEDEP performed a site walk at the LO-58 Site to identify potential areas of concern regarding the release of process-related substances to the subsurface. During the site walk, several areas were identified as potential sources of contamination, including the former Launcher Area, the former AFNS, and the former Test Building (Weston, 2011).

A Preliminary Site Investigation (PSI) was performed at the property in the summer of 1999 to evaluate subsurface conditions at the LO-58 Site. Passive soil-gas and geophysical surveys, as well as a Geoprobe® soil boring and soil sampling program were conducted. The objective was to assess if the source of the TCE contamination detected in the onsite bedrock water supply well DW-01 servicing the AMAC facility was due to former DoD activities during its operation of the property, and to assess if additional investigations were warranted (Weston, 2000a).

The PSI passive soil-gas survey was initiated at the LO-58 Site on 22 June 1999. A total of 75 EMFLUX® soil-gas probes were installed on the LO-58 Site. The geophysical survey was performed near the former Generator Building on 23 June 1999. The geophysical survey consisted of two phases of investigation; a preliminary metal detection survey to identify the location of medium to large, buried metal objects, and a more sensitive ground penetrating radar (GPR) survey to identify physical characteristics of those objects. The results of the GPR survey indicated that the metallic response observed during the prior magnetometer survey by representatives of MEDEP was not due to the presence of a UST in the area. The GPR profiles in this area showed strong but narrow hyperbolic reflectors that are indicative of a small-diameter metal pipe extending outwards from the corner of the former Generator Building. In October 1999, the Geoprobe® soil boring and soil sampling investigation was performed to characterize the LO-58 Site soils, determine the depth of the overburden groundwater table (if present), explore the depth to bedrock, and sample potentially contaminated soil zones identified by the passive soil-gas survey. A total of 40 soil borings were advanced in the overburden at the LO-58 Site (Weston, 2000b).

A supplemental site investigation was conducted between October 2000 and May 2001 to supplement the information obtained during the 1999 PSI. In addition to the information obtained during the PSI, MEDEP performed an investigation at the LO-58 Site in the spring of 2000 that indicated the presence of fuel-impacted soils in the vicinity of a former UST, which was reportedly removed in 1994. The objectives of the supplemental site investigation activities were to further evaluate the source of TCE in the onsite drinking water well DW-01; to obtain further information regarding hydrogeologic conditions in bedrock; and, to fill data gaps caused by the premature

removal of soil-gas probes by third parties during the PSI. The additional site investigation activities included: a Geoprobe® soil boring and soil sampling program; the installation of five bedrock groundwater monitoring wells; and, the collection of soil, groundwater, and drinking water samples for laboratory analysis of VOCs, total petroleum hydrocarbons (TPH)-diesel-range organics (DRO), and TPH-gasoline-range organics (GRO) (Weston, 2001).

Following these site investigations, a LTM Plan (LTMP) for the Maine Formerly Used Defense Site (MEFUDS) program was developed. This monitoring program included not only the LO-58 Site but also the four additional MEFUDS locations. For the LO-58 Site, the MEFUDS LTMP included monitoring the two drinking water supply wells as well as the five newly installed bedrock monitoring wells on a semi-annual basis for a period of at least 2 years to investigate whether a remedial action was required in accordance with MEDEP regulations (Weston, 2004; Weston, 2005; Weston, 2006; Weston, 2007; Weston, 2008a; Weston, 2008b; Johnson Companies, Inc. [JCI], 2010a; JCI, 2010b; JCI, 2010c; JCI, 2011).

Geologic, geophysical, and hydrophysical investigations were conducted at the LO-58 Site in May 2008 by Layne Christensen Company (COLOG). The purpose of the investigation was to gather additional site-specific hydrogeologic information to further refine the conceptual site model (CSM) related to groundwater flow (COLOG, 2009; Weston, 2010a).

Overburden monitoring well MW-06 was installed along the northwestern property boundary in the fall of 2012 to investigate whether shallow groundwater was discharging to the swale between the former Barracks Building and the former Launcher Area. However, the monitoring well was consistently dry, indicating that at the time of this monitoring, groundwater at the Site was not being discharged to the swale (USACE, 2017).

A Remedial Investigation (RI)/Feasibility Study (FS) was conducted for the LO-58 Site from 2011 to 2017. The overall objectives of the RI/FS were: 1) to characterize the nature and extent of contamination; 2) to evaluate the environmental fate and transport of Site-related contamination; 3) to assess the potential risks to human health and the environment posed by contamination at the LO-58 Site; and 4) to use this information in the FS to support the evaluation and development of potential remedial alternatives for the Site. The RI/FS Report was finalized in February 2017 (USACE, 2017).

In June 2017, drinking water well DW-02 at the VFW was taken out of service. A replacement drinking water well (DW-02R) was installed and connected to the existing POET system at the VFW on 12 June 2017.

In June 2018, a Proposed Plan for cleanup was published by USACE to summarize and document the RI/FS and associated reports, as well as the rationale for the selected remedies for groundwater and vapor intrusion (VI) (USACE, 2018). The preferred alternative selected by USACE was presented in the Proposed Plan and at a public meeting held on 18 July 2018 to solicit input from the community and MEDEP on behalf of the State of the Maine. The public comment period was held between 22 June and 30 July 2018.

The final remedy to address groundwater and VI risks to human health was documented in the LO-58 Site DD in February 2019 (USACE, 2019). In groundwater, the only contaminant of concern (COC) identified was TCE. For indoor air, the COCs identified in the DD included chloroform, naphthalene, and TCE. The selected remedy for groundwater was continued POET for onsite drinking water well DW-01, institutional controls (annual notifications to landowner), monitored natural attenuation (MNA), and LTM. The selected remedy for VI included active sub-slab vapor mitigation, institutional controls, and LTM.

Pre-remedial action activities were initiated in August 2019. A well inspection was completed for five bedrock monitoring wells, MW-01 through MW-05, and one overburden monitoring well, MW-06. The bedrock monitoring wells were redeveloped in November 2019. Redevelopment of MW-06 was not completed due to the absence of water in the well.

1.5 – Description of Study Area

The following subsections detail the description and physical characteristics of the LO-58 Site. In general, improved portions of the LO-58 Site include the AMAC Building, the VFW Building, one private residence, the former sentry station (no longer in use), the former Test Building (no longer in use), an abandoned 500-gallon AST (no longer in use), and paved roadways and parking areas. Unpaved areas of the LO-58 Site consist of grassland and shrub-scrub habitat, as early forest succession takes place in formerly mowed areas. There are no surface water bodies or wetlands present on the LO-58 Site (USFWS, 2008).

1.5.1 – Surface Topography

The LO-58 Site is located on an area topographic high, east of Van Buren Road. Elevations at the LO-58 Site vary by approximately 60 ft, from approximately 540 ft above mean sea level (AMSL) at the former Barracks Building, which is located at the bottom of the hill near Van Buren Road, to approximately 600 ft AMSL at the former Launcher Area, which is situated at the topographic high for the LO-58 Site (USACE, 2011).

Stormwater and snowmelt on the LO-58 Site either infiltrates the subsurface in unpaved portions or flows overland into catch basins and drainage swales. Following the topography at the LO-58 Site, surface water runoff flows generally north and northwest, except from the former Barracks Building area, where runoff flows downslope and eastward to a drainage swale behind the building. Catch basins and drainage swales direct surface water runoff from the LO-58 Site to a natural valley located between the former Barracks Building and the base of the hill below the former Test Building and Launcher Area, which directs surface water off-property to the north (Weston, 2007).

1.5.2 – Overburden Geology

Based on regional mapping, overburden soils underlying the LO-58 Site is primarily glacial till consisting of a heterogeneous mix of sand, silt, clay, and stones, with local occurrences of boulders, and was deposited directly by glacial ice. The till is generally massive and may contain beds and lenses of variably washed and stratified sediments (Maine Geologic Society [MGS], 1985). Subsurface investigations at the LO-58 Site have generally confirmed these mapped subsurface conditions, although no inclusions of washed or stratified sediments have been noted (USACE, 2011). Site-specific observations document that overburden thickness at the LO-58 Site varies depending on location and ranges from ground surface at the former Launcher Area to approximately 16 ft below ground surface (bgs) near the former Test Building. Bedrock outcrops are present along the southern edge of the former Launcher Area (Weston, 2007).

1.5.3 – Overburden Hydrogeology

Subsurface investigations into overburden groundwater at the LO-58 Site have indicated that there is little or no saturated thickness in the overburden. Surface water that infiltrates the overburden percolates downward to the bedrock surface. At the bedrock surface, groundwater flows along the surface of the bedrock beneath the LO-58 Site until reaching a point of infiltration, such as a fracture or a weathered bedrock zone (USACE, 2011).

1.5.4 – Bedrock Geology

Based on a review of the Final CSM and the Final Borehole Hydrophysics and Borehole Geophysics Report, the LO-58 Site is located within the greater Chapman Synclinorium and consists of generally competent, Silurian-aged interbedded pelitic limestone and dolostone (USACE, 2010; USACE, 2011). The Geologic Map of the Caribou and Northern Presque Isle Quadrangles, Maine identifies the bedrock bedding at the LO-58 Site as striking North 70º East and dipping 12º East, as well as a foliation striking North 5º West and dipping 78º West (MGS, 1985). Site-specific observations, from both bedrock outcrops and optical televiewer (OTV) logs, indicate that the local bedrock is folded in two directions: the major folds are broad to tight with axes oriented North 30º East, parallel to the axis of the Chapman Synclinorium; the fold axes are also folded broadly on North 20º West axes (USACE, 2017).

As noted above, the depth to bedrock at the LO-58 Site varies from surficial exposure at the former Launcher Area to approximately 16 ft bgs near the former Test Building (Weston, 2007). Observation of the bedrock surface can be made in the vicinity of the former Launcher Area, and previous soil boring records indicate that there is little or no weathered bedrock at the overburden-bedrock interface (USACE, 2010). This condition is to be expected on the northwest face of a rock-cored drumlin which was subject to glacial action approximately 12,000 years ago. Vertical seismic profiling did not identify acoustically incompetent bedrock at the LO-58 Site (USACE, 2010).

Based on the site-specific hydrophysical and geophysical investigations performed, there are three joint sets present in the local bedrock at the LO-58 Site (USACE, 2010; USACE, 2011; USACE, 2017):

- Joint Set 1 (J1): near vertical set striking North 45º East and dipping 80º West;
- Joint Set 2 (J2): steeply-dipping striking North 45º East and dipping 85º East (roughly perpendicular to the first); and
- Joint Set 3 (J3): a shallow-dipping set of sheeting joints that is roughly parallel to the ground surface and bedding and decreases in frequency with depth, related to the relief of downward pressure due to erosion and glacial unloading (USACE, 2017).

The near-vertical sets of joints, particularly the set striking North 45º East and dipping 85º East, are often filled with calcite.

The planar features in bedrock that are intercepted by DW-01 and DW-02 were measured during geophysical investigations conducted by COLOG, and plotted as tadpoles on the geophysical logs, as well as plotted onto Schmidt stereonets obtained during the 2009 Geophysical Investigation in support of the 2011 CSM (USACE, 2017).

The stereonet plots for DW-01 showed two clusters of data; one for the low-angle features (near-horizontal joints and bedding) which has about 90º of variability from North 45º West to North 45º East, dipping West, and a second pair of steeply dipping features (near-vertical joints) which are further grouped in two clusters, one at North 25º West and a smaller cluster at North 65º West, both dipping East (USACE, 2017).

The feature ranks shown in the stereonet plots (ranked from 0 for fractures with minimum flow capacity to 5 for fractures with maximum flow capacity) indicate that both the low angle and steeply-dipping features contain members where significant flow is present (COLOG, 2009;

USACE, 2017). The stereonet plots for DW-02 are more complicated, in as much as they represent a greater length of bedrock borehole data. The primary data cluster for DW-02 is centered on steeply-dipping features (near-vertical joints) oriented North 45º East and dipping East which has approximately 45º of lateral spread. The feature rank plot reveals that there are a small number of features which do not appear on the contour plot due to low frequency. Within these data are a set of steeply-dipping features (North 45º West to North 45º East, with a slight concentration around North 45º East, dipping West); there are relatively few low-angle features in this dataset (Weston, 2010a).

Thus, the results indicate that the upper 60 ft of bedrock have similar fracturing characteristics at DW-01 and DW-02 (USACE, 2017). However, the deeper bedrock (below approximately 70 ft) surrounding DW-02 contains very few sheeting fractures, and the aperture and water-bearing potential of the steeper fractures are not as significant, this pattern does not appear in the bedrock surrounding DW-01 because the well is not deep enough. Thus, the difference noted in relative fracture density and orientations are artifacts of the different borehole depths (58 ft versus 283 ft), not differences in the nature of the shallow (i.e., <58 ft) bedrock at the two well locations (USACE, 2017).

A notable linear depression in the bedrock surface is present between locations SB-22 and SB-43 which may be indicative of a fracture zone, as shown in the Final Borehole Hydrophysics and Borehole Geophysics Report (USACE, 2010). The orientation of the linear depression is approximately North 70º West, is near-coincident with the North 65º West cluster of joints noted in the geophysical log of well DW-1, described above, supporting the hypothesis that the feature is surficial expression of a fracture zone.

1.5.5 – Bedrock Hydrogeology

There are no significant deposits of weathered bedrock at the LO-58 Site, and overburden groundwater is assumed to discharge directly from the glacial till overburden to competent bedrock (USACE, 2010). Groundwater flow through bedrock at the LO-58 Site is solely via secondary porosity features (i.e., fracture-controlled flow). Flow through primary porosity features (i.e., interconnected interstitial pores) within the bedrock are marginal relative to flow through secondary porosity features (USACE, 2010). In addition, although solution cavities can develop in limestone formations, neither the available geologic literature nor Site-specific data indicate that the bedrock subjacent to the Site is subject to karst formation (MGS, 1985). Thus, it may be concluded that the orientation, length, width, and interconnectedness of joints in the bedrock exert significant control over both groundwater flow direction and contaminant distribution within groundwater (Freeze & Cherry, 1979). Bedrock potentiometric surface data indicate that flow is generally to the northwest, as shown on **Figure 3** and **Figure 4**.

Borehole hydrophysics and geophysical testing was performed in 2008. DW-01 and DW-02, which are open boreholes, were generally analyzed for lithologic structure, conductance, and flow. MW-01 through MW-05, 2-inch polyvinyl chloride (PVC) wells with 10-foot screen intervals, were generally analyzed for clay-filled voids (i.e., gamma) and fluid conductivity. The hydrophysical logs for DW-01 indicate ambient groundwater flow within the borehole is horizontal. The hydrophysical logs for well DW-02 indicate ambient vertical flow occurring within the borehole. Formation water migrates downward within the fluid column beginning near the base of casing and at 31 ft bgs (USACE, 2010). Based on numerical modeling performed using the hydrophysical and geophysical data, groundwater exits the borehole at depths of 96.4 to 97.0 and 189.5 to 191.0 ft bgs (USACE, 2011).

Historically (both prior to and following the RI), synoptic static water level (SWL) monitoring events typically indicate that the well screen intervals are fully saturated for bedrock monitoring wells MW-01 though MW-05.

Further discussion of bedrock hydrogeology can be found in the RI/FS Report (USACE, 2017).

1.5.6 – Water Use

Municipal water supply and sanitary sewer utilities are not available to any properties in the vicinity of the LO-58 Site; the properties are served by private drinking water wells and septic systems.

1.6 – Nature and Extent of Contamination

Soil, groundwater, soil vapor, and indoor air have been impacted by releases of petroleum hydrocarbons and chlorinated solvents related to the historical operations of the LO-58 Site. Low levels of these contaminants have been identified in soil samples collected from across the LO-58 Site. No widespread source of CVOC soil contamination has been identified at the LO-58 Site, but two localized sources of CVOC contamination in soil have been identified: one located west of the AMAC Building and a second, broader source, located near the former Launcher Area and former Fueling Platform at the LO-58 Site.

Groundwater contamination consisting of both petroleum compounds and CVOCs has been observed at the Site and is assumed to the result of the migration of these contaminants from vadose zone sources to the groundwater table via dissolution, caused by the infiltration and percolation of water through the vadose zone contaminated soils/overburden sources to the groundwater table.

The CVOC groundwater impacts at the former Generator Building (AMAC Building) are attributed to periodic cleaning of the missiles with TCE-based solvents that could have run into the nearby catch basins, which then discharge to the drainage swales near DW-01, the bedrock water supply well for the AMAC Building.

The petroleum compound and CVOC groundwater impacts noted at the north end of the former Launcher Area are likely from either parts cleaning/degreasing activities which took place in the vicinity of this area, or that this area received runoff containing this material from the paved areas surrounding the Site silos. The petroleum compound groundwater impacts noted at the area to the north of the former Test Building are presumed to be from a combination of surficial spills and discharges from the AST that is located behind that building.

CVOCs and petroleum compounds have also been detected in pre-treatment samples collected from the AMAC Building drinking water supply well (DW-01). Depth profiling of groundwater entering DW-01 indicates petroleum hydrocarbons and CVOCs infiltrate into the well at multiple depths through fractures observed in the well boring. Additionally, during packer testing at DW-02 in 2008, a trace concentration of cis-1,2-dichloroethylene (cis-1,2-DCE) below the Maine MEG was detected in a groundwater sample from a single, intermediate-depth fracture interval. Toluene was also detected from several fracture intervals at concentrations below the Maine MEG, and DRO was detected from two intervals (the shallowest and the deepest) at concentrations above the Maine MEG (USACE, 2011). Aside from the 2008 packer test sampling, no other drinking water samples collected from DW-02/DW-02R have identified evidence of site-specific contamination. No evidence of site-specific contamination has been identified at the two other sampled drinking water supply wells on abutting properties (DW-03 and DW-04 at 271 and 241 Van Buren Road, respectively). However, limited data are available for DW-03 (one sample from

2012) and DW-04 (two samples from 2012 and 2020) due to the inability to obtain access agreements from the private property owners.

Soil VI has been identified as a concern at the AMAC Building as early as 1999 (USACE, 2011). Migration of contaminants present in the soil from the former septic system and/or other nearby contaminated soil may occur to soil vapor and the atmosphere via volatilization. Indoor air and sub-slab soil vapor samples from the AMAC Building indicate air-phase petroleum hydrocarbons and CVOCs are present at concentrations exceeding regional screening levels (RSLs). The selected remedy to address the VI concern at the AMAC Building is an active VI mitigation system (VIMS), which will used to remove contaminated vapors from below the building slab and vent them to the exterior of the building into the atmosphere.

1.7 – Release and Transport Mechanisms

There are four mechanisms that can release and transport COPCs at the Site: erosion and surface runoff; wind erosion/volatilization; leaching to and migration of contaminants in groundwater; and migration of volatile COPCs through the vadose zone into buildings. Surface water runoff occurs during rainfall and snowmelt when COPCs in the soil are released through soil erosion and transported to other areas on site via site drainage.

Wind erosion of soils can also play a role in releasing COPCs from soil. This holds true where activities such as heavy truck traffic on unpaved roads and other construction-related activity is occurring. Dust emissions may be an important route of exposure if future construction activities occur. Moreover, VOCs present in the soil can volatilize and be inhaled during outdoor activities.

The third release and transport mechanism is leaching to groundwater. Following release to the ground surface, infiltration would transport COPCs through the soil column to the groundwater and they would migrate laterally depending on the flow gradient. VOCs present in the soil and groundwater can migrate through the vadose zone and potentially infiltrate buildings located above the contamination as vapor (USACE, 2019).

1.8 – Receptors

The LO-58 RI evaluated risk for both human and ecological receptors (USACE, 2017). Human receptors evaluated in that RI are:

- AMAC Building Area – Current Users
  - AMAC Building Staff
  - AMAC Building Clients
  - Site Worker
- Launcher Area – Current Users
  - AMAC Building Staff
  - AMAC Building Clients
  - Trespasser
  - Site Worker
- Entire Site Area – Future Users
  - Future Construction Worker
  - Future Commercial/Industrial
  - Hypothetical Future Residents

The staff and clients would have the most potential exposure to COCs due to their frequency (150 days/year exposure to soils outdoors and 250 days/year exposure to drinking water and indoor

air). Construction workers, particularly utility workers that might be required to excavate contaminated soil and work in such excavations, would have low-frequency, high-intensity use of the property. Site trespassers have the least potential for exposure to COCs due to their lower-frequency, low-intensity use of the property (3 days/month).

The nearest wetlands are located 0.18 mile to the north-northeast of the LO-58 Site, within the floodplain of Hardwood Brook (USFWS, 2021). Information from MEDEP and onsite observations do not indicate the presence of Significant Wildlife Habitat on the LO-58 Site or in its vicinity (MEDEP, 2007). According to the Critical Natural Resources Map for the City of Caribou, Maine, there are no critical natural resource areas on the LO-58 Site. Note that such natural resource areas are reported along Hardwood Brook located approximately 0.5 miles north of the LO-58 Site (City of Caribou, Undated). Based on these results, it was concluded that there are no ecological receptors of particular significance on the LO-58 Site, though areas north-northeast of the Site cannot be ruled out and have not been visually assessed.

1.9 – Remedial Action Objectives, Remedial Goals, and Monitoring Benchmarks

The selected remedy for groundwater includes LTM, MNA, continued POET for onsite drinking water well DW-01, and institutional controls (annual notifications to landowner) (USACE, 2019). This remedy will continue until groundwater COCs meet the applicable remedial goals (RGs).

The selected remedy for VI includes active sub-slab VIMs, institutional controls, and LTM (USACE, 2019). The remedy will continue until the identified soil vapor COCs meet the applicable RGs. The VI remedy was implemented in July 2021, and since that time, LTM for VI has been initiated.

The DD for the LO-58 Site presents the Remedial Action Objectives (RAOs) and RGs (USACE, 2019). RAOs are based on human health and environmental risks that drive the formulation and implementation of response actions and Applicable or Relevant and Appropriate Requirements (ARARs). The only groundwater COC identified for the LO-58 Site is TCE, and indoor air COCs are chloroform, naphthalene, and TCE (USACE. 2017). The only ARAR for groundwater identified was chemical-specific for TCE in groundwater (the Federal MCL). No location- or action-specific ARARs were identified for groundwater, and ARARs and to-be-considered (TBC) guidelines do not exist for indoor air COCs (USACE, 2019).

The RAOs for the LO-58 Site have an overall objective of addressing human health risks associated with groundwater and indoor air/soil vapor. The RAOs for the site are as follows:

- Prevent ingestion of water containing COCs in excess of USEPA maximum contaminant levels (MCLs), an unacceptable cumulative cancer risk greater than 1E-04, and cumulative non-cancer hazard indices (HIs) greater than the threshold level of 1.

- Prevent exposure to indoor air COCs in excess of remediation goals (RGs) (1E-05 risk-based) that pose cumulative cancer risk greater than 1E-04 or noncarcinogenic HIs greater than the threshold level of 1.

The RGs developed to support the RAOs are summarized in **Table 1-1**. Groundwater RGs were established for TCE at 5 micrograms per liter (µg/L), which is the USEPA MCL. Indoor Air RGs were established based on risk for chloroform at 1.1 micrograms per cubic meter (µg/m^3), naphthalene at 0.7 µg/m^3, and TCE at 2.0 µg/m^3.

The remedial action guidelines (RAGs) developed by the State of Maine's Bureau of Remediation and Waste Management and outlined in the *Maine Remedial Action Guidelines (RAGs) for Contaminated Sites* for the contaminants with RGs listed in the LO-58 Site DD are included in **Table 1-2** to facilitate review for the State of Maine (MEDEP, 2021). Maine RAGS are included in the Quality Assurance Project Plan (QAPP) for this project (VERINA, 2020c).

2.0 – METHODOLOGY

This section details the methodology used to conduct LTM activities.

2.1 – Long-Term Monitoring Objectives

The objective of LTM data collection at the LO-58 Site is to monitor the effectiveness of the remedies established in the DD (USACE, 2019). The annual LTM tasks were conducted in December 2020 in accordance with the LO-58 Site Sampling and Analysis Plan (SAP) and QAPP (VERINA, 2020b; VERINA, 2020c). An electronic QAPP (eQAPP) was also developed, which included the criteria outlined in the QAPP and is used during electronic data deliverable error checking and the data validation process for project data in the FUDS Chemical Database (FUDSChem). The LTM tasks that were completed are summarized below:

- Assessment of the condition of monitoring wells;
- Collection of one round of synoptic water level measurements from monitoring wells;
- Performance of maintenance related activities to the AMAC Building DW-01 GAC POET system;
- Collection of groundwater samples from the five bedrock monitoring wells via low-flow purging and sampling procedures to determine current groundwater conditions (the overburden monitoring well MW-6 was excluded from the sampling event due to the absence of water in the well);
- Collection of drinking water samples from two drinking water wells, including the following:
    - Three samples from drinking water well DW-01: before the POET system, between the primary and secondary GAC filters, and after the POET system (at the POET system sampling ports located in the utility room);
    - Two samples from drinking water well DW-02R: before the POET system and after the POET system (at the POET system sampling ports located in the utility room);
- Assessment of groundwater contaminant concentration in the context of the RAOs for the LO-58 Site (the groundwater RG established for TCE is 5 µg/L based on the federal MCL, which is the highest level of a contaminant allowed in drinking water); and
- Assessment of any changes to land use within the vicinity of the LO-58 Site.

Due to restricted access to the AMAC Building in 2020 because of the COVID-19 pandemic, VI sampling could not be conducted during the December 2020 field event. Additionally, drinking water samples were not collected from offsite wells DW-03 and DW-04 due to the inability to obtain access agreements from the private property owners.

Based on the results of the December 2020 LTM event, a follow-up sampling event was performed in February 2021 to resample DW-01. All three POET system samples were collected (i.e., pre-GAC filter, between the GAC filters, and post-filtration). The results are presented in **Section 3.2** below.

2.2 – Frequency and Location of Sampling

The Draft LTMP for the LO-58 Site defined the frequency and location of LTM sampling as follows (VERINA, 2020a):

- Annual sampling for the first five years from bedrock groundwater monitoring wells MW-01 through MW-05 and overburden groundwater monitoring well MW-06;
- Annual drinking water sampling for the first five years from onsite drinking water supply wells DW-01 (AMAC Building) and DW-02R (VFW Building) and off-site drinking water supply wells (DW-03 and DW-04); and
- Collection of annual VI samples for the first five years for the AMAC Building from four sub-slab monitoring points, two indoor air locations, and one ambient air location.

Figure 2 depicts the monitoring well and drinking water well locations.

Deviations from the Draft LTMP for activities performed in 2020 included:

- Groundwater monitoring could not be performed for MW-06 because the well was dry during the December 2020 event;
- Drinking water wells DW-03 and DW-04 could not be sampled because access was denied by the property owners;
- One additional round of drinking water sampling was performed at DW-01 in February 2021 (see **Section 2.5.3**); and
- VI sampling (including sub-slab, indoor air, and ambient air sampling) could not be performed because access to the AMAC Building was denied due to the COVID-19 pandemic.

2.3 – Groundwater Level Measurements and Well Assessments

Prior to conducting sampling, a preliminary well assessment was performed on 14 December 2020 for the five bedrock monitoring wells and one overburden monitoring well located onsite. The well assessment included screening with a photoionization detector (PID) at the well opening, collecting a depth to water measurement, and documenting the condition of the wells. The well inspection field logs are provided in **Appendix A**. Total well depth measurements were taken following the sampling event on 16 December 2020 to prevent disturbing any potential solid material buildup at the bottom of the monitoring wells prior to purging and sampling the wells. The results of the well assessment summary are provided on **Table 2-1**. Water level measurements were not made at residential drinking water wells due to the potential contamination risk from the opening of well heads.

2.4 – Groundwater Sampling Methods and Analysis

The bedrock monitoring wells were sampled between 14 and 15 December 2020 using the low-flow purging and sampling method. During the low-flow purging of each of the bedrock monitoring wells, water quality parameter readings were collected from the purged groundwater at 5-minute intervals to identify when the groundwater had stabilized prior to sampling. Each well was considered stable after three consecutive readings were recorded that met the acceptance criteria

established in USEPA guidance (USEPA, 2017). The parameters and acceptance criteria used were:

- Turbidity: +/- 10% for values greater than 5 nephelometric turbidity units (NTU); if three consecutive turbidity measurements are less than 5 NTU, the parameter is considered stable.
- Dissolved oxygen (DO): +/- 10% for values greater than 0.5 milligrams per liter (mg/L); if three consecutive measurements are less than 0.5 mg/L, the parameter is considered stable.
- Specific Conductance: +/- 3%, measured in microSiemens per centimeter (µS/cm)
- Temperature: +/- 3%, measured in degrees Celsius (°C)
- pH: +/- 0.1
- Oxidation-reduction potential (ORP): +/- 10 millivolts (mV)

The low-flow purge logs for the five sampled bedrock monitoring wells are included in **Appendix B**, and the final of the three consecutive stable readings for each well obtained during the low-flow purging, immediately prior to sampling, are provided on **Table 2-2**.

Samples were collected from bedrock monitoring well MW-01 on 14 December 2020 and samples from bedrock monitoring wells MW-02 through MW-05 were collected on 15 December 2020. Groundwater samples were collected in accordance with low-flow purging and sampling method as outlined in the 2017 USEPA's Region I low flow purging and sampling guidance document (USEPA, 2017), as well as in accordance with standard operating procedure (SOP) SA-003, which is included in **Appendix C**.

Groundwater was purged using a Geotech bladder pump with new Teflon™ bladders and low-density, Teflon™-lined polyethylene tubing. Compressed air was supplied to the bladder pump using a QED™ MP-50 controller and air compressor. A YSI™ 556 multiparameter probe and HACH® 2100Q turbidity meter were used to monitor groundwater parameters. The equipment was calibrated at the start of each sample day per the manufacturer specifications and the calibration was checked at the end of each workday, and recorded on calibration logs included in **Appendix D**.

Bladder pumps were decontaminated, fitted with new bladders and seals, and reassembled between each well location. Once reassembled, new sampling tubing was attached to the pump immediately prior to the pump being inserted into the next well.

Purged groundwater was initially containerized in 5-gallon buckets and inspected for any visual or olfactory indications of contamination and screened with a PID. In the absence of any indications of groundwater contamination or elevated PID readings, the groundwater was discharged to the ground surface adjacent to the associated monitoring well.

Groundwater samples were submitted for laboratory analysis for VOCs, semi-volatile organic compounds (SVOCs, specifically, polycyclic aromatic hydrocarbons [PAHs]), volatile petroleum hydrocarbons (VPHs [including target C9-C10 aromatics]), and 13 priority pollutant (PP) metals plus manganese. Additional information on the analytical methods, quality control requirements,

sample containers and similar sampling details are included in the LO-58 Site SAP and QAPP (VERINA, 2020b; VERINA, 2020c). Daily contractor reports are included in **Appendix E**.

2.5 – Drinking Water Well Sampling Methods and Analysis

Between 17 and 18 December 2020, drinking water samples were taken from two drinking water supply wells, DW-01 and DW-02R, located at the AMAC Building and VFW Building, respectively. These samples were collected as "grab" samples from sampling ports installed as part of the POET systems. Within the AMAC Building, occupants used bottled water for drinking purposes, and tapwater is reserved for washing only. The VFW Building uses DW-02R for potable purposes.

Sampling of DW-01 was completed following the completion of the removal and replacement of the two in-line GAC filters of the existing POET system (see **Section 2.5.1** and **Section 2.5.2** below). The results from the drinking water samples collected from DW-01 on 18 December 2020 were received in February 2021 and validation of the data was completed on 19 February 2021. The validated data showed arsenic and antimony detections above the MCLs, and therefore this well was resampled on 27 February 2021. Additional information related to the resampling event in presented in **Section 2.5.3** below.

2.5.1 – POET GAC Filter Replacement

The GAC filters of the DW-01 POET system were removed and replaced with Calgon-brand Centaur® 12x40 catalytic GAC, which is a liquid phase virgin activated carbon product, on 18 December 2020. Following the change-out of the GAC filters, the subcontractor conducted a 1-hour flush of the system to remove fine carbon particles. The turbidity was monitored during the purging process to ensure that the turbidity of the effluent drinking water did not exceed 1 NTU for the final three consecutive readings, taken five minutes apart, at the end of the two-hour purge process. After the 1-hour purge, sampling of DW-01 was conducted as described in **Section 2.5.2** below. The spent carbon filter vessels were disposed of offsite as municipal solid waste by the plumbing subcontractor.

2.5.2 – Initial Sampling and Analysis

Drinking water samples were collected in accordance with the procedures outlined in SOP SA-012 included in **Appendix C**. Each drinking water supply well was purged for at least 20 minutes and the well's pressure tank was monitored (where feasible) to confirm the tank had cycled several times to ensure fresh formation water had entered the POET system prior to sample collection. However, due to the GAC filter change-out performed at DW-01, the purge time was extended to 1 hour. Once purging was complete, drinking water well samples were collected in reverse order of POET system flow to reduce the potential for cross contamination (i.e., clean to dirty sampling order). Three samples were collected from DW-01 in the following order: post-treatment effluent (EFF) from after both GAC filters; mid-treatment (MID) from between the primary and secondary GAC filters; and, pre-treatment influent (INF), prior the drinking water entering the primary GAC filter. The DW-01 samples were collected via dedicated, spigot style, non-screened sampling valves installed at the respective locations on the POET system piping. Two samples were collected from DW-02R: pre-treatment influent (INF) and post-treatment effluent (EFF) samples, and were also collected via dedicated, spigot style, non-screened sampling valves installed at the respective locations on the POET system piping.

The drinking water samples were collected from the existing system sample ports located within each building's respective utility room, with no modifications of the drinking water system infrastructure made to collect the samples. The drinking water samples were submitted for

laboratory analysis for VOCs by USEPA Method E524.2, SVOCS (specifically, PAHs) by USEPA Method 8270D SIM, VPHs via Massachusetts Department of Environmental Protection (MassDEP) Method MassDEP VPH 04-1.1, and total PP metals plus manganese via USEPA Methods 6020A and 7470A.

Additional information on the analytical methods, quality control requirements, sample containers and similar sampling details are included in the LO-58 Site SAP and QAPP (VERINA, 2020b; VERINA, 2020c). Daily contractor reports are included in **Appendix E**. Photographs of the treatment systems are included in the photograph log in **Appendix F**. Additionally, turbidity measurements were collected from the DW-01 effluent during the GAC flushing event, prior to DW-01 system sampling, and are provided in **Table 2-3**.

2.5.3 – Arsenic and Antimony Resample and Analysis

As discussed in more detail below in **Section 3.2.3** of this Annual LTM Report, elevated levels of antimony and arsenic were detected in the mid-filter (arsenic only) and post-treatment samples collected from the DW-01 POET system in December 2020. This was believed to be due to extractable metals leaching from the newly-installed GAC, as recent research has documented that the coal and coconut shell-based activated carbon used in GAC water filters often discharges significant amounts of arsenic and antimony, at least when newly installed (Gandy and Maas, 2004; **Appendix G**). Therefore, the field team re-mobilized to the LO-58 in February 2021 to perform additional GAC flushing as a corrective action and re-sampling of DW-01 following the corrective action.

Prior to re-sampling DW-01 in February 2021, the valve before the pressure tank was opened to allow water into the POET system but the service valve to the building was kept in the closed position to allow the GAC tanks to fill completely and remain saturated for 1 hour. The GAC filters' discharge valves were then opened and the GAC filters were drained completely. Upon completely draining the GAC filters, the discharge valves were closed, and the filling/saturation/draining process was repeated for a total of four cycles. Turbidity measurements were collected, and the inorganic arsenic concentration was measured using an arsenic field test kit manufactured by Industrial Test Systems and capable of reading between 0 and 500 parts per billion of arsenic. Turbidity and arsenic field test kit measurements collected during this purging event are provided on **Table 2-3**. The purged water was initially containerized in a 55-gallon drum and disposed of on the ground surface adjacent to the supply well after confirming that the arsenic concentration of the purge water was below standard.

The GAC filters were again filled, and a continuous purge of the POET system was conducted for a total of two hours. During the purging process, inorganic arsenic and turbidity readings were collected from the effluent at a minimum frequency of once every 30 minutes.

Following purging of the POET system, the GAC filter discharge valves were closed and the service valve to the building was opened. Three samples were then collected from DW-01 in accordance with the procedures detailed above in **Section 2.5.2**. These drinking water samples were submitted for laboratory analysis for arsenic and antimony via USEPA Method 6020A with an expedited 24-hour turnaround time.

Lastly, in response to the GAC change-out issue encountered, a SOP was developed (SOP GAC-001) for future GAC change-out events which incorporates additional flushing and field testing prior to analytical sample collection. The SOP is provided in **Appendix C**.

2.7 – Quality Control

Field quality assurance/quality control (QA/QC) samples were collected during each sampling event to verify the accuracy and precision of laboratory data and to support data usability assessments. The following types of QA/QC samples were collected during the sampling events described in this report: trip blanks, equipment blanks, matrix spike/matrix spike duplicates (MS/MSDs), and field duplicates. Additional details regarding the QA/QC sample program are provided in the project QAPP (VERINA, 2020c).

The required number of QA/QC samples was dependent on the number of primary samples or field days included in the given sampling event. MS/MSD and equipment blank samples were collected at a rate of 1 per 20 environmental samples; field duplicate samples were collected at a rate of 1 per 10 environmental samples; and a trip blank sample was collected and included for each cooler shipped to the lab for analysis of VOCs or VPHs.

MS/MSD samples were collected using the same methods, at approximately the same time, of essentially the same sample material as the field sample from the same sampling location. These samples were then submitted to the laboratory and spiked with a solution containing target substances and analyzed using the same preparation and analytical methods as the field samples. Recoveries of the spiked compounds are reported. These recoveries allow for assessment of sample matrix interference and laboratory sensitivity.

Equipment blank samples are intended to assess the effectiveness of sampling equipment decontamination efforts and the potential for cross-contamination. The non-dedicated/non-disposable pieces of sampling equipment, including the bladder pumps, were decontaminated between sample locations and utilized in the collection of equipment blank samples.

Field duplicate samples are intended to identify any error in sample collection as well as indicate matrix heterogeneity. Field duplicate samples were collected using the same methods, at approximately the same time, of essentially the same sample material as the original field samples that were duplicated.

Trip blank samples are meant to identify any outside contaminant source which may have impacted the associated field samples during shipping preparation, shipping handling, transport, and delivery. One trip blank sample accompanied the sample cooler in which the VOC and VPH samples were sent. The trip blank sample was handled and packaged in an identical manner as the field samples it accompanied. One cooler was used to contain all VOC and VPH samples that were sent to the lab for analysis.

3.0 – RESULTS AND DISCUSSION

This section of the report discusses the results of LTM activities conducted in December 2020 and February 2021.

3.1 – Regulatory Criteria

The drinking water well and bedrock groundwater monitoring well sample results were compared to the USEPA National Primary Drinking Water Standards MCLs. The only groundwater contaminant with an MCL in the LO-58 Site DD is TCE. The RG is 5 µg/L based on the federal MCL listed in the Standards.

Drinking water and bedrock groundwater samples were also compared to the residential groundwater criteria developed by the State of Maine's Bureau of Remediation and Waste Management and outlined in the *Maine Remedial Action Guidelines (RAGs) for Sites Contaminated with Hazardous Substances* dated 1 May 2021. These guidelines are not included in the RGs as a part of the RAOs listed in the LO-58 Site DD and are not being used as the standards for remediation for the Site but are included for informational purposes.

3.2 – Results

The results for each LTM activity are described below.

3.2.1 – Bedrock Groundwater Elevation and Flow Direction

Depth to groundwater measurements and groundwater elevations for the December 2020 sampling event are summarized in **Table 3-1** along with the prior groundwater elevation data collected since August 2019 for comparison. The groundwater measurements and elevations were collected from the site bedrock monitoring wells, as the overburden monitoring well MW-6 was found to be dry during the December 2020 sampling event.

Groundwater flow direction based upon groundwater elevation for the two most recent synoptic groundwater measurement events are included on **Figure 3** (June 2020) and **Figure 4** (December 2020). The contours shown on these figures are representative of the average head values of transmissive fractures in boreholes. The bedrock groundwater elevation data were generally consistent with recent years of groundwater elevations. Bedrock groundwater flow direction was observed to be consistent between the June and December events. Measured groundwater elevations were slightly higher in June compared to December 2020, which is typical of seasonal variation in groundwater table elevation.

It is recognized that MW-01 is significantly deeper than the other monitoring wells at the LO-58 Site. As such, this well may intersect additional transmissive fractures and represent different groundwater flow patterns relative to the shallower wells. The geophysical report identified ambient vertical flow at DW-02 but did not evaluate downward flow at MW-01 (USACE, 2010). Therefore, the groundwater elevation contours may vary in wells that are significantly deeper or shallower relative to the other wells at the Site. The evaluation of hydraulic gradients will be considered in future work.

3.2.2 – Groundwater Analytical Results

The groundwater analytical results of the bedrock monitoring well samples collected between 15 and 16 December 2020 are summarized below. Analytical results for the bedrock wells are

provided in **Table 3-2** for VOCs and VPHs and in **Table 3-3** for PAHs and metals. Data are shown for the baseline sampling event from June 2020, in addition to the December 2020 LTM event, for comparison.

- Monitoring well MW-01 had no detected VOCs or VPHs. The PAHs chrysene and pyrene were detected in the sample at concentrations of 0.044 and 0.070 µg/L, respectively, which were below their respective Maine RAGs of 250 and 120 µg/L. Federal MCLs do not exist for these PAH compounds. Several metals were also detected, including the following metals at the following concentrations: antimony, 0.15 µg/L; calcium, 69,100 µg/L; manganese, 1.6 µg/L; and nickel, 0.25 µg/L. None of the metals detections observed at MW-01 exceeded their respective federal MCLs or Maine RAGs: antimony, 6 and 7.8 µg/L; calcium, no MCL or RAG; manganese, no MCL and 430 µg/L; and nickel, no MCL and 390 µg/L.

- Monitoring well MW-02 had no detected VOCs, PAHs, or VPHs, but several metals were detected, including the following metals at the following concentrations: calcium, 89,500 µg/L; manganese, 1.8 µg/L; and nickel, 0.28 µg/L. None of the metal detections observed at MW-02 exceeded their respective federal MCLs or Maine RAGs: calcium, no MCL or RAG; manganese, no MCL and 430 µg/L; and nickel, no MCL and 390 µg/L.

- Monitoring well MW-03 had no detected VOCs, PAHs, or VPHs, but several metals were detected, including the following metals at the following concentrations: calcium, 66,800 µg/L; manganese, 0.74 µg/L; and nickel, 0.17 µg/L. None of the metal detections observed at MW-03 exceeded their respective federal MCLs or Maine RAGs: calcium, no MCL or RAG; manganese, no MCL and 430 µg/L; and nickel, no MCL and 390 µg/L.

- Monitoring well MW-04 had no detected VOCs, PAHs, or VPHs, but several metals were detected, including the following metals at the following concentrations: calcium, 97,800 µg/L; manganese, 2.3 µg/L; and nickel, 0.31 µg/L. None of the metal detections observed at MW-04 exceeded their respective federal MCLs or Maine RAGs: calcium, no MCL or RAG; manganese, no MCL and 430 µg/L; and nickel, no MCL and 390 µg/L.

- Monitoring well MW-05 had no detected VOCs. VPHs consisting of C9-C10 aromatics were detected at a concentration of 58 µg/L. This concentration was below Maine RAG of 71 µg/L; a federal MCL does not exist for C9-C10 aromatics. The PAHs 1-methylnaphthalene and fluorene were also detected at concentrations of 0.072 µg/L and 0.077 µg/L, respectively, which were below their respective Maine RAGs of 11 and 290 µg/L. Federal MCLs do not exist for these PAH compounds. Several metals were also detected, including the following metals at the following concentrations: antimony, 0.23 µg/L; cadmium, 3.95 µg/L; calcium, 93,700 µg/L; copper, 7.92 µg/L; manganese, 697 µg/L; nickel, 1.3 µg/L; and zinc, 26 µg/L. Only manganese exceeded the Maine RAG of 430 µg/L in this sample; a federal MCL does not exist for manganese. The other metals observed at MW-05 did not exceed their respective federal MCLs or Maine RAGs: antimony, 6 and 7.8 µg/L ; cadmium, 5 and 9.2 µg/L; calcium, no MCL or RAG; copper, 1300 and 800 µg/L; nickel, no MCL and 390 µg/L; and zinc, no federal MCL and 6000 µg/L.

- The associated groundwater equipment blank (GW-EB-WINTER2020) had no detected PAHs or VPHs. The VOC methylene chloride, a common laboratory contaminant, was detected at a concentration of 2.8 µg/L. Several metals were also detected in this sample, but none were detected above their respective federal MCLs or Maine RAGs.

- The associated groundwater trip blank (GW-TB-WINTER2020) had the VOCs methylene chloride and acetone, both common laboratory contaminants, detected at concentrations of 90 µg/L and 55 µg/L, respectively, which are below their respective Maine RAGs. No federal MCLs exist for these VOC compounds. There were no VPHs detected in this sample.

No groundwater samples had detections exceeding federal MCLs in December 2020. As noted above, monitoring well MW-05 had a detection of manganese at a concentration of 697 µg/L, above the Maine RAG of 430 µg/L. No other groundwater samples had detections exceeding the Maine RAGs in December 2020. **Figure 5** presents the results of all compounds that have been deemed to contribute to total risk at the LO-58 Site that have been detected in bedrock monitoring wells to date.

3.2.3 – Drinking Water Analytical Results

The drinking water analytical results from the onsite supply wells and treatment systems sampled between 17 and 18 December 2020 and resampled (DW-01 only) on 27 February 2021 are summarized below. Analytical data tables for the drinking water wells are provided in **Table 3-4** for VOCs and VPHs and in **Table 3-5** for PAHs and metals. Data are shown for the baseline sampling event in June 2020, in addition to the December 2020 and February 2021 LTM events for comparison.

Drinking Water Well DW-01:

- In December 2020, the pre-treatment influent sample (INF) for the POET system at DW-01 had no detected PAHs or VPHs. The VOCs chloroform, cis-1,2-dichloroethene and TCE were detected in the sample at concentrations of 0.049 µg/L, 0.48 µg/L and 2.4 µg/L respectively. These VOC detections were below their respective federal MCLs and Maine RAGs: chloroform, 80 and 2.2 µg/L; cis-1,2-dichloroethene, 70 and 35 µg/L; and TCE, 5 and 2.8 µg/L. Several metals were also detected in the influent sample, including the following metals at the following concentrations: antimony, 0.078 µg/L; calcium, 1,110 µg/L; copper, 36.4 µg/L; lead, 2.18 µg/L; manganese, 0.35 µg/L; nickel, 3.06 µg/L; and zinc, 38 µg/L. None of the metals detections observed in the DW-01 influent samples exceeded their respective federal MCLs or Maine RAGs: antimony, 6 and 7.8 µg/L; calcium, no MCL or RAG; copper, 1,300 and 800 µg/L; lead, 15 and 5.0 µg/L; manganese, no MCL and 430 µg/L; nickel, no MCL and 390 µg/L; and zinc, no federal MCL and 6000 µg/L.

  In February 2021, the metals antimony and arsenic were resampled, and antimony did not exceed the MCL or RAG, and arsenic was not detected.

- In December 2020, the mid-treatment sample (MID) for the POET system at DW-01 had no detected VOCs, PAHs or VPHs. Arsenic was detected in the sample at a concentration of 90.3 µg/L, which exceeded both the federal MCL of 10 µg/L and the RAG of 0.52 µg/L. Several other metals were also detected in the mid-treatment sample, including the following metals at the following concentrations: antimony, 3.44 µg/L; beryllium, 0.071 µg/L; calcium, 2,980 µg/L; copper, 4.68 µg/L; manganese, 3.58 µg/L; nickel, 0.30 µg/L; selenium, 0.37 µg/L; thallium, 0.18 µg/L; and zinc, 13 µg/L. None of these other metals detections observed in the DW-01 mid-treatment sample exceeded their respective federal MCLs or Maine RAGs: antimony, 6 and 7.8 µg/L; beryllium, 4 and 25 µg/L; calcium, no MCL or RAG; copper, 1,300 and 800 µg/L; manganese, no MCL and 430 µg/L; nickel,

no MCL and 390 µg/L; selenium, 50 and 100 µg/L; thallium, 2 and 0.2 µg/L; and zinc, no federal MCL and 6000 µg/L.

In February 2021, antimony and arsenic were resampled and antimony did not exceed the MCL or RAG, and arsenic was not detected.

- In December 2020, the effluent sample (EFF) for the POET System at DW-01 had no detected VOCs, PAHs or VPHs. Arsenic was detected at a concentration of 214 µg/L and antimony was detected at a concentration of 10.9 µg/L, which exceeded their respective MCL and RAG of 6 and 7.8 µg/L for antimony and 10 and 0.52 µg/L for arsenic.

  In February 2021, antimony and arsenic were resampled and antimony did not exceed the MCL or RAG, and arsenic was not detected.

The re-sampling event of February 2021 was initiated based on the MCL exceedances observed in the mid-treatment and post-treatment samples from DW-01 following GAC filter change-out in December 2020. Based on a review of available literature, it is likely that the use of virgin (bituminous coal-based) GAC contributed to these concentrations (Gandy and Maas, 2004; **Appendix G**). Mitigation measures to avoid this issue in the future will incorporated into the Final LTMP for the LO-58 Site. Additionally, no adverse exposures to drinking water for the AMAC Building occupants occurred due to this event, as the tenants use bottled water for potable purposes.

Drinking Water Well DW-02R:

- In December 2020, the pre-treatment influent sample (INF) for the POET system at DW-02R had no detected VOCs of VPHs. The PAHs chrysene and pyrene were detected at concentrations of 0.046 µg/L and 0.064 µg/L, respectively, which were below their respective Maine RAGs of 250 and 120 µg/L. Federal MCLs do not exist for these PAH compounds. Several metals were also detected in the DW-02R influent sample, including the following metals at the following concentrations: beryllium, 0.046 µg/L; cadmium; 0.032 µg/L; calcium, 63,800 µg/L; chromium, 0.46 µg/L; copper, 64 µg/L; lead, 11 µg/L; manganese, 2.0 µg/L; nickel, 4.29 µg/L; and zinc, 13 µg/L. Only the lead detection exceeded the Maine RAG of 5.0 µg/L; it did not exceed the federal MCL of 15 µg/L. None of the other metal detections observed in the DW-02R influent sample exceeded their respective federal MCLs or Maine RAGs: beryllium, 4 and 25 µg/L; cadmium, 5 and 9.2 µg/L; calcium, no MCL or RAG; chromium, 100 µg/L and no RAG; copper, 1,300 and 800 µg/L; manganese, no MCL and 430 µg/L; nickel, no MCL and 390 µg/L and zinc, no federal MCL and 6000 µg/L.

- In December 2020, the post-treatment effluent sample (EFF) for the POET system at DW-02R had no detected VOCs, VPHs or PAHs. Several metals were also detected in the DW-02R effluent sample, including the following metals at the following concentrations: antimony, 0.058 µg/L; calcium, 67,600 µg/L; copper, 12.8 µg/L; lead, 1.97 µg/L; nickel, 2.33 µg/L; and zinc, 22 µg/L. None of the metals detections observed in the DW-02R effluent samples exceeded their respective federal MCLs or Maine RAGs: antimony, 6 and 7.8 µg/L; calcium, no MCL or RAG; copper, 1,300 and 800 µg/L; lead, 15 and 5.0 µg/L; nickel, no MCL and 390 µg/L; and zinc, no federal MCL and 6000 µg/L.

Drinking Water QA/QC Samples:

- The associated drinking water trip blank (DW-TB-WINTER2020) had the VOCs methylene chloride and acetone, both common laboratory contaminants, detected at concentrations of 3.6 µg/L and 2.4 µg/L, respectively, which are below their respective Maine RAGs. No federal MCLs exist for these VOC compounds. There were no VPHs detected in this sample.

A map showing all contaminants that have been deemed to contribute to the total risk at the LO-58 Site that were detected in drinking water wells to date is included as **Figure 6**.

3.3 – Data Review and Validation

3.3.1 – Sample Custody, Preservation, Holding Time, and Laboratory Data Review

The samples collected during LTM activities were hand delivered to Katahdin Analytical Services, Inc. (Scarborough, Maine) for analysis. The samples were received by the laboratory in good condition and properly preserved.

The collected drinking water and groundwater samples were analyzed in multiple batches. The samples were analyzed within the required method holding times except for MW-01-WINTER2020, which was extracted one day past the technical holding time for the SVOC selective ion monitoring (SIM) analysis. The results for SVOC compounds in MW-01-WINTER2020 should be considered usable as estimated results with possible low bias.

Laboratory data reviews and reporting procedures were consistent with the procedures detailed in the QAPP (VERINA, 2020c). Laboratory reports, including sample login and analysis narratives, are provided in **Appendix H**.

3.3.2 – Data Validation Process

The laboratory-developed Staged Electronic Data Deliverable (SEDD) file for the analytical data was uploaded to FUDSChem by the laboratory. VERINA performed the Stage 2a level review for this event utilizing Synectics Automated Data Review (ADR) software within the FUDSChem. The QC data review and validation on samples analyzed by the contract laboratory were in accordance with the project plans. The FUDSChem ADR software was used to generate non-conformance reports (error and warning logs) and qualification reports. Qualification reports are included with the data validation report.

Consistent with the SAP and QAPP (VERINA, 2020b; VERINA, 2020c), a Stage 2a level data validation review for each analytical method was performed. This review consisted of 1) sample identification, preservation, and holding time verification; 2) surrogate, laboratory control sample/laboratory control sample duplicate (LCS/LCSD), and MS/MSD recoveries; 3) LCS/LCSD, MS/MSD, and field duplicate precision; 4) method and field blank contamination issues; and 5) sensitivity of reported results compared to the eQAPP. The validation did not include an evaluation of instrument tunes, initial and continuing calibration results, internal standard recoveries, raw data, or calculation checks. The data validation reports for TN0377 and SO1108 which is included in **Appendix I**.

3.3.3 – Data Validation Results

Data Usability

The data were determined to be useable for project purposes; no results were rejected.

Accuracy & Precision

LCS/LCSD results were within quality acceptance limits, and qualification of the data was not required. The MS/MSD recoveries for four SVOC compounds (benzo(a)pyrene, benzo(g,h,i)perylene, dibenz(a,h)anthracene, and indeno(1,2,3-c,d)pyrene) were below the specified QC limits in MW-01-WINTER2020. The affected non-detect results in sample MW-01-WINTER2020 were qualified as estimated results (UJ). The associated LCS/LCSD met the method acceptance criteria.

The MS/MSD recovery for bromomethane was below the specified QC limits in MW-01-WINTER2020. The affected non-detect result in sample MW-01-WINTER2020 was qualified as an estimated result (UJ). The associated LCS/LCSD met the method acceptance criteria.

Field Precision & Representativeness

Field duplicate precision was acceptable, with the following exception: the field duplicate pair DW-02R-INF-WINTER2020 and DW-FD-WINTER2020 showed relative a percent difference (RPD) outside of criteria for methylene chloride, lead, nickel, and zinc. The parent sample and field duplicate were both qualified as estimated results (J/UJ). See **Appendix I** for additional information.

Sensitivity

Sensitivity criteria were met for all non-detect results for this program as identified in the QAPP (VERINA, 2020b), with the few exceptions documented in this section.

The laboratory limit of quantitation (LOQ) exceeds the project action limit (PAL) for several compounds due to laboratory analytical method quantitation limits. The non-detect results for SVOC compounds benzo(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, and naphthalene do not meet PALs for aqueous samples. Similarly, the non-detect results for VOCs 1,2-dibromo-3-chloropropane and 1,2-dibromoethane (EDB) do not meet PALs for drinking water samples. However, these compounds were not assigned RGs in the LO-58 Site DD; therefore, LOQs for analytes without RGs are considered acceptable.

Due to the presence of methylene chloride in the method blank, equipment blank, and trip blank, the methylene chloride results in samples DW-01-EFF-WINTER2020, DW-01-MID-WINTER2020, DW-02R-INFWINTER2020, MW-01-WINTER2020, and MW-03-WINTER2020 have been raised to the LOQ and reported as non-detect due to blank contamination. The results for methylene chloride in samples MW-02-WINTER2020, MW-04-WINTER2020, MW-05-WINTER2020 and field duplicate MW-FD-WINTER2020 have been raised to the sample concentration and reported as non-detect due to blank contamination. The non-detect results in samples MW-02-WINTER2020, MW-04-WINTER2020, MW-05-WINTER2020, and MW-FD-WINTER2020 do not meet PALs. However, there is no RG assigned to methylene chloride, and this compound is a typical laboratory contaminant.

Due to the presence of cadmium, chromium, copper, and lead in the method blank and/or equipment blank below the LOQ, the results for these analytes in several samples, also below the LOQ, have been reported as non-detect at the LOQ. The non-detects results meet PALs.

3.3.4 – Data Validation Actions Reconciled with the ADR

As indicated above, the ADR treatment of the project data resulted in data qualifications. These findings are detailed in the validation report provided in **Appendix I**. The following changes to the

ADR were made based on the data validator's professional judgment based on review of the ADR report:

- The ADR software flagged the SVOC results in samples MW-02-WINTER2020, MW-04-WINTER2020, and MW-FD-WINTER2020 as estimated due to extraction holding time exceedances. Based on professional judgment, since the samples were prepared within holding time on the seventh day from collection, no data qualification was necessary, and the data flag (J) was removed.

- The ADR software flagged the VOC groundwater results in samples MW-02-WINTER2020, MW-03-WINTER2020, MW-04-WINTER2020, MW-05-WINTER2020, and field duplicate MW-FD-WINTER2020 as estimated due to analysis holding time exceedances. Based on professional judgment, since the samples were analyzed within holding time on the fourteenth day from collection, no data qualification was necessary, and the data flag (X) was removed.

The SEDD files were provided by the laboratory and were imported directly into FUDSChem. The data were associated with information entered in the event planning stage and evaluated against the project eQAPP limits. ADR output reports were reviewed for appropriate application of qualifications. The validated data were exported from FUDSChem. The data files were formatted to meet MEDEP electronic data deliverable submittal requirements for upload into the MEDEP Environmental and Geographic Analysis Database (EGAD). In accordance with MEDEP requests. the groundwater sample data were reported as a groundwater (GW) matrix whether they were collected from a monitoring well or drinking water well.

3.4 – Drinking Water Well Filtration Effectiveness

The analytical results from the mid-treatment and post-treatment samples for the DW-01 GAC POET system were below the laboratory reporting limits for VOCs, SVOCs, and VPHs. The initial analytical results for arsenic and antimony, sampled on 18 December 2020, were detected at concentrations of 214 µg/L and 10.9 µg/L, above federal MCLs of 10 µg/L and 6 µg/L, respectively. This triggered a resampling event for the DW-01 GAC POET system. The analytical results for arsenic in DW-01 samples taken on 27 February 2021 were below the laboratory reporting limit of 4 µg/L for both the mid-treatment and post-treatment samples. The analytical results for antimony in these sample samples were 0.11 J µg/L and 0.24 J µg/L for the mid-treatment and post-treatment samples, respectively. Both antimony results are below the federal MCL and Maine RAG.

Because the building occupants use bottled water for drinking purposes, potential exposure via ingestion is unlikely to have occurred. Additionally, direct contact risks through hand washing would have been quickly mitigated as the system was used daily and routine flushing is expected to have rapidly reduced concentration levels of arsenic and antimony.

The analytical results from these two sampling events indicate that the DW-01 GAC POET system is operating properly and that there is no unacceptable residential exposure to LO-58 Site contaminants, as the most recent results from DW-01 show all detected analytes to be below their respective federal MCLs and/or Maine RAGs.

A Mann-Kendall trend analysis has been performed to assess the concentration trend for TCE in DW-01, which is the only well exhibiting detectable concentrations of TCE. **Table 3-6** provides a summary of the Mann-Kendall trend analysis for the available results between October 2000 and

December 2020. (Note, no sampling was conducted at the Site for an eight-year period spanning from October 2012 to June 2020).

As shown on **Table 3-6**, the concentration trend is considered to be stable based on available information. The trend analysis for TCE in drinking water at the LO-58 Site will continue to be updated and interpreted on an annual basis.

4.0 – SUMMARY AND RECOMMENDATIONS

4.1 – Summary

The following tasks were completed in accordance with the project planning documents and associated SOPs in December 2020:

- Assessment of the condition of the current monitoring well network;
- Replacement of the AMAC Building DW-01 GAC filters for the POET system;
- Collection of one round of synoptic water level measurements from the monitoring wells;
- Collection of groundwater samples from the monitoring wells (five bedrock wells; the one overburden monitoring well was dry) via low-flow purging and sampling procedures;
- Collection of drinking water samples from onsite drinking water wells DW-01 and DW-02R with POET systems (access to DW-03 and DW-04 was denied by the property owners).
- Re-sampling of the onsite drinking water well DW-01 for antimony and arsenic only; and
- Review and identification of any changes in land use that could affect the selected remedy's effectiveness.

Based on the data validation performed, VERINA determined that the data are usable to support the objectives defined in the QAPP. In general, data collected during the December 2020 and February 2021 resampling event met the project quality criteria and can be used without restriction as qualified. No data were rejected.

The following is a summary of results and conclusions for bedrock monitoring wells assessed during the December 2020 sampling round:

- The monitoring well assessment did not indicate any damage or apparent sediment buildup in bedrock monitoring wells;
- Static groundwater elevation measurements in bedrock monitoring wells are consistent with historical measurements;
- Parameter readings for turbidity, DO, specific conductance, temperature, pH, and ORP measured during the low-flow purging process were generally consistent with historical data;
- No bedrock monitoring well samples had detected compounds that exceed the federal MCLs or Maine RAGs;
- No VOCs were detected in bedrock monitoring wells above laboratory detection levels;
- The analytical results for the bedrock monitoring wells are consistent with or lower than historical ranges; and

- TCE, the only COC in groundwater at the LO-58 Site, was not detected in any of the bedrock monitoring wells.

The following is a summary of results and conclusions for drinking water wells assessed during the December 2020 sampling round and follow-up sampling in February 2021:

- The initial samples taken from drinking water well DW-01 on 18 December 2020 had antimony and/or arsenic concentrations that exceeded federal MCLs or Maine RAGs in both the mid-treatment and post-treatment samples. The analysis of confirmatory samples taken from DW-01 on 27 February 2021 indicated that there were no longer concentrations of arsenic or antimony that exceed the federal MCLs or Maine RAGs. The presence of arsenic and antimony in the initial samples has been deemed attributable to the leachability of the extractable metals present in virgin carbon derived from bituminous coal.

- No other compounds analyzed in drinking water well samples had detections that exceed the federal MCLs or Maine RAGs.

- TCE was detected in one drinking water sample, DW-01 (pre-treatment sample), at a concentration of 2.4 µg/L, which is below the federal MCL and Maine RAG, and slightly lower than what has been historically observed for TCE concentrations in DW-01. Statistical analysis of all TCE data available for DW-01 indicate that the concentration is currently considered to be stable.

Drinking water well DW-02R was constructed as a replacement well for DW-02 servicing the VFW, which was identified as a change in site conditions since the DD was established. However, because DW-02R is located in close proximity to the original well and was constructed with similar specifications, DW-02R does not change the remedy or appear to be adversely impacting the effectiveness of the remedy. Similarly, no change in land use has been documented or observed in the vicinity of the LO-58 Site that would affect the selected remedy at this time.

The results of LTM activities performed to date indicate that the remedy for groundwater is functioning effectively. No changes in site conditions have been observed that affect the remedy at this time. LTM will continue in accordance with the DD.

4.2 – Recommendations

The following recommendations are made based on the December 2020 groundwater monitoring and residential drinking water well sampling event results and the associated February 2021 DW-01 confirmatory sampling event results:

- Continued maintenance of the POET system for drinking water well DW-01 is recommended. The current POET system is effective; however, future modification to coconut shell-based GAC and filter vessels capable of being auto-backflushed on a timed basis should be considered. This recommendation is being made to reduce the potential for inorganics (specifically arsenic and antimony) to leach from bituminous coal-based GAC and to facilitate ease of maintenance.

- Continued LTM activities for groundwater at the LO-58 Site is recommended until the TCE RG is attained, supported by downward trending concentrations in accordance with the DD. Once the TCE trend analysis achieves a downward trend, additional trend analyses

for degradation products (cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride) should be initiated.

- Due to the lack of access and sampling data from offsite drinking water wells DW-03 and DW-04, and in accordance with the Final LO-58 DD, which indicates up to four new bedrock wells may be installed as part of the groundwater remedy, up to four bedrock monitoring wells are proposed at the LO-58 Site to ensure potential migration towards DW-03 and DW-04 can be monitored.

- Monitoring well MW-06, which is an overburden well is recommended for removal from the monitoring program and abandonment. The well was dry during site visits and could not be sampled.

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Figures

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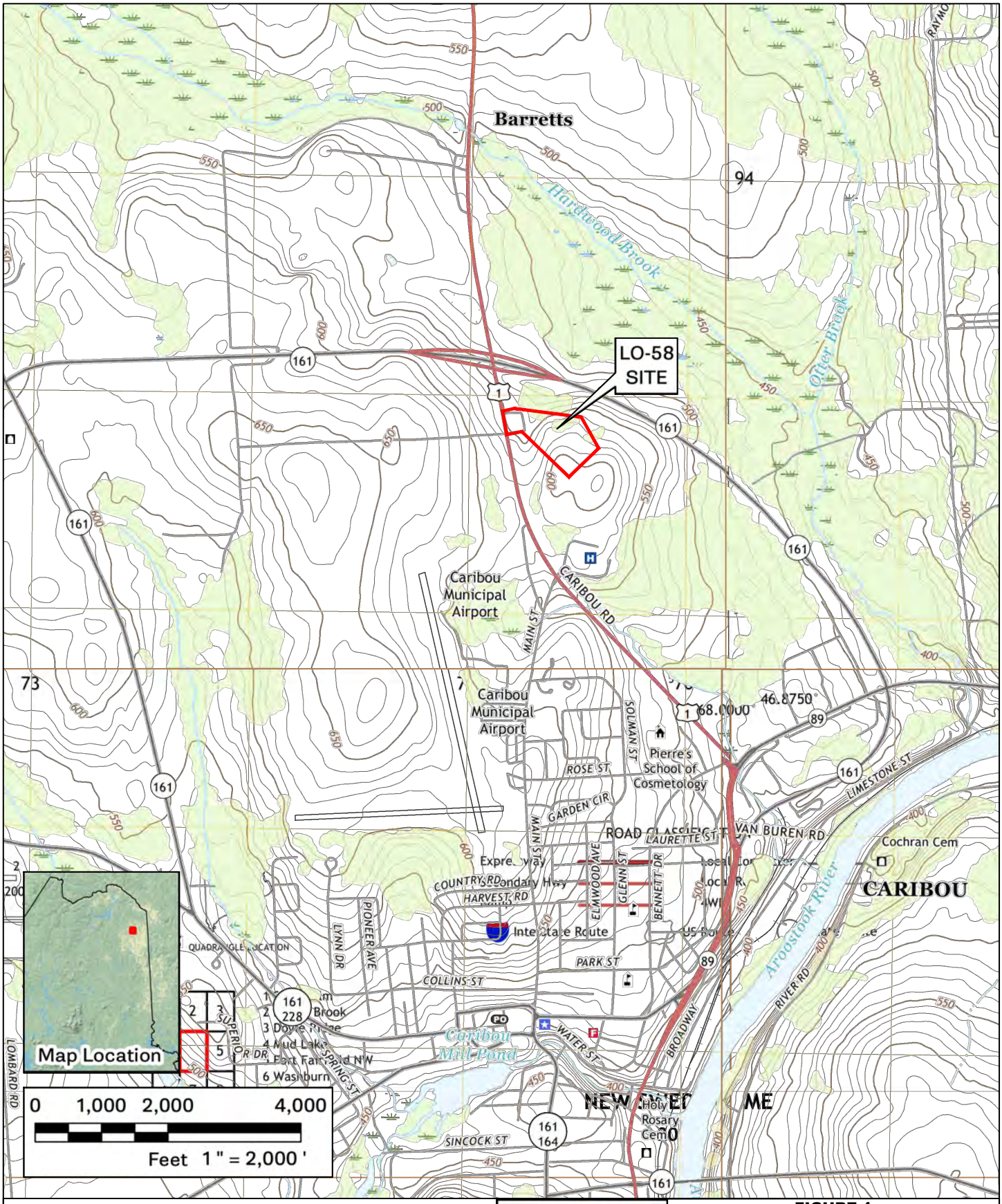


USGS TOPOGRAPHIC MAP
NEW SWEDEN, ME
1983 REVISED 2017

N

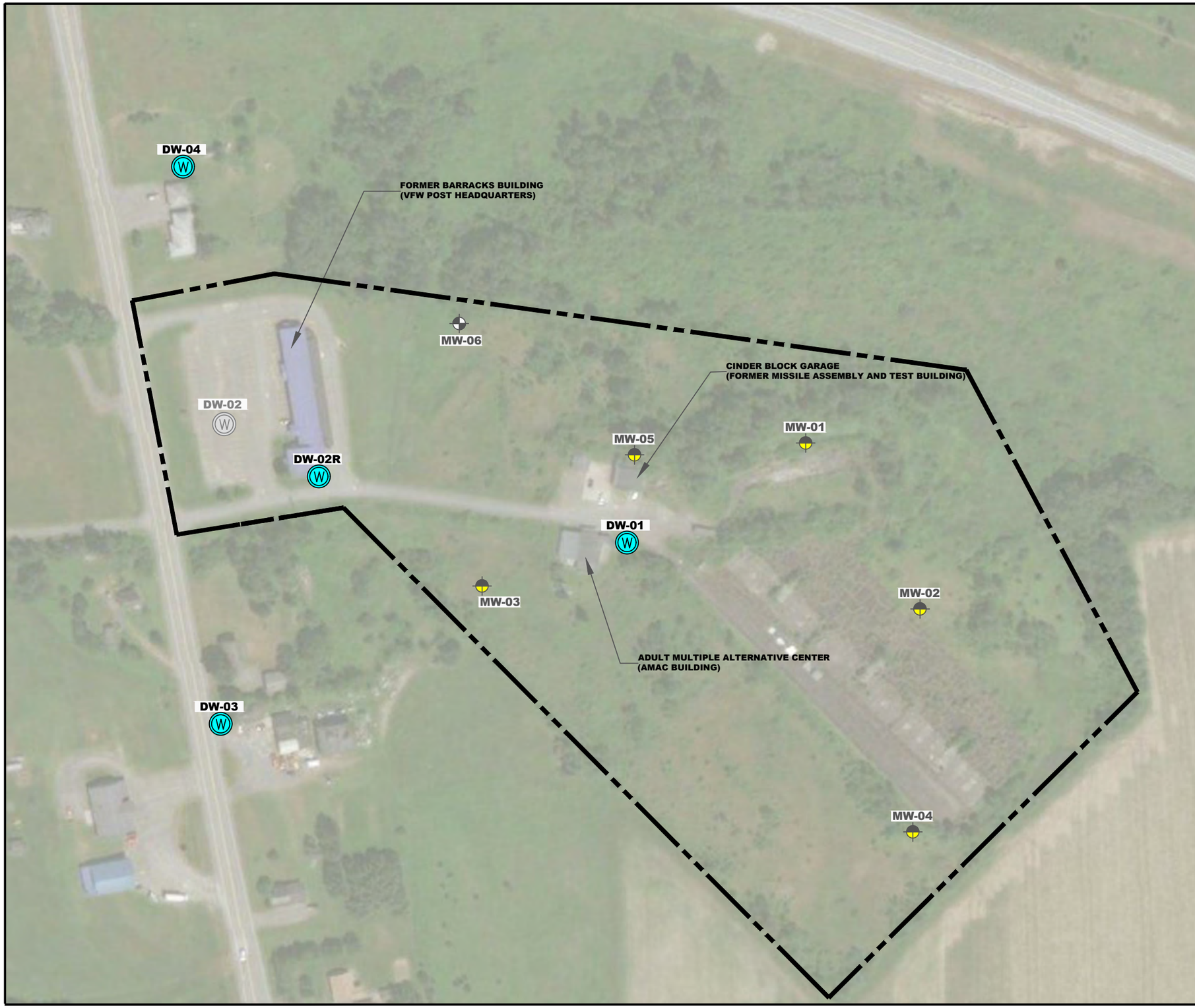
US Army Corps of Engineers
New England District

FIGURE 1

SITE LOCATION
FORMER LO-58
NIKE BATTERY LAUNCH SITE
CARIBOU, MAINE

PREPARED BY: CMS	CHECKED BY: SJM
PROJECT NO.: 2102.0108	DATE: SEPTEMBER 2021

\\server01\Shared\JOBFILES\2102-ACOE-NE District\2102.0100 - Caribou, ME - W912WJ19C0019\CAD\2102.0100-RLM-01.dwg LAYOUT: RLM SAVED: 9/28/2021 11:46 AM BY: CLAUDIO STABILE



N

EXPLANATION

APPROXIMATE PROPERTY BOUNDARY

MW-06 DESIGNATION AND LOCATION OF OVERBURDEN MONITORING WELL

MW-01 DESIGNATION AND LOCATION OF BEDROCK MONITORING WELL

DW-01 DESIGNATION AND LOCATION OF DRINKING WATER SUPPLY WELL

DW-02 DESIGNATION AND LOCATION OF INACTIVE DRINKING WATER SUPPLY WELL

SOURCE:

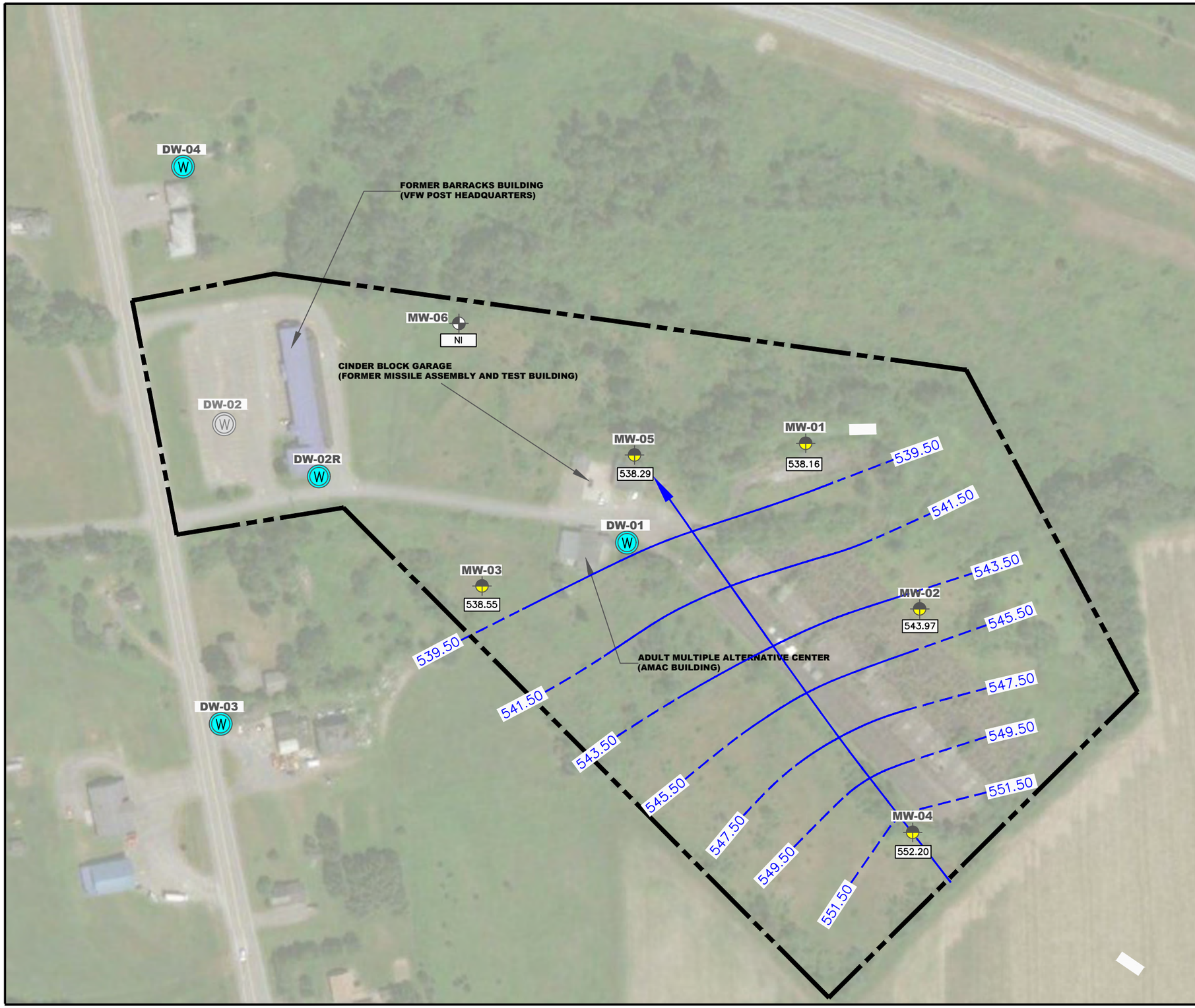
1. SITE PLAN WAS DEVELOPED FROM A CORPS OF ENGINEERS SURVEY DATED MAY 2006, AND OBSERVATIONS MADE BY NOBIS.
2. LOCATIONS OF SITE FEATURES DEPICTED HEREON ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES ONLY
3. SOURCE OF AERIAL IMAGE FROM 2020 MICROSOFT CORPORATION© DIGITAL GLOBE © CNES DISTRIBUTION AIRBUS © DS 2020 © HERE ACCESSED ON JUNE 1, 2020

0 150 FT.
APPROXIMATE SCALE

MONITORING WELL LOCATION MAP

FORMER LO-58 NIKE BATTERY LAUNCH SITE – CARIBOU, ME

Prepared By: CMS/SJM	Date: NOVEMBER 2021
Project No: 2102.0103	Figure: 2



N

EXPLANATION

APPROXIMATE PROPERTY BOUNDARY

MW-06 DESIGNATION AND LOCATION OF OVERBURDEN MONITORING WELL

MW-01 DESIGNATION AND LOCATION OF BEDROCK MONITORING WELL

DW-02 DESIGNATION AND LOCATION OF DRINKING WATER SUPPLY WELL

DW-02 DESIGNATION AND LOCATION OF INACTIVE DRINKING WATER SUPPLY WELL

542.44 GROUNDWATER ELEVATION (FT., MSL)

542.44 GROUNDWATER ELEVATION CONTOUR LINE REPRESENTING AVERAGE OF HYDRAULIC HEAD VALUES AS MEASURED ON 6/9/2020

ARROW INDICATES GENERALIZED GROUNDWATER FLOW DIRECTION

CONTOUR INTERVAL = 2.0 FEET
AVERAGE HYDRAULIC GRADIENT = 0.02 FT/FT

NOTES:
1) PRELIMINARY ISOCONTOUR WAS CREATED USING SURVEY DATA FROM MAY 2006 BY BLACKSONE LAND SURVEYING OF CARIBOU, MAINE
2) NI = NOT INCLUDED
3) GROUNDWATER LEVELS COLLECTED ON JUNE 9, 2020

SOURCE:

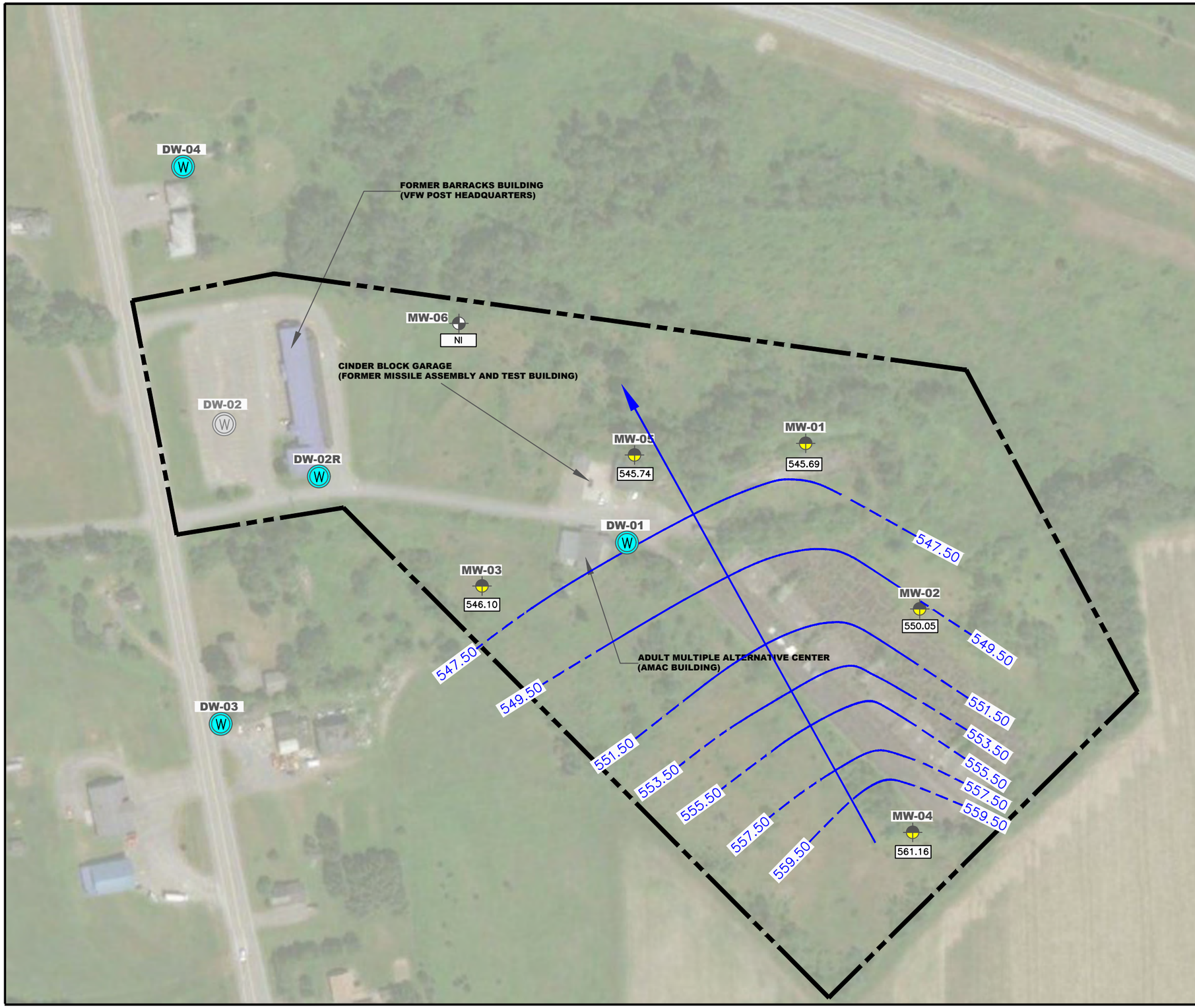
1. SITE PLAN WAS DEVELOPED FROM A CORPS OF ENGINEERS SURVEY DATED MAY 2006, AND OBSERVATIONS MADE BY NOBIS.
2. LOCATIONS OF SITE FEATURES DEPICTED HEREON ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES ONLY
3. SOURCE OF AERIAL IMAGE FROM 2020 MICROSOFT CORPORATION© DIGITAL GLOBE © CNES DISTRIBUTION AIRBUS © DS 2020 © HERE ACCESSED ON JUNE 1, 2020
4. ELEVATIONS FROM USGS TOPOGRAPHIC MAP, NEW SWEDEN, ME

0 150 FT.
APPROXIMATE SCALE

BEDROCK GROUNDWATER
ISOCONTOUR MAP
JUNE 2020

FORMER LO-58 NIKE BATTERY LAUNCH SITE – CARIBOU, ME

Prepared By: CMS/SJM	Date: DECEMBER 2021
Project No: 2102.0104	Figure: 3



N

EXPLANATION

APPROXIMATE PROPERTY BOUNDARY

MW-06 DESIGNATION AND LOCATION OF OVERBURDEN MONITORING WELL

MW-01 DESIGNATION AND LOCATION OF BEDROCK MONITORING WELL

DW-02 DESIGNATION AND LOCATION OF DRINKING WATER SUPPLY WELL

DW-02 DESIGNATION AND LOCATION OF INACTIVE DRINKING WATER SUPPLY WELL

542.44 GROUNDWATER ELEVATION (FT., MSL)

542.44 GROUNDWATER ELEVATION CONTOUR LINE REPRESENTING AVERAGE OF HYDRAULIC HEAD VALUES AS MEASURED ON 12/14/2020

ARROW INDICATES GENERALIZED GROUNDWATER FLOW DIRECTION

CONTOUR INTERVAL = 2.0 FEET
AVERAGE HYDRAULIC GRADIENT = 0.02 FT/FT

NOTES:
1) PRELIMINARY ISOCONTOUR WAS CREATED USING SURVEY DATA FROM MAY 2006 BY BLACKSONE LAND SURVEYING OF CARIBOU, MAINE
2) NI = NOT INCLUDED
3) GROUNDWATER LEVELS COLLECTED ON DECEMBER 14, 2020

SOURCE:

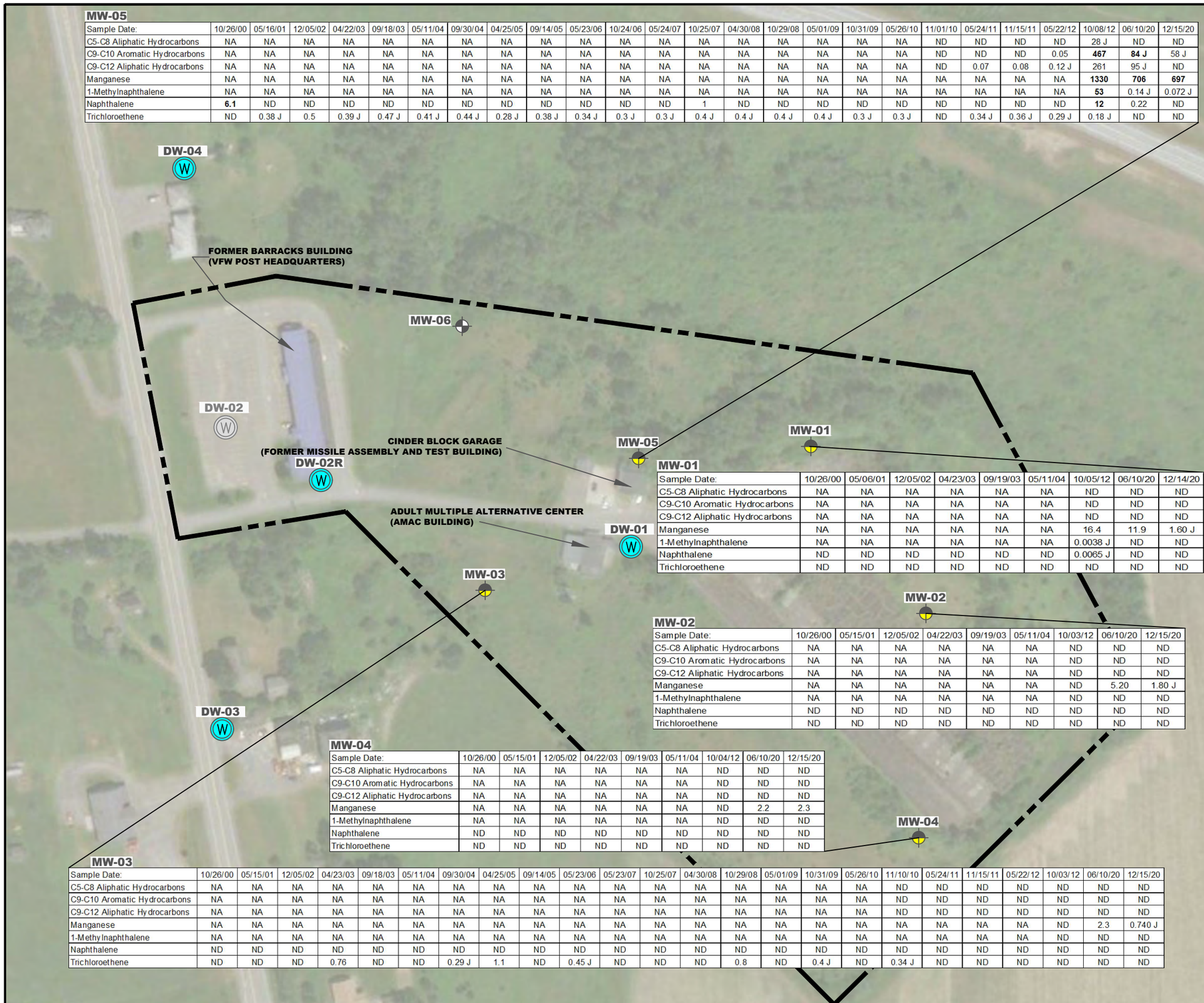
1. SITE PLAN WAS DEVELOPED FROM A CORPS OF ENGINEERS SURVEY DATED MAY 2006, AND OBSERVATIONS MADE BY NOBIS.
2. LOCATIONS OF SITE FEATURES DEPICTED HEREON ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES ONLY
3. SOURCE OF AERIAL IMAGE FROM 2020 MICROSOFT CORPORATION© DIGITAL GLOBE © CNES DISTRIBUTION AIRBUS © DS 2020 © HERE ACCESSED ON JUNE 1, 2020

0 150 FT.
APPROXIMATE SCALE

BEDROCK GROUNDWATER
ISOCONTOUR MAP
DECEMBER 2020

FORMER LO-58 NIKE BATTERY LAUNCH SITE – CARIBOU, ME

Prepared By: CMS/SJM	Date: DECEMBER 2021
Project No: 2102.0105	Figure: 4



MW-05

Sample Date:	10/26/00	05/16/01	12/05/02	04/22/03	09/18/03	05/11/04	09/30/04	04/25/05	09/14/05	05/23/06	10/24/06	05/24/07	10/25/07	04/30/08	10/29/08	05/01/09	10/31/09	05/26/10	11/01/10	05/24/11	11/15/11	05/22/12	10/08/12	06/10/20	12/15/20
C5-C8 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	28 J	ND	ND
C9-C10 Aromatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	0.05	**467**	**84 J**	58 J
C9-C12 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.07	0.08	0.12 J	261	95 J	ND
Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1330**	**706**	**697**
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**53**	0.14 J	0.072 J
Naphthalene	**6.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	**12**	0.22	ND
Trichloroethene	ND	0.38 J	0.5	0.39 J	0.47 J	0.41 J	0.44 J	0.28 J	0.38 J	0.34 J	0.3 J	0.3 J	0.4 J	0.4 J	0.4 J	0.4 J	0.3 J	0.3 J	ND	0.34 J	0.36 J	0.29 J	0.18 J	ND	ND

MW-01

Sample Date:	10/26/00	05/06/01	12/05/02	04/23/03	09/19/03	05/11/04	10/05/12	06/10/20	12/14/20
C5-C8 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND
C9-C10 Aromatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND
C9-C12 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND
Manganese	NA	NA	NA	NA	NA	NA	16.4	11.9	1.60 J
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	0.0038 J	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	0.0065 J	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND

MW-02

Sample Date:	10/26/00	05/15/01	12/05/02	04/22/03	09/19/03	05/11/04	10/03/12	06/10/20	12/15/20
C5-C8 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND
C9-C10 Aromatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND
C9-C12 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND
Manganese	NA	NA	NA	NA	NA	NA	ND	5.20	1.80 J
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND

MW-04

Sample Date:	10/26/00	05/15/01	12/05/02	04/22/03	09/19/03	05/11/04	10/04/12	06/10/20	12/15/20
C5-C8 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND
C9-C10 Aromatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND
C9-C12 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND
Manganese	NA	NA	NA	NA	NA	NA	ND	2.2	2.3
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND

MW-03

Sample Date:	10/26/00	05/15/01	12/05/02	04/23/03	09/18/03	05/11/04	09/30/04	04/25/05	09/14/05	05/23/06	05/23/07	10/25/07	04/30/08	10/29/08	05/01/09	10/31/09	05/26/10	11/10/10	05/24/11	11/15/11	05/22/12	10/03/12	06/10/20	12/15/20
C5-C8 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
C9-C10 Aromatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
C9-C12 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	2.3	0.740 J
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	0.76	ND	ND	0.29 J	1.1	ND	0.45 J	ND	ND	ND	0.8	ND	0.4 J	ND	0.34 J	ND	ND	ND	ND	ND	ND

N

EXPLANATION

APPROXIMATE PROPERTY BOUNDARY

MW-06 DESIGNATION AND LOCATION OF OVERBURDEN MONITORING WELL

MW-01 DESIGNATION AND LOCATION OF BEDROCK MONITORING WELL

DW-03 DESIGNATION AND LOCATION OF DRINKING WATER SUPPLY WELL

DW-02 DESIGNATION AND LOCATION OF INACTIVE DRINKING WATER SUPPLY WELL

Analyte	Maine RAG	Federal MCL
VPH		
C5-C8 Aliphatics Hydrocarbons	180	-
C9-C10 Aromatic Hydrocarbons	71	-
C9-C12 Aliphatic Hydrocarbons	350	-
Metals		
Manganese	430	-
VOCs		
Naphthalene	1.2	-
Trichloroethene	2.8	5
SVOCs		
1- Methylnapthalene	11	-

NOTES:
1) ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L)
2) NA = NOT ANALYZED
3) NS = NO STANDARD AVAILABLE
4) ND = NOT DETECTED
5) J = RESULT IS AN ESTIMATED VALUE
6) SCVOCs = SEMIVOLATILE ORGANIC COMPOUNDS
7) VOCs = VOLATILE ORGANIC COMPOUNDS
8) VPH = VOLATILE PETROLEUM HYDROCARBONS
9) **BOLD** TEXT INDICATES RESULT EXCEEDS THE MAINE RAG
10) YELLOW HIGHLIGHTING INDICATES RESULT EXCEEDS THE FEDERAL MCL

SOURCE:
1. SITE PLAN WAS DEVELOPED FROM A CORPS OF ENGINEERS SURVEY DATED MAY 2006, AND OBSERVATIONS MADE BY NOBIS.
2. LOCATIONS OF SITE FEATURES DEPICTED HEREON ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES ONLY
3. SOURCE OF AERIAL IMAGE FROM 2020 MICROSOFT CORPORATION© DIGITAL GLOBE © CNES DISTRIBUTION AIRBUS © DS 2020 © HERE ACCESSED ON JUNE 1, 2020

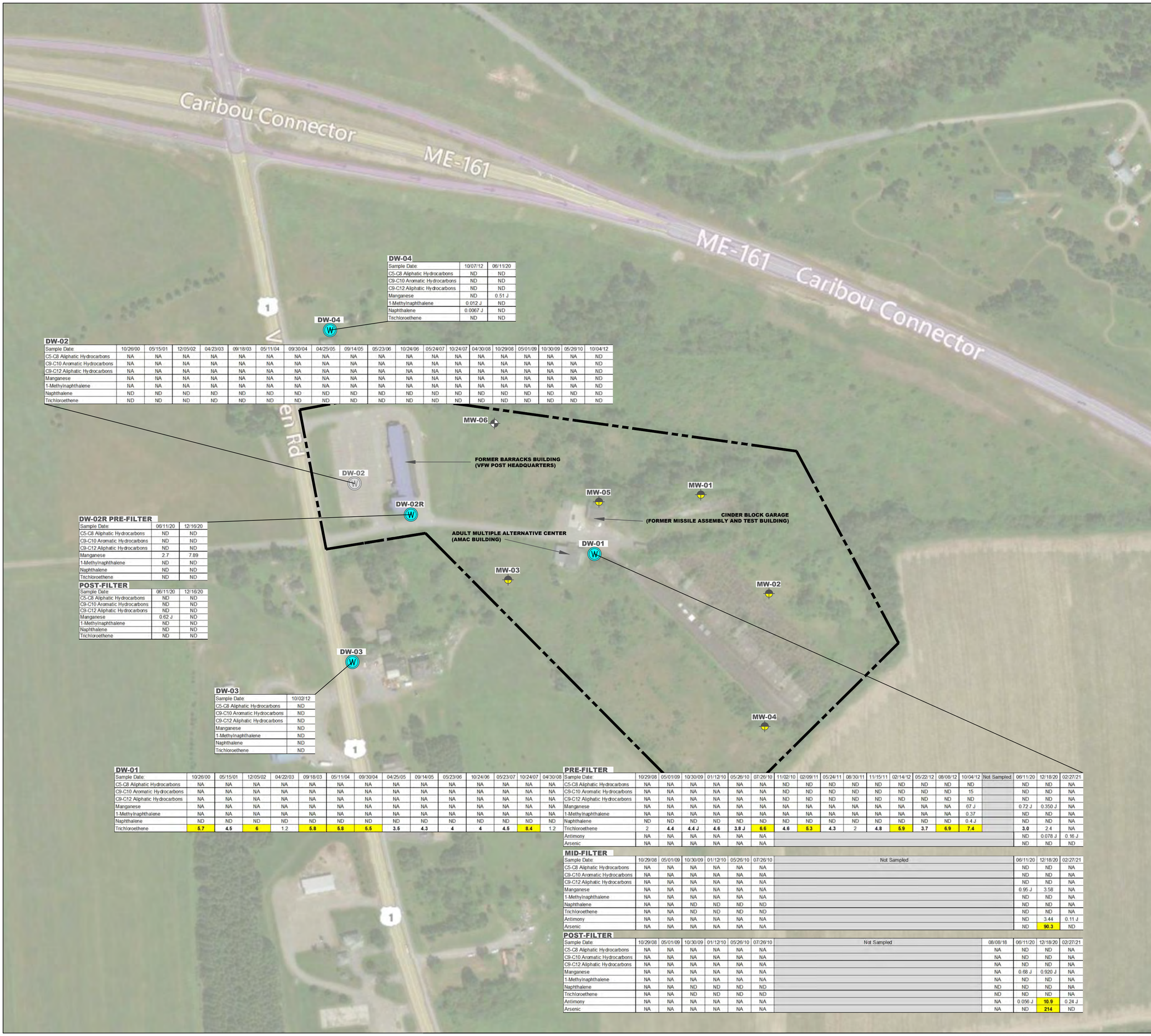
0 150 FT.
APPROXIMATE SCALE

BEDROCK GROUNDWATER ANALYTICAL RESULTS

FORMER LO-58 NIKE BATTERY LAUNCH SITE – CARIBOU, ME

Prepared By: CMS/SJM | Date: NOVEMBER 2021

Project No: 2102.0105 | Figure: 5



DW-04

Sample Date:	10/07/12	06/11/20
C5-C8 Aliphatic Hydrocarbons	ND	ND
C9-C10 Aromatic Hydrocarbons	ND	ND
C9-C12 Aliphatic Hydrocarbons	ND	ND
Manganese	ND	0.51 J
1-Methylnaphthalene	0.012 J	ND
Naphthalene	0.0067 J	ND
Trichloroethene	ND	ND

DW-02

Sample Date:	10/26/00	05/15/01	12/05/02	04/23/03	09/18/03	05/11/04	09/30/04	04/25/05	09/14/05	05/23/06	10/24/06	05/24/07	10/24/07	04/30/08	10/29/08	05/01/09	10/30/09	05/26/10	10/04/12
C5-C8 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
C9-C10 Aromatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
C9-C12 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DW-02R PRE-FILTER

Sample Date:	06/11/20	12/16/20
C5-C8 Aliphatic Hydrocarbons	ND	ND
C9-C10 Aromatic Hydrocarbons	ND	ND
C9-C12 Aliphatic Hydrocarbons	ND	ND
Manganese	2.7	7.89
1-Methylnaphthalene	ND	ND
Naphthalene	ND	ND
Trichloroethene	ND	ND

POST-FILTER

Sample Date:	06/11/20	12/16/20
C5-C8 Aliphatic Hydrocarbons	ND	ND
C9-C10 Aromatic Hydrocarbons	ND	ND
C9-C12 Aliphatic Hydrocarbons	ND	ND
Manganese	0.62 J	ND
1-Methylnaphthalene	ND	ND
Naphthalene	ND	ND
Trichloroethene	ND	ND

DW-03

Sample Date:	10/02/12
C5-C8 Aliphatic Hydrocarbons	ND
C9-C10 Aromatic Hydrocarbons	ND
C9-C12 Aliphatic Hydrocarbons	ND
Manganese	ND
1-Methylnaphthalene	ND
Naphthalene	ND
Trichloroethene	ND

DW-01

Sample Date:	10/26/00	05/15/01	12/05/02	04/22/03	09/18/03	05/11/04	09/30/04	04/25/05	09/14/05	05/23/06	10/24/06	05/23/07	10/24/07	04/30/08
C5-C8 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C9-C10 Aromatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C9-C12 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**5.7**	**4.5**	**6**	1.2	**5.8**	**5.8**	**5.5**	**3.5**	**4.3**	**4**	**4**	**4.5**	**8.4**	1.2

PRE-FILTER

Sample Date:	10/29/08	05/01/09	10/30/09	01/12/10	05/26/10	07/26/10	11/02/10	02/09/11	05/24/11	08/30/11	11/15/11	02/14/12	05/22/12	08/08/12	10/04/12	Not Sampled	06/11/20	12/18/20	02/27/21
C5-C8 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	NA
C9-C10 Aromatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	15		ND	ND	NA
C9-C12 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	NA
Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	67 J		0.72 J	0.350 J	NA
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.37		ND	ND	NA
Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4 J		ND	ND	NA
Trichloroethene	2	**4.4**	**4.4 J**	**4.6**	**3.8 J**	**6.6**	**4.6**	**5.3**	**4.3**	2	**4.8**	**5.9**	**3.7**	**6.9**	**7.4**		**3.0**	2.4	NA
Antimony	NA	NA	NA	NA	NA	NA											ND	0.078 J	0.16 J
Arsenic	NA	NA	NA	NA	NA	NA											ND	ND	ND

MID-FILTER

Sample Date:	10/29/08	05/01/09	10/30/09	01/12/10	05/26/10	07/26/10	Not Sampled	06/11/20	12/18/20	02/27/21
C5-C8 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA		ND	ND	NA
C9-C10 Aromatic Hydrocarbons	NA	NA	NA	NA	NA	NA		ND	ND	NA
C9-C12 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA		ND	ND	NA
Manganese	NA	NA	NA	NA	NA	NA		0.95 J	3.58	NA
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA		ND	ND	NA
Naphthalene	NA	NA	ND	ND	ND	ND		ND	ND	NA
Trichloroethene	NA	NA	ND	ND	ND	ND		ND	ND	NA
Antimony	NA	NA	NA	NA	NA	NA		ND	3.44	0.11 J
Arsenic	NA	NA	NA	NA	NA	NA		ND	**90.3**	ND

POST-FILTER

Sample Date:	10/29/08	05/01/09	10/30/09	01/12/10	05/26/10	07/26/10	Not Sampled	08/08/18	06/11/20	12/18/20	02/27/21
C5-C8 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA		NA	ND	ND	NA
C9-C10 Aromatic Hydrocarbons	NA	NA	NA	NA	NA	NA		NA	ND	ND	NA
C9-C12 Aliphatic Hydrocarbons	NA	NA	NA	NA	NA	NA		NA	ND	ND	NA
Manganese	NA	NA	NA	NA	NA	NA		NA	0.68 J	0.920 J	NA
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA		NA	ND	ND	NA
Naphthalene	NA	NA	ND	ND	ND	ND		ND	ND	ND	NA
Trichloroethene	NA	NA	ND	ND	ND	ND		ND	ND	ND	NA
Antimony	NA	NA	NA	NA	NA	NA		NA	0.056 J	**10.9**	0.24 J
Arsenic	NA	NA	NA	NA	NA	NA		NA	ND	**214**	ND

N

EXPLANATION

- APPROXIMATE PROPERTY BOUNDARY
- MW-06 DESIGNATION AND LOCATION OF OVERBURDEN MONITORING WELL
- MW-01 DESIGNATION AND LOCATION OF BEDROCK MONITORING WELL
- DW-01 DESIGNATION AND LOCATION OF DRINKING WATER SUPPLY WELL
- DW-02 DESIGNATION AND LOCATION OF INACTIVE DRINKING WATER SUPPLY WELL

Analyte	Maine RAG	Federal MCL
VPH		
C5-C8 Aliphatics Hydrocarbons	180	-
C9-C10 Aromatic Hydrocarbons	71	-
C9-C12 Aliphatic Hydrocarbons	350	-
Metals		
Antimony	7.8	6
Arsenic	0.52	10
Manganese	430	-
VOCs		
Naphthalene	1.2	-
Trichloroethene	2.8	5

NOTES:
1) ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L)
2) NA = NOT ANALYZED
3) NS = NO STANDARD AVAILABLE
4) ND = NOT DETECTED
5) J = RESULT IS AN ESTIMATED VALUE
6) SCVOCs = SEMIVOLATILE ORGANIC COMPOUNDS
7) VOCs = VOLATILE ORGANIC COMPOUNDS
8) VPH = VOLATILE PETROLEUM HYDROCARBON
9) **BOLD** TEXT INDICATES RESULT EXCEEDS THE MAINE RAG
10) YELLOW HIGHLIGHTING INDICATES RESULT EXCEEDS THE FEDERAL MCL

SOURCE:
1. SITE PLAN WAS DEVELOPED FROM A CORPS OF ENGINEERS SURVEY DATED MAY 2006, AND OBSERVATIONS MADE BY NOBIS.
2. LOCATIONS OF SITE FEATURES DEPICTED HEREON ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES ONLY
3. SOURCE OF AERIAL IMAGE FROM 2020 MICROSOFT CORPORATION© DIGITAL GLOBE © CNES DISTRIBUTION AIRBUS © DS 2020 © HERE ACCESSED ON JUNE 1, 2020

0 150 FT.
APPROXIMATE SCALE

DRINKING WATER ANALYTICAL RESULTS

FORMER LO-58 NIKE BATTERY LAUNCH SITE – CARIBOU, ME

Prepared By: CMS/SJM	Date: NOVEMBER 2021
Project No: 2102.0103	Figure: 6

Tables

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Table 1-1 - Summary of RGs

Medium	Basis	RGs
Groundwater	MCL	Trichloroethene - 5 µg/L
Air	Risk	Chloroform - 1.1 µg/m3
		Naphthalene - 0.7 µg/m3
		Trichloroethene - 2.0 µg/m3

NOTES:

RGs = Remediation Goals

MCL = Federal maxium Contaminant Level

µg/L = Microgram per liter

$\mu g/m^3$ = Microgram per cubic meter

Table 1-2 - Summary of Maine RAGs

Contaminant	Maine Air RAG (Residential) µg/m3	Maine Water RAG (Residential) µg/L
C9-C10 Aromatic Hydrocarbons	52	71
Chloroform	1.2	2.2
1,2-Dichloroethane	1.1	1.7
Manganese	0.052	430
1-Methylnapthelene	--	11
Naphthalene	0.83	1.2
Trichloroethene	2.1	2.8

NOTES:

RGs = Remediation Goals

MCL = Federal maxium Contaminant Level

µg/L = Microgram per liter

µg/m^3 = Microgram per cubic meter

Table 2-1 - Well Assessment Summary

Monitoring Well	Date	PID Reading (ppm)	Total Depth** (ft, btoc)	Depth to Water (ft, btoc)	Condition of Well***
MW-01	12/14/2020	0	144.85	28.82	Good
MW-02	12/14/2020	0	61.61	35.09	Good
MW-03	12/14/2020	0	48.86	20.48	Good
MW-04	12/14/2020	0	82.88	39.97	Good
MW-05	12/14/2020	0	78.71	25.74	Good
MW-06*	12/14/2020	0	16.77*	None Encountered	Good, but no water present

NOTES:

*Overburden monitoring well MW-06 contains a 6” sump below the well; wells MW-01 through MW-05 are bedrock monitoring wells.

**Total depth measurements taken following well sampling on December 16, 2020, except for MW-06.

*** "Good" well condition indicates that the well was properly capped and locked upon arrival and no obstructions (e.g., debris, sedimentation, etc.,) were observed within the well casing/borehole.

btoc = below top of casing

ft = feet

PID = photoionization detector

PVC = polyvinyl chloride

Table 2-2 - Multi-Parameter Stabilization Summary

Monitoring Well	Date	pH	Temperature (°C)	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)
MW-01	12/14/2020	7.49	6.4	390.0	7.67	1.85	170.3
MW-02	12/15/2020	7.48	7.0	594.0	6.73	1.48	107.2
MW-03	12/15/2020	7.61	6.3	365.0	7.99	2.97	159.8
MW-04	12/15/2020	7.48	6.5	543.0	10.43	2.03	150.9
MW-05	12/15/2020	7.28	6.7	502.0	1.29	2.81	-70.0

NOTES:

°C = Degrees Celcius

µS/cm = MicroSiemens per centimeter

mg/L = Milligrams per liter

NTU = Nephelometric turbidity unit

ORP = Oxidation-reduction potential

mV = Millivolts

Readings were obtained using a YSI 556 multiparameter probe and HACH 2100Q turbidity meter.

Table 2-3 - DW-01 GAC Change-Out Field Measurements

Date	Time	Flow Rate (GPM)	Turbidity (NTU)	Soluble Inorganic Arsenic (ppb)
12/18/2020	15:00	NM	5.03	NM
12/18/2020	15:10	NM	4.55	NM
12/18/2020	15:20	NM	1.12	NM
12/18/2020	15:30	NM	1.01	NM
12/18/2020	15:40	NM	0.91	NM
12/18/2020	15:50	NM	0.94	NM
12/18/2020	16:00	NM	0.88	NM
2/26/2021	08:10	1.00	2.15	<5
2/26/2021	08:12	1.15	0.88	<5
2/26/2021	09:00	1.15	0.27	<5
2/26/2021	10:05	1.60	0.22	<5
2/26/2021	10:25	1.60	0.29	<5
2/26/2021	11:25	1.25	0.25	<5
2/26/2021	11:55	1.25	0.23	<5
2/26/2021	12:55	1.10	0.15	<5
2/26/2021	13:25	1.10	0.14	<5
2/26/2021	14:25	0.95	0.14	<5
2/26/2021	14:55	1.05	0.18	<5
2/26/2021	15:25	1.20	0.20	<5
2/26/2021	15:55	1.30	0.21	<5
2/26/2021	16:25	1.35	0.14	<5
2/26/2021	16:55	1.30	0.09	<5
2/26/2021	17:25	1.15	0.13	<5
2/27/2021	06:45	1.25	0.09	<5
2/27/2021	07:15	1.20	0.12	<5
2/27/2021	07:45	1.25	0.11	<5

NOTES:

GPM = Gallons per minute

NTU = Nephelometric turbidity unit

ppb = Parts per billion

NM = Not measured

Soluble inorganic arsenic measured using a colorimetric arsenic field test kit manufactured by Industrial Test Systems, Inc.

Table 3-1 - Groundwater Elevation Measurements

Date Measured:		8/7/2019		11/12/2019	
Monitoring Well No.	Measuring Point Elevations (ft. amsl)	Depth to Water, ft.	Ground Water Elevation (ft. amsl)	Depth to Water, ft.	Ground Water Elevation (ft. amsl)
MW-01	574.51	42.12	532.39	30.48	544.03
MW-02	585.14	45.41	539.73	38.36	546.78
MW-03	566.58	33.78	532.8	22.38	544.2
MW-04	601.13	53.57	547.56	40.50	560.63
MW-05	571.48	38.81	532.67	27.47	544.01
MW-06	538.14	None Detected	None Detected	None Detected	None Detected

Date Measured:		6/9/2020		12/14/2020	
Monitoring Well No.	Measuring Point Elevations (ft. amsl)	Depth to Water, ft.	Ground Water Elevation (ft. amsl)	Depth to Water, ft.	Ground Water Elevation (ft. amsl)
MW-01	574.51	36.35	538.16	28.82	545.69
MW-02	585.14	41.17	543.97	35.09	550.05
MW-03	566.58	28.03	538.55	20.48	546.1
MW-04	601.13	48.93	552.2	39.97	561.16
MW-05	571.48	33.19	538.29	25.74	545.74
MW-06	538.14	None Detected	None Detected	None Detected	None Detected

NOTES:

ft. amsl = feet above mean sea level

Depth to water measured from top of PVC casing

MW-06 has historically been dry

Table 3-2 - Targeted VOCs and VPHs in Bedrock Monitoring Wells

	VERINA Sample ID:	MW-01-SPRING2020		MW-01-WINTER2020		MW-02-SPRING2020		MW-FD-SPRING2020		MW-02-WINTER2020		Federal MCL (May 2009)	Maine DEP RAG (May 2021)
	Lab Sample ID:	SN4725-12		TN0377-7		SN4725-13		SN4725-17		TN0377-8			
	Sample Date:	6/10/2020		12/14/2020		6/10/2020		6/10/2020		12/15/2020			
	Laboratory:	Katahdin		Katahdin		Katahdin		Katahdin		Katahdin			
CAS #	**TARGETED VOCs (µg/L):**												
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**200**	**8000**
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**0.76**
79-00-5	1,1,2-Trichloroethane	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	**5**	**0.42**
75-34-3	1,1-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**28**
75-35-4	1,1-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**7**	**290**
107-06-2	1,2-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**1.7**
78-87-5	1,2-Dichloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**8.3**
78-93-3	2-Butanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**5600**
591-78-6	2-Hexanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**38**
108-10-1	4-Methyl-2-Pentanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**6300**
67-64-1	Acetone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**14000**
71-43-2	Benzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**4.6**
75-27-4	Bromodichloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**1.3**
75-25-2	Bromoform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**33**
74-83-9	Bromomethane	1.0	U	1.0	UJ	1.0	U	1.0	U	1.0	U	**-**	**7.6**
75-15-0	Carbon Disulfide	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**810**
56-23-5	Carbon Tetrachloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**4.6**
108-90-7	Chlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**100**	**78**
75-00-3	Chloroethane	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**21000**
67-66-3	Chloroform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**2.2**
74-87-3	Chloromethane	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**190**
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**70**	**35**
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**4.7**
124-48-1	Dibromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**8.7**
100-41-4	Ethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**700**	**15**
179601-23-1	m+p-Xylenes	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**-**
75-09-2	Methylene Chloride	2.5	U	5.0	U	2.5	U	2.5	U	9.3	U	**-**	**110**
95-47-6	o-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**-**
100-42-5	Styrene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**100**	**1200**
127-18-4	Tetrachloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**41**
108-88-3	Toluene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**1000**	**1100**
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**100**	**68**
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**4.7**
79-01-6	Trichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**2.8**
75-01-4	Vinyl Chloride	*1.0*	*U*	*1.0*	*U*	*1.0*	*U*	*1.0*	*U*	*1.0*	*U*	**2**	**0.19**
1330-20-7	Xylenes (Total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	**10000**	**190**
CAS #	**TARGETED VPHs (µg/L):**												
71-43-2	Benzene	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	**5**	**4.6**
-	C5-C8 Aliphatics	75	U	75	U	75	U	75	U	75	U	**-**	**180**
-	C9-C10 Aromatics	*75*	*U*	*75*	*U*	*75*	*U*	*75*	*U*	*75*	*U*	**-**	**71**
-	C9-C12 Aliphatics	75	U	75	U	75	U	75	U	75	U	**-**	**350**
100-41-4	Ethylbenzene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**700**	**15**
179601-23-1	m+p-Xylenes	7.5	U	7.5	U	7.5	U	7.5	U	7.5	U	**-**	**-**
1634-04-4	Methyl tert-butyl ether	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**-**	**140**
91-20-3	Naphthalene	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	**-**	**1.2**
95-47-6	o-Xylene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**-**	**-**
108-88-3	Toluene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**1000**	**1100**

NOTES:

VOCs = Volatile organic compounds

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

Table 3-2 - Targeted VOCs and VPHs in Bedrock Monitoring Wells (Continued)

	VERINA Sample ID: Lab Sample ID: Sample Date: Laboratory:	MW-FD-WINTER2020 TN0377-12 12/15/2020 Katahdin		MW-03-SPRING2020 SN4725-14 6/10/2020 Katahdin		MW-03-WINTER2020 TN0377-9 12/15/2020 Katahdin		MW-04-SPRING2020 SN4725-15 6/10/2020 Katahdin		MW-04-WINTER2020 TN0377-10 12/15/2020 Katahdin		Federal MCL (May 2009)	Maine DEP RAG (May 2021)
CAS #	**TARGETED VOCs (µg/L):**												
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**200**	**8000**
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**0.76**
79-00-5	1,1,2-Trichloroethane	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	**5**	**0.42**
75-34-3	1,1-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**28**
75-35-4	1,1-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**7**	**290**
107-06-2	1,2-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**1.7**
78-87-5	1,2-Dichloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**8.3**
78-93-3	2-Butanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**5600**
591-78-6	2-Hexanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**38**
108-10-1	4-Methyl-2-Pentanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**6300**
67-64-1	Acetone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**14000**
71-43-2	Benzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**4.6**
75-27-4	Bromodichloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**1.3**
75-25-2	Bromoform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**33**
74-83-9	Bromomethane	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**7.6**
75-15-0	Carbon Disulfide	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**810**
56-23-5	Carbon Tetrachloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**4.6**
108-90-7	Chlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**100**	**78**
75-00-3	Chloroethane	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**21000**
67-66-3	Chloroform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**2.2**
74-87-3	Chloromethane	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**190**
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**70**	**35**
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**4.7**
124-48-1	Dibromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**8.7**
100-41-4	Ethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**700**	**15**
179601-23-1	m+p-Xylenes	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**-**
75-09-2	Methylene Chloride	9.4	U	2.5	U	5.0	U	2.5	U	17.0	U	**-**	**110**
95-47-6	o-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**-**
100-42-5	Styrene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**100**	**1200**
127-18-4	Tetrachloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**41**
108-88-3	Toluene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**1000**	**1100**
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**100**	**68**
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**4.7**
79-01-6	Trichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**2.8**
75-01-4	Vinyl Chloride	*1.0*	*U*	*1.0*	*U*	*1.0*	*U*	*1.0*	*U*	*1.0*	*U*	**2**	**0.19**
1330-20-7	Xylenes (Total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	**10000**	**190**
CAS #	**TARGETED VPHs (µg/L):**												
71-43-2	Benzene	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	**5**	**4.6**
-	C5-C8 Aliphatics	75	U	75	U	75	U	75	U	75	U	**-**	**180**
-	C9-C10 Aromatics	*75*	*U*	*75*	*U*	*75*	*U*	*75*	*U*	*75*	*U*	**-**	**71**
-	C9-C12 Aliphatics	75	U	75	U	75	U	75	U	75	U	**-**	**350**
100-41-4	Ethylbenzene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**700**	**15**
179601-23-1	m+p-Xylenes	7.5	U	7.5	U	7.5	U	7.5	U	7.5	U	**-**	**-**
1634-04-4	Methyl tert-butyl ether	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**-**	**140**
91-20-3	Naphthalene	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	**-**	**1.2**
95-47-6	o-Xylene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**-**	**-**
108-88-3	Toluene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**1000**	**1100**

NOTES:

VOCs = Volatile organic compounds

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

Table 3-2 - Targeted VOCs and VPHs in Bedrock Monitoring Wells (Continued)

	VERINA Sample ID:	MW-05-SPRING2020		MW-05-WINTER2020		GW-EB-SPRING2020		GW-TB-SPRING2020		GW-EB-WINTER2020		Federal MCL (May 2009)	Maine DEP RAG (May 2021)
	Lab Sample ID:	SN4725-16		TN0377-11		SN4725-8		SN4725-10		TN0377-13			
	Sample Date:	6/10/2020		12/15/2020		6/11/2020		6/11/2020		12/15/2020			
	Laboratory:	Katahdin		Katahdin		Katahdin		Katahdin		Katahdin			
CAS #	**TARGETED VOCs (µg/L):**												
71-55-6	1,1,1-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**200**	**8000**
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**0.76**
79-00-5	1,1,2-Trichloroethane	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	**5**	**0.42**
75-34-3	1,1-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**28**
75-35-4	1,1-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**7**	**290**
107-06-2	1,2-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**1.7**
78-87-5	1,2-Dichloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**8.3**
78-93-3	2-Butanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**5600**
591-78-6	2-Hexanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**38**
108-10-1	4-Methyl-2-Pentanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	**-**	**6300**
67-64-1	Acetone	2.5	U	2.5	U	3.0	J	2.5	U	2.5	U	**-**	**14000**
71-43-2	Benzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**4.6**
75-27-4	Bromodichloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**1.3**
75-25-2	Bromoform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**33**
74-83-9	Bromomethane	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**7.6**
75-15-0	Carbon Disulfide	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**810**
56-23-5	Carbon Tetrachloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**4.6**
108-90-7	Chlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**100**	**78**
75-00-3	Chloroethane	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**21000**
67-66-3	Chloroform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**2.2**
74-87-3	Chloromethane	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**190**
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**70**	**35**
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**4.7**
124-48-1	Dibromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**8.7**
100-41-4	Ethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**700**	**15**
179601-23-1	m+p-Xylenes	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	**-**	**-**
75-09-2	Methylene Chloride	2.5	U	5.8	U	2.5	U	2.5	U	2.8	J	**-**	**110**
95-47-6	o-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**-**
100-42-5	Styrene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**100**	**1200**
127-18-4	Tetrachloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**41**
108-88-3	Toluene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**1000**	**1100**
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**100**	**68**
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**-**	**4.7**
79-01-6	Trichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**5**	**2.8**
75-01-4	Vinyl Chloride	*1.0*	*U*	*1.0*	*U*	*1.0*	*U*	*1.0*	*U*	*1.0*	*U*	**2**	**0.19**
1330-20-7	Xylenes (Total)	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	**10000**	**190**
CAS #	**TARGETED VPHs (µg/L):**												
71-43-2	Benzene	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	**5**	**4.6**
-	C5-C8 Aliphatics	75	U	75	U	75	U	75	U	75	U	**-**	**180**
-	C9-C10 Aromatics	**95**	J	58	J	*75*	*U*	*75*	*U*	*75*	*U*	**-**	**71**
-	C9-C12 Aliphatics	84	J	75	U	75	U	75	U	75	U	**-**	**350**
100-41-4	Ethylbenzene	0.79	J	3.80	U	3.8	U	3.8	U	3.8	U	**700**	**15**
179601-23-1	m+p-Xylenes	7.5	U	7.5	U	7.5	U	7.5	U	7.5	U	**-**	**-**
1634-04-4	Methyl tert-butyl ether	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**-**	**140**
91-20-3	Naphthalene	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	**-**	**1.2**
95-47-6	o-Xylene	0.85	J	3.80	U	3.8	U	3.8	U	3.8	U	**-**	**-**
108-88-3	Toluene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**1000**	**1100**

NOTES:

VOCs = Volatile organic compounds

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

Table 3-2 - Targeted VOCs and VPHs in Bedrock Monitoring Wells (Continued)

	VERINA Sample ID: Lab Sample ID: Sample Date: Laboratory:	GW-TB-WINTER2020 TN0377-14 12/18/2020 Katahdin										Federal MCL (May 2009)	Maine DEP RAG (May 2021)
CAS #	**TARGETED VOCs (µg/L):**												
71-55-6	1,1,1-Trichloroethane	0.50	U									**200**	**8000**
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U									**-**	**0.76**
79-00-5	1,1,2-Trichloroethane	*0.50*	*U*									**5**	**0.42**
75-34-3	1,1-Dichloroethane	0.50	U									**-**	**28**
75-35-4	1,1-Dichloroethene	0.50	U									**7**	**290**
107-06-2	1,2-Dichloroethane	0.50	U									**5**	**1.7**
78-87-5	1,2-Dichloropropane	0.50	U									**5**	**8.3**
78-93-3	2-Butanone	2.5	U									**-**	**5600**
591-78-6	2-Hexanone	2.5	U									**-**	**38**
108-10-1	4-Methyl-2-Pentanone	2.5	U									**-**	**6300**
67-64-1	Acetone	55										**-**	**14000**
71-43-2	Benzene	0.50	U									**5**	**4.6**
75-27-4	Bromodichloromethane	0.50	U									**-**	**1.3**
75-25-2	Bromoform	0.50	U									**-**	**33**
74-83-9	Bromomethane	1.0	U									**-**	**7.6**
75-15-0	Carbon Disulfide	0.50	U									**-**	**810**
56-23-5	Carbon Tetrachloride	0.50	U									**5**	**4.6**
108-90-7	Chlorobenzene	0.50	U									**100**	**78**
75-00-3	Chloroethane	1.0	U									**-**	**21000**
67-66-3	Chloroform	0.50	U									**-**	**2.2**
74-87-3	Chloromethane	1.0	U									**-**	**190**
156-59-2	cis-1,2-Dichloroethene	0.50	U									**70**	**35**
10061-01-5	cis-1,3-Dichloropropene	0.50	U									**-**	**4.7**
124-48-1	Dibromochloromethane	0.50	U									**-**	**8.7**
100-41-4	Ethylbenzene	0.50	U									**700**	**15**
179601-23-1	m+p-Xylenes	1.0	U									**-**	**-**
75-09-2	Methylene Chloride	90										**-**	**110**
95-47-6	o-Xylene	0.50	U									**-**	**-**
100-42-5	Styrene	0.50	U									**100**	**1200**
127-18-4	Tetrachloroethene	0.50	U									**5**	**41**
108-88-3	Toluene	0.50	U									**1000**	**1100**
156-60-5	trans-1,2-Dichloroethene	0.50	U									**100**	**68**
10061-02-6	trans-1,3-Dichloropropene	0.50	U									**-**	**4.7**
79-01-6	Trichloroethene	0.50	U									**5**	**2.8**
75-01-4	Vinyl Chloride	*1.0*	*U*									**2**	**0.19**
1330-20-7	Xylenes (Total)	1.5	U									**10000**	**190**
CAS #	**TARGETED VPHs (µg/L):**												
71-43-2	Benzene	2.0	U									**5**	**4.6**
-	C5-C8 Aliphatics	75	U									**-**	**180**
-	C9-C10 Aromatics	*75*	*U*									**-**	**71**
-	C9-C12 Aliphatics	75	U									**-**	**350**
100-41-4	Ethylbenzene	3.8	U									**700**	**15**
179601-23-1	m+p-Xylenes	7.5	U									**-**	**-**
1634-04-4	Methyl tert-butyl ether	3.8	U									**-**	**140**
91-20-3	Naphthalene	*3.8*	*U*									**-**	**1.2**
95-47-6	o-Xylene	3.8	U									**-**	**-**
108-88-3	Toluene	3.8	U									**1000**	**1100**

NOTES:

VOCs = Volatile organic compounds

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

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Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

Table 3-3 - Targeted PAHs and Metals in Bedrock Monitoring Wells

	VERINA Sample ID:	MW-01-SPRING2020-R		MW-01-WINTER2020		MW-02-SPRING2020		MW-FD-SPRING2020		MW-02-WINTER2020		Federal MCL (May 2009)	Maine DEP RAG (May 2021)
	Lab Sample ID:	SN4725-12		TN0377-7		SN4725-13		SN4725-17		TN0377-8			
	Sample Date:	6/11/2020		12/14/2020		6/10/2020		6/10/2020		12/15/2020			
	Laboratory:	Katahdin		Katahdin		Katahdin		Katahdin		Katahdin			
CAS #	**TARGETED PAHs (µg/L):**												
90-12-0	1-Methylnaphthalene	0.10	UJ	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**11**
91-57-6	2-Methylnaphthalene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**36**
83-32-9	Acenaphthene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**540**
208-96-8	Acenaphthylene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**520**
120-12-7	Anthracene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**1800**
56-55-3	Benzo(a)anthracene	0.10	UJ	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**0.30**
50-32-8	Benzo(a)pyrene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	**0.2**	**0.25**
205-99-2	Benzo(b)Fluoranthene	0.10	UJ	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**2.5**
191-24-2	Benzo(g,h,i)perylene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**600**
207-08-9	Benzo(k)fluoranthene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**25**
218-01-9	Chrysene	0.10	U	0.044	J	0.099	U	0.094	U	0.093	U	-	**250**
53-70-3	Dibenzo(a,h)anthracene	0.10	UJ	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**0.25**
206-44-0	Fluoranthene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**800**
86-73-7	Fluorene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**290**
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	UJ	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**2.5**
91-20-3	Naphthalene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**1.2**
85-01-8	Phenanthrene	0.10	U	0.10	UJ	0.099	U	0.094	U	0.093	U	-	**180**
129-00-0	Pyrene	0.10	U	0.070	J	0.099	U	0.094	U	0.093	U	-	**120**
CAS #	**TARGETED METALs (µg/L):**												
7440-36-0	Antimony	1.01		0.15	J	0.50	U	0.50	U	0.50	U	**6**	**7.8**
7440-38-2	Arsenic	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	**10**	**0.52**
7440-41-7	Beryllium	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	**4**	**25**
7440-43-9	Cadmium	0.083	J	0.200	U	0.20	U	0.20	U	1.00	U	**5**	**9.2**
7440-70-2	Calcium	66500		69100		84100		83600		89500		-	-
7440-47-3	Chromium	1.5	J	5.0	U	0.65	J	0.59	J	5.00	U	**100**	-
7440-50-8	Copper	2.65	J	3.00	U	2.96	J	2.54	J	3.00	U	**1300**	**800**
7439-92-1	Lead	0.57	J	1.00	U	0.092	J	0.20	J	1.00	U	**15**	**5.0**
7439-96-5	Manganese	11.9		1.6	J	4.92		5.20		1.80	J	-	**430**
7440-02-0	Nickel	0.44	J	0.25	J	0.16	J	0.20	J	0.28	J	-	**390**
7782-49-2	Selenium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	**50**	**100**
7440-22-4	Silver	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	-	**94**
7440-28-0	Thallium	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*	**2**	**0.20**
7440-66-6	Zinc	18		8	U	8.0	U	8.0	U	8.0	U	-	**6000**
7439-97-6	Mercury	0.024	J	0.10	U	0.10	U	0.014	J	0.10	U	**2**	**0.63**

NOTES:

PAHs = Polycyclic aromatic hydrocarbons

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

Table 3-3 - Targeted PAHs and Metals in Bedrock Monitoring Wells (Continued)

	VERINA Sample ID:	MW-FD-WINTER2020		MW-03-SPRING2020		MW-03-WINTER2020		MW-04-SPRING2020		MW-04-WINTER2020		Federal MCL (May 2009)	Maine DEP RAG (May 2021)
	Lab Sample ID:	TN0377-12		SN4725-14		TN0377-9		SN4725-15		TN0377-10			
	Sample Date:	12/15/2020		6/10/2020		12/15/2020		6/10/2020		12/15/2020			
	Laboratory:	Katahdin		Katahdin		Katahdin		Katahdin		Katahdin			
CAS #	**TARGETED PAHs (µg/L):**												
90-12-0	1-Methylnaphthalene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**11**
91-57-6	2-Methylnaphthalene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**36**
83-32-9	Acenaphthene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**540**
208-96-8	Acenaphthylene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**520**
120-12-7	Anthracene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**1800**
56-55-3	Benzo(a)anthracene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**0.30**
50-32-8	Benzo(a)pyrene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	**0.2**	**0.25**
205-99-2	Benzo(b)Fluoranthene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**2.5**
191-24-2	Benzo(g,h,i)perylene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**600**
207-08-9	Benzo(k)fluoranthene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**25**
218-01-9	Chrysene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**250**
53-70-3	Dibenzo(a,h)anthracene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**0.25**
206-44-0	Fluoranthene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**800**
86-73-7	Fluorene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**290**
193-39-5	Indeno(1,2,3-cd)pyrene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**2.5**
91-20-3	Naphthalene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**1.2**
85-01-8	Phenanthrene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**180**
129-00-0	Pyrene	0.098	U	0.096	U	0.094	U	0.096	U	0.100	U	-	**120**
CAS #	**TARGETED METALs (µg/L):**												
7440-36-0	Antimony	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	**6**	**7.8**
7440-38-2	Arsenic	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	**10**	**0.52**
7440-41-7	Beryllium	1.00	U	0.20	U	0.20	U	0.20	U	0.20	U	**4**	**25**
7440-43-9	Cadmium	0.20	U	0.20	U	1.00	U	0.20	U	0.20	U	**5**	**9.2**
7440-70-2	Calcium	92700		75700		66800		92200		97800		-	-
7440-47-3	Chromium	5.00	U	0.62	J	5.00	U	0.57	J	5.00	U	**100**	-
7440-50-8	Copper	3.00	U	1.1	J	3.0	U	3.13		3.00	U	**1300**	**800**
7439-92-1	Lead	1.00	U	0.50	U	1.00	U	0.50	U	1.00	U	**15**	**5.0**
7439-96-5	Manganese	1.10	J	2.3		0.74	J	2.2		2.30		-	**430**
7440-02-0	Nickel	0.23	J	1.2	U	0.17	J	1.2	U	0.31	J	-	**390**
7782-49-2	Selenium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	**50**	**100**
7440-22-4	Silver	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	-	**94**
7440-28-0	Thallium	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*	**2**	**0.20**
7440-66-6	Zinc	8.0	U	8.0	U	8.0	U	8.0	U	8.0	U	-	**6000**
7439-97-6	Mercury	0.10	U	0.10	U	0.10	U	0.016	J	0.10	U	**2**	**0.63**

NOTES:

PAHs = Polycyclic aromatic hydrocarbons

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

Table 3-3 - Targeted PAHs and Metals in Bedrock Monitoring Wells (Continued)

	VERINA Sample ID:	MW-05-SPRING2020		MW-05-WINTER2020		GW-EB-SPRING2020		GW-EB-WINTER2020				Federal MCL (May 2009)	Maine DEP RAG (May 2021)
	Lab Sample ID:	SN4725-16		TN0377-11		SN4725-8		TN0377-13					
	Sample Date:	6/10/2020		12/15/2020		6/11/2020		12/15/2020					
	Laboratory:	Katahdin		Katahdin		Katahdin		Katahdin					
CAS #	**TARGETED PAHs (µg/L):**												
90-12-0	1-Methylnaphthalene	0.14	J	0.072	J	0.096	U	0.097	U			-	**11**
91-57-6	2-Methylnaphthalene	0.094	U	0.10	U	0.096	U	0.097	U			-	**36**
83-32-9	Acenaphthene	0.17	J	0.10	U	0.096	U	0.097	U			-	**540**
208-96-8	Acenaphthylene	0.094	U	0.10	U	0.096	U	0.097	U			-	**520**
120-12-7	Anthracene	0.094	U	0.10	U	0.096	U	0.097	U			-	**1800**
56-55-3	Benzo(a)anthracene	0.094	U	0.10	U	0.096	U	0.097	U			-	**0.30**
50-32-8	Benzo(a)pyrene	0.094	U	0.10	U	0.096	U	0.097	U			**0.2**	**0.25**
205-99-2	Benzo(b)Fluoranthene	0.094	U	0.10	U	0.096	U	0.097	U			-	**2.5**
191-24-2	Benzo(g,h,i)perylene	0.094	U	0.10	U	0.096	U	0.097	U			-	**600**
207-08-9	Benzo(k)fluoranthene	0.094	U	0.10	U	0.096	U	0.097	U			-	**25**
218-01-9	Chrysene	0.094	U	0.10	U	0.096	U	0.097	U			-	**250**
53-70-3	Dibenzo(a,h)anthracene	0.094	U	0.10	U	0.096	U	0.097	U			-	**0.25**
206-44-0	Fluoranthene	0.094	U	0.10	U	0.096	U	0.097	U			-	**800**
86-73-7	Fluorene	0.36		0.077	J	0.096	U	0.097	U			-	**290**
193-39-5	Indeno(1,2,3-cd)pyrene	0.094	U	0.10	U	0.096	U	0.097	U			-	**2.5**
91-20-3	Naphthalene	0.22		0.10	U	0.096	U	0.097	U			-	**1.2**
85-01-8	Phenanthrene	0.17	J	0.10	U	0.096	U	0.097	U			-	**180**
129-00-0	Pyrene	0.094	U	0.10	U	0.096	U	0.097	U			-	**120**
CAS #	**TARGETED METALs (µg/L):**												
7440-36-0	Antimony	0.50	U	0.23	J	0.50	U	0.50	U			**6**	**7.8**
7440-38-2	Arsenic	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*			**10**	**0.52**
7440-41-7	Beryllium	0.035	J	1.0	U	0.061	J	0.049	J			**4**	**25**
7440-43-9	Cadmium	2.75		3.95		0.20	U	0.20	U			**5**	**9.2**
7440-70-2	Calcium	103000		93700		42	J	45	J			-	-
7440-47-3	Chromium	0.53	J	5.0	U	0.37	J	0.34	J			**100**	-
7440-50-8	Copper	1.8	J	7.92		1.1	J	3.00	J			**1300**	**800**
7439-92-1	Lead	0.37	J	1.0	U	0.50	U	0.083	J			**15**	**5.0**
7439-96-5	Manganese	**706**		**697**		1.2	J	1.0	U			-	**430**
7440-02-0	Nickel	0.83	J	1.30	J	0.18	J	1.2	U			-	**390**
7782-49-2	Selenium	3.0	U	3.0	U	3.0	U	3.0	U			**50**	**100**
7440-22-4	Silver	0.40	U	0.40	U	0.40	U	0.40	U			-	**94**
7440-28-0	Thallium	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*			**2**	**0.20**
7440-66-6	Zinc	14		26		8.0	U	8.0	U			-	**6000**
7439-97-6	Mercury	0.10	U	0.10	U	0.024	J	0.10	U			**2**	**0.63**

NOTES:

PAHs = Polycyclic aromatic hydrocarbons

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

Table 3-4 - Targeted VOCs and VPHs in Drinking Water Wells

	VERINA Sample ID:	DW-01-INF-SPRING2020		DW-01-INF-WINTER2020		DW-01-MID-SPRING2020		DW-01-MID-WINTER2020		DW-01-EFF-SPRING2020		Federal MCL (May 2009)	Maine DEP RAG (May 2021)
	Lab Sample ID:	SN4725-2		TN0377-2		SN4725-3		TN0377-3		SN4725-1			
	Sample Date:	6/11/2020		12/18/2020		6/11/2020		12/18/2020		6/11/2020			
	Laboratory:	Katahdin		Katahdin		Katahdin		Katahdin		Katahdin			
CAS #	**TARGETED VOCs (µg/L):**												
630-20-6	1,1,1,2-Tetrachloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**5.7**
71-55-6	1,1,1-Trichloroethane	0.063	J	0.250	U	0.25	U	0.25	U	0.25	U	**200**	**8000**
79-34-5	1,1,2,2-Tetrachloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**0.76**
79-00-5	1,1,2-Trichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**0.42**
75-34-3	1,1-Dichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**28**
75-35-4	1,1-Dichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**7**	**290**
563-58-6	1,1-Dichloropropene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	-
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**7.0**
96-18-4	1,2,3-Trichloropropane	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	-	**0.0075**
120-82-1	1,2,4-Trichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**70**	**4.0**
95-63-6	1,2,4-Trimethylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**56**
96-12-8	1,2-Dibromo-3-Chloropropane	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	**0.2**	**0.0033**
106-93-4	1,2-Dibromoethane	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	**0.05**	**0.075**
95-50-1	1,2-Dichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**600**	**300**
107-06-2	1,2-Dichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**1.7**
78-87-5	1,2-Dichloropropane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**8.3**
108-67-8	1,3,5-Trimethylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**60**
541-73-1	1,3-Dichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**300**
142-28-9	1,3-Dichloropropane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**370**
106-46-7	1,4-Dichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**75**	**4.8**
594-20-7	2,2-Dichloropropane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	-
78-93-3	2-Butanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	-	**5600**
95-49-8	2-Chlorotoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**240**
591-78-6	2-Hexanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	-	**38**
106-43-4	4-Chlorotoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**250**
108-10-1	4-Methyl-2-Pentanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	-	**6300**
67-64-1	Acetone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	-	**14000**
71-43-2	Benzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**4.6**
108-86-1	Bromobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**62**
74-97-5	Bromochloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**83**
75-27-4	Bromodichloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**1.3**
75-25-2	Bromoform	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**33**
74-83-9	Bromomethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**7.6**
75-15-0	Carbon Disulfide	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**810**
56-23-5	Carbon Tetrachloride	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**4.6**
108-90-7	Chlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**100**	**78**
75-00-3	Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**21000**
67-66-3	Chloroform	0.25	U	0.049	J	0.25	U	0.25	U	0.25	U	-	**2.2**
74-87-3	Chloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**190**
156-59-2	cis-1,2-Dichloroethene	0.760		0.48	J	0.160	J	0.250	U	0.25	U	**70**	**35**
10061-01-5	cis-1,3-Dichloropropene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**4.7**
124-48-1	Dibromochloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**8.7**
74-95-3	Dibromomethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**8.3**
75-71-8	Dichlorodifluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**200**
100-41-4	Ethylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**700**	**15**
87-68-3	Hexachlorobutadiene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**1.4**
98-82-8	Isopropylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**450**
179601-23-1	m+p-Xylenes	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**10000***	**190***
1634-04-4	Methyl tert-butyl Ether	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**140**
75-09-2	Methylene Chloride	1.2	U	3.4	U	1.2	U	2.5	U	1.2	U	-	**110**
91-20-3	Naphthalene	0.50	U	0.50	U	0.50	UJ	0.50	U	0.50	UJ	-	**1.2**
104-51-8	N-Butylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**1000**
103-65-1	N-Propylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**660**
95-47-6	o-Xylene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**10000***	**190***
99-87-6	p-Isopropyltoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	-
135-98-8	sec-Butylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**2000**
100-42-5	Styrene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**100**	**1200**
127-18-4	Tetrachloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**41**
108-88-3	Toluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**1000**	**1100**
156-60-5	trans-1,2-Dichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**100**	**68**
10061-02-6	trans-1,3-Dichloropropene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**4.7**
79-01-6	Trichloroethene	**3.0**		2.4		0.25	U	0.25	U	0.25	U	**5**	**2.8**
75-69-4	Trichlorofluoromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**5200**
75-01-4	Vinyl Chloride	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	**2**	**0.19**
CAS #	**TARGETED VPHs (µg/L):**												
71-43-2	Benzene	2.0	U	2.0	U	2.0	U	2.0	U	2.0	UJ	**5**	**4.6**
-	C5-C8 Aliphatics	75	U	75	U	75	U	75	U	75	UJ	-	**180**
-	C9-C10 Aromatics	*75*	*U*	*75*	*U*	*75*	*U*	*75*	*U*	*75*	*UJ*	-	**71**
-	C9-C12 Aliphatics	75	U	75	U	75	U	75	U	75	UJ	-	**350**
100-41-4	Ethylbenzene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	UJ	**700**	**15**
179601-23-1	m+p-Xylenes	7.5	U	7.5	U	7.5	U	7.5	U	7.5	UJ	**10000***	**190***
1634-04-4	Methyl tert-butyl ether	3.8	U	3.8	U	3.8	U	3.8	U	3.8	UJ	-	**140**
91-20-3	Naphthalene	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*UJ*	-	**1.2**
95-47-6	o-Xylene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	UJ	**10000***	**190***
108-88-3	Toluene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	UJ	**1000**	**1100**

NOTES:

VOCs = Volatile organic compounds

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

* = MCL/RAG is for total xylenes

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

Table 3-4 - Targeted VOCs and VPHs in Drinking Water Wells (Continued)

	VERINA Sample ID:	DW-01-EFF-WINTER2020		DW-02R-INF-SPRING2020		DW-FD-SPRING2020		DW-02R-INF-WINTER2020		DW-FD-WINTER2020		Federal MCL (May 2009)	Maine DEP RAG (May 2021)
	Lab Sample ID:	TN0377-1		SN4725-5		SN4725-11		TN0377-5		TN0377-6			
	Sample Date:	12/18/2020		6/11/2020		6/11/2020		12/16/2020		12/16/2020			
	Laboratory:	Katahdin		Katahdin		Katahdin		Katahdin		Katahdin			
CAS #	**TARGETED VOCs (µg/L):**												
630-20-6	1,1,1,2-Tetrachloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**5.7**
71-55-6	1,1,1-Trichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**200**	**8000**
79-34-5	1,1,2,2-Tetrachloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**0.76**
79-00-5	1,1,2-Trichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**0.42**
75-34-3	1,1-Dichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**28**
75-35-4	1,1-Dichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**7**	**290**
563-58-6	1,1-Dichloropropene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	-
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**7.0**
96-18-4	1,2,3-Trichloropropane	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	-	**0.0075**
120-82-1	1,2,4-Trichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**70**	**4.0**
95-63-6	1,2,4-Trimethylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**56**
96-12-8	1,2-Dibromo-3-Chloropropane	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	**0.2**	**0.0033**
106-93-4	1,2-Dibromoethane	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	**0.05**	**0.075**
95-50-1	1,2-Dichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**600**	**300**
107-06-2	1,2-Dichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**1.7**
78-87-5	1,2-Dichloropropane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**8.3**
108-67-8	1,3,5-Trimethylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**60**
541-73-1	1,3-Dichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**300**
142-28-9	1,3-Dichloropropane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**370**
106-46-7	1,4-Dichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**75**	**4.8**
594-20-7	2,2-Dichloropropane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	-
78-93-3	2-Butanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	-	**5600**
95-49-8	2-Chlorotoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**240**
591-78-6	2-Hexanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	-	**38**
106-43-4	4-Chlorotoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**250**
108-10-1	4-Methyl-2-Pentanone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	-	**6300**
67-64-1	Acetone	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	-	**14000**
71-43-2	Benzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**4.6**
108-86-1	Bromobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**62**
74-97-5	Bromochloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**83**
75-27-4	Bromodichloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**1.3**
75-25-2	Bromoform	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**33**
74-83-9	Bromomethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**7.6**
75-15-0	Carbon Disulfide	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**810**
56-23-5	Carbon Tetrachloride	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**4.6**
108-90-7	Chlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**100**	**78**
75-00-3	Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**21000**
67-66-3	Chloroform	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**2.2**
74-87-3	Chloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**190**
156-59-2	cis-1,2-Dichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**70**	**35**
10061-01-5	cis-1,3-Dichloropropene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**4.7**
124-48-1	Dibromochloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**8.7**
74-95-3	Dibromomethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**8.3**
75-43-4	Dichlorodifluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**200**
100-41-4	Ethylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**700**	**15**
87-68-3	Hexachlorobutadiene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**1.4**
98-82-8	Isopropylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**450**
179601-23-1	m+p-Xylenes	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**10000***	**190***
1634-04-4	Methyl tert-butyl Ether	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**140**
75-09-2	Methylene Chloride	2.5	U	1.2	U	1.2	U	2.5	UJ	7.8	J	-	**110**
91-20-3	Naphthalene	0.50	U	0.50	UJ	0.50	UJ	0.50	U	0.50	U	-	**1.2**
104-51-8	N-Butylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**1000**
103-65-1	N-Propylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**660**
95-47-6	o-Xylene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**10000***	**190***
99-87-6	p-Isopropyltoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	-
135-98-8	sec-Butylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**2000**
100-42-5	Styrene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**100**	**1200**
127-18-4	Tetrachloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**41**
108-88-3	Toluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**1000**	**1100**
156-60-5	trans-1,2-Dichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**100**	**68**
10061-02-6	trans-1,3-Dichloropropene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**4.7**
79-01-6	Trichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**2.8**
75-69-4	Trichlorofluoromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**5200**
75-01-4	Vinyl Chloride	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	**2**	**0.19**
CAS #	**TARGETED VPHs (µg/L):**												
71-43-2	Benzene	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	**5**	**4.6**
-	C5-C8 Aliphatics	75	U	75	U	75	U	75	U	75	U	-	**180**
-	C9-C10 Aromatics	*75*	*U*	*75*	*U*	*75*	*U*	*75*	*U*	*75*	*U*	-	**71**
-	C9-C12 Aliphatics	75	U	75	U	75	U	75	U	75	U	-	**350**
100-41-4	Ethylbenzene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**700**	**15**
179601-23-1	m+p-Xylenes	7.5	U	7.5	U	7.5	U	7.5	U	7.5	U	**10000***	**190***
1634-04-4	Methyl tert-butylether	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	-	**140**
91-20-3	Naphthalene	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	-	**1.2**
95-47-6	o-Xylene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**10000***	**190***
108-88-3	Toluene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**1000**	**1100**

NOTES:

VOCs = Volatile organic compounds

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

* = MCL/RAG is for total xylenes

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

Table 3-4 - Targeted VOCs and VPHs in Drinking Water Wells (Continued)

	VERINA Sample ID:	DW-02R-EFF-SPRING2020		DW-02R-EFF-WINTER2020		DW-04-TAP-SPRING2020		DW-TB-SPRING2020		DW-TB-WINTER2020		Federal MCL (May 2009)	Maine DEP RAG (May 2021)
	Lab Sample ID:	SN4725-4		TN0377-4		SN4725-6		SN4725-9		TN0377-14			
	Sample Date:	6/11/2020		12/16/2020		6/11/2020		6/11/2020		12/18/2020			
	Laboratory:	Katahdin		Katahdin		Katahdin		Katahdin		Katahdin			
CAS #	**TARGETED VOCs (µg/L):**												
630-20-6	1,1,1,2-Tetrachloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**5.7**
71-55-6	1,1,1-Trichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**200**	**8000**
79-34-5	1,1,2,2-Tetrachloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**0.76**
79-00-5	1,1,2-Trichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**0.42**
75-34-3	1,1-Dichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**28**
75-35-4	1,1-Dichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**7**	**290**
563-58-6	1,1-Dichloropropene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	-
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**7.0**
96-18-4	1,2,3-Trichloropropane	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	-	**0.0075**
120-82-1	1,2,4-Trichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**70**	**4.0**
95-63-6	1,2,4-Trimethylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**56**
96-12-8	1,2-Dibromo-3-Chloropropane	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	**0.2**	**0.0033**
106-93-4	1,2-Dibromoethane	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	*0.25*	*U*	**0.05**	**0.075**
95-50-1	1,2-Dichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**600**	**300**
107-06-2	1,2-Dichloroethane	0.25	U	0.250	U	0.25	U	0.25	U	0.25	U	**5**	**1.7**
78-87-5	1,2-Dichloropropane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**8.3**
108-67-8	1,3,5-Trimethylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**60**
541-73-1	1,3-Dichlorobenzene	0.25	U	0.3	U	0.25	U	0.25	U	0.25	U	-	**300**
142-28-9	1,3-Dichloropropane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**370**
106-46-7	1,4-Dichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**75**	**4.8**
594-20-7	2,2-Dichloropropane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	-
78-93-3	2-Butanone	2.5	U	2.50	U	2.5	U	2.5	U	2.5	U	-	**5600**
95-49-8	2-Chlorotoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**240**
591-78-6	2-Hexanone	2.5	U	2.50	U	2.5	U	2.5	U	2.5	U	-	**38**
106-43-4	4-Chlorotoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**250**
108-10-1	4-Methyl-2-Pentanone	2.5	U	2.50	U	2.5	U	2.5	U	2.5	U	-	**6300**
67-64-1	Acetone	2.5	U	2.50	U	2.5	U	4.2	J	2.4	J	-	**14000**
71-43-2	Benzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**4.6**
108-86-1	Bromobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**62**
74-97-5	Bromochloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**83**
75-27-4	Bromodichloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**1.3**
75-25-2	Bromoform	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**33**
74-83-9	Bromomethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**7.6**
75-15-0	Carbon Disulfide	0.50	U	0.5	U	0.50	U	0.50	U	0.50	U	-	**810**
56-23-5	Carbon Tetrachloride	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**4.6**
108-90-7	Chlorobenzene	0.25	U	0.3	U	0.25	U	0.25	U	0.25	U	**100**	**78**
75-00-3	Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	**21000**
67-66-3	Chloroform	0.350	J	0.25	U	0.25	U	0.25	U	0.25	U	-	**2.2**
74-87-3	Chloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	UL	-	**190**
156-59-2	cis-1,2-Dichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**70**	**35**
10061-01-5	cis-1,3-Dichloropropene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**4.7**
124-48-1	Dibromochloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**8.7**
74-95-3	Dibromomethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**8.3**
75-43-4	Dichlorodifluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	UL	-	**200**
100-41-4	Ethylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**700**	**15**
87-68-3	Hexachlorobutadiene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**1.4**
98-82-8	Isopropylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**450**
179601-23-1	m+p-Xylenes	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**10000***	**190***
1634-04-4	Methyl tert-butyl Ether	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**140**
75-09-2	Methylene Chloride	1.2	U	4.2	U	1.2	U	1.2	U	3.6		-	**110**
91-20-3	Naphthalene	0.50	UJ	0.50	U	0.50	UJ	0.50	UJ	0.50	U	-	**1.2**
104-51-8	N-Butylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**1000**
103-65-1	N-Propylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**660**
95-47-6	o-Xylene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**10000***	**190***
99-87-6	p-Isopropyltoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	-
135-98-8	sec-Butylbenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**2000**
100-42-5	Styrene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**100**	**1200**
127-18-4	Tetrachloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**41**
108-88-3	Toluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**1000**	**1100**
156-60-5	trans-1,2-Dichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**100**	**68**
10061-02-6	trans-1,3-Dichloropropene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**4.7**
79-01-6	Trichloroethene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	**5**	**2.8**
75-69-4	Trichlorofluoromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	-	**5200**
75-01-4	Vinyl Chloride	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*U*	*0.50*	*UL*	**2**	**0.19**
CAS #	**TARGETED VPHs (µg/L):**												
71-43-2	Benzene	2.0	U	2	U	2.0	U	2.0	U	2.0	U	**5**	**4.6**
-	C5-C8 Aliphatics	75	U	75	U	75	U	75	U	75	U	-	**180**
-	C9-C10 Aromatics	*75*	*U*	*75*	*U*	*75*	*U*	*75*	*U*	*75*	*U*	-	**71**
-	C9-C12 Aliphatics	75	U	75.0	U	75	U	75	U	75	U	-	**350**
100-41-4	Ethylbenzene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**700**	**15**
179601-23-1	m+p-Xylenes	7.5	U	7.5	U	7.5	U	7.5	U	7.5	U	**10000***	**190***
1634-04-4	Methyl tert-butylether	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	-	**140**
91-20-3	Naphthalene	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	*3.8*	*U*	-	**1.2**
95-47-6	o-Xylene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**10000***	**190***
108-88-3	Toluene	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	**1000**	**1100**

NOTES:

VOCs = Volatile organic compounds

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

* = MCL/RAG is for total xylenes

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

Table 3-5 - Targeted PAHs and Metals in Drinking Water Wells

	VERINA Sample ID: Lab Sample ID: Sample Date: Laboratory:	DW-01-INF-SPRING2020 SN4725-2 6/11/2020 Katahdin		DW-01-INF-WINTER2020 TN0377-2 12/18/2020 Katahdin		DW-01-MID-SPRING2020 SN4725-3 6/11/2020 Katahdin		DW-01-MID-WINTER2020 TN0377-3 12/18/2020 Katahdin		DW-01-EFF-SPRING2020 SN4725-1 6/11/2020 Katahdin		Federal MCL (May 2009)	Maine DEP RAG (May 2021)
CAS #	**TARGETED PAHs (µg/L):**												
90-12-0	1-Methylnaphthalene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**11**
91-57-6	2-Methylnaphthalene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**36**
83-32-9	Acenaphthene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**540**
208-96-8	Acenaphthylene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**520**
120-12-7	Anthracene	0.094	UJ	0.095	U	0.094	U	0.100	U	0.097	U	-	**1800**
56-55-3	Benzo(a)anthracene	0.094	UJ	0.095	U	0.094	U	0.100	U	0.097	U	-	**0.30**
50-32-8	Benzo(a)pyrene	0.094	UJ	0.095	U	0.094	U	0.100	U	0.097	U	**0.2**	**0.25**
205-99-2	Benzo(b)Fluoranthene	0.094	UJ	0.095	U	0.094	U	0.100	U	0.097	U	-	**2.5**
191-24-2	Benzo(g,h,i)perylene	0.094	UJ	0.095	U	0.094	U	0.100	U	0.097	U	-	**600**
207-08-9	Benzo(k)fluoranthene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**25**
218-01-9	Chrysene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**250**
53-70-3	Dibenzo(a,h)anthracene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**0.25**
206-44-0	Fluoranthene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**800**
86-73-7	Fluorene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**290**
193-39-5	Indeno(1,2,3-cd)pyrene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**2.5**
91-20-3	Naphthalene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**1.2**
85-01-8	Phenanthrene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**180**
129-00-0	Pyrene	0.094	U	0.095	U	0.094	U	0.100	U	0.097	U	-	**120**
CAS #	**TARGETED METALs (µg/L):**												
7440-36-0	Antimony	0.50	U	0.078	J	0.50	U	3.44		0.056	J	**6**	**7.8**
7440-38-2	Arsenic	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	**90.3**		*4.0*	*U*	**10**	**0.52**
7440-41-7	Beryllium	0.064	J	0.200	U	0.068	J	0.071	J	0.051	J	**4**	**25**
7440-43-9	Cadmium	0.20	U	0.20	U	0.039	J	1.000	U	0.067	J	**5**	**9.2**
7440-70-2	Calcium	358		1110		472		2980		518		-	-
7440-47-3	Chromium	0.68	J	5.00	U	0.54	J	5.00	U	0.63	J	**100**	-
7440-50-8	Copper	15.8		36.4		4.29		4.68		3.52		**1300**	**800**
7439-92-1	Lead	1.07		2.18		2.97		1.00	U	0.73	J	**15**	**5.0**
7439-96-5	Manganese	0.72	J	0.35	J	0.95	J	3.58		0.68	J	-	**430**
7440-02-0	Nickel	0.60	J	3.06		0.48	J	0.30	J	0.33	J	-	**390**
7782-49-2	Selenium	3.0	U	3.0	U	0.30	J	0.37	J	0.27	J	**50**	**100**
7440-22-4	Silver	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	-	**94**
7440-28-0	Thallium	*0.40*	*U*	*0.40*	*U*	0.086	J	0.180	J	*0.40*	*U*	**2**	**0.20**
7440-66-6	Zinc	63.0		38.0		84.2		13.0		16		-	**6000**
7439-97-6	Mercury	0.10	U	0.10	U	0.015	J	0.10	U	0.10	U	**2**	**0.63**

NOTES:

PAHs = Polycyclic aromatic hydrocarbons

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

***** Granular Activated Carbon (GAC) in the Point-of-Entry Treatment system was the source of metals > MCL in drinking water sampling. Refer to Section 3.4 for additional information.***

Table 3-5 - Targeted PAHs and Metals in Drinking Water Wells (Continued)

	VERINA Sample ID: Lab Sample ID: Sample Date: Laboratory:	DW-01-EFF-WINTER2020 TN0377-1 12/18/2020 Katahdin		DW-02R-INF-SPRING2020 SN4725-5 6/11/2020 Katahdin		DW-FD-SPRING2020 SN4725-11 6/11/2020 Katahdin		DW-02R-INF-WINTER2020 TN0377-5 12/16/2020 Katahdin		DW-FD-WINTER2020 TN0377-6 12/16/2020 Katahdin		Federal MCL (May 2009)	Maine DEP RAG (May 2021)
CAS #	**TARGETED PAHs (µg/L):**												
90-12-0	1-Methylnaphthalene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**11**
91-57-6	2-Methylnaphthalene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**36**
83-32-9	Acenaphthene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**540**
208-96-8	Acenaphthylene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**520**
120-12-7	Anthracene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**1800**
56-55-3	Benzo(a)anthracene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**0.30**
50-32-8	Benzo(a)pyrene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	**0.2**	**0.25**
205-99-2	Benzo(b)Fluoranthene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**2.5**
191-24-2	Benzo(g,h,i)perylene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**600**
207-08-9	Benzo(k)fluoranthene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**25**
218-01-9	Chrysene	0.093	U	0.096	U	0.096	U	0.046	J	0.097	U	-	**250**
53-70-3	Dibenzo(a,h)anthracene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**0.25**
206-44-0	Fluoranthene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**800**
86-73-7	Fluorene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**290**
193-39-5	Indeno(1,2,3-cd)pyrene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**2.5**
91-20-3	Naphthalene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**1.2**
85-01-8	Phenanthrene	0.093	U	0.096	U	0.096	U	0.096	U	0.097	U	-	**180**
129-00-0	Pyrene	0.093	U	0.096	U	0.096	U	0.064	J	0.097	U	-	**120**
CAS #	**TARGETED METALs (µg/L):**												
7440-36-0	Antimony	**10.9**		0.50	U	0.50	U	0.06	J	0.06	J	**6**	**7.8**
7440-38-2	Arsenic	**214**		*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	**10**	**0.52**
7440-41-7	Beryllium	0.200	U	0.046	J	0.052	J	0.200	U	0.200	U	**4**	**25**
7440-43-9	Cadmium	1.000	U	0.032	J	0.20	U	1.000	U	1.00	U	**5**	**9.2**
7440-70-2	Calcium	5560		63800		63900		72500		72900		-	-
7440-47-3	Chromium	5.00	U	0.46	J	0.40	J	5.00	U	5.00	U	**100**	-
7440-50-8	Copper	13.10		64.0		74.2		18.6		19.1		**1300**	**800**
7439-92-1	Lead	1.00	U	**11.0**		**12.6**		2.3	J	3.4	J	**15**	**5.0**
7439-96-5	Manganese	0.92	J	2.0	J	2.7		7.0		7.9		-	**430**
7440-02-0	Nickel	0.31	J	4.29		3.82		1.40	J	7.33	J	-	**390**
7782-49-2	Selenium	0.38	J	3.0	U	3.0	U	3.0	U	3.0	U	**50**	**100**
7440-22-4	Silver	0.40	U	0.40	U	0.059	J	0.40	U	0.40	U	-	**94**
7440-28-0	Thallium	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*	**2**	**0.20**
7440-66-6	Zinc	13		62.5		90.1		22.0	J	55.9	J	-	**6000**
7439-97-6	Mercury	0.10	U	0.015	J	0.018	J	0.10	U	0.10	U	**2**	**0.63**

NOTES:

PAHs = Polycyclic aromatic hydrocarbons

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

U = Compound not detected above the method detection limit and is reported as the LOD

L = Indicates that the compound did not meet DoD criteria in the Laboratory Control Sample analyzed concurrently with the sample

M = Indicates that the compound did not meet DoD criteria in the Matrix Spike analyzed concurrently with the native sample

Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

***** Granular Activated Carbon (GAC) in the Point-of-Entry Treatment system was the source of metals > MCL in drinking water sampling. Refer to Section 3.4 for additional information.***

Table 3-5 - Targeted PAHs and Metals in Drinking Water Wells (Continued)

	VERINA Sample ID: Lab Sample ID: Sample Date: Laboratory:	DW-02R-EFF-SPRING2020 SN4725-4 6/11/2020 Katahdin		DW-02R-EFF-WINTER2020 TN0377-4 12/16/2020 Katahdin		DW-04-TAP-SPRING2020 SN4725-6 6/11/2020 Katahdin						Federal MCL (May 2009)	Maine DEP RAG (May 2021)
CAS #	**TARGETED PAHs (µg/L):**												
90-12-0	1-Methylnaphthalene	0.093	U	0.094	U	0.097	U					**-**	**11**
91-57-6	2-Methylnaphthalene	0.093	U	0.094	U	0.097	U					**-**	**36**
83-32-9	Acenaphthene	0.093	U	0.094	U	0.097	U					**-**	**540**
208-96-8	Acenaphthylene	0.093	U	0.094	U	0.097	U					**-**	**520**
120-12-7	Anthracene	0.093	U	0.094	U	0.097	U					**-**	**1800**
56-55-3	Benzo(a)anthracene	0.093	U	0.094	U	0.097	U					**-**	**0.30**
50-32-8	Benzo(a)pyrene	0.093	U	0.094	U	0.097	U					**0.2**	**0.25**
205-99-2	Benzo(b)Fluoranthene	0.093	U	0.094	U	0.097	U					**-**	**2.5**
191-24-2	Benzo(g,h,i)perylene	0.093	U	0.094	U	0.097	U					**-**	**600**
207-08-9	Benzo(k)fluoranthene	0.093	U	0.094	U	0.097	U					**-**	**25**
218-01-9	Chrysene	0.093	U	0.094	U	0.097	U					**-**	**250**
53-70-3	Dibenzo(a,h)anthracene	0.093	U	0.094	U	0.097	U					**-**	**0.25**
206-44-0	Fluoranthene	0.093	U	0.094	U	0.097	U					**-**	**800**
86-73-7	Fluorene	0.093	U	0.094	U	0.097	U					**-**	**290**
193-39-5	Indeno(1,2,3-cd)pyrene	0.093	U	0.094	U	0.097	U					**-**	**2.5**
91-20-3	Naphthalene	0.093	U	0.094	U	0.097	U					**-**	**1.2**
85-01-8	Phenanthrene	0.093	U	0.094	U	0.097	U					**-**	**180**
129-00-0	Pyrene	0.093	U	0.094	U	0.097	U					**-**	**120**
CAS #	**TARGETED METALs (µg/L):**												
7440-36-0	Antimony	0.068	J	0.058	J	0.50	U					**6**	**7.8**
7440-38-2	Arsenic	4.0	U	4.0	U	4.0	U					**10**	**0.52**
7440-41-7	Beryllium	0.20	U	0.20	U	0.20	U					**4**	**25**
7440-43-9	Cadmium	0.20	U	0.20	U	0.20	U					**5**	**9.2**
7440-70-2	Calcium	66100		67600		70800						**-**	**-**
7440-47-3	Chromium	0.44	J	5.00	U	0.48	J					**100**	**-**
7440-50-8	Copper	24.3		12.8		24.3						**1300**	**800**
7439-92-1	Lead	**9.06**		1.97		1.40						**15**	**5.0**
7439-96-5	Manganese	0.62	J	1.00	U	0.51	J					**-**	**430**
7440-02-0	Nickel	3.21		2.33		**1240**						**-**	**390**
7782-49-2	Selenium	3.0	U	3.0	U	3.0	U					**50**	**100**
7440-22-4	Silver	0.40	U	0.40	U	0.40	U					**-**	**94**
7440-28-0	Thallium	*0.40*	*U*	*0.40*	*U*	*0.40*	*U*					**2**	**0.20**
7440-66-6	Zinc	81.0		22.0		27						**-**	**6000**
7439-97-6	Mercury	0.018	J	0.10	U	0.10	U					**2**	**0.63**

NOTES:

PAHs = Polycyclic aromatic hydrocarbons

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

J = Indicates result is an estimated value

U = Compound not detected above the method detection limit and is reported as the LOD

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Yellow highlighting indicates detected result exceeds Federal Maximum Contaminant Level (MCL)

Bold and underlined indicates detected result exceeds Maine Department of Environmental Protection (DEP) Residential Remedial Action Guideline (RAG)

Italics indicates LOD exceeds the MCL or RAG

***** Granular Activated Carbon (GAC) in the Point-of-Entry Treatment system was the source of metals > MCL in drinking water sampling. Refer to Section 3.4 for additional information.***

Table 3-5 - Targeted PAHs and Metals in Drinking Water Wells (Continued)

	VERINA Sample ID:	DW-01-INF-FEBRUARY2021		DW-01-MID-FEBRUARY2021		DW-01-EFF-FEBRUARY2021		DW-FD-FEBRUARY2021				Federal MCL (May 2009)	Maine DEP RAG (May 2021)
	Lab Sample ID:	SO1108-002		SO1108-003		SO1108-001		SO1108-004					
	Sample Date:	2/27/2021		2/27/2021		2/27/2021		2/27/2021					
	Laboratory:	Katahdin		Katahdin		Katahdin		Katahdin					
CAS #	**TARGETED METALs (µg/L):**												
7440-36-0	Antimony	0.16	J	0.11	J	0.24	J	0.07	J			**6**	**7.8**
7440-38-2	Arsenic	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*	*4.0*	*U*			**10**	**0.52**

NOTES:

PAHs = Polycyclic aromatic hydrocarbons

VPHs = Volatile petroleum hydrocarbons

µg/L = Micrograms per liter

FD = Sample is a duplicate of the sample immediately preceding the duplicate sample on this table

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Italics indicates LOD exceeds the MCL or RAG

***** Granular Activated Carbon (GAC) in the Point-of-Entry Treatment system was the source of metals > MCL in drinking water sampling. Refer to Section 3.4 for additional information.***

Table 3-6 - Mann-Kendall Trend Analysis for TCE in DW-01

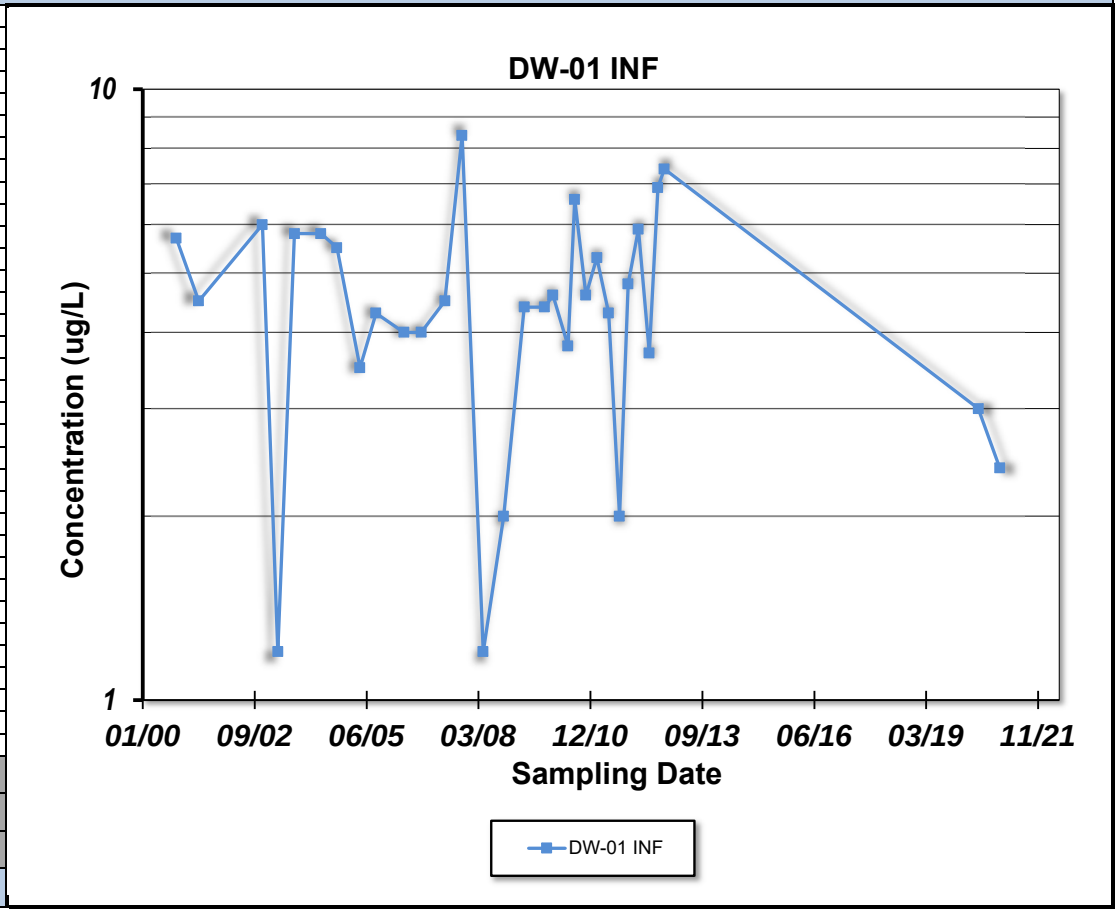
MANN-KENDALL
for Constituent Trend Analysis

Job ID: D01ME007702
Facility Name: LO-58
Conducted By: KEG

Constituent: TCE
Concentration Units: ug/L

Sampling Point ID: DW-01 INF

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)
1	26-Oct-00	5.7
2	15-May-01	4.5
3	5-Dec-02	6
4	22-Apr-03	1.2
5	18-Sep-03	5.8
6	11-May-04	5.8
7	30-Sep-04	5.5
8	25-Apr-05	3.5
9	14-Sep-05	4.3
10	23-May-06	4
11	24-Oct-06	4
12	23-May-07	4.5
13	24-Oct-07	8.4
14	30-Apr-08	1.2
15	29-Oct-08	2
16	1-May-09	4.4
17	30-Oct-09	4.4
18	12-Jan-10	4.6
19	26-May-10	3.8
20	26-Jul-10	6.6
21	2-Nov-10	4.6
22	9-Feb-11	5.3
23	24-May-11	4.3
24	30-Aug-11	2
25	15-Nov-11	4.8
26	14-Feb-12	5.9
27	22-May-12	3.7
28	8-Aug-12	6.9
29	4-Oct-12	7.4
30	11-Jun-20	3
31	18-Dec-20	2.4
32		
33		
34		
	Coefficient of Variation:	0.38
	Mann-Kendall Statistic (S):	-13
	Confidence Factor:	58.0%
	Concentration Trend:	Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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Appendix A

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U.S. Army Corps of Engineers

WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT LOG

Former LO-58 NIKE Battery Launch Site, Caribou, Maine
FUDS Project No.: D01ME007702
NAE Project No: 108313
Contract No. W912WJ19C0019

WELL ID: MW-01

DATE/TIME: 12/14/2020 13:20

INSPECTED BY: Ryan Wheeler, VERINA

VENT WELL:

PHOTOIONIZATION DETECTOR (PID) READING (PPM) 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT:

WELL DEPTH (FEET FROM TOP OF PVC) 144.85 (12/16/2020)

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 28.82

WELL STICKUP 1.49

CASING STICKUP (FEET) 1.66

WELL DIAMETER (INCHES) 2

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	☒	YES	☐	NO
LOCK REPLACED?	☐	YES	☒	NO
OBSTRUCTIONS?	☐	YES	☒	NO
WELL RELABELED?	☐	YES	☒	NO

GENERAL CONDITION/COMMENTS: Located in light brush. Standpipe is visible at the edge of the concrete pad area. Well label is not visible. Exterior steel standpipe contains dent. Bladder pump tubing is contained within interior PVC well casing. Standpipe prevents intrusion from runoff. Standpipe has a steel well cover. Field personnel were unable to recognize any sediment contained at the bottom of well.

U.S. Army Corps of Engineers

WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT LOG

Former LO-58 NIKE Missile Battery Launch Site, Caribou, Maine
FUDS Project No.: D01ME007702
NAE Project No: 108313
Contract No. W912WJ19C0019

WELL ID: MW-02

DATE/TIME: 12/14/2020 13:30

INSPECTED BY: Ryan Wheeler, VERINA

VENT WELL:

PHOTOIONIZATION DETECTOR (PID) READING (PPM) 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT:

WELL DEPTH (FEET FROM TOP OF PVC)	61.61 (12/16/2020)
WATER LEVEL DEPTH (FEET FROM TOP OF PVC)	35.09
WELL STICKUP	1.81
CASING STICKUP (FEET)	2.53
WELL DIAMETER (INCHES)	2.0
WELL CONSTRUCTION (PVC, STEEL, ETC.)	PVC

LOCKED UPON ARRIVAL?	☒	YES	☐	NO
LOCK REPLACED?	☐	YES	☒	NO
OBSTRUCTIONS?	☐	YES	☒	NO
WELL RELABELED?	☐	YES	☒	NO

GENERAL CONDITION/COMMENTS: Located in thick brush. Standpipe is visible from former launch area. Well label is not visible. Exterior steel standpipe is in good condition. Standpipe prevents intrusion from runoff. Standpipe has a steel well cover. No softness felt at the bottom of the well column indicating silt buildup when gauging.

U.S. Army Corps of Engineers

WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT LOG

Former LO-58 NIKE Missile Battery Launch Site, Caribou, Maine
FUDS Project No.: D01ME007702
NAE Project No: 108313
Contract No. W912WJ19C0019

WELL ID: MW-03

DATE/TIME: 12/14/2020 13:35

INSPECTED BY: Ryan Wheeler, VERINA

VENT WELL:

PHOTOIONIZATION DETECTOR (PID) READING 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT:

WELL DEPTH (FEET FROM TOP OF PVC) 48.86 (12/16/2020)

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 20.48

WELL STICKUP 3.13

CASING STICKUP (FEET) 3.57

WELL DIAMETER (INCHES) 2.0

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	☒	YES	☐	NO
LOCK REPLACED?	☐	YES	☒	NO
OBSTRUCTIONS?	☐	YES	☒	NO
WELL RELABELED?	☐	YES	☒	NO

GENERAL CONDITION/COMMENTS: Located in thick brush. Standpipe is visible from the driveway. Well label is not visible. Exterior steel standpipe is in good condition. Standpipe prevents intrusion from runoff. Standpipe has a steel well cover. No softness felt at the bottom of the well column indicating silt buildup when gauging.

U.S. Army Corps of Engineers

WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT LOG

Former LO-58 NIKE Missile Battery Launch Site, Caribou, Maine
FUDS Project No.: D01ME007702
NAE Project No: 108313
Contract No. W912WJ19C0019

WELL ID: MW-04

DATE/TIME: 12/14/2020 13:40

INSPECTED BY: Ryan Wheeler, VERINA

VENT WELL:

PHOTOIONIZATION DETECTOR (PID) READING 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT:

WELL DEPTH (FEET FROM TOP OF PVC) 82.88 (12/16/2020)

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 39.97

WELL STICKUP 2.05

CASING STICKUP (FEET) 2.44

WELL DIAMETER (INCHES) 2.0

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	☒	YES	☐	NO
LOCK REPLACED?	☐	YES	☒	NO
OBSTRUCTIONS?	☐	YES	☒	NO
WELL RELABELED?	☐	YES	☒	NO

GENERAL CONDITION/COMMENTS: Located on embankment. Standpipe is visible from the driveway. Well label is not visible. Exterior steel standpipe is in good condition. Standpipe prevents intrusion from runoff. Standpipe has a steel well cover. No softness felt at the bottom of the well column indicating silt buildup when gauging.

U.S. Army Corps of Engineers

WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT LOG

Former LO-58 NIKE Missile Battery Launch Site, Caribou, Maine
FUDS Project No.: D01ME007702
NAE Project No: 108313
Contract No. W912WJ19C0019

WELL ID: MW-05

DATE/TIME: 12/14/2020 13:15

INSPECTED BY: Ryan Wheeler, VERINA

VENT WELL:

PHOTOIONIZATION DETECTOR (PID) READING 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT:

WELL DEPTH (FEET FROM TOP OF PVC) 78.71 (12/16/2020)

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) 25.74

WELL STICKUP -0.18

CASING STICKUP (FEET) -0.02

WELL DIAMETER (INCHES) 2.0

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	☒	YES	☐	NO
LOCK REPLACED?	☐	YES	☒	NO
OBSTRUCTIONS?	☐	YES	☒	NO
WELL RELABELED?	☐	YES	☒	NO

GENERAL CONDITION/COMMENTS: Flushmount in thick brush, surrounded by large trees and bushes. Identified using map location relative to site features. Well label is not visible. Exterior flushmount cover is in good condition. Visual inspection suggests that the pad condition prevents intrusion from runoff. Standpipe has a steel well cover. No softness felt at the bottom of the well column indicating silt buildup when gauging. Well location marked by small flag.

U.S. Army Corps of Engineers **WELL INSPECTION AND GROUNDWATER LEVEL MEASUREMENT LOG**

Former LO-58 NIKE Battery Launch Site, Caribou, Maine
FUDS Project No.: D01ME007702
NAE Project No: 108313
Contract No. W912WJ19C0019

WELL ID: MW-06

DATE/TIME: 12/14/2020 13:50

INSPECTED BY: Ryan Wheeler, VERINA

VENT WELL:

PHOTOIONIZATION DETECTOR (PID) READING (PPM) 0.0

WELL INSPECTION/GROUNDWATER LEVEL MEASUREMENT:

WELL DEPTH (FEET FROM TOP OF PVC) 17.37 (With 6" Sump)

WATER LEVEL DEPTH (FEET FROM TOP OF PVC) None Encountered

WELL STICKUP 2.64

CASING STICKUP (FEET) 2.80

WELL DIAMETER (INCHES) 2

WELL CONSTRUCTION (PVC, STEEL, ETC.) PVC

LOCKED UPON ARRIVAL?	☒	YES	☐	NO
LOCK REPLACED?	☐	YES	☒	NO
OBSTRUCTIONS?	☐	YES	☒	NO
WELL RELABELED?	☐	YES	☒	NO

GENERAL CONDITION/COMMENTS: Standpipe is not visible from parking area or driveway. Located at bottom of slope approximately 5-10 ft from treeline in easily traversed brush. Identified using map location relative to site features. Well label is not visible. Exterior steel standpipe is in good condition. Interior PVC well casing is also in good condition. Standpipe prevents intrusion from runoff. Standpipe has a steel well cover. Monitoring well was equipped with a lock. Groundwater was not encountered.

Appendix B

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Low-Flow Field Log

Site Name: Former LO-58
Job Number:
Sampler: K. Gaffney

Date: 12/14/2020

Well ID: **MW-01**
Sample ID: MW-01-WINTER2020
Reviewed By: R. Wheeler

Measurement Reference Point (MP): Top PVC (PVC, Casing, Ground, etc.)
Depth to GW: 27.95 (ft from MP)
Depth to Bottom: 144.85 (ft from MP)
Pump Intake Depth: 139 (ft from MP)
Well depth as installed: 145 (ft bgs)
Screen interval (range): 135-145 (ft bgs)

Purging start time: 16:35
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 17:20
Total volume purged (gals): ~1.5
Time at purge completion: 18:00

Equipment Vendor: PINE
Pump Type: Bladder

Turbidity Meter: HACH 2100Q
Serial #: 17020C056314

Multimeter: YSI 556
Serial #: 18J103061

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses: VOCs, VPH, Metals + Mn + Hg, PAH
QC Info (Duplicate, MS/MSD): MS/MSD

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	°C	µS/cm[c]		mV	mg/L	NTU		
16:35	"10/20"	~150	27.95										
16:40	"10/20"	~150	27.98	0.03	0.03	6.10	365	7.29	180.1	8.37	5.69		
16:45	"10/20"	~150	27.99	0.01	0.04	6.20	375	7.33	175.1	8.21	4.39		
16:50	"10/20"	~150	28.20	0.21	0.25	6.20	375	7.42	172.3	7.95	3.04		Not Stable
16:55	"10/20"	~150	28.20	0.00	0.25	6.20	376	7.50	169.9	7.80	2.73		Not Stable
17:00	"10/20"	~150	28.20	0.00	0.25	6.30	378	7.46	169.6	7.62	2.16		Stable
17:05	"10/20"	~150	28.20	0.00	0.25	6.40	380	7.44	170.3	7.65	1.91		Not Stable
17:10	"10/20"	~150	28.20	0.00	0.25	6.30	386	7.47	170.2	7.67	1.89		Stable
17:15	"10/20"	~150	28.20	0.00	0.25	6.40	390	7.49	170.3	7.67	1.85		Stable

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Low-Flow Field Log

Site Name: Former LO-58
Job Number:
Sampler: K. Gaffney

Date: 12/15/2020

Well ID: **MW-02**
Sample ID: MW-02-WINTER2020
Reviewed By: R. Wheeler

Measurement Reference Point (MP): Top PVC (PVC, Casing, Ground, etc.)
Depth to GW: 34.65 (ft from MP)
Depth to Bottom: 61.54 (ft from MP)
Pump Intake Depth: 56 (ft from MP)
Well depth as installed: 62 (ft bgs)
Screen interval (range): 52-62 (ft bgs)

Purging start time: 9:30
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 10:20
Total volume purged (gals): ~3
Time at purge completion: 10:40

Equipment Vendor: PINE
Pump Type: Bladder

Turbidity Meter: HACH 2100Q
Serial #: 17020C056314

Multimeter: YSI 556
Serial #: 18J103061

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses: VOCs, VPH, Metals + Mn + Hg, PAH, SVOC
QC Info (Duplicate, MS/MSD): MW-FD @ 10:40

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	°C	µS/cm[c]		mV	mg/L	NTU		
9:30	"10/20"	200	34.65										
9:35	"10/20"	200	34.65	0.00	0.00	6.70	597	7.48	205.2	7.87	5.49		
9:40	"10/20"	200	34.66	0.01	0.01	6.90	597	7.48	193.4	7.34	4.77		
9:45	"10/20"	200	34.67	0.01	0.02	7.00	597	7.46	140.1	7.20	4.34		Not Stable
9:50	"10/20"	200	34.67	0.00	0.02	7.00	597	7.47	122.6	6.86	3.68		Not Stable
9:55	"10/20"	200	34.67	0.00	0.02	6.90	597	7.45	112.4	6.76	2.66		Not Stable
10:00	"10/20"	200	34.68	0.01	0.03	7.10	595	7.46	119.2	6.75	2.09		Not Stable
10:05	"10/20"	200	34.69	0.01	0.04	7.20	595	7.43	106.4	6.63	1.75		Not Stable
10:10	"10/20"	200	34.69	0.00	0.04	7.00	594	7.46	103.4	6.66	1.63		Not Stable
10:15	"10/20"	200	34.69	0.00	0.04	7.00	594	7.48	107.2	6.73	1.48		Stable

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Low-Flow Field Log

Site Name: Former LO-58
Job Number:
Sampler: K. Gaffney

Date: 12/15/2020

Well ID: **MW-03**
Sample ID: MW-03-WINTER2020
Reviewed By: R. Wheeler

Measurement Reference Point (MP): Top PVC (PVC, Casing, Ground, etc.)
Depth to GW: 20.04 (ft from MP)
Depth to Bottom: 48.88 (ft from MP)
Pump Intake Depth: 43 (ft from MP)
Well depth as installed: 49 (ft bgs)
Screen interval (range): 39-49 (ft bgs)

Purging start time: 13:30
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 14:10
Total volume purged (gals): ~1.5
Time at purge completion: 14:20

Equipment Vendor: PINE
Pump Type: Bladder

Turbidity Meter: Hach 2100Q
Serial #: 17020C056314

Multimeter: YSI 556
Serial #: 18J103061

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses: VOCs, VPH, Metals + Mn + Hg, PAH, SVOC
QC Info (Duplicate, MS/MSD)

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	°C	µS/cm[c]		mV	mg/L	NTU		
13:30	"5/10"	250	20.04										
13:35	"5/10"	250	20.04	0.00	0.00	6.10	373	7.55	160.1	10.53	4.78		
13:40	"5/10"	250	20.06	0.02	0.02	6.20	374	7.58	160.4	8.15	4.22		
13:45	"5/10"	250	20.06	0.00	0.02	6.20	372	7.54	159.6	8.15	3.96		Not Stable
13:50	"5/10"	250	20.07	0.01	0.03	6.40	371	7.56	158.9	8.04	3.14		Not Stable
13:55	"5/10"	250	20.08	0.01	0.04	6.40	369	7.55	159.1	7.96	3.02		Not Stable
14:00	"5/10"	250	20.08	0.00	0.04	6.30	367	7.58	159.3	7.96	2.98		Stable
14:05	"5/10"	250	20.08	0.00	0.04	6.30	365	7.61	159.8	7.99	2.97		Stable

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Low-Flow Field Log

Site Name: Former LO-58
Job Number:
Sampler: R. Wheeler

Date: 12/15/2020

Well ID: **MW-04**
Sample ID: MW-04-WINTER2020
Reviewed By: R. Wheeler

Measurement Reference Point (MP): Top PVC (PVC, Casing, Ground, etc.)
Depth to GW: 39.31 (ft from MP)
Depth to Bottom: 83.29 (ft from MP)
Pump Intake Depth: 78 (ft from MP)
Well depth as installed: 83 (ft bgs)
Screen interval (range): 73-83 (ft bgs)

Purging start time: 11:40
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 12:20
Total volume purged (gals): ~1.5
Time at purge completion: 12:30

Equipment Vendor: PINE
Pump Type: Bladder

Turbidity Meter: Hach 2100Q
Serial #: 17020C056314

Multimeter: YSI 556
Serial #: 18J103061

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses: VOCs, VPH, Metals + Mn + Hg, PAH, SVOC
QC Info (Duplicate, MS/MSD)

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	°C	µS/cm[c]		mV	mg/L	NTU		
11:40	"5/10"	200	39.31										
11:45	"5/10"	200	39.36	0.05	0.05	6.00	491	7.51	151	10.50	6.85		
11:50	"5/10"	200	39.36	0.00	0.05	6.40	533	7.48	149.3	10.51	5.31		
11:55	"5/10"	200	39.36	0.00	0.05	6.60	539	7.49	148.7	10.49	4.88		Not Stable
12:00	"5/10"	200	39.36	0.00	0.05	6.50	541	7.50	149.5	10.50	3.44		Not Stable
12:05	"5/10"	200	39.36	0.00	0.05	6.50	539	7.50	150.1	10.41	2.59		Stable
12:10	"5/10"	200	39.36	0.00	0.05	6.40	542	7.50	150.4	10.36	2.11		Stable
12:15	"5/10"	200	39.36	0.00	0.05	6.50	543	7.48	150.9	10.43	2.03		Stable

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Low-Flow Field Log

Site Name: Former LO-58
Job Number:
Sampler: R. Wheeler

Date: 12/15/2020

Well ID: **MW-05**
Sample ID: MW-05-WINTER2020
Reviewed By: R. Wheeler

Measurement Reference Point (MP): Top PVC (PVC, Casing, Ground, etc.)
Depth to GW: 25.65 (ft from MP)
Depth to Bottom: 78.41 (ft from MP)
Pump Intake Depth: 73 (ft from MP)
Well depth as installed: 78 (ft bgs)
Screen interval (range): 68-78 (ft bgs)

Purging start time: 15:25
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 16:35
Total volume purged (gals): ~2.5
Time at purge completion: 16:45

Equipment Vendor: PINE
Pump Type: Bladder

Turbidity Meter: Hach 2100Q
Serial #: 17020C056314

Multimeter: YSI 556
Serial #: 18J103061

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses: VOCs, VPH, Metals + Mn + Hg, PAH, SVOC
QC Info (Duplicate, MS/MSD)

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	°C	µS/cm[c]		mV	mg/L	NTU		
15:25	"5/10"	175	25.65										
15:30	"5/10"	175	25.68	0.03	0.03	5.40	274	7.20	-26.2	1.71	20.8		
15:35	"5/10"	175	25.68	0.00	0.03	5.70	310	7.25	-27.2	1.69	17.3		
15:40	"5/10"	175	25.68	0.00	0.03	5.90	359	7.26	-30.9	1.52	13.5		Not Stable
15:45	"5/10"	175	25.68	0.00	0.03	6.30	418	7.27	-31.5	1.31	10.9		Not Stable
15:50	"5/10"	175	25.68	0.00	0.03	6.40	473	7.28	-47.5	3.83	8.95		Not Stable
15:55	"5/10"	175	25.68	0.00	0.03	6.50	533	7.29	-51.3	2.91	7.91		Not Stable
16:00	"5/10"	175	25.68	0.00	0.03	6.50	515	7.29	-52.9	2.73	5.22		Not Stable
16:05	"5/10"	175	25.68	0.00	0.03	6.50	498	7.29	-54.9	2.51	4.58		Not Stable
16:10	"5/10"	175	25.68	0.00	0.03	6.70	501	7.29	-63.9	2.21	3.37		Not Stable
16:15	"5/10"	175	25.68	0.00	0.03	6.70	502	7.29	-66.5	1.87	3.03		Not Stable
16:20	"5/10"	175	25.68	0.00	0.03	6.70	503	7.29	-66.8	1.35	2.97		Not Stable
16:25	"5/10"	175	25.68	0.00	0.03	6.70	503	7.29	-67.5	1.31	2.95		Not Stable
16:30	"5/10"	175	25.68	0.00	0.03	6.70	502	7.28	-70	1.29	2.81		Stable

Appendix C

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1.0 SCOPE, APPLICATION, AND LIMITATIONS

This Standard Operating Procedure (SOP) establishes methodologies for low-flow / low-stress groundwater sample collection. This procedure includes the minimum required steps and quality checks that project samplers are to follow when sampling groundwater using this technique. This SOP addresses the technical requirements and required documentation to be completed during low-flow groundwater sampling.

Nobis Engineering Inc. (Nobis) follows the U.S. Environmental Protection Agency (EPA) Region I *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells*, Revision 3, January 19, 2010. Therefore, for additional detail regarding the Scope and Application of this procedure, please refer to this EPA document.

Some project parameters and/or requirements may not be fully addressed by this SOP. Under some circumstances, the project work plans (e.g., Quality Assurance Project Plan (QAPP), Sampling and Analysis Plan (SAP), Field Sampling Plan (FSP), etc.) may be needed to clarify, expand, or modify the SOP. Project requirements written in such documents supersede this SOP, as project specific practices and procedures outlined in project specific work plans are approved by the governing body (EPA, state agency, U.S. Army Corps of Engineers (USACE), etc).

The EPA low flow method is intended for wells that can accommodate a positive lift pump (1.5-inch inside diameter or greater), have a screen (open) interval of 10 feet or less, and have a static water level above the top of the screen interval (i.e., fully saturated screen). Method modifications may be required on a project or well-specific basis if well conditions vary from these.

2.0 INTRODUCTION

This method of groundwater sample collection involves the minimal disturbance of the aquifer matrix to obtain a “representative” sample of groundwater containing mobile organic and inorganic constituents (including dissolved and mobile particulate organic and inorganic chemicals) and reduce or eliminate the inclusion of non-mobile particulates.

The method requires pumping of groundwater at a sufficiently low rate to minimally influence the water level and limit migration of fines from the aquifer matrix into the water sample. Groundwater indicator field parameters recommended to be measured include: turbidity, dissolved oxygen, specific conductance, temperature, pH, and oxidation-reduction potential. These indicator parameters are used to determine when stabilization has been reached and sample collection can begin.

3.0 DEFINITIONS

DO	Dissolved Oxygen
EPA	Environmental Protection Agency
FID	Flame Ionization Detector
FOL	Field Operations Leader
FSP	Field Sampling Plan

HASP	Health and Safety Plan
low-flow	Purge rates (usually less than 1 liter per minute) that stress the aquifer only minimally and minimize drawdown (ideally 0.3 feet or less once stabilized) so that samples can be collected with minimal alterations of the groundwater chemistry.
mg/L	milligrams per liter
mL	milliliter
mL/min	milliliters per minute
mV	millivolts
NTU	Nephelometric Turbidity Units
ORP	Oxidation-Reduction Potential
OSHA	Occupational Safety and Health Administration
PCBs	Polychlorinated Biphenyls
PID	Photo Ionization Detector
QAPP	Quality Assurance Project Plan
QC	Quality Control
SAP	Sampling and Analysis Plan
SOP	Standard Operating Procedure
SVOCs	Semi-Volatile Organic Compounds
USACE	United States Army Corps of Engineers
VOA	Volatile Organic Analysis
VOCs	Volatile Organic Compounds
YSI	Yellow Springs Instrument (multi-parameter meter)

4.0 CAUTIONS

Collecting groundwater samples using this method is generally not physically hazardous. Care should be taken to minimize slip/trip/fall hazards due to the presence of a large amount of equipment required for low flow sampling. Personal protective equipment (PPE), including the appropriate gloves specified in the site Health and Safety Plan (HASP) and eye protection, should be worn, as well as any other PPE specified in the HASP.

Sample preservatives commonly include strong acids and bases. Care should be taken to prevent contact with these chemicals. Acids and bases should be stored separate from each other.

When vapor hazards may be present, the HASP may require that a headspace reading be taken immediately upon opening the monitoring well. Refer to the site HASP for details regarding action levels, response actions, and other site-specific health and safety requirements.

5.0 PERSONNEL QUALIFICATIONS

Field personnel will be fully trained in low-flow techniques prior to the field event, including at a minimum: equipment calibration, pump operation, troubleshooting, sample collection, and

documentation. While it is assumed that the qualified technician is generally familiar with low flow methods and equipment, project planning should include sufficient preparation time prior to mobilization for field personnel to become familiar with the specific methods, equipment, and instruments to be used at the specific site. Additionally, the timeframe of the project should be sufficient for the qualified field personnel to fully complete the tasks required.

Personnel collecting samples using this method must be familiar with this SOP and the particular equipment to be used to facilitate sampling and troubleshooting equipment problems more efficiently. Consult the user's manual for each meter and the EPA SOP, as required.

All field samplers at hazardous waste sites are required to complete the 40-hour Occupational Safety and Health Administration (OSHA) health and safety training and annual 8-hour refresher courses prior to engaging in any field collection activities.

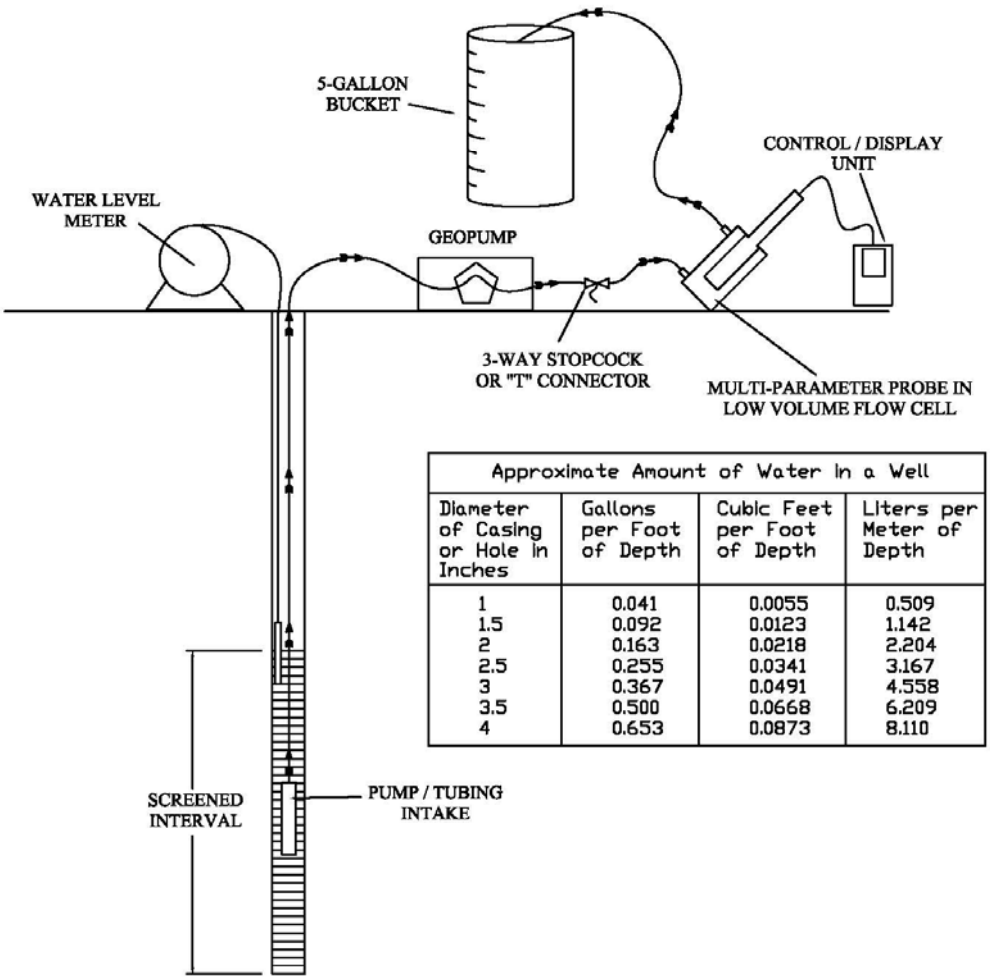
6.0 EQUIPMENT AND SUPPLIES

The following are recommended for low flow sample collection:

- Pump (bladder pumps and centrifugal pumps are preferred) constructed of stainless-steel. In some cases, dedicated plastic bladder pumps may be used. Non-dedicated bladder pumps need to have the bladder and other non-inert parts replaced between locations. Peristaltic pumps may be utilized with caution. When used, the inside diameter of the rotor head (usually silicon) tubing needs to match the inside diameter of the tubing installed in the monitoring well – rotor head tubing may be used for connections also.
- Tubing will be dedicated to the well and be selected based on the type of contaminants that may be present. Teflon® or Teflon®-lined tubing is preferred when samples will be analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and inorganic constituents. However, polyethylene tubing and silicone tubing may also be used in some cases when Teflon tubing is unavailable. The recommended inside diameter of the tubing is 1/4 inch or 3/8 inch
- 3-Way stopcock or "T" connector and clamp appropriately sized for the tubing in use
- Water level meter
- Power source (e.g., generator that is stationed at least 30-feet downwind of the well being sampled, compressed gas, battery, etc.)
- Multiple parameter instrument (e.g., Yellow Springs Instrument [YSI]) with a clear flow-through cell (250 mL flow-through cell is preferred) – manual must accompany the instrument in the field. Documentation of vendor calibration should be requested at the time the instrument is ordered.
- Turbidity meter (separate from the multiple parameter instrument) – manual must accompany the instrument in the field. Documentation of vendor calibration should be requested at the time the instrument is ordered.
- Graduated cylinder(s) of appropriate volume
- Stopwatch or other watch with display in seconds
- 5-Gallon buckets with 1/2 gallon graduations marked
- Utility spring-clamps for tubing

- Calibration standards or reagents
- Decontamination supplies
- Logbooks or tablets
- Well parameter data logs (sheets) (Attachment A)
- Site plan with well locations
- Project work plans (i.e., QAPP, SAP, FSP, etc.) and additional project documentation, as appropriate
- *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells*, prepared by the U.S. EPA Region 1 Quality Assurance Unit in North Chelmsford, Massachusetts, January 19, 2010.
- Sample containers; pre-preserved is preferred when appropriate
- Labels
- Well keys
- Miscellaneous hand tools (minimum recommended: utility knife, standard and Phillips screwdrivers, slip-joint pliers, small and medium adjustable wrenches) – a tubing cutter is preferred over a utility knife for cutting rigid tubing in order to maintain tubing shape and avoid crimping
- Safety cord when using submersible pumps
- Vapor screening instruments (e.g., photo-ionization detector [PID], flame-ionization detector [FID] as required by HASP and/or project work plans [i.e., QAPP, SAP, FSP, etc.])
- Radios and/or cell phones, as appropriate
- Folding canopies or other appropriate shelter from sun or precipitation
- Extra buckets for equipment transport
- Appropriate protective gloves (see HASP)
- Resealable plastic bags
- Paper towels
- Camp chair
- Sample-holding cooler with loose ice for each sampler or team
- Extra coolers for on-site interim storage / ice and sample management
- Extra Batteries (e.g., 9V, C, and/or AA)
- Paint pens for marking wells (generally available where welding supplies are sold)

Refer to Figure 1 for a generalized description of the generic arrangement of equipment for low flow sampling.



Approximate Amount of Water in a Well

Diameter of Casing or Hole in Inches	Gallons per Foot of Depth	Cubic Feet per Foot of Depth	Liters per Meter of Depth
1	0.041	0.0055	0.509
1.5	0.092	0.0123	1.142
2	0.163	0.0218	2.204
2.5	0.255	0.0341	3.167
3	0.367	0.0491	4.558
3.5	0.500	0.0668	6.209
4	0.653	0.0873	8.110

FIGURE 1

GENERALALIZED LOW–FLOW ARRANGEMENT

7.0 PROCEDURES

7.1 Office Preparation and Mobilizations

All field personnel should be familiar with the project work plans (i.e., QAPP, SAP, FSP, etc.) and have the opportunity to ask questions prior to beginning mobilization activities. All field equipment will be inspected by the Field Operations Leader (FOL) or designee prior to mobilization. When instruments requiring calibration are obtained from a vendor, documentation of calibration prior to delivery should be requested when the instruments are ordered. If documentation of pre-delivery calibration is provided, calibration prior to mobilization is considered to be completed. **This does not supersede QAPP/SAP requirements for field calibration on site prior to daily use.** If documentation of calibration by the vendor is not provided, field personnel should complete and document one full calibration of all instruments and equipment requiring calibration prior to mobilization for projects that require initial daily calibration to be performed prior to use. The data quality objectives for some projects may forgo re-calibration for single day field efforts if initial calibration is documented by the instrument vendor. Field technicians should refer to the project scope or consult with the project manager for clarification of the data quality objectives for projects that do not utilize other planning documents such as a QAPP/SAP. Reference Nobis SOP Nos. FS-005 and FS-006 for YSI and turbidity meter calibration procedures, respectively. Personnel should confirm that field instruments are complete and in working order prior to mobilization.

The project manager or FOL should provide the field personnel with a list of required and suggested equipment including any tools or personal items not being provided by the project or listed in this SOP. The field personnel should be fully informed of the work site conditions including availability of shelter, climate controls, food, potable water, and project expectations (e.g., anticipated work day length, weather-related decisions, and other reasonably foreseeable conditions) so they can make appropriate decisions on personal gear.

The FOL or designee is responsible for ensuring that all required equipment is organized, staged, and ready to mobilize. To the extent possible, all authorization, permission, and access issues should be resolved prior to mobilization. If samples are to be shipped, a shipper or parcel drop should be identified prior to mobilization and hours of operation confirmed. If expendable items such as gases are required, potential local sources should be researched prior to mobilization. Sample shipping and other SOPs should be referenced for further information.

7.2 Field Procedures

7.2.1. For most large-scale sampling efforts, a synoptic water level round where static water levels and total depths are measured and recorded for all locations is completed prior to initiating the low flow effort. The intent of the synoptic round is to measure water levels across all measuring points to obtain a “snapshot” of conditions at a given point in time. During the synoptic water level round, the condition of the wells should be noted as well as the presence and condition of tubing, dedicated pumps (where present), and other factors that may later impact purging and sample collection. This is also the appropriate time to verify well identity and add or refresh well markings to ensure correct identification during the subsequent sample collection efforts and in the future. Reference Nobis SOP No. HYD-003 for further information on measuring the groundwater level in wells. When the tubing, pump, or other equipment is to be installed or removed, it should be done after the static water level is measured during the synoptic round. If tubing is to be installed, repositioned, or replaced, water levels and turbidity should be allowed to stabilize prior to purging. Refer to the project work plan for other project-specific factors.

7.2.2. Equipment including the multiple parameter meter, turbidity meter, and pump (as necessary) shall be calibrated at the start of each sample day per the manufacturer's specifications and/or Nobis SOP Nos. FS-005 and FS-006. Manufacturer's literature for each piece of equipment will be included in planning documents and will accompany the instruments in the field. Documentation of equipment calibration will be made on an equipment calibration log as required by the project work plan.

7.2.3. If required for the project, remove the well cap and immediately screen for VOCs in the monitoring well headspace using a calibrated PID/FID and record the results. Record the readings on a project-specific field form (Attachment A). Note the presence of positive or negative pressure, if any, as the wellhead compression plug is released.

7.2.4. If required by the HASP, monitor the breathing zone air with the PID/FID. If below action levels, proceed with the sampling. If above action levels, allow VOCs to dissipate before proceeding.

7.2.5. Measure and record the initial depth to water; the total depth should have been measured and the well identification verified during the synoptic water level round (Section 7.2.1). If the total depth of the well was not measured during the synoptic water level round, it should be measured after completing the purge and collection process so as not to influence turbidity. The total depth should only be measured during the setup for purging if the well identification was not confirmed during the synoptic round and documentation such as site figures are unclear regarding the well identification.

7.2.6. Refer to the project work plans for specific instructions on pump or tubing intake depth based on screen interval or other site-specific factors. Pumps or pump tubing should be installed at the specified depth or in the center of the screened or open interval if no depth is provided. Dedicated tubing will be marked to facilitate correct placement with minimal disturbance to the water column. If dedicated tubing is not being used, the tubing should be measured as it is placed; using the bottom of the well as a reference point for setting the intake depth will disturb the water column and influence turbidity and should be avoided.

7.2.7. If not completed during the synoptic gauging round, install the pump (for non-dedicated submersible pumps) or pump tubing with as little disturbance to the water column as possible. Allow the groundwater level to return to static conditions prior to beginning of the purge process. When a peristaltic pump is used, the length of the rotor head tubing should be limited to one foot, to minimize vibrations that may aerate the sample. Limit the length of tubing outside the well to the extent possible while retaining enough tubing to allow for adjustments to the intake depth. The low-flow set-up, including tubing, should be protected from direct sunlight and precipitation to minimize changes in temperature.

7.2.8. Install a 3-way stopcock or "T" connector and clamp to the pump tubing and flow-through cell (as shown in Figure 1). Attach tubing to the bottom port of the flow-through cell so water flows up to and exits the upper port. Angle the flow through cell to approximately 45 degrees with tubing ports facing up to reduce the possibility of air bubbles becoming trapped in the cell and/or sticking to the DO probe. Water exiting the cell is to be collected in a graduated bucket.

7.2.9. Set the 3-way stopcock or "T" so that the flow from the well is directed out to the 5-gallon graduated bucket and not through the flow-through cell.

7.2.10. Turn on the pump and record the start time. Start purging the well using the lowest pump setting and gradually increase the speed until discharge occurs. Monitor the water level in the well and adjust the pump rate to minimize drawdown. Drawdown is considered stable when the water table drop is limited to 0.3 feet or less.

a. Stable drawdown of less than 0.3 feet, while desirable, is not always feasible. Continued drawdown may require additional purging to remove head and allow the well recharge rate to increase to match the pumping rate. The drawdown should never reach the screened interval. If the drawdown has exceeded 0.3 feet and stabilizes, calculate the volume of water between the initial water level and the stabilized water level. Add the volume of the water which occupies the pump's tubing to this calculation. This combined volume of water needs to be purged from the well after the water level has stabilized before samples are collected. The volume of drawdown should be less than the volume of water purged when parameter stability indicates adequate conditions for sample collection. When these conditions cannot be met, the actions taken should be fully documented and the FOL and/or quality control officer for the project should be consulted before collecting samples and submitting them for analysis. Continue with the following steps during drawdown to monitor purge water parameters and pumping conditions. When problematic wells are identified, establishing a well-specific procedure in the project planning is recommended.

b. If the water level cannot be stabilized, set the pump to the lowest setting and continue to record water levels in efforts to overcome drawdown issues. Estimate the drawdown rate and consult with the FOL or project manager for instructions. Be sure not to allow water to be drawn down into the screened interval of the well. If the water level approaches the screened interval, stop pump and allow the well to recharge while consulting the FOL and/or quality control officer for the project before collecting samples and submitting them for analysis. When problematic wells are identified, establishing a well-specific procedure in the project planning is recommended.

7.2.11. Measure the flow rate with a graduated cylinder and a stopwatch to calculate the purge rate in milliliters per minute (mL/min). Typical purge rates range between 100 mL/min to 400 mL/min but are dependent on the aquifer matrix composition. Historical flow rates are a good starting point; however, aquifer conditions can change seasonally and over time. Attempt to achieve historical purging flow rates if previously established; however, establish a new flow rate if those rates cause excessive drawdown. When using a bladder pump, the discharge rate should be capable of filling a 40 mL volatile organic analysis (VOA) vial with a single discharge while maintaining a smooth flow at a pressure that will not result in aeration of the sample.

7.2.12. If turbidity levels are excessive, additional purging while bypassing the flow-through cell may be necessary to avoid silt build up in the cell and around the multiple parameter instrument probes. There is no defined upper limit for turbidity with respect to directing the purge water to the flow-through cell; it is up to the field technician's judgment. Visual indications of suspended material or discoloration and obvious silt accumulation in the purge bucket may be useful indicators. Historical records may be useful in determining what amount of turbidity is generally encountered. It is important to remember that there is no rush to begin collecting field parameter measurements; the purge time starts when the first water is drawn from the well. Allowing some additional purging before water is routed to the flow-through cell may ultimately decrease the overall time to reach parameter stability. Stabilizing the drawdown and avoiding silt accumulation in the flow-through cell are the initial priorities. When the flow rate has been established and turbidity is not excessive, redirect the flow through the 3-way stopcock or "T" to the flow-through cell. Silt levels should be monitored and the flow-through cell should be emptied if silt build up is occurring. This is to be avoided, however, as the DO probe will spike if exposed to ambient air and generally will take 15 minutes or more to stabilize again. Allowing excess turbidity to be purged out before allowing water to enter the flow cell is preferred, if possible. Additionally, if the flow-through cell is at the appropriate 45-degree angle (Section 7.2.8), silt that does enter the cell should settle away from the probes.

7.2.13. Collect all purge water in the graduated bucket. Generally, low-flow methods do not include minimum purge volumes; refer to the project work plan for confirmation.

7.2.14. Record the indicator parameters and flow rate at intervals determined by the flow rate and flow-through cell volume. The generally accepted approach is to record parameter measurements at 5-minute intervals, however, the entire volume of water in the flow-through cell should be exchanged at least once between readings. To check this, divide the flow-through cell volume by the flow rate to result in minutes per turnover. Reading intervals shall not be less than 5 minutes; however, to ensure that water in the flow through cell is exchanged between readings, the length of the intervals may be increased if slower pumping rates are required.

When monitoring groundwater indicator field parameters and sampling under this SOP, the sampler must be aware of and avoid conditions that cause groundwater degassing, groundwater aeration, groundwater temperature fluctuation, in-well thermal currents, and cross-contamination.

The field parameters measured during low flow have either direct or indirect temperature components. Stabilizing the temperature of the water between the time it is drawn into the tubing and the time it exits the flow-through cell will often shorten the time needed for the other field parameters to stabilize. Protecting the tubing and flow-through cell from direct sunlight is generally the most important component of stabilizing the purge water temperature and obtaining the most precise measurements capable through low flow methods.

7.2.15. Turbidity measurements should be collected before the flow-through cell. Use the 3-way stopcock or “T” to divert water directly into the measurement vial (also referred to as a cuvette). Where ambient groundwater temperatures are cool and/or surface humidity is high, condensation may form on the vial. It is acceptable to immerse the vial in water at stable surface air temperature for a few minutes to equilibrate the field measurement sample and wipe moisture off of the vial prior to placing it in the meter to be measured. If the turbidity vial is not being measured immediately after collection, remember to gently agitate the vial to re-entrain particulates that may have settled out. If turbidity measurement vials become stained with iron flocculent or other groundwater constituents, a rinse with a small amount of a 1:1 hydrochloric acid and water solution may remove the staining.

7.2.16. The tubing and flow-through cell should be monitored for air bubbles. Bubbles in the cell may be freed by gently tapping the cell. Stationary bubbles in the tubing may be worked toward the cell and eventually the outlet by lowering the tubing to encourage water to push the bubble(s) downstream. When using a peristaltic pump, persistent bubbles or intermittent flow may indicate that the tubing is too large for the flow rate, that the water level is at the limits of the pump’s capacity to lift it, or that the groundwater is effervescing due to geochemical characteristics. Whenever possible, arrange the equipment so that the pump is above the wellhead and the flow-through cell is above the pump. The tubing from the wellhead to the flow-through cell should be as short as is practical; loops and humps should be eliminated to the extent possible.

7.2.17. Continue purging until indicator parameters stabilize. Record the readings on the project-specific field form included in Attachment A. Stabilization is considered to be achieved after three consecutive readings for all parameters are within the following limits:

Turbidity -	+/- 10% for values greater than 5 NTU; if three consecutive turbidity measurements are less than 5 NTU, consider the parameter stable.
DO -	+/- 10% for values greater than 0.5 mg/L; if three consecutive measurements are less than 0.5 mg/L, consider the parameter stable.

Specific Conductance - +/- 3%

Temperature - +/- 3%

pH - +/- 0.1

ORP - +/- 10 mV

Calculate stability using the lowest and highest of three sequential readings for each parameter; sequence is not important. Use the percent difference formula [(high-low)/high x 100] to calculate percent difference and compare results to the stability criteria above. **Examples of this calculation are shown in Attachment B.**

7.2.18. After the indicator parameters have stabilized according to the above criteria, record the stabilization time and collect analytical samples. Fill sample bottles directly from the tubing in the well by disconnecting the tubing from the 3-way stopcock or sample T. Do not collect samples from tubing after the stopcock or sample T or the flow-through cell – samples should be collected as close to the pump as possible. The project work plan may specify an order of sample collection based on project-specific factors. Typically, the flow rate shall not be changed during sample collection; however, the flow rate may be reduced after collection of non-VOC and non-gas samples if necessary to allow for "laminar flow" (undisrupted flow) during collection of VOC volumes. In this case, VOC and groundwater gas samples would be collected last among the laboratory and field analytes to preserve the flow rate for the remainder of the sampling suite. The pump rate is never increased to accommodate large volumes. If field analyses are to be completed, these sample volumes are generally collected after the samples to be submitted to a laboratory and at the stable pump rate. If field quality control (QC) samples are to be collected (i.e., field duplicate or matrix spike samples), then these QC samples are collected after the original field sample is collected for all parameters.

7.2.19. In certain situations which will be outlined in the project work plans, when turbidity meets the stabilization criteria but remains above 25 NTU's, additional considerations are warranted. If total metals are being collected, an additional filtered sample for metals using a 0.45 micron in-line filter may be required by the work plans to also be collected to compare to the total metals sample. An alternative method would be to send the laboratory two samples: an unfiltered and unpreserved sample that the laboratory can filter within 24 hours of collection for dissolved metals analysis and a preserved sample for total metals analysis. It is preferable that the dissolved metals are field filtered if turbidity values are greater than 5 NTU.

7.2.20. Place samples in a cooler with loose ice immediately after collection. Transfer samples to the project sample manager as soon as possible for processing and shipping.

7.2.21. In general, limit purge water parameter monitoring to 2 hours and collect samples at the end of the 2-hour period, regardless of stabilization. The project work plan may provide guidance for extending the purge period based on parameter trends or other factors. There is no lower limit for the purge period. Once the water level and indicator parameters stabilize and the minimum volume is purged, i.e., the volume of the well tubing and any drawdown, the sample may be collected.

7.2.22. Problems, discrepancies, unexpected or unusual observations (such as contrasting DO and ORP values), and potential exceptions to the SAP or other project documentation should be communicated to the FOL at the time that they are recognized. At a minimum, the FOL

should be aware of such occurrences before purging is stopped and the work area broken down. Additional meter calibration may be warranted.

7.2.23. After collecting the samples, turn off the pump and monitoring equipment and remove the non-dedicated equipment (pump or tubing) from the well. Leave or re-install dedicated tubing in the well or dispose of appropriately. Refer to the project work plans for site-specific procedures.

7.2.24. Record the total volume accumulated in the graduated bucket. Complete all other required notes and documentation in the field book, tablet, or on the field log, as appropriate. The project work plans may provide additional information regarding the required data. Unless otherwise specified, duplication of data on field logs and in field books is not necessary.

7.2.25. Decontaminate all non-dedicated equipment that will be reused in accordance with the project work plan.

7.3 Data and Records Management

In most cases, the samples should be immediately returned to the staging area and turned over to the FOL or sample manager for processing and shipping. Unless site logistics prevent it, this should be done prior to breaking down and demobilizing from the well. Alternately, the sample manager or other site personnel may be available to courier samples to the staging area for appropriate storage. The samples will be transferred to holding coolers or refrigerators until they are packed for shipping. The FOL or sample manager will maintain a log of the samples that will include the sample designator (and well number if different), the analytical parameters, the number of containers, the collection date and time, and any notes regarding exceptions to the SAP or other project documentation and/or quality control. All field data logsheets, notes, and/or electronic filesshall accompany the samples and be turned in to the FOL with the samples after review by the sampler for completeness and accuracy. These documents serve as a chain of custody for the samples while they remain on-site. Communicate any significant observations not noted on the field log to the FOL.

The FOL will review the field logsheets and other project specific field data (such as field analyses completed) on a daily basis. Discrepancies and/or omissions should be addressed as soon as possible, preferably the same day as sample collection and prior to the next sample collection. When it is logistically reasonable, it is preferred that copies be made as soon as possible as a backup. Likewise, the data should be provided to the project manager at the end of each sample day, if feasible. If electronic tablets are used, the field logsheets may be saved in the project files while in the field.

The FOL will maintain a log of daily events to include, where applicable, the wells sampled, the sampler, the analytical parameters, problems or exceptions, duplicate or matrix QC samples collected, sample transfer/shipping dates and times, and general site conditions. Some or all of this information may be collected in the sample management software, Scribe. Refer to SOP No. DOC-002.

7.4 Communication and Technical Direction

Field personnel shall support one another and maintain open communications during all aspects of the field activities. When a technical point is in question, field personnel shall communicate with the FOL for clarification and/or additional direction. If the project work plans do not provide sufficient information, the FOL should consult with the project manager unless otherwise directed. Deviations, exceptions, and/or omissions from the project work plan or generally accepted practice should be communicated to the project manager as soon as feasible. The FOL will maintain records of all such

communications in a field book or other acceptable format detailing the issue, the outcome, and individuals involved in the decision.

7.5 Demobilization

The FOL is responsible for ensuring that all required data have been collected and that the site is secured before authorizing complete demobilization. The FOL should confirm with the project manager that the crew is authorized to begin demobilization unless otherwise directed. At a minimum, the site conditions should be no worse than at the beginning of field activities. The FOL or designee will ensure that all instruments and equipment are accounted for and either stowed for future use or transported to the office. In some cases, taking an inventory of equipment and expendables may be appropriate.

8.0 QUALITY CONTROL/QUALITY ASSURANCE

As discussed in Section 7.3, the FOL will review field logs and other documentation on a daily basis and address issues as soon as feasible. The requirements for field duplicates, trip blanks, equipment blanks, matrix spike/matrix spike duplicates, performance evaluation samples, temperature blanks, sample management/chain of custody procedures, shipping requirements, and custody seals will be specified in the SAP or other project work plans. Follow Nobis SOPs where established.

9.0 REFERENCES

US Environmental Protection Agency Region I; *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Ground Water Samples from Monitoring Wells*, EQASOP-GW 001, July 31, 1996 (Revised January 19, 2010).

ATTACHMENTS

A Low-Flow Groundwater Sampling Field Log
B Example Stability Calculations

ATTACHMENT A

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Low-Flow Field Log

Site Name: _____
Job Number: _____
Sampler: _____

Date:

Page: _____ of

Well ID: _____
Sample ID: _____
Reviewed By: _____

Measurement Reference Point (MP): _____ (PVC, Casing, Ground, etc.)
Depth to GW: _____ (ft from MP)
Depth to Bottom: _____ (ft from MP)
Pump Intake Depth: _____ (ft from MP)
Well depth as installed: _____ (ft bgs)
Screen interval (range): _____ (ft bgs)

Purging start time: _____
Parameter stabalization (Y/N): _____
Two hour time limit reached (Y/N): _____
Sample time: _____
Total volume purged (gals): _____
Time at purge completion: _____

Equipment Vendor: _____
Pump Type: _____

Turbidity Meter: _____
Serial #: _____

Multimeter: _____
Serial #: _____

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses:

QC Info (Duplicate, MS/MSD)

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	°C	µS/cm[c]		mV	mg/L	NTU		
0:00													

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Low-Flow Field Log

Site Name: 0
Job Number: 0
Sampler: 0

Date: 1/0/1900

Page: of

Well ID: 0
Sample ID: 0
Reviewed By: 0

Measurement Reference Point (MP): 0 (PVC, Casing, Ground, etc.)
Depth to GW: 0 (ft from MP)
Depth to Bottom: 0 (ft from MP)
Pump Intake Depth: 0 (ft from MP)
Well depth as installed: 0 (ft bgs)
Screen interval (range): 0 (ft bgs)

Purging start time: 0:00
Parameter stabalization (Y/N): 0
Two hour time limit reached (Y/N): 0
Sample time: 0:00
Total volume purged (gals): 0
Time at purge completion: 0:00

Equipment Vendor: 0
Pump Type: 0

Turbidity Meter: 0
Serial #: 0

Multimeter: 0
Serial #: 0

Notes (Initial PID reading, SOP deviations, etc.): 0

Lab Analyses: 0

QC Info (Duplicate, MS/MSD) 0

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		

SOP No: SA-003 Draft Revision: 4

ATTACHMENT B

Attachment B

SA-003 Low-Flow Groundwater Sampling

Example Calculations

Parameter Stability Calculation

percent difference formula [(high - low) / high] x 100 = percent difference

For three successive specific conductance readings of 530 µS/cm, 500 µS/cm, and 520 µS/cm; stability is defined as ±3%:

Use the highest and lowest readings of the three →

[(530 µS/cm – 500 µS/cm) / 530 µS/cm] x 100 = 5.6% → **not stable**

For three successive specific conductance readings of 530 µS/cm, 515 µS/cm, and 520 µS/cm; stability is defined as ±3%:

Use the highest and lowest readings of the three →

[(530 µS/cm – 515 µS/cm) / 530 µS/cm] x 100 = 2.8% → **stable**

Well and Tubing Volumes

Tubing Volume Per Foot

for tubing OD (in.)	0.25 (1/4)	0.375 (3/8)	0.5 (1/2)	0.625 (5/8)
tubing ID (in.) =	0.17	0.25 (1/4)	0.375 (3/8)	0.5 (1/2)
volume (gal./ft.) =	0.0012	0.0026	0.0057	0.0102

Well Volume Per Foot

for casing ID (in.)	1.25	1.5	1.75	2	2.25	3	3.5	4	6
volume (gal./ft.) =	0.06	0.09	0.12	0.16	0.21	0.37	0.5	0.65	1.47

OD = outside diameter, ID = inside diameter

Minimum Purge Volume Calculation

drawdown or tubing length (ft.) x volume per foot (gal./ft.) = V_d (gal.) or V_t (gal.)

for a 2-in. ID well with a 0.27-ft. drawdown and 30 ft. of 0.17-in tubing→

0.27 ft. x 0.16 gal./ft. = 0.043 gal. V_d

30 ft. x 0.0012 gal./ft. = 0.036 gal. V_t →

V_d + V_t = minimum purge volume → 0.043 gal. + 0.036 gal = 0.079 gal. minimum purge

Supporting Conversions and Tubing / Well Volume Calculations

ID (in.) / 2 = radius (r) in.

π (Pi) $\approx$ 3.14

1 $ft.^3$ = 1,728 $in.^3$ or 1,728 cubic in. per cubic ft.

[$in.^3$ x (1 ft. / 12 in.) x (1 ft. / 12 in.) x (1 ft. / 12 in.) = $ft.^3$]

1 $ft.^3$ = 7.48 gal. or 7.48 gallons per cubic foot

$\pi \times r^2$ = area of a circle ($in.^2$) →

for a round cylinder, area ($in.^2$) x length (in.) = volume of cylinder ($in.^3$) →

volume of cylinder ($in.^3$) x 1 $ft.^3$ / 1,728 $in.^3$ = volume of cylinder ($ft.^3$) →

volume of cylinder ($ft.^3$) x 7.48 gal. / $ft.^3$ = volume of cylinder (gal.)

for a 2-in. ID well, the volume of water in a 1-ft. section is:

r = 1 in. → π x $(1\ in.)^2$ → 3.14 x 1 $in.^2$ = 3.14 $in.^2$ = cross section area →

the volume of 12 in. of 2-in. well = 3.14 $in.^2$ x 12 in. = 37.68 $in.^3$ →

37.68 $in.^3$ x 1 $ft.^3$ / 1,728 $in.^3$ = 0.021 $ft.^3$ →

0.021 $ft.^3$ x 7.48 gal. / $ft.^3$ = 0.16 gal.

Nobis Engineering, Inc.	STANDARD OPERATING PROCEDURES			Prepared by D. Gorhan Reviewed by G. DeRuzzo Approved by
	Title: DRINKING WATER / RESIDENTIAL WELL SAMPLING PROCEDURES			
	SOP No: SA-012	Rev.: 02	Date: May 2010	

1.0 SCOPE, APPLICATION, AND LIMITATIONS

This Standard Operating Procedure (SOP) has been prepared by Nobis Engineering, Inc. (Nobis) to establish methodologies for collecting drinking water/residential well samples. This procedure includes the minimum required steps and quality checks that project samplers are to follow and the technical requirements and required documentation to be completed during drinking water/residential well sampling.

2.0 INTRODUCTION

This method of sampling includes collection of an aqueous sample from a residential or other private water supply well. The sample is intended to represent the quality of water being consumed directly by humans; therefore, typically strict standards exist for drinking water due to immediate health concerns. The sample shall be collected from an access point as close to the actual water supply well as possible.

3.0 DEFINITIONS

Not Applicable

4.0 CAUTIONS

Collecting residential samples that involve entering a residence should be done in pairs for safety purposes (when possible). Care should be taken to present oneself professionally when dealing with the public. Precautions should be taken to prevent contact with any samples and/or sample containers to prevent contamination. The Project Manager and the site specific Health and Safety Plan (HASP) will provide further details regarding particular site measures.

5.0 PERSONNEL QUALIFICATIONS

Samplers will be trained in drinking water / residential well sampling techniques prior to the field event. Field personnel should be familiarized with the appropriate contact measures with the residents prior to sampling.

6.0 EQUIPMENT AND SUPPLIES

- Field book (and/or data recording sheets)
- Well installation and boring logs and forms
- Marker, indelible (black)
- Stopwatch (for measuring flow)
- Graduated cylinder/measuring cup
- Paper towels
- Decontamination supplies
- Sample labels
- Chain-of-custody forms
- Sample bottles (often pre-preserved)
- Water filters for field filtering samples (as needed)
- Labels

- Preservatives
- Personal protective equipment (PPE): safety glasses, nitrile gloves at a minimum.
- Zip lock bags

7.0 PROCEDURES

7.1 OFFICE PREPARATION AND MOBILIZATION

Prior to field work, equipment and supplies (including laboratory bottleware) should be prepared and appropriate project documents shall be reviewed by the sampling team including the Quality Assurance Project Plan (QAPP), Standard Operating Procedures (SOPs), HASP, Work Plan, etc. Contact with the resident(s) should be made and if required an access agreement granted prior to sampling at the residence.

7.2 FIELD PROCEDURES

7.2.1 Drinking Water/Residential Well Sample Collection

- Samples should be obtained from the location closest to the entrance of the residence and prior to any conditioning or filtration. Generally, there is a spigot located at the pressure tank. When possible, samples should be collected at the pressure tank.

- Water lines should be flushed prior to sampling to ensure that formation water is being sampled in-lieu of water that has been standing in the water lines for a period of time. Generally, flushing the water at a sink or hose at the residence for a period of at least 10 minutes is sufficient to replace standing water in the water lines. Flushing time should be increased appropriately with respect to the distance between the site building and the well.

- If the sample cannot be collected from the pressure tank or prior to conditioning and/or filtration; an explanation should be noted in the field notes as to why the sample was collected from where it was, the type of conditioning and/or filtration conducted on the water including the most recent filter and media changes, and the added flushing time.

- Prior to sampling, screens and aerators should be removed from the faucet or spigot, if present. A container should be placed beneath the spigot to catch drips. The spigot should be purged for 5 seconds. The spigot should be valved so a manageable steady stream of water flows without splashing, or spraying. The sample containers should be placed directly beneath the stream at a 45 degree angle from the vertical, with the stream contacting the inside of the container to remove excess air bubbles.

- When sampling a point-of-entry (POE) system, sample the system effluent first and work back to the system influent to prevent cross-contamination.

- When sampling for bacteria analyses, use common-household grade bleach and a cotton-swab to wipe the rim of the faucet prior to sampling.

- Typically, sample containers are pre-preserved, but add preservative to the samples if required.

If residential/drinking water sampling requires field parameter measurements, be sure to use a clean container in which the YSI multi-parameter probe will be completely immerged. Complete the calibration of the YSI multi-parameter meter in accordance with SOP FS-005. Follow SOP FS-002 for collecting water quality measurements with the multi-parameter meter. In short, prior to or after sampling, fill the container and record the measurements as they stabilize. It is not required to take multiple readings.

Decontamination

All equipment coming in contact with the sampled media must be decontaminated prior to use at a subsequent location. The decontamination procedure is as follows:

- Flush the equipment with potable water.
- Flush the equipment with a non-phosphate detergent solution.
- Flush the equipment with analyte-free deionized ultra filtered (DIUF) water.
- Flush the equipment with Certified ACS-grade isopropyl alcohol.
- Flush the equipment with analyte-free deionized ultra filtered (DIUF) water.

7.3 DATA AND RECORDS MANAGEMENT

All samples collected must be documented and recorded in a log book or on sample log sheets in accordance with the QAPP. At a minimum, the following should be recorded as part of the documentation: the property location, resident names, date and time of initial contact, summary of conversations with the resident(s), sample identification, date and time of collection, purge volume/time, parameters sampled for, and water supply well details (depth, age, etc.).

All records should be copied to the FOL/Sample Manager and subsequently to the Lead Chemist and Project Manager as soon as possible following sample collection.

7.4 COMMUNICATION AND TECHNICAL DIRECTION

Field data and information recorded on log sheets or field book will be reviewed daily by the Field Operations Lead (FOL) and/or Sample Manager. The notes will be scanned and placed into the job folder located on Nobis' computer server at the end of the sampling event.

Other Documentation

- Photograph number and description of photo, when required.
- Observable physical characteristics - odor, color, turbidity, immiscible layers, formation of precipitates, condition of spigots, valves.
- Samples collected (enter all sample numbers collected at this location)

7.5 DEMOBILIZATION

At the end of equipment use, rinse and decontaminate all components and store in the appropriate case. Clean up any tools and water spillage caused by the sampling. If anything had to be moved in the residence in order to access the sampling location, return the items to their original location. Inform the resident of the anticipated timeframe for delivery of the analytical results.

8.0 QUALITY CONTROL / QUALITY ASSURANCE

Quality control for this sampling method involves the collection of field quality control samples including field duplicates, matrix spike/matrix spike duplicate samples, trip blank samples, equipment blank samples, and temperature blank samples. The number of these samples will vary by site. Performance Evaluation (PE) samples are used to provide an independent check of a laboratory's ability and performance. Refer to the site QAPP for the requirements.

The following collection sequence will be used for sample collection:

- Field sample;
- Field duplicate;
- Matrix spike; and
- Matrix spike duplicate.

9.0 REFERENCES

N.H. Department of Environmental Services. New Hampshire Sample Collection & Preservation Manual for Drinking Water, October 2001

1.0 SCOPE, APPLICATION, AND LIMITATIONS

This Standard Operating Procedure (SOP) establishes a methodology for the collection of volatile organic compound (VOC) samples from ambient air, soil gas, or other atmospheres. The method is based on samples collected as whole air samples in Summa® passivated stainless steel canisters. The samples are subsequently separated by gas chromatography and measured by mass-selective detector or multidetector techniques. This method presents procedures for sampling into canisters at final pressures below atmospheric pressure (referred to as sub-atmospheric pressure sampling).

This method is applicable to specific VOCs that have been tested and determined stable when stored in sub-atmospheric conditions. These compounds are measured at the parts per billion by volume level. Applicable analytical methods (TO-14A and TO-15) for VOCs will be specified in the project Work Plan, Site Specific Quality Assurance Plan, etc.

2.0 INTRODUCTION

The sub-atmospheric pressure sampling mode uses an initially-evacuated canister. This mode may also use a flow controller such as a critical orifice, capillary, or adjustable micrometering valve to regulate flow. With this configuration, a sample of ambient air, soil gas, or other atmosphere is drawn through a sampling train comprised of components that regulate the rate and duration of sampling into a pre-evacuated passivated Summa canister.

There are two common types of sampling: grab sampling and time-integrated sampling. When collecting a grab sample, the canister valve is opened and the vacuum inside the canister draws in a sample in as little as a few seconds. The collection of time-integrated samples requires an additional piece of equipment calibrated by the laboratory (typically a critical orifice). The critical orifice assembly will be placed in-line to the canister and will have been selected for a flow rate that will result in a user-defined sample collection period of up to 24 hours without allowing the pressure in the canister to equilibrate to the ambient air pressure (i.e., the canister remains under vacuum at end of the sample collection period).

The size of the Summa canisters to be used will be determined based on the project-specific data quality objectives. Common sizes for Summa canisters range from 0.4 Liter or 6 Liter volumes. For samples of ambient air, communicate to the laboratory what the sampling period will be. For samples of soil gas, the laboratory will need to know the required project-specific flow rate (typically between 100 and 200 milliliters per minute [mL/min], and not exceeding 200 mL/min).

At very low flow rates, an in-line filter may be used to prevent blockage of the critical orifice by dust or other debris. The laboratory will typically determine the need for, and provide, the filter assembly.

3.0 DEFINITIONS

EPA	Environmental Protection Agency
FOL	Field Operations Leader
HASP	Health and Safety Plan
OSHA	Occupation Safety and Health Administration
PM	project manager
PPE	personal protective equipment
PSI	pounds per square inch
SOP	standard operating procedure
VOC	volatile organic compound

4.0 CAUTIONS

When working with potentially hazardous materials, follow U.S. Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and the safety practices as outlined in the site-specific health and safety plan (HASP).

Canisters are under vacuum pressure, and should not be dented or punctured in order to maintain sample integrity. They should be stored in a cool, dry place. Canisters should always be transported or stored in the shipping boxes provided by the laboratory.

5.0 PERSONNEL QUALIFICATIONS

Personnel collecting samples using this method should be familiar with this SOP and the particular equipment to be used to facilitate sampling and troubleshooting equipment problems more efficiently. Because equipment can vary between laboratories, refer to the laboratory's canister handling instructions for product-specific details.

All field samplers are required to take the 40-hour OSHA health and safety training and annual 8-hour refresher courses prior to engaging in any field collection activities.

6.0 EQUIPMENT AND SUPPLIES

- Summa Canister
- Flow controller assembly
- Filter assembly
- Gauge Assembly
- Tubing, typically ¼-inch outside diameter, PTFE (a.k.a. Teflon®)
- Adjustable wrenches

- Extra ferrules
- Field log book
- Field data sheet
- Personal Protective Equipment (PPE), as specified in the site-specific HASP

7.0 PROCEDURES

7.1 Office Preparation and Mobilization

Contamination may occur in the sampling system if canisters are not properly cleaned before use. Additionally, all other equipment with which the sample stream will come into contact (i.e., flow controllers, gauge assemblies, etc.) should be thoroughly cleaned. All cleaning should be completed by a qualified laboratory. Based on project-specific needs, the laboratory can be requested to complete either a certified cleaning of each individual canister or a batch-certified cleaning. The cleaning certification needs will be based on Data Quality Objectives that are typically specified in the project Work Plan, Site Specific Quality Assurance Project Plan, etc.

Summa canister sampling components are shipped in a disassembled state from the laboratory. Canister sampling components will be assembled at the office or at the site prior to sample collection activities.

7.2 Field Procedures

- Sub-atmospheric Sampling

1) Prior to sample collection; complete the appropriate information on the field data sheet included as Attachment 1. Enter the sample designation and all other appropriate information on the canister tag/label.

2) The Summa canister may be used to collect grab samples (i.e., 10-20 seconds or 10 minutes) or time-integrated samples (i.e., 8, 12, or 24 hours). Sampling duration depends upon the degree to which the flow is restricted.

3) Install the flow controller and gauge assemblies onto the canister, which is evacuated to 28-30 inches of mercury at sea level and open the canister valve to the atmosphere to be sampled. Record the start time and the gauge reading immediately before and after opening the valve. In general, for time integrated samples, no movement of the indicator needle on the pressure gauge should be evident. If the needle moves fast enough that movement can be seen, there may be a problem with the flow controller.

4) When the sample collection period is complete, record the time and final vacuum on the field data sheet included in Attachment 1 and close the canister valve. During time-integrated sampling it is advisable to perform periodic inspections of the remaining negative pressure in the canister to ensure that the canister does not approach neutral prematurely. Also, record the gauge reading after closing the canister valve. In some cases, it may be necessary to shorten the sampling period slightly to ensure that there is negative pressure remaining in the Summa canister. The canister should not be allowed to equilibrate to atmospheric pressure during the sampling period.

5) If there is no measureable vacuum remaining in the canister, the canister may have equilibrated to the ambient air. This has the potential for sample loss. However, the gauge provided by the laboratory for use in the field is generally considered to be less accurate than the pressure gauges used by the laboratory. In some cases, it may be necessary to instruct the laboratory to analyze the sample only if a vacuum remains in the canister. In these instances, it may be appropriate to request that the laboratory report the vacuum pressure remaining in the canister.

- Ambient Air Sampling

1) Prior to locating a sampling location, determine the prevailing wind direction using a wind sock or ribbon (surveyor's flag is sufficient). Using this information, identify the location(s) for sample collection.

2) Construct a protective cover for the Summa canister and inlet. The cover should protect the sampling apparatus from excessive solar, wind, and precipitation effects that may have the potential to influence the sample collection and results. An umbrella or portable canopy can be used. The Summa canister should be placed on the ground surface or on a stable platform to avoid tipping or other physical disturbances.

3) Install a rod in the ground or attach the rod to an existing object such as a utility pole, fence post, monitoring well standpipe, etc. as a support for sample collection tubing. Tubing size will vary depending on the dimensions of the regulator; however, it is typical for the regulators to come with ¼ inch NPT threaded connections. Check that all connections are tight and that air cannot enter or escape from the unions. Teflon thread sealant should be used to ensure a tight fit at threaded connections; barbed and push-to-lock fittings can also be used, as appropriate. Use sufficient tubing to extend from the ground surface (or the surface that the Summa canister is placed on) to the desired elevation for sample collection. This elevation is typically within the breathing zone of approximately five to six feet above the ground surface. Refer to the attached Figure 1 for a diagram of the sampling assembly.

4) Once the sampling apparatus is configured follow the procedures for sub-atmospheric sampling outlined above.

- Process Vapor Sampling

1) Process vapor sampling pertains to collection of vapor/air samples from a treatment system (e.g., soil vapor extraction, dual-phase extraction, air-stripping, etc.).

2) Identify the sampling points and assign an identifier (if not already completed). Ensure that the sampling point is sealed properly. Sampling points will often be installed by drilling into PVC piping that carries the vapor/air, tapping the drilled hole, and threading a valved-fitting into the pipe. These threaded connections should have Teflon® thread sealant.

3) Identify the nearest valves before and following the sampling point, relative to the direction of air flow in the treatment system. Isolate the sampling point by closing each of the identified valves simultaneously to trap a "core" of air/vapor to be sampled. Perform

appropriate shut-down procedures on the treatment system and lock-out/tag-out, as necessary.

4) In cases where the treatment system, under vacuum, cannot be shutdown or isolating the process line is not practical, the sample may be collected first into a tedlar bag using a high vacuum double diaphragm pump (KnF brand or equilvalent) with Teflon or Viton® seals due to the potential corrosive nature of the process vapors. The Summa canister is then filled from the tedlar bag.

5) Tedlar bags should be dedicated to individual sample locations where possible and flushed with 1 volume of ambient or zero air and 1 volume of process air prior to collecting the process sample. Teflon or Teflon-ined tubing is preferred. Silicone tubing is acceptable but should be changed out frequently due to the potential of attack from corrosive process vapors.

6) A photo-ionization detector/flame ionization detector (PID/FID) reading of the process vapor should be obtained immediately before or after filling the Summa canister for correlation to the laboratory analytical results. In addition, the PID/FID reading should be noted on the chain-of custody (COC).

7) Connect the Summa canister regulator to the sampling point using the appropriately sized tubing. Check that all connections are tight and prevent air from entering and/or escaping from the connections.

8) Follow the sub-atmospheric sampling procedure described above.

7.3 Data and Records Management

The Summa Canister Sampling Log Sheet (included as Attachment 1) will be completed for every sampling event. Record of the sampling event(s) will also be documented in the site log book by the sampler or FOL.

Completed Field Log Sheets will be transmitted to the PM, and maintained as part of the project file.

7.4 Communication and Technical Direction

Any problems or issues encountered during the sampling event(s) shall be discussed with the PM in order to determine an appropriate solution. Any changes in scope or deviation will be confirmed with and approved by the PM.

7.5 Demobilization

Following the completion of sample collection activities, Summa canisters will be disassembled and shipped under chain-of-custody controls to a pre-determined laboratory for analysis. Sample holding times (when established) will not be exceeded.

8.0 QUALITY CONTROL/QUALITY ASSURANCE

The following general quality assurance procedures apply:

- All data must be documented on standard chain of custody forms, field data sheets, and within site logbooks.
- All instrumentation must be operated in accordance with operating instructions as supplied by the laboratory or manufacturer, unless otherwise specified in the work plan. Equipment checkout and calibration activities must occur prior to sampling/operation, and they must be documented.

9.0 REFERENCES

U.S. Environmental Protection Agency; Compendium of ERT Air Sampling Procedures, PB92-963406, May 1992.

U.S. Environmental Protection Agency. Summa Canister Sampling. SOP #1704, Revision 0.1, July 27, 1995.

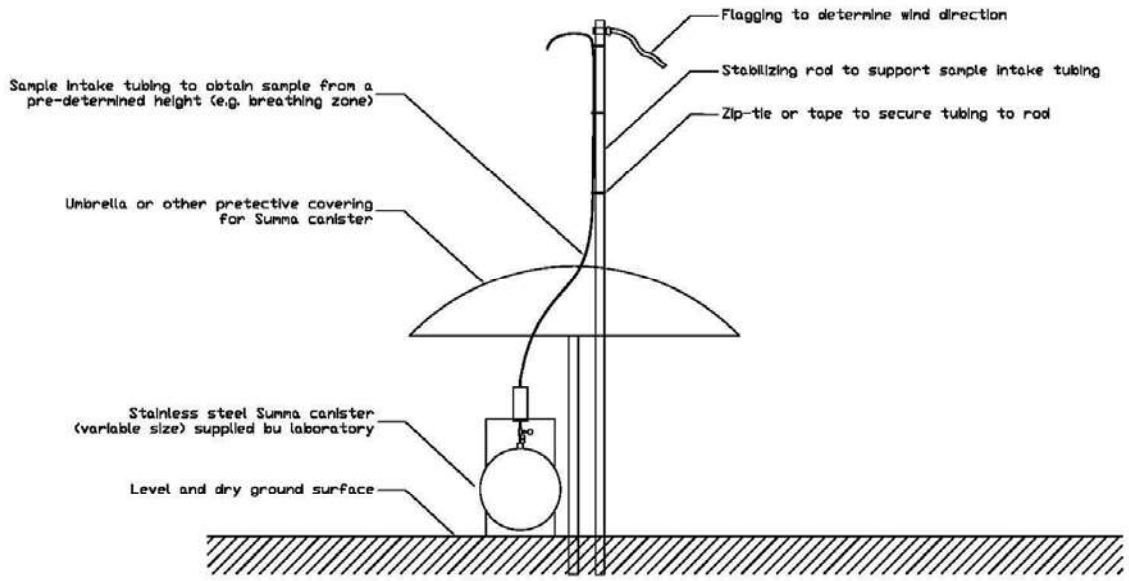

FIGURE 1

AMBIENT AIR SUMMA CANISTER SET-UP DETAIL

M:\COMMON\For Andy\TOT\SOP File Archive\TOT Approved\ENV-029 Summa Diagram.dwg

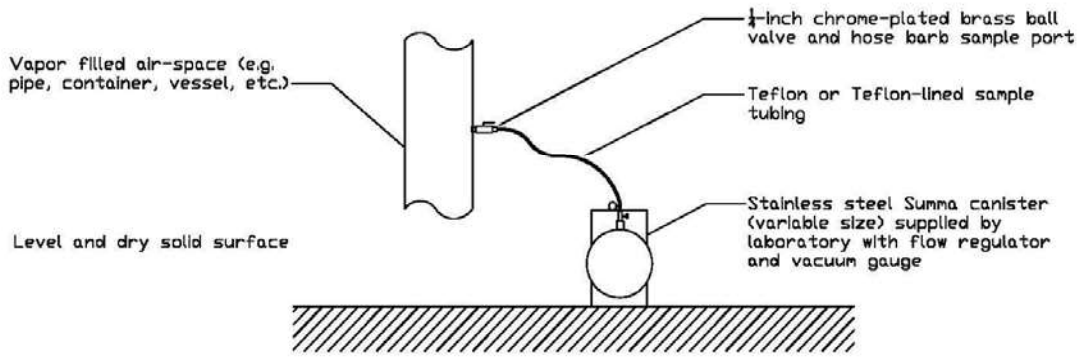

FIGURE 2

PROCESS VAPOR SUMMA CANISTER SET-UP DETAIL

M:\COMMON\For Andy\TDF\SOP File Archive\TDF Approved\ENV-029 Summa Diagram.dwg

Attachment 1
Summa Canister Field Log Sheet

Nobis Nobis Engineering, Inc.	SUMMA® CANISTER SAMPLING LOG SHEET	SOP No: ENV-029 Page: of Date: Apr. 2009 Rev.: 01 Prepared by: Approved by:

Site Name: _____ Temperature Range: _____
Project Number/Task: _____ Precipitation: _____
Personnel: _____ Wind Speed/Direction: _____

EQUIPMENT INFORMATION

Type of Monitoring Equipment (circle): PID / FID / Other
Make & Model: _____ Latest Calibration Date: _____
Serial No.: _____ Nobis No.: _____

FIELD DATA

Sample #				
Location				
Canister ID - S/N				
Canister Size (Liters)				
Can Cleaning Certification: Batch or Individual				
Gauge S/N				
Orifice Used - S/N				
Analysis/Method				
Gauge reading before valve opened				
Date/Time (Start)				
Gauge reading immediately after valve opened				
Gauge reading before valve closed				
Date/Time (Stop)				
Gauge reading after valved closed				
Total Time				

COMMENTS:

Signature: _____

Standard Operating Procedure (SOP)
SOP No. GAC-001

Granular Activated Carbon (GAC) Vessel Installation and Replacement at Drinking Water Wells

This SOP No. GAC-001 details the purging/flushing and monitoring procedures to be followed during the installation of virgin GAC vessels for drinking water point-of-entry treatment (POET) systems. This procedure includes the minimum required steps and quality checks that project personnel are to follow when overseeing the installation or replacement the GAC vessels at a POET system. Under some circumstances, the Project Work Plan may be needed to clarify, expand, or modify the SOP.

This SOP does not address installation of POET systems. Additionally, all handling/adjustment/modification to the POET system itself described in the procedures below, including the physical GAC change out procedure, should be conducted by a licensed and qualified plumbing subcontractor, with field staff members only providing oversight to the plumbing subcontractor. Qualified and experienced, field staff members will only perform the field screening and analytical sampling activities as described in the procedures below.

GAC VESSEL REPLACEMENT TRIGGERS

GAC vessels should be replaced when periodic sampling of the POET system shows break-through of sampled analytes and once approval from the client and/or project stakeholders is received. If only the mid-line sample shows break-through, the secondary GAC tank should be swapped with the primary tank and the now secondary tank should be replaced. If both mid-line and effluent samples show break-through, both GAC vessels should be replaced. GAC replacement should be initiated within 2-weeks of the receipt of data indicating break-through, subject to equipment and material availability from vendors. The new GAC vessel installation and GAC tank swapping activities should be conducted by a licensed and qualified plumbing contractor.

GAC VESSEL CHANGEOUT PROCESS:

Items Required

Be sure to bring/prepare the following when preparing for a GAC vessel installation or replacement event:

- New, clean polyethylene tubing
- Arsenic field test kit
- Turbidity meter
- Tool box
- 5-gallon buckets or other similar container
- PID
- Distilled water
- Paper towels and trash bags
- PPE – nitrile gloves and safety glasses, at minimum. Refer to Activity Hazard Analysis for task.
- Laboratory sample bottles for appropriate analyses

GAC Installation/Replacement Procedure:

1. Prior to mobilization, confirm access and schedule with property owner and/or building tenants and other required project personnel. Additionally, confirm the replacement virgin GAC is of commercial grade coconut-shell based carbon from a well-known and reputable manufacturer (e.g. Calgon) and will meet all current NSF/ANSI 61 standards. Obtain all documentation, including lot and serial numbers, for the sourced GAC.

2. Once on-site, have the plumbing subcontractor perform the following steps - field staff should only provide oversight to plumbing subcontractor during these steps, with the exception of the collection of arsenic and turbidity measurements. Those measurements will be collected by field staff.

    a. Close the influent valve from well pump (valve before pressure tank) and service valve to the building, and drain the POET system of water using the GAC tank discharge valves. The water should be discharged into a 5-gallon bucket or similar container and disposed of in accordance with project plans.

    b. Once drained, close the tank discharge valves and conduct installation or replacement of the GAC as needed.

    c. Once the GAC is installed/replaced, open the valve before pressure tank to allow water into the POET system but keep the service valve to the building in the closed position. This will allow the GAC tanks to fill completely. Allow the GAC tanks to remain saturated for 1 hour, per the specification listed in the manufacturer standard operation and maintenance manual, then open the GAC tanks' discharge valves and drain the GAC tanks completely. Field staff will collect a turbidity reading from the discharge water. The water should be discharged into a 5-gallon bucket or similar container and disposed of in accordance with project plans.

    d. Once the GAC tanks are empty, close the tank discharge valves and then repeat the filling/saturation/draining process described in step c. above for a minimum of 4 total cycles until the turbidity measurement is less than 1 NTU. The effluent water during each discharge cycle should be screened for turbidity. Close the GAC tank discharge valves after the final discharge cycle.

    e. Next, open the valve before the pressure tank to allow water to completely fill the system. Ensure the service valve to the building remains in the closed position. Once filled, open the GAC tank discharge valves and conduct continuous flushing of the POET system for a minimum of two (2) hours. During flushing, field staff will collect arsenic and turbidity readings from the effluent at a minimum frequency of every 30-minutes. Field staff will not terminate flushing until three consecutive arsenic and turbidity readings are below 5 parts per billion (ppb) and 1 NTU, respectively, after the minimum 2-hour flushing period.

3. Once flushing is complete, close the GAC tank discharge valves and open the service valve to the building. Then collect laboratory analytical samples as directed by the project plans from the POET system.

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Appendix D

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INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC
29 Washington Avenue, Unit A
Scarborough, ME 04074
Toll-free: (888) 779-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 38758
Description HACH 2100Q Turbidimeter
Calibrated 12/14/2020 8:12:18AM

Manufacturer HACH
Model Number 2100Q
Serial Number/ Lot Number 17020C056314
Location Maine
Department

State Certified NJ Cert#: 11034
Status Pass
Temp °C 20
Humidity % 32

Calibration Specifications

Group # 1
Group Name Turbidity
Stated Accy Pct of Reading

Range Acc % 0.0000
Reading Acc % 10.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
10.00 / 10.00	NTU	10.00	NTU	9.77	10.10	1.00%	Pass
20.00 / 20.00	NTU	20.00	NTU	20.50	20.00	0.00%	Pass
100.00 / 100.00	NTU	100.00	NTU	103.00	98.10	-1.90%	Pass
800.00 / 800.00	NTU	800.00	NTU	797.00	792.00	-1.00%	Pass

Test Instruments Used During the Calibration

(As Of Cal Entry Date)

Test Standard ID	Description	Manufacturer	Model Number	Serial Number / Lot Number	Last Cal Date/ Opened Date	Next Cal Date / Expiration Date

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Steve Demers

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment
Please call 800-301-9663 for Technical Assistance

INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

29 Washington Avenue, Unit A
Scarborough, ME 04074
Toll-free: (888) 779-PINE (7463)

Pine Environmental Services, Inc.

Instrument ID 43944
Description YSI Professional Plus
Calibrated 12/11/2020 2:47:15PM

Manufacturer YSI
Model Number Professional Plus
Serial Number/ Lot Number 18J103061
Location Maine
Department

State Certified
Status Pass
Temp °C 20
Humidity % 31

Calibration Specifications

Group # 1
Group Name PH
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	6.73	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	3.79	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	9.78	10.00	0.00%	Pass

Group # 2
Group Name Conductivity
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.000

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.420	1.413	0.00%	Pass

Group # 3
Group Name Redox (ORP)
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.00 / 240.00	mv	240.00	mv	253.20	240.10	0.04%	Pass

Group # 4
Group Name Disolved Oxygen Span
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.00 / 100.00	%	100.00	%	102.40	100.10	0.10%	Pass

MULTIPARAMETER WATER PROBE FIELD CALIBRATION LOG SHEET

Nobis — Engineering a Sustainable Future

SOP No:	FS-005	Page:	1 of 1
Rev. Date:	Feb. 20, 2014	Rev.:	4
Completed by: (signature)	R. Wheeler		
Reviewed by (FOL): (signature)	R. Wheeler		

SITE INFORMATION

Site Name: Former LO-58

Project Number/Task: 2102.0110

Personnel: R. Wheeler, K. Gaffney

INSTRUMENT INFORMATION

Instrument Make/Model: YSI Pro Plus — passed morning cal check **Y** **N** (not used)

Instrument Serial No.: 18J103061 — passed EoD cal check **Y** **N**

Identification No.: 43944 — if EoD cal check fails, list sample designators at bottom of form

Vendor documentation of cleaning and cal present? **Y** **N** **with FOL** Calibration of temp. probe to NIST thermometer verified? **Y** **N** DO membrane replaced today? **Y** **N** *list other maintenance at bottom*

Calibration	Date:	Time:	Pine Calibration	End-of-Day (EoD) Calibration Check	Date: 12/14/2020	Time: 18:00

Criteria	Units	Standard Lot Number	Standard Expiration Date	Reading / Measured Value	"Check" Target Value	"Check" Measured Value	Acceptable Value	Standard Lot Number	Standard Expiration Date	Reading / Measured Value	"Check" Target Value	"Check" Measured Value	Acceptable Value
Dissolved Oxygen (DO)													
DO Probe Charge							25-75			N/A			25-75
Barometric Preassure	mm Hg									758.95			
Temperature	°C									12.5			
100% Saturation	mg/L						± 2% (or ±0.2 mg/L, whichever is greater) of target value				10.43	10.31	± 0.5 mg/L to temp. corrected value
0.0 mg/L Dissolved Oxygen	mg/L				<0.5		≥0 but <0.5	N/A	N/A		<0.5	0.21	≥0 but <0.5
pH													
pH 7					7		6.8-7.2 (±0.2)	0GG815	Jul-21		7	7.04	6.7-7.3 (±0.3)
pH 4													
pH 10													
Specific Conductance													
Specific Conductivity Calibration Standard (lower)	µS/cm						±5 % of Target Value						
Specific Conductivity Check Standard (higher)	µS/cm						±5 % of Target Value	0GG745	Jul-21		1.413	1.390	±5 % of Target Value
Oxidation/Reduction Potential (ORP)													
Temperature	°C									12.6			
ORP	mV						±10 mV	0GH1018	May-21		247.1	253.3	±10 mV
Other Criteria (Specify)													

Comments:
If the instrument did not pass the end-of-day cal check, note parameters that failed and list all samples designations from the day's work. List all maintenance (DO probe reconditioned, etc.). Use the back of the form for additional notes.
Use calibration solutions from the same lot when performing calibration and EoD calibration checks whenever possible.
°C=degrees Celsius mV=millivolts mg/L=milligrams per liter mm of Hg=millimeters of mercury µS/cm=microSiemens per centimeter (1,000 µS/cm = 1 mS/cm)

MULTIPARAMETER WATER PROBE FIELD CALIBRATION LOG SHEET

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SITE INFORMATION

Site Name: Former LO-58

Project Number/Task: 2102.0110

Personnel: R. Wheeler, K. Gaffney

INSTRUMENT INFORMATION

Instrument Make/Model: YSI Pro Plus — passed morning cal check: Y N (not used)

Instrument Serial No.: 18J103061 — passed EoD cal check: Y N

Identification No.: 43944 — if EoD cal check fails, list sample designators at bottom of form

Vendor documentation of cleaning and cal present? Y N with FOL — Calibration of temp. probe to NIST thermometer verified? Y N — DO membrane replaced today? Y N — *list other maintenance at bottom*

Calibration	Date: 12/15/2020	Time: 7:40						End-of-Day (EoD) Calibration Check	Date: 12/15/2020			Time:	17:30
Criteria	**Units**	**Standard Lot Number**	**Standard Expiration Date**	**Reading / Measured Value**	**"Check" Target Value**	**"Check" Measured Value**	**Acceptable Value**	**Standard Lot Number**	**Standard Expiration Date**	**Reading / Measured Value**	**"Check" Target Value**	**"Check" Measured Value**	**Acceptable Value**
Dissolved Oxygen (DO)													
DO Probe Charge				N/A			25-75			N/A			25-75
Barometric Preassure	mm Hg			747.25						749.15			
Temperature	°C			11.6						8.21			
100% Saturation	mg/L				10.43	10.38	± 2% (or ±0.2 mg/L, whichever is greater) of target value				11.81	11.45	± 0.5 mg/L to temp. corrected value
0.0 mg/L Dissolved Oxygen	mg/L	N/A	N/A		<0.5	0.18	≥0 but <0.5	N/A	N/A		<0.5	0.23	≥0 but <0.5
pH													
pH 7		0GG815	7/31/2021		7	7.01	6.8-7.2 (±0.2)	0GG815	Jul-21		7	6.97	6.7-7.3 (±0.3)
pH 4		0GG775	5/31/2021										
pH 10		0GG924	7/31/2021										
Specific Conductance													
Specific Conductivity Calibration Standard (lower)	µS/cm	N/A	N/A		N/A	N/A	±5 % of Target Value						
Specific Conductivity Check Standard (higher)	µS/cm	0GG745	7/31/2021		1.413	1.411	±5 % of Target Value	0GG745	Jul-21		1.413	1.421	±5 % of Target Value
Oxidation/Reduction Potential (ORP)													
Temperature	°C			11.5						12.6			
ORP	mV	0GH1018	5/31/2021		247.9	246.3	±10 mV	0GH1018	May-21		253.1	250.7	±10 mV
Other Criteria (Specify)													

Comments:
If the instrument did not pass the end-of-day cal check, note parameters that failed and list all samples designations from the day's work. List all maintenance (DO probe reconditioned, etc.). Use the back of the form for additional notes.
Use calibration solutions from the same lot when performing calibration and EoD calibration checks whenever possible.
°C=degrees Celsius mV=millivolts mg/L=milligrams per liter mm of Hg=millimeters of mercury µS/cm=microSiemens per centimeter (1,000 µS/cm = 1 mS/cm)

Appendix E

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United States Army Corps of Engineers Former LO-58 Nike Battery Launch Site FUDS, Caribou

Contractor Daily Reports

Daily Report No. V-1025-122020-D	REPARED BY: R. Wheeler/M. Hansen	PROJECT NUMBER: 2102.0110
Weather: Cold, 20F, cloudy.		DATE: 12-14-2020

NAME:	HRS	ROLE/DISCIPLINE:	COMPANY:	EQUIPMENT LIST:	VISITORS/AFFILIATION:
R. Wheeler	5	FOL	VERINA	PID, Water Level Indicator	
K. Gaffney	5	Env Scientist	VERINA	Hand Tools, Buckets,	
				Sampling Pump, Tubing	
				Flow Through Cell, Water	
				Quality Meters, Tent, Heater	
DAILY TOTAL:	10				

SUBCONTRACTORS:	Health and Safety/Environmental Monitoring
NA	NA

WORK PERFORMED BY CONTRACTOR

13:30 - Arrive on-site.
13:40 - 14:00 - Perform weekly health & safety kick-off meeting and daily tailgate safety meeting.
14:00 - 15:20 - Performed well assessment for monitoring wells MW-01 - MW-06.
15:20 - 16:30 - Prepare sampling equipment to perform groundwater sampling at monitoring well MW-01 (bedrock well).
16:35 - 17:15 - Low-flow purging for MW-01.
17:20 - 17:50 - Collected groundwater sample MW-01-WINTER-2020 and MS and MSD samples.
17:50 - 18:20 - Broke down and packed up sampling equipment, secured site, held virtual oversight meeting with CENAE staff and left site.

WORK COMPLETED BY SUBCONTRACTORS

NA

KEY SITE OBSERVATIONS AND NOTES

Tent and heater set-up worked well. No issues with equipment due to cold weather.
Nick Gagnon/Subcontractor will replace the GAC tank tomorrow (12/15/20) - will coordinate with Lynn to make sure there is no issues on her end.

United States Army Corps of Engineers Former LO-58 Nike Battery Launch Site FUDS, Caribou

VERINA

Contractor Daily Reports

Daily Report No. V-1026-122020-D	REPARED BY: R. Wheeler/M. Hansen	PROJECT NUMBER: 2102.0110
Weather: Cold, 20F, cloudy.		DATE: 12-15-2020

NAME:	HRS	ROLE/DISCIPLINE:	COMPANY:	EQUIPMENT LIST:	VISITORS/AFFILIATION:
R. Wheeler	12.25	FOL	VERINA	PID, Water Level Indicator	Nick Gagnon - Plumbing Subcobtractor
K. Gaffney	12.25	Env Scientist	VERINA	Hand Tools, Buckets,	
				Sampling Pump, Tubing	
				Flow Through Cell, Water	
				Quality Meters, Tent, Heater	
DAILY TOTAL:	24.5				

SUBCONTRACTORS:	Health and Safety/Environmental Monitoring
Plumbing Subcontractor for carbon vessel replacement.	NA

WORK PERFORMED BY CONTRACTOR

07:00 - Arrive on-site.
07:10 - 07:40 - Perform daily tailgate safety meeting.
07:40 - 09:30 - Prepare sampling equipment to perform groundwater sampling at monitoring well MW-02 (bedrock well).
09:30 - 11:00 - Low-flow purging for MW-02, followed by collecting groundwater sample MW-02-WINTER-2020 and a duplicate sample.
11:00 - 11:40 - Decontamination of equipment and move sampling equiment to MW-04 (bedrock well).
11:40 - 12:40 - Purged MW-04 followed by collecting groundwater sample MW-04-WINTER-2020.
12:40 - 13:30 - Decontamination of equipment and move sampling equipment to MW-03 (bedrock well).
13:30 - 14:10 - Purged MW-03 followed by collecting groundwater sample MW-03-WINTER-2020 .
13:45 - Provide virtual oversight to Paul Young and Tracy Dorgan (CENAE).
14:30 - 15:25 - Decontamination of equipment and move sampling equipment to MW-05 (bedrock well).
15:25 - 16:55 - Purged MW-05 followed by collecting groundwater sample MW-05-WINTER-2020.
16:55 - 17:15 - Broke down and packed up sampling equipment, secured site, held virtual oversight meeting with CENAE PDT and left site.

WORK COMPLETED BY SUBCONTRACTORS

Replacement carbon vessels installed for POET system on drinking water well DW-01 @ AMAC building.
14:10 - Plumbing subcontractor arrived on-site for carbon vessel change out on DW-01.
16:00 - Subcontractor informed Ryan Wheeler that carbon vessel changeout could not be completed due to issues with fittings that connect the tanks to the rest the system. New fittings are ordered and wating fro confirmation of delivery.

KEY SITE OBSERVATIONS AND NOTES

- No issues with equipment due to cold weather.
- Carbon vessel installation was not able to be fully completed due to some issues with plumbing fittings. New fittings have been ordered. Drinking water well DW-01 is still operational awaiting final GAC change out. Depening on the delivery of the fittings, DW-01 INF, MID, and EFF csamples an be collected after the GAC Change-out on Thursday/Friday or alternative sampling date/time needs to be prepared.

United States Army Corps of Engineers Former LO-58 Nike Battery Launch Site FUDS, Caribou

Contractor Daily Reports

Daily Report No. V-1027-122020-D	REPARED BY: R. Wheeler/M. Hansen	PROJECT NUMBER: 2102.0110
Weather: Cold, Below 0F, cloudy.		DATE: 12-16-2020

NAME:	HRS	ROLE/DISCIPLINE:	COMPANY:	EQUIPMENT LIST:	VISITORS/AFFILIATION:
R. Wheeler	7.5	FOL	VERINA	PID, Water Level Indicator	
K. Gaffney	7.5	Env Scientist	VERINA	Hand Tools, Buckets.	
DAILY TOTAL:	15				

SUBCONTRACTORS:	Health and Safety/Environmental Monitoring
	NA

WORK PERFORMED BY CONTRACTOR

08:00 - Arrive on-site.
08:00 - 10:00 - Perform daily tailgate safety meeting, organize sample coolers prepare for well assessment and weather breaks.
10:00 - 10:20 - Coordination with plumbing contractor for POET carbon change out at DW-01.
10:20 - 12:00 - Perform post sampling well assessment for monitoring wells - including weather breaks.
12:00 - 13:00 - DW-02R sample preparation and purging.
13:00 - 13:30 - Collect samples DW-02R-EFF-WINTER2020, DW-02R-INF-WINTER2020, and DW-02R-FD-WINTER2020 (from DW-02R-INF location).
13:30 - 14:20 - Inspection and construction data collection for DW-02R.
14:20 - 14:40 - Contact DW-02R well drillers.
14:40 - 15:30 - Site clean-up and held virtual oversight with Paul Young and Tracy Dorgan (CENAE).

WORK COMPLETED BY SUBCONTRACTORS

KEY SITE OBSERVATIONS AND NOTES

- Information was obtained on construction of DW-02R. Installed 6/12/2017. Total depth 200'. Casing set at 80'.
- Well drillers to provide other information to VERINA by end of this week.
- Plumbing subcontractor to mobilize back to the site for DW-01 GAC change our work at 13:30 on 12-17-2020. DW-01 samples will be collected following the work.

United States Army Corps of Engineers Former LO-58 Nike Battery Launch Site FUDS, Caribou

VERINA

Contractor Daily Reports

Daily Report No. V-1027-122020-D	REPARED BY: R. Wheeler/M. Hansen	PROJECT NUMBER: 2102.0110
Weather: Cold, 10-20F, cloudy.		DATE: 12-18-2020

NAME:	HRS	ROLE/DISCIPLINE:	COMPANY:	EQUIPMENT LIST:	VISITORS/AFFILIATION:
R. Wheeler	7:45	FOL	VERINA	PID, Water Level Indicator	Nick Gagnon - Plumbing Subcobtractor
				Hand Tools, Buckets, tubing.	
DAILY TOTAL:	7:45				

SUBCONTRACTORS:	Health and Safety/Environmental Monitoring
Plumbing Subcontractor for carbon vessel replacement.	NA

WORK PERFORMED BY CONTRACTOR

07:00 - Arrive on-site. Perform daily tailgate safety meeting.

07:30 - 09:30 - Pluming subcontractor arrive on-site. Checked the adapters, but the adapters were wrong size as suspected, then the new adpters were re-ordered. Reconnected the original GAC vessels to the DW-01 POET system.

09:45 - Perform virtual oversight with CENAE and depart site.

11:55 - Notified by Nick/Subcontractor that newly orderred adapters for the new GAC vesells have been received. Scheduled for GAC change-out at 13:30.

13:00 - Arrive back on-site.

13:30 - 16:00 - Change out of GAC vessels for DW-01 POET system.

16:00 - 17:00 - Flushed/purged/cleaned new carbon vessels and the POET system

17:00 - 17:45 - Collect edsamples DW-01-EFF-WINTER2020, DW-01-MID-WINTER2020, DW-010-INF-WINTER2020, and MS/MSD.

18:00 - Performed virtual oversight with CENAE and depart Site.

WORK COMPLETED BY SUBCONTRACTORS

Replacement carbon vessels installed for POET system on drinking water well DW-01 @ AMAC building.

KEY SITE OBSERVATIONS AND NOTES

- No issues with equipment due to cold weather (all interior work).
- DW-01 and POET system working properly following carbon vessel change out.
- Samples were delivered to the laboratory on Saturday, 12/19/20.

VERINA

Contractor Daily Reports

Daily Report No. V-1030-022021-D	**PREPARED BY:** R. Wheeler/M. Hansen	**PROJECT NUMBER:** 2102.0110
Weather: Cold, 0-5F, cloudy.		**DATE:** 02-26-2021

NAME:	HRS	ROLE/DISCIPLINE:	COMPANY:	EQUIPMENT LIST:	VISITORS/AFFILIATION:
R. Wheeler	11	FOL	VERINA	Turbidity Meter	
C. Pyra	11	Technician	VERINA	Hand Tools, Buckets,	
				Tubing	
				Arsenic Field Test Kit	
DAILY TOTAL:	22				

SUBCONTRACTORS:	Health and Safety/Environmental Monitoring
County Plumbing Contractors	NA

WORK PERFORMED BY CONTRACTOR

06:40 - Arrived at the site. E-mail to virtual oversight team to plan oversight for the work tasks.
07:00 - Performed weekly health & safety kick-off meeting and daily tailgate safety meeting.
07:30 - Performed inspection of DW-01 POET system. Notes collected to update POET System schematics.
08:00 - Conducted baseline turbidity measurement and collected field test screening sample.
08:30 - 10:05 - Performed first purging of the two POET carbon vessels from 8:30 to 9:00. Purging paused for equilibration from 9:00 to10:05.
10:05 - 11:25 - Performed second purging of the two POET carbon vessels from 10:05 to 10:25. Purging paused for equilibration from 10:25 to 11:25.
11:25 - 12:55 - Performed third purging of the two POET carbon vessels from 11:25 to 11:55. Purging paused for equilibration from 11:55 to 12:55.
12:55 - 14:25 - Performed fourth purging of the two POET carbon vessels from 12:55 to 13:25. Purging paused for equilibration from 13:25 to 14:25.
14:25 - 17:25 - Began continuous purging of POET system at about 1.2 gpm and collection of metals screening samples every 30 minutes.
17:25 - Continuous purging of DW-01 POET completed. AMAC building secured for the day.
17:25 - Inspected DW-02R POET system. Notes were collected to update the system schematics.
17:35 - Field staff secured VFW utility room and left site.

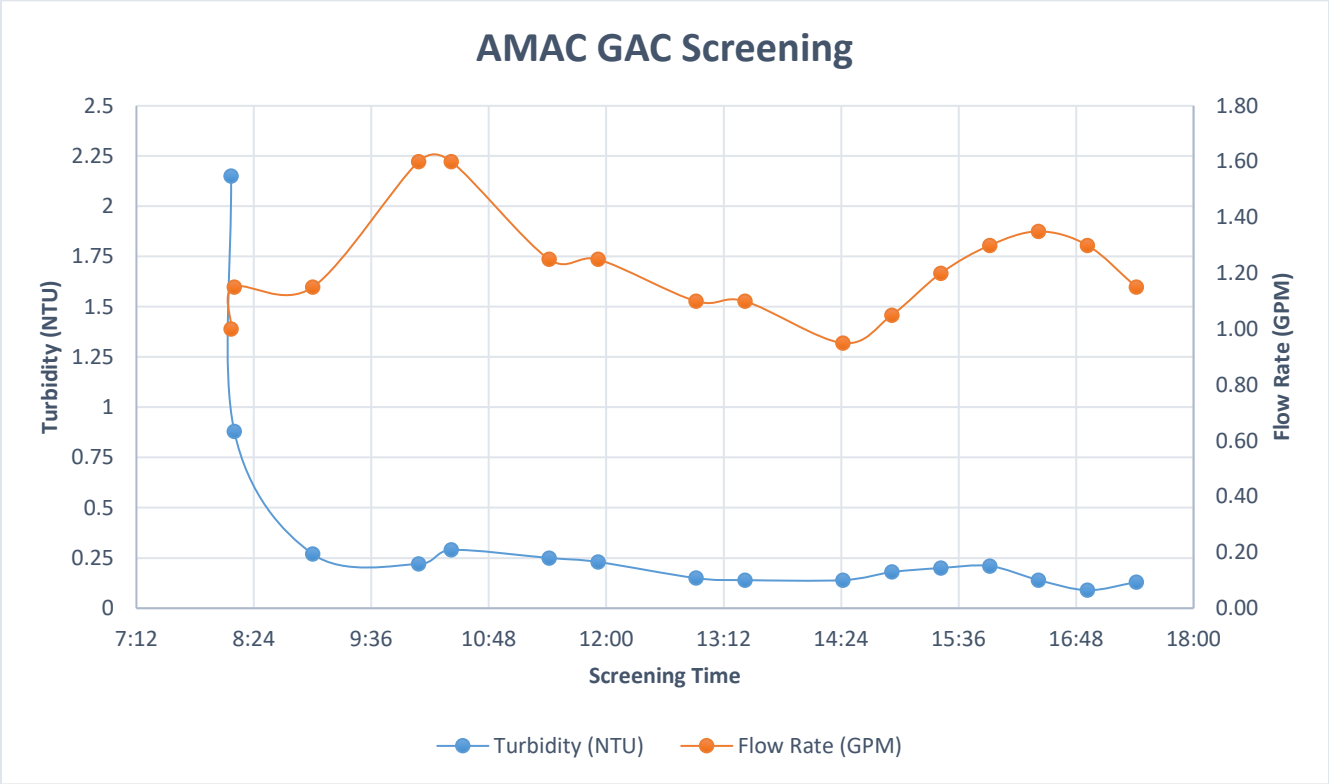
WORK COMPLETED BY SUBCONTRACTORS

NA

KEY SITE OBSERVATIONS AND NOTES

- Field turbidity measurements and arsenic screening test results are attached.
- Virtual oversight was conducted with T. Dorgan.

Screening Time	Flow Rate (GPM)	Turbidity (NTU)	Soluble Inorganic Arsenic (ppb)	Notes
8:10	1.00	2.15	<5	Baseline sample taken without any prior purging
8:12	1.15	0.88	-	Additional turbidity reading after start of first purge phase (1.15 GPM)
9:00	1.15	0.27	<5	End of first purge, followed by 1 hr pause
10:05	1.60	0.22	<5	Start of second purge (1.60 GPM)
10:25	1.60	0.29	<5	End of second purge, followed by 1 hr pause
11:25	1.25	0.25	<5	Start of third purge (1.25 GPM)
11:55	1.25	0.23	<5	End of third purge, followed by 1 hr pause
12:55	1.10	0.15	<5	Start of fourth purge (1.10 GPM)
13:25	1.10	0.14	<5	End of fourth purge, followed by 1 hr pause
14:25	0.95	0.14	<5	Start of continuous purging (0.95 GPM)
14:55	1.05	0.18	<5	
15:25	1.20	0.20	<5	
15:55	1.30	0.21	<5	
16:25	1.35	0.14	<5	
16:55	1.30	0.09	<5	
17:25	1.15	0.13	<5	End continuous purging


AMAC GAC Screening
Turbidity (NTU)
Flow Rate (GPM)
Screening Time
2.5
2.25
2
1.75
1.5
1.25
1
0.75
0.5
0.25
0
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
7:12
8:24
9:36
10:48
12:00
13:12
14:24
15:36
16:48
18:00
Turbidity (NTU)
Flow Rate (GPM)

United States Army Corps of Engineers Former LO-58 Nike Battery Launch Site FUDS, Caribou

Contractor Daily Reports

Daily Report No. V-1030-022021-D	**PREPARED BY:** R. Wheeler/M. Hansen	**PROJECT NUMBER:** 2102.0110
Weather: Cold, 0-5F, cloudy.		**DATE:** 02-26-2021

NAME:	HRS	ROLE/DISCIPLINE:	COMPANY:	EQUIPMENT LIST:	VISITORS/AFFILIATION:
R. Wheeler	11	FOL	VERINA	Turbidity Meter	
C. Pyra	11	Technician	VERINA	Hand Tools, Buckets,	
				Tubing	
				Arsenic Field Test Kit	
DAILY TOTAL:	22				

SUBCONTRACTORS:	Health and Safety/Environmental Monitoring
County Plumbing Contractors	NA

WORK PERFORMED BY CONTRACTOR

06:40 - Arrived at the site. E-mail to virtual oversight team to plan oversight for the work tasks.
07:00 - Performed weekly health & safety kick-off meeting and daily tailgate safety meeting.
07:30 - Performed inspection of DW-01 POET system. Notes collected to update POET System schematics.
08:00 - Conducted baseline turbidity measurement and collected field test screening sample.
08:30 - 10:05 - Performed first purging of the two POET carbon vessels from 8:30 to 9:00. Purging paused for equilibration from 9:00 to10:05.
10:05 - 11:25 - Performed second purging of the two POET carbon vessels from 10:05 to 10:25. Purging paused for equilibration from 10:25 to 11:25.
11:25 - 12:55 - Performed third purging of the two POET carbon vessels from 11:25 to 11:55. Purging paused for equilibration from 11:55 to 12:55.
12:55 - 14:25 - Performed fourth purging of the two POET carbon vessels from 12:55 to 13:25. Purging paused for equilibration from 13:25 to 14:25.
14:25 - 17:25 - Began continuous purging of POET system at about 1.2 gpm and collection of metals screening samples every 30 minutes.
17:25 - Continuous purging of DW-01 POET completed. AMAC building secured for the day.
17:25 - Inspected DW-02R POET system. Notes were collected to update the system schematics.
17:35 - Field staff secured VFW utility room and left site.

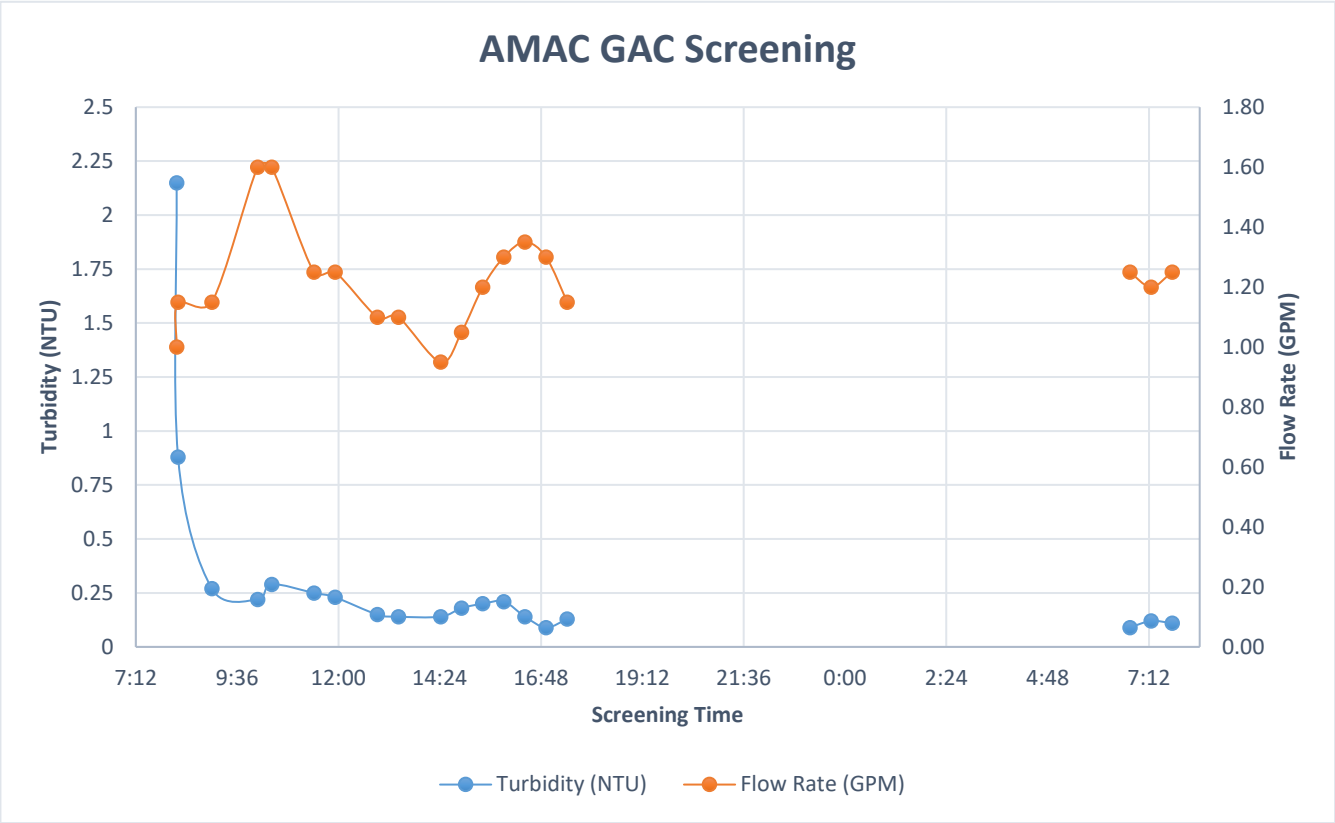
WORK COMPLETED BY SUBCONTRACTORS

NA

KEY SITE OBSERVATIONS AND NOTES

- Field turbidity measurements and arsenic screening test results are attached.
- Virtual oversight was conducted with T. Dorgan.

Screening Time	Flow Rate (GPM)	Turbidity (NTU)	Soluble Inorganic Arsenic (ppb)	Notes
02/26/21				
8:10	1.00	2.15	<5	Baseline sample taken without any prior purging
8:12	1.15	0.88	-	Additional turbidity reading after start of first purge phase (1.15 GPM)
9:00	1.15	0.27	<5	End of first purge, followed by 1 hr pause
10:05	1.60	0.22	<5	Start of second purge (1.60 GPM)
10:25	1.60	0.29	<5	End of second purge, followed by 1 hr pause
11:25	1.25	0.25	<5	Start of third purge (1.25 GPM)
11:55	1.25	0.23	<5	End of third purge, followed by 1 hr pause
12:55	1.10	0.15	<5	Start of fourth purge (1.10 GPM)
13:25	1.10	0.14	<5	End of fourth purge, followed by 1 hr pause
14:25	0.95	0.14	<5	Start of continuous purging (0.95 GPM)
14:55	1.05	0.18	<5	
15:25	1.20	0.20	<5	
15:55	1.30	0.21	<5	
16:25	1.35	0.14	<5	
16:55	1.30	0.09	<5	
17:25	1.15	0.13	<5	End continuous purging
02/27/21				
6:45	1.25	0.09	<5	Pre-sample purging (following day)
7:15	1.20	0.12	<5	
7:45	1.25	0.11	<5	


AMAC GAC Screening
Turbidity (NTU)
Flow Rate (GPM)
Screening Time
2.5
2.25
2
1.75
1.5
1.25
1
0.75
0.5
0.25
0
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
7:12
9:36
12:00
14:24
16:48
19:12
21:36
0:00
2:24
4:48
7:12
Turbidity (NTU)
Flow Rate (GPM)

Appendix F

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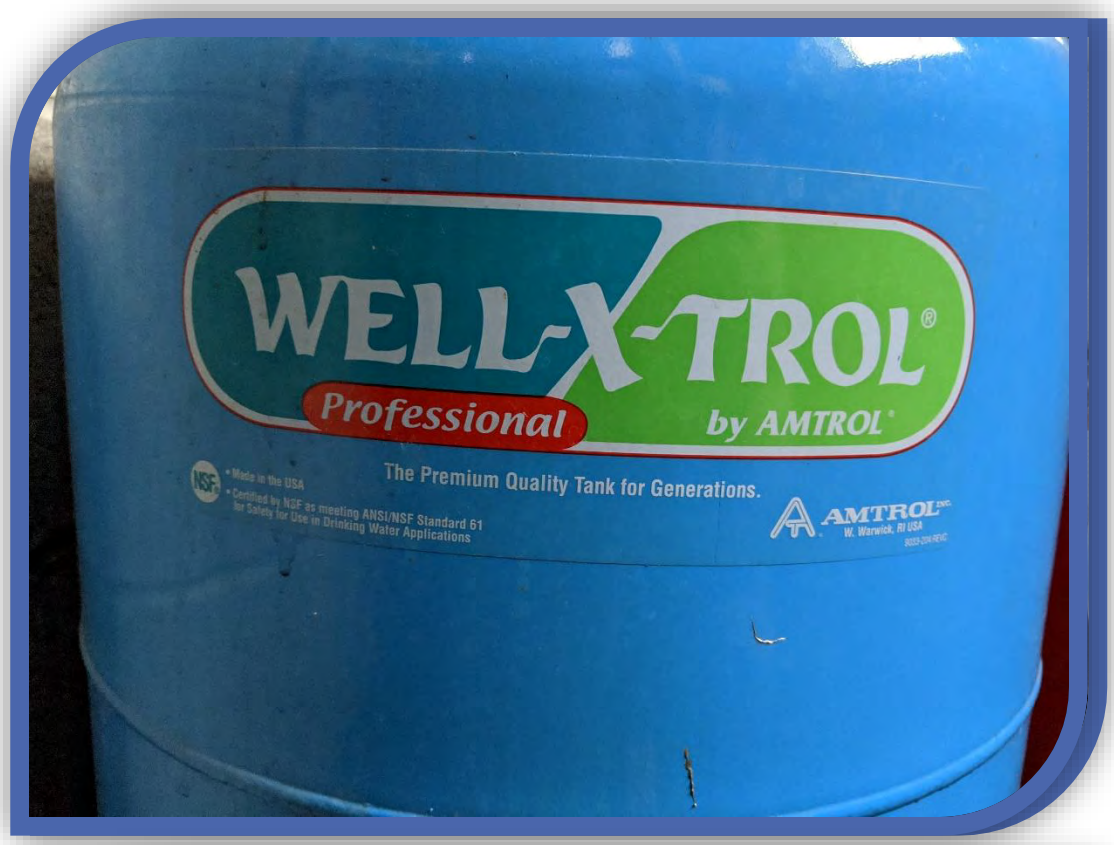
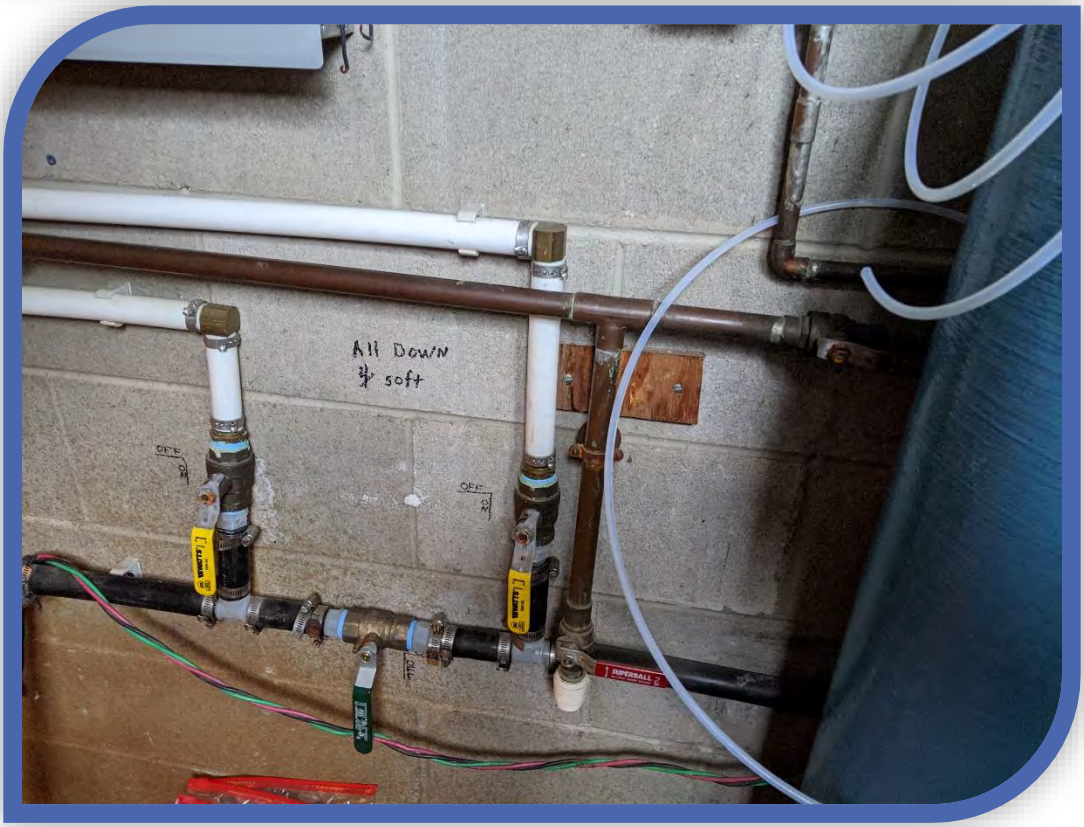
Treatment System DW-01

Treatment System DW-01

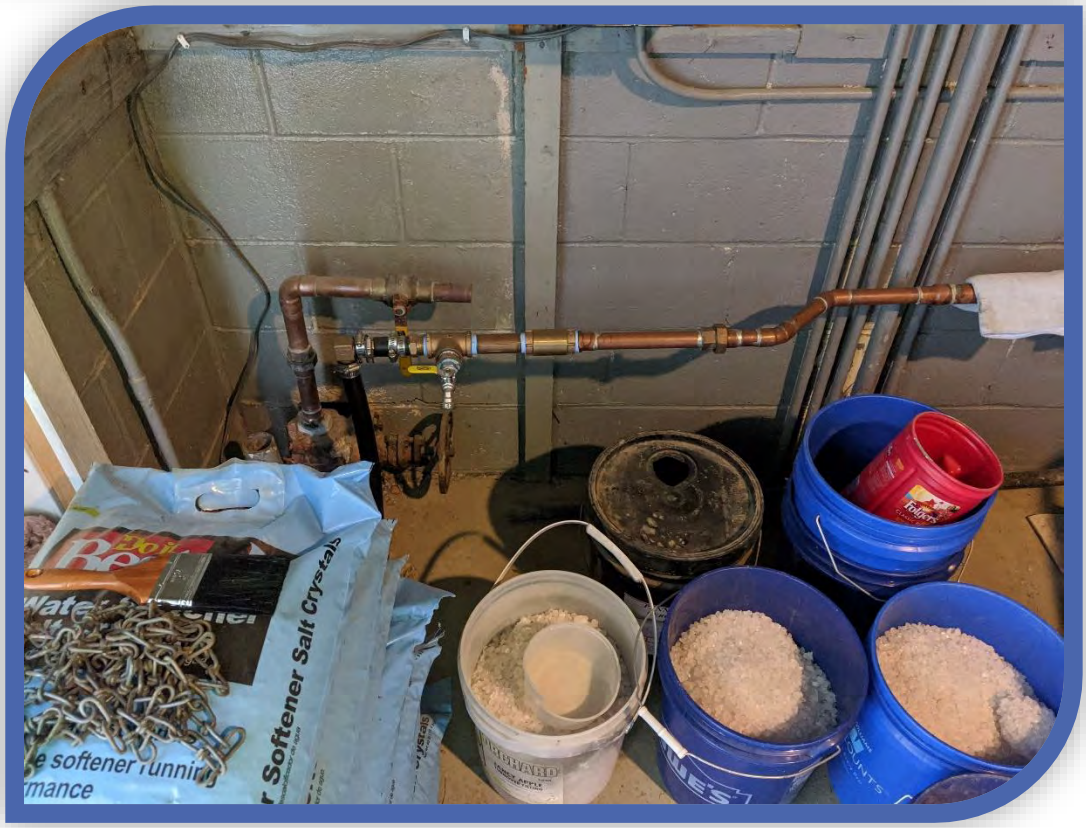
Treatment System DW-01



Treatment System DW-01



Treatment System DW-02



Treatment System DW-02

Treatment System DW-02

Treatment System DW-04

Treatment System DW-04

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Appendix G

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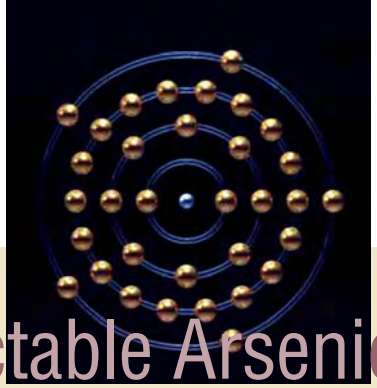

Kossel shell structure of arsenic
SOURCE: www.webelements.com

Extractable Arsenic from Activated Carbon Drinking Water Filters

By: Neil F. Gandy and Richard P. Maas

Summary: *Recent research has documented that the coal and coconut shell-based activated carbon used in granulated activated carbon (GAC) water filters often discharges significant amounts of arsenic (As) and antimony (Sb), at least when newly installed. To determine if this may translate into a concern for GAC filter manufacturers, retailers and end-users, four undersink and one pitcher-type activated carbon drinking water filters were tested for extractable arsenic under NSF 42 (which is very similar to NSF 53). Specifically, we sought to determine whether the filters discharged arsenic levels under NSF 42 exceeding the Environmental Protection Agency's Maximum Contaminant Level (MCL) for As in drinking water and to better understand possible health risks posed by the use of these filters.*

For some time there has been concern over the levels of extractable arsenic and antimony found in activated carbon products. The reason for this concern is that activated carbons are widely used in municipal scale as well as point-of-use/point-of-entry drinking water treatment systems. In 2001, due to better understanding of health risks posed by As exposure, the EPA lowered the MCL for As in drinking water from 50 ppb to 10 ppb and set the maximum contaminant level goal at zero. Compliance with this rule won't be mandated until January 2006, and some public drinking water systems may be granted longer to meet it. Because of the health risks associated with As in drinking water at low concentrations, though, any potential source of As discharge merits study.

In response to concern over the amounts of As and Sb that could potentially be extracted from activated carbon during drinking water treatment, a major processor of GAC for extruded carbon block filter applications, KX Industries, published a multi-year study[1] on the subject. The results suggested there's reason for concern regarding this issue and that levels of extractable As and Sb vary widely depending on the type and brand of activated carbon, even between production lots.

Health risks from arsenic

Arsenic has been linked to many adverse health effects most notably cancer and reproductive problems. Arsenic is an established cause of skin, bladder, and lung cancers and has been associated with cancers of the liver, kidney, prostate and colon.[2] The most sensitive endpoints in terms of risk assessment are lung and bladder cancer.[2] In 2001 the National Research Council published its update to the "1999 Arsenic in Drinking Water Report" in which current knowledge of the health risks posed by As in drinking water were summarized. Table 1 gives results from the council's risk assessment for lung and bladder cancer, believed to represent the best currently available research on the subject. The risk is surprisingly high. For example, there's approximately a one in 1,000 excess lifetime risk (i.e. a predicted 1000 extra cases per million population over a 70 year period) of lung and bladder cancer from exposure to As in drinking water at a concentration of only three parts per billion. Given these widely accepted cancer risks from even very low As concentrations, the new MCL of 10ppb was intended as a compromise between an ideal level of public health protection and the very real technological limitations and economic burdens of further reducing As levels in water. It should be noted, however, that there is a considerable range of cancer risk estimates resulting from the council's review depending on the exact assumptions of the dose-response model.

Arsenic in GAC

The multi-year study published by KX measured extractable arsenic in 39 grades of activated carbon from 19 manufacturers, selected by the manufacturers to contain the lowest possible amounts of extractables. The researchers used the protocol for NSF 42 (Drinking Water Treatment Units-Aesthetic Effects) for extractable As as applied in the late 1990's (it has since been updated, NSF)[3] which calls for a single 72-hour extraction. This older method has been shown to be more rigorous than the current version of the same method, which calls for three 24-hour extractions. Side-by-side comparisons of the two methods indicate that roughly 50 percent lower As concentrations will be obtained by the new standard.[1] Table 2 summarizes the results of the extraction assays for As obtained in the aforementioned study. Eight of the 20 bituminous coal grades and three of the 19 coconut shell grades exceeded the MCL by more than 50 percent, suggesting a likely violation of the MCL under the most current NSF 42 method. In addition to this work they performed long-term testing of individual production lots of two grades of coal-based activated carbon over two years. Over the course of the two years levels of extractable As varied considerably but rarely exceeded 15 ppb. The study demonstrated appreciable quantities of and considerable variation in extractable As from different grades and production

lots of activated carbon. It suggested that in order to accurately monitor the potential health risks, continual testing of production lots would be required.

Methods

To expand on the aforementioned study and to better understand actual health risks posed to consumers, we tested five POU drinking water filtration systems for extractable As based on the updated NSF 42 method. In addition, we also tested two of these filters with the highest results under simulated aging conditions to observe how levels of extractable As change with time.

Four of the five filters selected for this study were undersink types (Models A-D), while the other was a pitcher-type filter (Model E). Exposure water for testing was prepared based on current versions of NSF 42.[3] Filters were flushed according to manufacturer's instructions, which consisted of five to 30 minutes of flushing, or soaking in the case of the pitcher-type filter. Twenty-four hours after flushing, a 50 ml sample was taken from each filter. The cycle of flushing, waiting 24 hours, and collecting a sample was repeated twice. The three samples from each filter were used to create a composite sample. Blanks, to account for As already present in the water, were collected from the exposure water. The As concentration was determined using hydride generation atomic absorption spectroscopy and by subtracting the As concentration of the blanks from the composite samples.

The two filters testing highest for extractable As were filled with extraction water, and after 24 hours a two-liter sample was taken. For the next four days two liters were flushed from each filter at 24-hour intervals. On the fifth day another two-liter sample was taken. This was continued for 20 days until there was a total of five samples. These samples also were analyzed for As using hydride generation atomic absorption spectroscopy.

Results and discussion

The results for the five filters for extractable As based on NSF 42 are summarized in Table 3. While all of the filters discharged at least some As, none of them exceeded the 10 ppb MCL for As in drinking water. Although there was no exceeding of the MCL for As, the results still suggest possibly significant health risks based on the council's cancer risks summarized earlier.

Table 1. Theoretical maximum-likelihood estimates of excess lifetime risk of lung and bladder cancer for U.S. populations exposed at various concentrations of arsenic in drinking water

Arsenic concentration (ppb)	Incidence per 10,000 people					
	Bladder cancer risk		Lung cancer risk		Combined lung and bladder cancer risk	
	Females	Males	Females	Males	Females	Males
3	3.6	6.8	5.4	4.0	9.0	10.8
5	6.0	11	8.9	6.8	14.9	17.8
10	12	23	18	14	30	37
20	24	45	36	27	60	72

SOURCE: National Academy of Sciences, 2001

The two filters testing highest under NSF 42 (Models A and B) were then further tested for extractable As during a simulated aging procedure. The procedure attempted to account for reductions in levels of extractable As as the filters age and to represent potential As exposure over time more realistically than the NSF 42 methodology. The average per capita consumption of tap water for individuals in the United States, as estimated by the EPA, is one liter per day (L/day).[2] Consuming 2 L/day is taken as approximately the 90th percentile and was chosen as the sample size for our health risk calculations. The NSF 42 method calls for samples from the initial bed volume of the filter, while in reality, as demonstrated in Table 3, most undersink filters have bed volumes of less than one liter. This suggests NSF 42 overestimates actual As discharge unless the internal volume is at least one liter. We would also expect water with a relatively shorter contact time with the activated carbon to contain lower levels of extractable As.

Results over time are given in Figure 1. By the end of the testing period both filters had As concentrations below one ppb. If we take these final concentrations to represent As concentrations in drinking water resulting from long-term use of the filters, extrapolating linearly from the dose-response curve implied in Table 1, we find that the excess lifetime lung or bladder cancer risks resulting from the Model A and Model B filters are reduced to approximately 2.5 incidences per 10,000 people for the U.S. population. It should be noted that virtually all other regulated drinking water contaminants are calculated to represent cancer risks lower than 2.5/10,000 at their respective MCL's. It also should be noted that extractable As varies with time and that to more accurately estimate As exposure the level of extractable arsenic would have to be monitored over the entire service life of the filter. The 2.5 per 10,000 combined excess lung and bladder cancer risks probably represent an approximate upper limit of cancer risk resulting from the use of these two filters because it assumes that extractable As does not decrease further after the first 40 liters of simulated aging, and a 2.0 L/day water consumption.

Conclusion

Analysis of the five POU type activated carbon drinking water filters indicated no exceedances of the 10 ppb EPA MCL for As in drinking water by NSF 42. The standard does not account for variability in levels of extractable As in activated carbon from various sources or from various production lots of activated carbon when testing filters. As suggested by a multi-year study analyzing extractable As of 19 manufacturers using GAC,[1] continuous regular testing of production lots of activated carbon would be needed to estimate and account for this variation. Because it doesn't accurately portray drinking habits, As concentrations derived from NSF 42 are probably not as accurate for determining health risks as those developed from simulated aging studies. These results suggest that as filters age, levels of extractable As decline. Further research is needed to determine how levels of extractable As may continue to change over the course of the entire service life. Our preliminary experiments suggest that health risks resulting from As discharge via the filters are at least slightly elevated. The two filters discharging the most As resulted in an estimated excess lifetime lung and bladder cancer risk of about 2.5 cases per 10,000 people, while the three other filters probably re-

Table 2. Summary of activated carbon extractions for best available commercial products[1]

Manufacture/ product (number of samples tested)	Carbon source	Highest observed level of extractable arsenic (ppb)
1A (15)	Bituminous Coal	7.5
1B (5)	Coconut Shell	26*
2A (2)	Bituminous Coal	182*
3A (14)	Bituminous Coal	61*
3B (2)	Bituminous Coal	5
3C (2)	Bituminous Coal	N.D.
4A (1)	Bituminous Coal	5
6A (2)	Bituminous Coal	8
7A (6)	Bituminous Coal	21*
7B (3)	Coconut Shell	N.D.
8A (6)	Bituminous Coal	16*
9A (2)	Bituminous Coal	13
9B (2)	Bituminous Coal	65*
9C (3)	Bituminous Coal	65*
10A (1)	Bituminous Coal	212*
11A (1)	Bituminous Coal	18*
11B (2)	Coconut Shell	N.D.
11C (1)	Coconut Shell	5
11D (2)	Coconut Shell	N.D.
11E (1)	Coconut Shell	N.D.
12A (5)	Bituminous Coal	189*
13A (2)	Bituminous Coal	N.D.
13B (25)	Coconut Shell	13
13C (18)	Coconut Shell	7.4
14A (2)	Bituminous Coal	8
15A (4)	Coconut Shell	N.D.
15B (1)	Coconut Shell	N.D.
15C (2)	Coconut Shell	4
15D (4)	Bituminous Coal	11
15E (1)	Bituminous Coal	N.D.
16A (1)	Coconut Shell	N.D.
16B (1)	Coconut Shell	7
17A (1)	Coconut Shell	N.D.
18A (1)	Coconut Shell	6
18B (1)	Coconut Shell	471*
18C (1)	Coconut Shell	N.D.
18D (1)	Coconut Shell	6
19A (2)	Coconut Shell	73*
20A (1)	Bituminous Coal	N.D.

N.D. = non-detect. Concentrations indicated by (*) exceed the USEPA MCL by more than 50%.

sult in excess risks of less than 1 case per 10,000 people. Still, because of significant quantities of extractable As initially found in most of the filters and the small sample size employed in this experiment, more research should be conducted in this area to better define the health risks that may be posed to the public. This is especially true considering the results of the experiments in the multi-year study.[1] Given that it's now known that even very low As exposure is associated with elevated lung and bladder cancer risks, activated carbon filter manufacturers would be well advised to make sure that the bulk activated carbon they're receiving discharges the minimal possible amounts of As, perhaps by requiring random arsenic extraction tests for each bulk batch of GAC.

References

1. Koslow E., et al. Extractable Arsenic and Antimony in Activated Carbons. Water Conditioning and Purification Magazine 2003; 45

2. National Research Council Subcommittee to Update 1999 Arsenic in Drinking Water Report. National Academy of Sciences. National Academy Press. Washington D.C. 2001.

3. Drinking Water Treatment Units-Aesthetic Effects. National Sanitation Foundation, NSF International. Ann Arbor, Michigan. 2002.

About the authors

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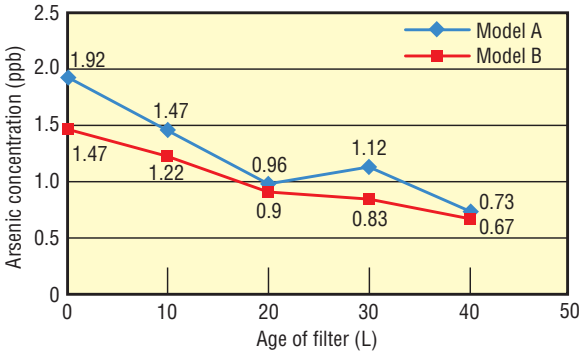
Table 3. Extractable arsenic by NSF 42 and internal volume for selected POU activated carbon filters

Filter	Arsenic concentration (ppb)	Internal volume of filter (L)
Model A	6.34	0.617
Model B	2.62	0.269
Model C	2.20	0.578
Model D	0.24	0.371
Model E	0.08	2.302

Figure 1. Arsenic concentration in two-liter samples during simulated aging of selected activated carbon drinking water filters



PROPOSITION 65 FACT SHEET

By David P. Waite, Esq.

The purpose of this Fact Sheet is to provide general background information about Proposition 65 to businesses operating in California. This Fact Sheet is not intended nor is it useful as a substitute for legal advice.

FACT SHEET: PROPOSITION 65—COMPLIANCE AND DEFENSE

In light of the recent increase in the number of lawsuits brought under California's Proposition 65 ("Prop. 65" or the "Act"), we prepared this summary of the law.

Prop. 65 is among the most comprehensive toxic chemical control statutes in the nation. It prohibits the release by businesses with more than 10 employees of any listed carcinogen or reproductive toxicant into any drinking water source. It also requires that any person exposed to one of the chemicals on the list first receive a warning that the state has determined that the chemical may cause cancer and/or reproductive toxicity.

Enforcement

Prop. 65 provides for aggressive enforcement due largely to the Act's "bounty hunter" provision. That provision allows private persons and organizations to bring actions against alleged violators of the Act on behalf of the "general public," after providing the California Attorney General or local prosecutors with an opportunity to intervene and take control of the enforcement action. If the Attorney General does not take action within 60 days after the notice, the private party may file suit.

Violations of Prop. 65

Failure to comply with Prop. 65's tough mandates can lead to fines of up to $2,500 per day per violation, with "bounty hunters" keeping 25 percent of the amounts received. Plaintiffs are usually entitled to reimbursement of their costs of bringing a Prop. 65 suit, including their attorney fees, which is often the real reason private parties bring these actions. Furthermore, along with a Prop. 65 cause of action, many plaintiffs bring a claim under the California Unfair Practices Act, which prohibits unfair competition. If the Attorney General brings the unfair practices claim, a Prop. 65 defendant can be required to pay additional penalties of up to $2,500 per day. Private Prop. 65 plaintiffs are not entitled to these additional penalties. However, courts may grant injunctive relief and restitutionary damages, directing the defendant, among other things, to disgorge all profits from its sales or activities conducted in violation of Prop. 65. In sum, the financial liability facing a business not complying with the mandates of Prop. 65 can be onerous.

Exemptions

- Businesses with fewer than 10 employees (including part-time workers) are exempt from the Act.
- Releases and exposures below certain statutorily defined levels are also exempt, however, these thresholds are exceptionally difficult to meet.

Compliance with Proposition 65

Any effective compliance strategy must begin with a thorough audit of a business' operations to determine what, if anything, it is doing in violation of Prop. 65.

To avoid exposure to liability, a business should determine if it is releasing any listed chemicals which might find their way into a drinking water source. If it is, the business should desist causing such releases. For those products that the State has provided "safe harbor" language, the use of these warnings should be sufficient. If no safe harbor language is available for a particular exposure, it is extremely important that a business receive expert assistance drafting and implementing an adequate warning.

Although the implementation of this compliance strategy will not necessarily immunize a business for past violations of Prop. 65 it will minimize the accrual of any additional potential liability for non-compliance and may even serve as a useful means of discouraging a court from granting restitutionary damages pursuant to an Unfair Business Practices claim.

Defending Against a Proposition 65 Lawsuit

A business targeted by a "bounty hunter" for a Prop. 65 enforcement action will first receive a 60-Day Notice of Intent to Sue Under Prop. 65, which is intended to give the Attorney General or local prosecutor the opportunity to intervene in the enforcement action. The Act delineates specific requirements for a 60-Day Notice. Notices must be scrutinized carefully for defects because a plaintiff will be required to begin the entire notification process anew if a court holds that the Notice was defective. This could dramatically affect a business' potential liability, especially if the business implemented an effective compliance strategy immediately upon receipt of the first Notice.

After the Notice has been analyzed, the validity of the plaintiff's claims must be examined to determine viable defenses. Where there are no viable defenses, it is critical to negotiate proper settlement terms including gaining protection against suits from others. If there are viable defenses, litigation strategies must be analyzed and litigation goals must be established.

Businesses must be careful as they walk the minefield of California environmental compliance; with effective assistance, businesses can avoid Prop. 65 headaches.

About the author

The Jeffer, Mangels, Butler & Marmaro LLP Environmental Group, which David P. Waite is an attorney with, has substantial expertise handling Prop. 65 matters, whether it be in developing compliance strategies, negotiating settlement agreements or defending suits brought. Although each Prop. 65 situation presents unique challenges, the Environmental Practice Group is able to call upon its substantial experience in this area to meet the unique needs of each of its clients.

Find this article in full at www.screa.com/articles2.htm

Appendix H

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VERINA CONSULTING GROUP, INC.
LO-58 NIKE MISSLE BATTERY
LAUNCH SITE
TN0377

KATAHDIN ANALYTICAL SERVICES
600 TECHNOLOGY WAY
SCARBOROUGH, ME 04074

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SAMPLE DATA PACKAGE

NARRATIVE
KATAHDIN ANALYTICAL SERVICES
VERINA CONSULTING GROUP, LLC
LO-58 NIKE MISSILE BATTERY LAUNCH SITE
TN0377

Sample Receipt

The following samples were received December 19, 2020 and were logged in under Katahdin Analytical Services work order number TN0377 for a hardcopy due date of December 31, 2020.

KATAHDIN Sample No.	VERINA CONSULTING Sample Identification
TN0377-1	DW-01-EFF-WINTER2020
TN0377-2	DW-01-INF-WINTER2020
TN0377-3	DW-01-MID-WINTER2020
TN0377-4	DW-02R-EFF-WINTER2020
TN0377-5	DW-02R-INF-WINTER2020
TN0377-6	DW-FD-WINTER2020
TN0377-7	MW-01-WINTER2020
TN0377-8	MW-02-WINTER2020
TN0377-9	MW-03-WINTER2020
TN0377-10	MW-04-WINTER2020
TN0377-11	MW-05-WINTER2020
TN0377-12	MW-FD-WINTER2020
TN0377-13	GW-EB-WINTER2020
TN0377-14	DW-TB-WINTER2020
TN0377-15	GW-TB-WINTER2020

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 17025:2017 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 # TN0377 were analyzed in accordance with Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MADEP, May 2004, Revision 1.1, and/or 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 "Methods for the Determination of Organic Compounds in Drinking Water", U.S. EPA, Environmental Monitoring and Support Laboratory - Cincinnati (September 1995), and/or Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MADEP, May 2004, Revision 1.1, and/or for the specific methods listed below or on the Report of Analysis

Samples TN0377-2 and 7 were used for the matrix spike (MS) and matrix spike duplicate (MSD) per the clients request.

8260C Analysis

Samples TN0377-9 and 13 had high recoveries for one surrogate that was outside of the DoD QSM acceptance limits. Since a high recovery would indicate a high bias and no target analytes were detected above the LOQ in the samples, no corrective action was taken.

The MSD WG292401-14 was analyzed 6 minutes outside of the 12-hour analytical sequence. The MS and associated LCS were acceptable; therefore, the MSD was not reanalyzed.

Note: The Form VII has a column for %D that is set to 20%. The DoD QSM 5.3 criterion for an opening CV is 20%D and a closing CV is 50%D. All of the compounds in the CV's were evaluated to either 20% criteria for opening CVs or 50% criteria for closing CVs.

The closing calibration verification standard (CV) (file T9680) had acceptable responses but was analyzed 37 minutes outside of the 12 hour window. If a closing CV fails, the DoD QSM allows for the analysis of two additional CVs which do not need to be within the 12 hour window. The two additional CVs (files T9681 and T9682) were acceptable and all three CVs are reported.

The target analytes carbon disulfide and methylene chloride were detected below ½ of the LOQ in the method blank WG292401-10. According to the DoD QSM, a method blank is considered to be contaminated if the concentration of any target analyte in the blank exceeds ½ the reporting limit and is greater than 1/10 the amount measured in any associated sample or 1/10 the regulatory limit (whichever is greater). Since the method blank was acceptable, no further action was taken.

The reported percent recovery acceptance limits for the Laboratory Control Samples (LCSs) are DoD QSM limits. The recoveries of the spiked analytes in the LCS, Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are compared to these acceptance limits. Katahdin standard operating procedure is to take corrective action only if the number of spiked analytes in the LCS that are outside of the QC limits is greater than the DoD QSM allowable number of exceedances. If the associated MS/MSD has greater than the allowable number of exceedances, no corrective action is taken, as long as the LCS is acceptable.

524.2 Analysis

Sample TN0377-2 was manually integrated for the target analyte chloroform. The specific reasons for the manual integrations are indicated on the raw data by the manual integration codes (M1-M11). These codes are further explained in the attachment following this narrative.

The independent check standard (file D2234a) had high concentrations for the target analytes dichlorodifluoromethane, chloromethane, vinyl chloride, chloroethane, acetone, methyl tert-butyl ether and low concentrations for bromomethane and naphthalene which exceeded the DoD QSM acceptance limit of ±20% of the expected value from the ICAL. The Independent Check Report consists of the full list of spiked analytes, but only the client's list of target analytes are evaluated.

Note: The Form VII has a column for %D that is set to 30%. The method criterion for an opening CV is 30%D. The DoD QSM 5.3 criterion for a closing CV is 50%D. All of the compounds in the CV's were evaluated to either 30% criteria for opening CVs or 50% criteria for closing CVs.

The target analyte methylene chloride was detected below ½ of the LOQ in the method blank WG292404-2. According to the DoD QSM, a method blank is considered to be contaminated if the concentration of any target analyte in the blank exceeds ½ the reporting limit and is greater than 1/10 the amount measured in any associated sample or 1/10 the regulatory limit (whichever is greater). Since the method blank was acceptable, no further action was taken.

The reported percent recovery acceptance limits for the Laboratory Control Samples (LCSs) are method limits for the full list of spiked compounds. The recoveries of the spiked analytes in the LCS, Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are compared to these acceptance limits. Katahdin standard operating procedure is to take corrective action only if the number of spiked analytes in the LCS that are outside of the QC limits is greater than the DoD QSM allowable number of exceedances. If the associated MS/MSD has greater than the allowable number of exceedances, no corrective action is taken, as long as the LCS is acceptable.

MA VPH Analysis

Sample TN0377-11 was manually integrated for the C9-C10 aromatic range, C9-C12 aliphatic range, and the surrogate 2,5-dibromotoluene on the PID and/or FID. The specific reasons for the manual integrations are indicated on the raw data by the manual integration codes (M1-M11). These codes are further explained in the attachment following this narrative.

The closing calibration verification standard (CV) (file 2NL10129) had low responses for the target analyte n-decane and the C9-C12 aliphatic range on the FID that resulted in %D's that exceeded the DoD QSM acceptance criteria ±25%.

8270D SIM Analysis

Samples TN0377-3 and the MS WG292336-3, 5 and 6 had low recoveries for one surrogate, which were outside the laboratory established acceptance limits. The client was notified and informed the laboratory to proceed with narration.

Sample TN0377-5 was manually integrated for the target analyte chrysene. The specific reason for the manual integration is indicated on the raw data by the manual integration codes (M1-M11). These codes are further explained in the attachment following this narrative.

The initial calibration analyzed on the N instrument on 01/06/2021 had %RSD values for a few analytes that exceeded the method acceptance limit of 15%. For these analytes, either a linear or quadratic model was used for quantitation instead of an average response factor. The target analyte indeno(1,2,3-cd)pyrene failed for both the linear and quadratic models in the initial calibration curve due to the correlation coefficient and the coefficient of determination being less than the method acceptance criteria of 0.995 and 0.990 respectively. This compound was calibrated using the average model. The corresponding independent check standard (file N1245) had a low concentration for the target analyte acenaphthylene, which exceeded the DoD QSM acceptance limit of ±20% of the expected value from the ICAL. The Independent Check Report consists of the full list of spiked analytes, but only the client's list of target analytes are evaluated.

The initial calibration analyzed on the N instrument on 01/11/2021 had %RSD values for a few analytes that exceeded the method acceptance limit of 15%. For these analytes, either a linear or quadratic model was used for quantitation instead of an average response factor. The target analyte indeno(1,2,3-cd)pyrene failed for both the linear and quadratic models in the initial calibration curve due to the correlation coefficient and the coefficient of determination being less than the method acceptance criteria of 0.995 and 0.990 respectively. This compound was calibrated using the average model. The corresponding independent check standard (file N1317) had a low concentration for the target analyte acenaphthylene, which exceeded the DoD QSM acceptance limit of ±20% of the expected value from the ICAL.

The independent check standard (file N1375) associated with the initial calibration analyzed on 1/13/2021 had a low concentration for the target analyte acenaphthylene, which exceeded the DoD QSM acceptance limit of ±20% of the expected value from the ICAL.

The CV (file N1284) had high responses for the target analytes 2-methylnaphthalene and 1-methyl-naphtalene that resulted in %D's that were greater than the DoD QSM acceptance limit of 20%.

Note: The Form VII has a column for %D that is set to 20%. The DoD QSM 5.0 criterion for an opening CV is 20%D and a closing CV is 50%D. All of the compounds in the CV's were evaluated to either 20% criteria for opening CVs or 50% criteria for closing CVs.

The closing CV (file N1389) had acceptable responses but was analyzed 31 minutes outside of the 12 hour window. If a closing CV fails, the DoD QSM allows for the analysis of two additional CVs which do not need to be within the 12 hour window. The two additional CV's (files N1390 and N1391) were acceptable and all three CVs are reported.

There were no other protocol deviations or observations noted by the organics laboratory staff.

Metals Analysis

The samples associated with Katahdin Work Order TN0377 were prepared and analyzed for metals in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA publication SW846, 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.

Inductively-Coupled Plasma Mass Spectrometric Analysis (ICP-MS)

Aqueous-matrix Katahdin Sample Numbers TN0377-(1-13) were digested for ICP-MS analysis on 12/22/20 (QC Batch NL22IMW3) in accordance with USEPA Method 3010A. Per client request Katahdin Sample Numbers TN0377-(2, 7) were prepared with duplicate matrix spiked aliquots.

ICP-MS analyses of Katahdin Work Order TN0377 sample digestates were performed using an Agilent 7800 ICP-MS spectrometer in accordance with USEPA Method 6020A. Results for all standards and samples are reported using the mean of 3 replicate measurements. All sample digestates were diluted by a factor of 5 during analysis to reduce mass interferences from chlorine, which is present in the digestates from the hydrochloric acid used in digesting the samples. All samples were analyzed within holding times and all analytical run QC criteria were met.

Internal standard recoveries for ICP-MS analyses can be found in the raw data section of the accompanying data package. The following table indicates which analytes are associated with each internal standard element.

Internal Standard Element	**Associated Analytes**
Lithium	Beryllium, Boron
Scandium	Sodium, Magnesium, Aluminum, Potassium, Calcium
Germanium or Yttrium	Vanadium, Chromium, Manganese, Iron, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Silver, Cadmium, Strontium, Molybdenum
Terbium	Antimony, Barium, Tin, Tungsten
Bismuth	Lead, Thallium, Thorium, Uranium

Instrument tuning information can also be found in the raw data section in the reports labeled "USEPA Method Tune Report". For Method 6020A, the relative standard deviation was determined from 5 replicate measurements and the peak width was measured at 10% of the peak height.

Analysis of Mercury by Cold Vapor Atomic Absorption (CVAA)

Aqueous-matrix Katahdin Sample Numbers TN0377-(1-13) were digested for mercury analysis on 12/28/20 (QC Batch NL28HGW1) in accordance with USEPA Method 7470A. Per client request Katahdin Sample Numbers TN0377-(2, 7) were prepared with duplicate matrix spiked aliquots.
Mercury analyses of the Katahdin Work Order TN0377 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.

Matrix QC Summary

The measured recoveries in both matrix-spiked aliquots of Katahdin Sample Number TN0377-2 are within the laboratory acceptance criteria for all analytes.

The measured recoveries in one of the matrix-spiked aliquots of Katahdin Sample Number TN0377-7 are outside the laboratory acceptance criteria for calcium. This could be attributable to the concentration in the sample being significantly higher than the spike added. Because the laboratory control sample was acceptable, no corrective action was taken

The relative percent difference between the duplicate matrix-spike analyses of Katahdin Sample Numbers TN0377-(2,7) are within project acceptance criteria (<20% relative difference between duplicate sample aliquots) for all analytes.

The measured recovery of mercury in the post-digestion spiked aliquot of Katahdin Sample Numbers TN0377-(2,7) is outside project acceptance criteria (80%-120% recovery of the added element). The measured recovery of calcium in the post-digestion spiked aliquot of Katahdin Sample Number TN0377-7 is outside project acceptance criteria (80%-120% recovery of the added element). For calcium, this may be attributable to the concentration in the samples being significantly higher than the spike added. Because the serial dilution was acceptable, no corrective action was taken.

The serial dilution analysis of Katahdin Sample Numbers TN0377-(2,7) are within project acceptance criteria (<10% relative percent difference, if the concentration in the original sample is greater than 50 times the LOD) for all analytes.
Reporting of Metals Results

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 adjusted LOD 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.

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
02.01.21

Leslie Dimond
Quality Assurance Officer

Katahdin Analytical Services, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin Analytical Services, LLC. **Sample Receipt Condition Report**

Client:	Nobis	KAS PM:	TTM	Sampled By:	Client
Project:		KIMS Entry By:	JCB	Delivered By:	Client
KAS Work Order#:	TN0377	KIMS Review By:	TTM	Received By:	JCB
		Labeled By:	HM		
SDG #:	Cooler: 1 of 4			Date/Time Rec.:	12/19/20 1210

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): 0.7 — 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?	✓				
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.

Katahdin Analytical Services, LLC. **Sample Receipt Condition Report**

Client:	Nobis	KAS PM:	TTM	Sampled By:	Client
Project:		KIMS Entry By:	JCB	Delivered By:	Client
KAS Work Order#:	TN0377	KIMS Review By:	TTM	Received By:	JCB
		Labeled By:	DM		
SDG #:	Cooler: 2 of 4			Date/Time Rec.:	12/19/20 1210

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): 1.4 — 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?	✓				
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.

Katahdin Analytical Services, LLC. **Sample Receipt Condition Report**

Client:	Nobis	KAS PM:	MM	Sampled By:	Client
Project:		KIMS Entry By:	JCB	Delivered By:	Client
KAS Work Order#:	TN0377	KIMS Review By:	MM	Received By:	JCB
		Labeled By:	LM		
SDG #:	Cooler: 3 of 4			Date/Time Rec.:	12/19/20 1210

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): 0.2 — 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?	✓				
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.

Katahdin Analytical Services, LLC. **Sample Receipt Condition Report**

Client:	Nobis	KAS PM:	HMM	Sampled By:	Client
Project:		KIMS Entry By:	JCB	Delivered By:	Client
KAS Work Order#:	TN0377	KIMS Review By:	HMM	Received By:	JLB
		Labeled By:	GM		
SDG #:	Cooler: 4 of 4			Date/Time Rec.:	12/19/20 1210

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): 2.0 — 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?	✓				
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.

CHAIN-OF-CUSTODY RECORD

TN0377

Verina Consulting Group, LLC, Bridgewater, NJ
Robert Gan
1011 US-22, Bridgewater Township, NJ 08807
(908) 864-4400, RGan@vcg-llc.com

COC # 12142020

Project Name: D01ME0077-02, Nike 58 - SI in Launch Area	Laboratory: Katahdin Analytical Services, Scarborough, ME	Event: Nike 58 Winter Groundwater 2020 Sampling
Project Number: D01ME0077-02	POC: Please insert point of contact, insert laboratory phone number, insert email	
WBS Code:	Ship to:	

Comments:
BNASIM (A) = PAH 8270 SIM
E524.2 (A) = VOCs DW
MADEPVP (A) = MADEP VPH
SW6020A (A) = 13 PP Metals
SW7470A (A) = Mercury Water
SW8260C (A) = VOCs GW

Equipment:

Code	Matrix
WG	Ground Water
WP	Drinking Water

Code	Container/Preservative
1	3x 40 mL Vials with PTFE lined Septum Caps, HCL to pH < 2, Cool to 4degC ± 2 degC
6	2x 1 L Amber glass bottle with Teflon lined cap, Cool to 0deg to 6 degC, protected from light, in sealed vials with PTFE-lined septa
12	2x 40-mL vials w/Teflon lined septa screw caps, Add 3 to 4 drops of 1:1 HCL to pH < 2, Cool to 4degC ± 2 degC
13	1x 250 mL PTFE, plastic, HNO3 to pH < 2
13	1x Plastic or Glass, Aqueous samples must be acidified to a pH < 2 with HNO3
31	3x 40 mL Vials with PTFE lined Septum Caps, HCL to pH < 2, Cool to 4degC ± 2 degC

	Sample ID	Matrix	Date	Time	Samp Init.	BNASIM (A)	E524.2 (A)	MADEPVP (A)	SW6020A (A)	SW7470A (A)	SW8260C (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
	Event: Nike 58 Winter Groundwater 2020 Sampling					6	31	12	13	13	1						
1	DW-01-EFF-WINTER2020	WP	12/18/20	1700	RW	X	X	X	X	X		DW-01-EFF	N1	0.00	0.00	1	
2	DW-01-INF-WINTER2020	WP	12/18/20	1740	RW	X	X	X	X	X		DW-01-INF	N1	0.00	0.00	1	
3	DW-01-INF-WINTER2020-MS	WP	12/18/20	1740	RW	X	X	X	X	X		DW-01-INF	MS1	0.00	0.00	1	
4	DW-01-INF-WINTER2020-MSD	WP	12/18/20	1740	RW	X	X	X	X	X		DW-01-INF	SD1	0.00	0.00	1	
5	DW-01-MID-WINTER2020	WP	12/18/20	1720	RW	X	X	X	X	X		DW-01-MID	N1	0.00	0.00	1	
6	DW-02R-EFF-WINTER2020	WP	12/16/20	1300	KG	X	X	X	X	X		DW-02R-EFF	N1	0.00	0.00	1	
7	DW-02R-INF-WINTER2020	WP	12/16/20	1310	RW	X	X	X	X	X		DW-02R-INF	N1	0.00	0.00	1	
8	~~DW-03-TAP-WINTER2020~~	~~WP~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~DW-03-TAP~~	~~N1~~	~~0.00~~	~~0.00~~	~~1~~	NOT COLLECTED
9	~~DW-04-TAP-WINTER2020~~	~~WP~~				~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~DW-04-TAP~~	~~N1~~	~~0.00~~	~~0.00~~	~~1~~	NOT COLLECTED

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	12/19/20	1210	[signature]	12/19/20	1210

Shipping Date / Carrier / Airbill Number
Shipping Date:

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

Verina Consulting Group, LLC, Bridgewater, NJ
Robert Gan
1011 US-22, Bridgewater Township, NJ 08807
(908) 864-4400, RGan@vcg-llc.com

COC # 12142020

Project Name: D01ME0077-02, Nike 58 - SI in Launch Area	Laboratory: Katahdin Analytical Services, Scarborough, ME	Event: Nike 58 Winter Groundwater 2020 Sampling
Project Number: D01ME0077-02	POC: Please insert point of contact, insert laboratory phone number, insert email	
WBS Code:	Ship to:	

Comments:
BNASIM (A) = PAH 8270 SIM
E524.2 (A) = VOCs DW
MADEPVP (A) = MADEP VPH
SW6020A (A) = 13 PP Metals
SW7470A (A) = Mercury Water
SW8260C (A) = VOCs GW

Equipment:

Code	Matrix
WG	Ground Water
WP	Drinking Water

Code	Container/Preservative
1	3x 40 mL Vials with PTFE lined Septum Caps, HCL to pH < 2, Cool to 4degC ± 2 degC
6	2x 1 L Amber glass bottle with Teflon lined cap, Cool to 0deg to 6 degC, protected from light, in sealed vials with PTFE-lined septa
12	2x 40-mL vials w/Teflon lined septa screw caps, Add 3 to 4 drops of 1:1 HCL to pH < 2, Cool to 4degC ± 2 degC
13	1x 250 mL PTFE, plastic, HNO3 to pH < 2
13	1x Plastic or Glass, Aqueous samples must be acidified to a pH < 2 with HNO3
31	3x 40 mL Vials with PTFE lined Septum Caps, HCL to pH < 2, Cool to 4degC ± 2 degC

	Sample ID	Matrix	Date	Time	Samp Init.	BNASIM (A)	E524.2 (A)	MADEPVP (A)	SW6020A (A)	SW7470A (A)	SW8260C (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
	Event: Nike 58 Winter Groundwater 2020 Sampling					6	31	12	13	13	1						
10	DW-FD-WINTER2020	WP	12/16/20	13:20	RW	X	X	X	X	X		FIELD DUP	FD1	0.00	0.00	1	
11	MW-01-WINTER2020	WG	12/14/20	17:20	RW	X		X	X	X	X	MW-01	N1	131.00	141.00	1	
12	MW-01-WINTER2020-MS	WG	12/14/20	17:20	RW	X		X	X	X	X	MW-01	MS1	131.00	141.00	1	
13	MW-01-WINTER2020-MSD	WG	12/14/20	17:20	RW	X		X	X	X	X	MW-01	SD1	131.00	141.00	1	
14	MW-02-WINTER2020	WG	12/15/20	10:20	RW	X		X	X	X	X	MW-02	N1	50.00	60.00	1	
15	MW-03-WINTER2020	WG	12/15/20	14:10	KG	X		X	X	X	X	MW-03	N1	36.00	46.00	1	
16	MW-04-WINTER2020	WG	12/15/20	12:20	RW	X		X	X	X	X	MW-04	N1	70.00	80.00	1	
17	MW-05-WINTER2020	WG	12/15/20	16:35	RW	X		X	X	X	X	MW-05	N1	70.00	80.00	1	
18	MW-FD-WINTER2020	WG	12/15/20	10:40	RW	X		X	X	X	X	FIELD DUP	FD1	50.00	60.00	1	
19	GW-EB-WINTER2020	EB	12/15/20	17:00	RW	X		X	X	X	X	EQUIP. BLANK					

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	12/19/20	1210	[signature]	12/19/20	1210

Shipping Date / Carrier / Airbill Number
Shipping Date:

Received by Laboratory: *(Signature, Date, Time)* **& condition**

CHAIN-OF-CUSTODY RECORD

Verina Consulting Group, LLC, Bridgewater, NJ
Robert Gan
1011 US-22, Bridgewater Township, NJ 08807
(908) 864-4400, RGan@vcg-llc.com

COC # 12142020

Project Name: D01ME0077-02, Nike 58 - SI in Launch Area	Laboratory: Katahdin Analytical Services, Scarborough, ME	Event: Nike 58 Winter Groundwater 2020 Sampling
Project Number: D01ME0077-02	POC: Please insert point of contact, insert laboratory phone number, insert email	
WBS Code:	Ship to:	

Comments:
BNASIM (A) = PAH 8270 SIM
E524.2 (A) = VOCs DW
MADEPVP (A) = MADEP VPH
SW6020A (A) = 13 PP Metals
SW7470A (A) = Mercury Water
SW8260C (A) = VOCs GW

Equipment:

Code	Matrix
WG	Ground Water
WP	Drinking Water

Code	Container/Preservative
1	3x 40 mL Vials with PTFE lined Septum Caps, HCL to pH < 2, Cool to 4degC ± 2 degC
6	2x 1 L Amber glass bottle with Teflon lined cap, Cool to 0deg to 6 degC, protected from light, in sealed vials with PTFE-lined septa
12	2x 40-mL vials w/Teflon lined septa screw caps, Add 3 to 4 drops of 1:1 HCL to pH < 2, Cool to 4degC ± 2 degC
13	1x 250 mL PTFE, plastic, HNO3 to pH < 2
13	1x Plastic or Glass, Aqueous samples must be acidified to a pH < 2 with HNO3
31	3x 40 mL Vials with PTFE lined Septum Caps, HCL to pH < 2, Cool to 4degC ± 2 degC

	Sample ID	Matrix	Date	Time	Samp Init.	BNASIM (A)	E524.2 (A)	MADEPVP (A)	SW6020A (A)	SW7470A (A)	SW8260C (A)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
	Event: Nike 58 Winter Groundwater 2020 Sampling					6	31	12	13	13	1						
20	DW-TB-WINTER2020	TB	12/18/20	1800	RW		X	X				DW TRIP BLANK					
21	GW-TB-WINTER2020	TB	12/18/20	1810	RW			X			X	GW TRIP BLANK					
22																	

Turnaround Time: 15 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[signature]	12/19/20	1210	[signature]	12/19/20	1210

Shipping Date / Carrier / Airbill Number
Shipping Date:

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Dec. 21, 2020
04:15 PM

Login Number: TN0377

Account: VERINA001 NoWeb
Verina Consulting Group, LLC

Project: VERINA-LO58-NIKE
LO-58 Nike Battery Launch Site, Caribou,

Primary Report Address:
Michael Hansen
Verina Consulting
1011 US Highway 22
Suite 302
Bridgewater,NJ 08807
mhansen@vcg-llc.com

Primary Invoice Address:
Michael Hansen
Verina Consulting
1011 US Highway 22
Suite 302
Bridgewater,NJ 08807

Report CC Addresses:
Invoice CC Addresses:

Quote/Incoming: VERINA-LO58-NIKE

Login Information:

ANALYSIS INSTRUCTIONS	:	DOD 5.3, ND to LOD w/ J flags. 8260C, 8270D. VPH report ranges & targets.
CHECK NO.	:	
CLIENT PO#	:	2102.0104-Katahdin-04272020
CLIENT PROJECT MANAGEI	:	Robert Gan
CONTRACT	:	W912WJ19C0019
COOLER TEMPERATURE	:	0.7, 1.4, 0.2, 2.0
DELIVERY SERVICES	:	Client
EDD FORMAT	:	FUDSCHEM
LOGIN INITIALS	:	JCB
PM	:	HHM
PROJECT NAME	:	LO-58 Nike Missile Battery Launch Site
QC LEVEL	:	IV
REPORT INSTRUCTIONS	:	Email PDF, EDD, & invoice to mhansen@vcg-llc.com. Invoice monthly.
SDG ID	:	
SDG STATUS	:	
VERBAL TAT	:	

HHM

4:24 pm, Dec 21, 2020

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Dec. 21, 2020
04:15 PM

Login Number: TN0377

Quote/Incoming: VERINA-LO58-NIKE

Account: VERINA001 NoWeb
Verina Consulting Group, LLC

Project: VERINA-LO58-NIKE
LO-58 Nike Battery Launch Site, Caribou,

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TN0377-1	DW-01-EFF-WINTER2020	18-DEC-20 17:00	19-DEC-20			31-DEC-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E524.2-S	01-JAN-21	40mL Vial+HCl		
Aqueous	S	MA-VPH-LOD	01-JAN-21	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	15-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8270SIMPAH-S	25-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

TN0377-2	DW-01-INF-WINTER2020	18-DEC-20 17:40	19-DEC-20			31-DEC-20

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E524.2-S	01-JAN-21	40mL Vial+HCl		**MS/MSD**
Aqueous	S	MA-VPH-LOD	01-JAN-21	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	15-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8270SIMPAH-S	25-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

4:24 pm, Dec 21, 2020

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Dec. 21, 2020
04:15 PM

Login Number: TN0377

Quote/Incoming: VERINA-LO58-NIKE

Account: VERINA001 NoWeb
Verina Consulting Group, LLC

Project: VERINA-LO58-NIKE
LO-58 Nike Battery Launch Site, Caribou,

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TN0377-3	DW-01-MID-WINTER2020	18-DEC-20 17:20	19-DEC-20			31-DEC-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E524.2-S	01-JAN-21	40mL Vial+HCl		
Aqueous	S	MA-VPH-LOD	01-JAN-21	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	16-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	15-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8270SIMPAH-S	25-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

TN0377-4	DW-02R-EFF-WINTER2020	16-DEC-20 13:00	19-DEC-20			31-DEC-20

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E524.2-S	30-DEC-20	40mL Vial+HCl		
Aqueous	S	MA-VPH-LOD	30-DEC-20	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	13-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8270SIMPAH-S	23-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

4:24 pm, Dec 21, 2020

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Dec. 21, 2020
04:15 PM

Login Number: TN0377

Quote/Incoming: VERINA-LO58-NIKE

Account: VERINA001 NoWeb
Verina Consulting Group, LLC

Project: VERINA-LO58-NIKE
LO-58 Nike Battery Launch Site, Caribou,

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TN0377-5	DW-02R-INF-WINTER2020	16-DEC-20 13:10	19-DEC-20			31-DEC-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E524.2-S	30-DEC-20	40mL Vial+HCl		
Aqueous	S	MA-VPH-LOD	30-DEC-20	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	13-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8270SIMPAH-S	23-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

TN0377-6	DW-FD-WINTER2020	16-DEC-20 13:20	19-DEC-20			31-DEC-20

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E524.2-S	30-DEC-20	40mL Vial+HCl		
Aqueous	S	MA-VPH-LOD	30-DEC-20	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	14-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	13-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8270SIMPAH-S	23-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

4:24 pm, Dec 21, 2020

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Dec. 21, 2020
04:15 PM

Login Number: TN0377

Quote/Incoming: VERINA-LO58-NIKE

Account: VERINA001 NoWeb
Verina Consulting Group, LLC

Project: VERINA-LO58-NIKE
LO-58 Nike Battery Launch Site, Caribou,

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TN0377-7	MW-01-WINTER2020	14-DEC-20 17:20	19-DEC-20			31-DEC-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	MA-VPH-LOD	28-DEC-20	40mL Vial+HCl		**MS/MSD**
Aqueous	S	SW3010MS-PREP	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	12-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	11-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8260-S	28-DEC-20	40mL Vial+HCl		
Aqueous	S	SW8270SIMPAH-S	21-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

TN0377-8	MW-02-WINTER2020	15-DEC-20 10:20	19-DEC-20			31-DEC-20

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	MA-VPH-LOD	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	12-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8260-S	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW8270SIMPAH-S	22-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

4:24 pm, Dec 21, 2020

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Dec. 21, 2020
04:15 PM

Login Number: TN0377

Quote/Incoming: VERINA-LO58-NIKE

Account: VERINA001 NoWeb
Verina Consulting Group, LLC

Project: VERINA-LO58-NIKE
LO-58 Nike Battery Launch Site, Caribou,

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TN0377-9	MW-03-WINTER2020	15-DEC-20 14:10	19-DEC-20			31-DEC-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	MA-VPH-LOD	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	12-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8260-S	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW8270SIMPAH-S	22-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

TN0377-10	MW-04-WINTER2020	15-DEC-20 12:20	19-DEC-20			31-DEC-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	MA-VPH-LOD	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	12-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8260-S	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW8270SIMPAH-S	22-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

4:24 pm, Dec 21, 2020

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Dec. 21, 2020
04:15 PM

Login Number: TN0377

Quote/Incoming: VERINA-LO58-NIKE

Account: VERINA001 NoWeb
Verina Consulting Group, LLC

Project: VERINA-LO58-NIKE
LO-58 Nike Battery Launch Site, Caribou,

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TN0377-11	MW-05-WINTER2020	15-DEC-20 16:35	19-DEC-20			31-DEC-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	MA-VPH-LOD	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	12-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8260-S	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW8270SIMPAH-S	22-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

TN0377-12	MW-FD-WINTER2020	15-DEC-20 10:40	19-DEC-20			31-DEC-20

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	MA-VPH-LOD	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	12-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8260-S	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW8270SIMPAH-S	22-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

4:24 pm, Dec 21, 2020

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Dec. 21, 2020
04:15 PM

Login Number: TN0377

Quote/Incoming: VERINA-LO58-NIKE

Account: VERINA001 NoWeb
Verina Consulting Group, LLC

Project: VERINA-LO58-NIKE
LO-58 Nike Battery Launch Site, Caribou,

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
TN0377-13	GW-EB-WINTER2020	15-DEC-20 17:00	19-DEC-20			31-DEC-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	MA-VPH-LOD	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW3010MS-PREP	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ANTIMONY	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ARSENIC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-BERYLLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CADMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CALCIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-CHROMIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-COPPER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-LEAD	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-MANGANESE	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-NICKEL	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SELENIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-SILVER	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-THALLIUM	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW6020-ZINC	13-JUN-21	250mL Plastic+HNO3		
Aqueous	S	SW7470-MERCURY	12-JAN-21	500mL Plastic+HNO3		
Aqueous	S	SW8260-S	29-DEC-20	40mL Vial+HCl		
Aqueous	S	SW8270SIMPAH-S	22-DEC-20	1L N-Amber Glass		
Service	S	WASTE-DISPOSAL				

TN0377-14	DW-TB-WINTER2020	18-DEC-20 18:00	19-DEC-20			31-DEC-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	E524.2-S	01-JAN-21	40mL Vial+HCl		
Aqueous	S	MA-VPH-LOD	01-JAN-21	40mL Vial+HCl		
Service	S	WASTE-DISPOSAL				

TN0377-15	GW-TB-WINTER2020	18-DEC-20 18:10	19-DEC-20			31-DEC-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	MA-VPH-LOD	01-JAN-21	40mL Vial+HCl		
Aqueous	S	SW8260-S	01-JAN-21	40mL Vial+HCl		
Service	S	WASTE-DISPOSAL				

Total Samples: 15 ***Total Analyses: 266***

4:24 pm, Dec 21, 2020

SAMPLE DATA SUMMARY PACKAGE

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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), 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/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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), 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).

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was not detected above the specified level. This level may be the Limit of Quantitation (LOQ) (previously called Practical Quantitation Level (PQL)), 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/LOQ or “U” LOD, where the rate of false negatives is <1%.
J	The analyte was detected in the sample at a concentration less than the laboratory Limit of Quantitation (LOQ) (previously called Practical Quantitation Limit (PQL)), but above the Method Detection Limit (MDL).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-1
Client ID: DW-01-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2239.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	0.72	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-1
Client ID: DW-01-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2239.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		86.1	%					
1,2-Dichlorobenzene-D4		87.7	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2244.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	ULMM	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	ULMM	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	ULMM	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	UMM	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	UMM	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		3.4	ug/L	1	2.5	2.5	0.62	1.2
Acetone	UMM	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	J	0.48	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	J	0.049	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene		2.4	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2244.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	UM	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		84.8	%					
1,2-Dichlorobenzene-D4		85.1	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-3
Client ID: DW-01-MID-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2240.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	2.4	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-3
Client ID: DW-01-MID-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2240.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		85.4	%					
1,2-Dichlorobenzene-D4		86.3	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-4
Client ID: DW-02R-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2241.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		4.2	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-4
Client ID: DW-02R-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2241.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		85.4	%					
1,2-Dichlorobenzene-D4		85.9	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-5
Client ID: DW-02R-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2242.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		2.5	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-5
Client ID: DW-02R-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2242.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		85.0	%					
1,2-Dichlorobenzene-D4		86.1	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-6
Client ID: DW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2243.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		7.8	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-6
Client ID: DW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2243.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		84.0	%					
1,2-Dichlorobenzene-D4		84.6	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-14
Client ID: DW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2237.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		3.6	ug/L	1	2.5	2.5	0.62	1.2
Acetone	J	2.4	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-14
Client ID: DW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2237.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		86.5	%					
1,2-Dichlorobenzene-D4		88.4	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-7
Client ID: MW-01-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: T9677.D

Sample Date: 14-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	UM	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	UM	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	2.2	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-7
Client ID: MW-01-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: T9677.D

Sample Date: 14-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		102.	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		104.	%					
Dibromofluoromethane		102.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-8
Client ID: MW-02-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8378.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		9.3	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-8
Client ID: MW-02-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8378.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		91.3	%					
Toluene-d8		99.6	%					
1,2-Dichloroethane-d4		114.	%					
Dibromofluoromethane		109.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-9
Client ID: MW-03-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8379.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	1.6	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-9
Client ID: MW-03-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8379.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		93.5	%					
Toluene-d8		102.	%					
1,2-Dichloroethane-d4	*	119.	%					
Dibromofluoromethane		112.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-10
Client ID: MW-04-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8392.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		17	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-10
Client ID: MW-04-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8392.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		92.8	%					
Toluene-d8		99.6	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		106.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-11
Client ID: MW-05-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8393.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		5.8	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-11
Client ID: MW-05-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8393.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		98.6	%					
Toluene-d8		98.2	%					
1,2-Dichloroethane-d4		115.	%					
Dibromofluoromethane		106.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-12
Client ID: MW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8394.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		9.4	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-12
Client ID: MW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8394.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		89.9	%					
Toluene-d8		99.2	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		105.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-13
Client ID: GW-EB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8367.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	2.8	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-13
Client ID: GW-EB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8367.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		92.4	%					
Toluene-d8		98.9	%					
1,2-Dichloroethane-d4	*	122.	%					
Dibromofluoromethane		113.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-15
Client ID: GW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: T9673.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		90	ug/L	1	5	5.0	1.1	2.5
Acetone		55	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-15
Client ID: GW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: T9673.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		99.5	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		103.	%					
Dibromofluoromethane		103.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-1
Client ID: DW-01-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1287.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.093	ug/L	1	.2	0.19	0.060	0.093
2-Methylnaphthalene	U	0.093	ug/L	1	.2	0.19	0.072	0.093
1-Methylnaphthalene	U	0.093	ug/L	1	.2	0.19	0.064	0.093
Acenaphthylene	U	0.093	ug/L	1	.2	0.19	0.050	0.093
Acenaphthene	U	0.093	ug/L	1	.2	0.19	0.060	0.093
Fluorene	U	0.093	ug/L	1	.2	0.19	0.057	0.093
Phenanthrene	U	0.093	ug/L	1	.2	0.19	0.048	0.093
Anthracene	U	0.093	ug/L	1	.2	0.19	0.041	0.093
Fluoranthene	U	0.093	ug/L	1	.2	0.19	0.068	0.093
Pyrene	U	0.093	ug/L	1	.2	0.19	0.055	0.093
Benzo(a)anthracene	U	0.093	ug/L	1	.2	0.19	0.043	0.093
Chrysene	U	0.093	ug/L	1	.2	0.19	0.034	0.093
Benzo(b)Fluoranthene	U	0.093	ug/L	1	.2	0.19	0.083	0.093
Benzo(k)fluoranthene	U	0.093	ug/L	1	.2	0.19	0.046	0.093
Benzo(a)pyrene	U	0.093	ug/L	1	.2	0.19	0.062	0.093
Indeno(1,2,3-cd)pyrene	U	0.093	ug/L	1	.2	0.19	0.048	0.093
Dibenzo(a,h)anthracene	U	0.093	ug/L	1	.2	0.19	0.065	0.093
Benzo(g,h,i)perylene	U	0.093	ug/L	1	.2	0.19	0.061	0.093
2-Methylnaphthalene-D10		85.6	%					
Fluorene-D10		76.7	%					
Pyrene-D10		65.2	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1288.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.095	ug/L	1	.2	0.19	0.061	0.095
2-Methylnaphthalene	U	0.095	ug/L	1	.2	0.19	0.073	0.095
1-Methylnaphthalene	U	0.095	ug/L	1	.2	0.19	0.065	0.095
Acenaphthylene	U	0.095	ug/L	1	.2	0.19	0.051	0.095
Acenaphthene	U	0.095	ug/L	1	.2	0.19	0.061	0.095
Fluorene	U	0.095	ug/L	1	.2	0.19	0.058	0.095
Phenanthrene	U	0.095	ug/L	1	.2	0.19	0.048	0.095
Anthracene	U	0.095	ug/L	1	.2	0.19	0.042	0.095
Fluoranthene	U	0.095	ug/L	1	.2	0.19	0.070	0.095
Pyrene	U	0.095	ug/L	1	.2	0.19	0.056	0.095
Benzo(a)anthracene	U	0.095	ug/L	1	.2	0.19	0.044	0.095
Chrysene	U	0.095	ug/L	1	.2	0.19	0.034	0.095
Benzo(b)Fluoranthene	U	0.095	ug/L	1	.2	0.19	0.085	0.095
Benzo(k)fluoranthene	U	0.095	ug/L	1	.2	0.19	0.047	0.095
Benzo(a)pyrene	U	0.095	ug/L	1	.2	0.19	0.063	0.095
Indeno(1,2,3-cd)pyrene	U	0.095	ug/L	1	.2	0.19	0.050	0.095
Dibenzo(a,h)anthracene	U	0.095	ug/L	1	.2	0.19	0.067	0.095
Benzo(g,h,i)perylene	U	0.095	ug/L	1	.2	0.19	0.062	0.095
2-Methylnaphthalene-D10		70.5	%					
Fluorene-D10		57.4	%					
Pyrene-D10		89.9	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-3
Client ID: DW-01-MID-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1291.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.10	ug/L	1	.2	0.21	0.067	0.10
2-Methylnaphthalene	U	0.10	ug/L	1	.2	0.21	0.081	0.10
1-Methylnaphthalene	U	0.10	ug/L	1	.2	0.21	0.072	0.10
Acenaphthylene	U	0.10	ug/L	1	.2	0.21	0.057	0.10
Acenaphthene	U	0.10	ug/L	1	.2	0.21	0.067	0.10
Fluorene	U	0.10	ug/L	1	.2	0.21	0.064	0.10
Phenanthrene	U	0.10	ug/L	1	.2	0.21	0.054	0.10
Anthracene	U	0.10	ug/L	1	.2	0.21	0.046	0.10
Fluoranthene	U	0.10	ug/L	1	.2	0.21	0.077	0.10
Pyrene	U	0.10	ug/L	1	.2	0.21	0.062	0.10
Benzo(a)anthracene	U	0.10	ug/L	1	.2	0.21	0.048	0.10
Chrysene	U	0.10	ug/L	1	.2	0.21	0.038	0.10
Benzo(b)Fluoranthene	U	0.10	ug/L	1	.2	0.21	0.094	0.10
Benzo(k)fluoranthene	U	0.10	ug/L	1	.2	0.21	0.052	0.10
Benzo(a)pyrene	U	0.10	ug/L	1	.2	0.21	0.069	0.10
Indeno(1,2,3-cd)pyrene	U	0.10	ug/L	1	.2	0.21	0.055	0.10
Dibenzo(a,h)anthracene	U	0.10	ug/L	1	.2	0.21	0.074	0.10
Benzo(g,h,i)perylene	U	0.10	ug/L	1	.2	0.21	0.068	0.10
2-Methylnaphthalene-D10	*	100.	%					
Fluorene-D10		88.4	%					
Pyrene-D10		109.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-4
Client ID: DW-02R-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1292.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.094	ug/L	1	.2	0.19	0.060	0.094
2-Methylnaphthalene	U	0.094	ug/L	1	.2	0.19	0.073	0.094
1-Methylnaphthalene	U	0.094	ug/L	1	.2	0.19	0.064	0.094
Acenaphthylene	U	0.094	ug/L	1	.2	0.19	0.051	0.094
Acenaphthene	U	0.094	ug/L	1	.2	0.19	0.060	0.094
Fluorene	U	0.094	ug/L	1	.2	0.19	0.058	0.094
Phenanthrene	U	0.094	ug/L	1	.2	0.19	0.048	0.094
Anthracene	U	0.094	ug/L	1	.2	0.19	0.042	0.094
Fluoranthene	U	0.094	ug/L	1	.2	0.19	0.069	0.094
Pyrene	U	0.094	ug/L	1	.2	0.19	0.056	0.094
Benzo(a)anthracene	U	0.094	ug/L	1	.2	0.19	0.043	0.094
Chrysene	U	0.094	ug/L	1	.2	0.19	0.034	0.094
Benzo(b)Fluoranthene	U	0.094	ug/L	1	.2	0.19	0.084	0.094
Benzo(k)fluoranthene	U	0.094	ug/L	1	.2	0.19	0.046	0.094
Benzo(a)pyrene	U	0.094	ug/L	1	.2	0.19	0.062	0.094
Indeno(1,2,3-cd)pyrene	U	0.094	ug/L	1	.2	0.19	0.049	0.094
Dibenzo(a,h)anthracene	U	0.094	ug/L	1	.2	0.19	0.066	0.094
Benzo(g,h,i)perylene	U	0.094	ug/L	1	.2	0.19	0.061	0.094
2-Methylnaphthalene-D10		77.1	%					
Fluorene-D10		74.0	%					
Pyrene-D10		99.0	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-5
Client ID: DW-02R-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1378.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 13-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.096	ug/L	1	.2	0.19	0.062	0.096
2-Methylnaphthalene	U	0.096	ug/L	1	.2	0.19	0.074	0.096
1-Methylnaphthalene	U	0.096	ug/L	1	.2	0.19	0.065	0.096
Acenaphthylene	U	0.096	ug/L	1	.2	0.19	0.052	0.096
Acenaphthene	U	0.096	ug/L	1	.2	0.19	0.062	0.096
Fluorene	U	0.096	ug/L	1	.2	0.19	0.059	0.096
Phenanthrene	U	0.096	ug/L	1	.2	0.19	0.049	0.096
Anthracene	U	0.096	ug/L	1	.2	0.19	0.042	0.096
Fluoranthene	U	0.096	ug/L	1	.2	0.19	0.070	0.096
Pyrene	J	0.064	ug/L	1	.2	0.19	0.057	0.096
Benzo(a)anthracene	U	0.096	ug/L	1	.2	0.19	0.044	0.096
Chrysene	J	0.046	ug/L	1	.2	0.19	0.035	0.096
Benzo(b)Fluoranthene	U	0.096	ug/L	1	.2	0.19	0.086	0.096
Benzo(k)fluoranthene	U	0.096	ug/L	1	.2	0.19	0.047	0.096
Benzo(a)pyrene	U	0.096	ug/L	1	.2	0.19	0.063	0.096
Indeno(1,2,3-cd)pyrene	U	0.096	ug/L	1	.2	0.19	0.050	0.096
Dibenzo(a,h)anthracene	U	0.096	ug/L	1	.2	0.19	0.067	0.096
Benzo(g,h,i)perylene	U	0.096	ug/L	1	.2	0.19	0.062	0.096
2-Methylnaphthalene-D10		73.2	%					
Fluorene-D10		72.5	%					
Pyrene-D10		106.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-6
Client ID: DW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1293.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.097	ug/L	1	.2	0.19	0.062	0.097
2-Methylnaphthalene	U	0.097	ug/L	1	.2	0.19	0.075	0.097
1-Methylnaphthalene	U	0.097	ug/L	1	.2	0.19	0.066	0.097
Acenaphthylene	U	0.097	ug/L	1	.2	0.19	0.052	0.097
Acenaphthene	U	0.097	ug/L	1	.2	0.19	0.062	0.097
Fluorene	U	0.097	ug/L	1	.2	0.19	0.059	0.097
Phenanthrene	U	0.097	ug/L	1	.2	0.19	0.050	0.097
Anthracene	U	0.097	ug/L	1	.2	0.19	0.043	0.097
Fluoranthene	U	0.097	ug/L	1	.2	0.19	0.071	0.097
Pyrene	U	0.097	ug/L	1	.2	0.19	0.057	0.097
Benzo(a)anthracene	U	0.097	ug/L	1	.2	0.19	0.045	0.097
Chrysene	U	0.097	ug/L	1	.2	0.19	0.035	0.097
Benzo(b)Fluoranthene	U	0.097	ug/L	1	.2	0.19	0.086	0.097
Benzo(k)fluoranthene	U	0.097	ug/L	1	.2	0.19	0.048	0.097
Benzo(a)pyrene	U	0.097	ug/L	1	.2	0.19	0.064	0.097
Indeno(1,2,3-cd)pyrene	U	0.097	ug/L	1	.2	0.19	0.050	0.097
Dibenzo(a,h)anthracene	U	0.097	ug/L	1	.2	0.19	0.068	0.097
Benzo(g,h,i)perylene	U	0.097	ug/L	1	.2	0.19	0.063	0.097
2-Methylnaphthalene-D10		78.9	%					
Fluorene-D10		74.3	%					
Pyrene-D10		91.2	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-7
Client ID: MW-01-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1320.D

Sample Date: 14-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 11-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.10	ug/L	1	.2	0.20	0.065	0.10
2-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.078	0.10
1-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.069	0.10
Acenaphthylene	U	0.10	ug/L	1	.2	0.20	0.055	0.10
Acenaphthene	U	0.10	ug/L	1	.2	0.20	0.065	0.10
Fluorene	U	0.10	ug/L	1	.2	0.20	0.062	0.10
Phenanthrene	U	0.10	ug/L	1	.2	0.20	0.052	0.10
Anthracene	U	0.10	ug/L	1	.2	0.20	0.045	0.10
Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.074	0.10
Pyrene	J	0.070	ug/L	1	.2	0.20	0.060	0.10
Benzo(a)anthracene	U	0.10	ug/L	1	.2	0.20	0.047	0.10
Chrysene	J	0.044	ug/L	1	.2	0.20	0.037	0.10
Benzo(b)Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.091	0.10
Benzo(k)fluoranthene	U	0.10	ug/L	1	.2	0.20	0.050	0.10
Benzo(a)pyrene	UM	0.10	ug/L	1	.2	0.20	0.067	0.10
Indeno(1,2,3-cd)pyrene	UM	0.10	ug/L	1	.2	0.20	0.053	0.10
Dibenzo(a,h)anthracene	UM	0.10	ug/L	1	.2	0.20	0.071	0.10
Benzo(g,h,i)perylene	UM	0.10	ug/L	1	.2	0.20	0.066	0.10
2-Methylnaphthalene-D10		75.2	%					
Fluorene-D10		77.6	%					
Pyrene-D10		100.	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-8
Client ID: MW-02-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1295.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.093	ug/L	1	.2	0.19	0.060	0.093
2-Methylnaphthalene	U	0.093	ug/L	1	.2	0.19	0.072	0.093
1-Methylnaphthalene	U	0.093	ug/L	1	.2	0.19	0.064	0.093
Acenaphthylene	U	0.093	ug/L	1	.2	0.19	0.050	0.093
Acenaphthene	U	0.093	ug/L	1	.2	0.19	0.060	0.093
Fluorene	U	0.093	ug/L	1	.2	0.19	0.057	0.093
Phenanthrene	U	0.093	ug/L	1	.2	0.19	0.048	0.093
Anthracene	U	0.093	ug/L	1	.2	0.19	0.041	0.093
Fluoranthene	U	0.093	ug/L	1	.2	0.19	0.068	0.093
Pyrene	U	0.093	ug/L	1	.2	0.19	0.055	0.093
Benzo(a)anthracene	U	0.093	ug/L	1	.2	0.19	0.043	0.093
Chrysene	U	0.093	ug/L	1	.2	0.19	0.034	0.093
Benzo(b)Fluoranthene	U	0.093	ug/L	1	.2	0.19	0.083	0.093
Benzo(k)fluoranthene	U	0.093	ug/L	1	.2	0.19	0.046	0.093
Benzo(a)pyrene	U	0.093	ug/L	1	.2	0.19	0.062	0.093
Indeno(1,2,3-cd)pyrene	U	0.093	ug/L	1	.2	0.19	0.048	0.093
Dibenzo(a,h)anthracene	U	0.093	ug/L	1	.2	0.19	0.065	0.093
Benzo(g,h,i)perylene	U	0.093	ug/L	1	.2	0.19	0.061	0.093
2-Methylnaphthalene-D10		78.1	%					
Fluorene-D10		72.9	%					
Pyrene-D10		87.2	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-9
Client ID: MW-03-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1296.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.094	ug/L	1	.2	0.19	0.060	0.094
2-Methylnaphthalene	U	0.094	ug/L	1	.2	0.19	0.073	0.094
1-Methylnaphthalene	U	0.094	ug/L	1	.2	0.19	0.064	0.094
Acenaphthylene	U	0.094	ug/L	1	.2	0.19	0.051	0.094
Acenaphthene	U	0.094	ug/L	1	.2	0.19	0.060	0.094
Fluorene	U	0.094	ug/L	1	.2	0.19	0.058	0.094
Phenanthrene	U	0.094	ug/L	1	.2	0.19	0.048	0.094
Anthracene	U	0.094	ug/L	1	.2	0.19	0.042	0.094
Fluoranthene	U	0.094	ug/L	1	.2	0.19	0.069	0.094
Pyrene	U	0.094	ug/L	1	.2	0.19	0.056	0.094
Benzo(a)anthracene	U	0.094	ug/L	1	.2	0.19	0.043	0.094
Chrysene	U	0.094	ug/L	1	.2	0.19	0.034	0.094
Benzo(b)Fluoranthene	U	0.094	ug/L	1	.2	0.19	0.084	0.094
Benzo(k)fluoranthene	U	0.094	ug/L	1	.2	0.19	0.046	0.094
Benzo(a)pyrene	U	0.094	ug/L	1	.2	0.19	0.062	0.094
Indeno(1,2,3-cd)pyrene	U	0.094	ug/L	1	.2	0.19	0.049	0.094
Dibenzo(a,h)anthracene	U	0.094	ug/L	1	.2	0.19	0.066	0.094
Benzo(g,h,i)perylene	U	0.094	ug/L	1	.2	0.19	0.061	0.094
2-Methylnaphthalene-D10		86.6	%					
Fluorene-D10		78.8	%					
Pyrene-D10		97.6	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-10
Client ID: MW-04-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1297.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
2-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.077	0.10
1-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.068	0.10
Acenaphthylene	U	0.10	ug/L	1	.2	0.20	0.054	0.10
Acenaphthene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
Fluorene	U	0.10	ug/L	1	.2	0.20	0.061	0.10
Phenanthrene	U	0.10	ug/L	1	.2	0.20	0.051	0.10
Anthracene	U	0.10	ug/L	1	.2	0.20	0.044	0.10
Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.073	0.10
Pyrene	U	0.10	ug/L	1	.2	0.20	0.059	0.10
Benzo(a)anthracene	U	0.10	ug/L	1	.2	0.20	0.046	0.10
Chrysene	U	0.10	ug/L	1	.2	0.20	0.036	0.10
Benzo(b)Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.089	0.10
Benzo(k)fluoranthene	U	0.10	ug/L	1	.2	0.20	0.049	0.10
Benzo(a)pyrene	U	0.10	ug/L	1	.2	0.20	0.066	0.10
Indeno(1,2,3-cd)pyrene	U	0.10	ug/L	1	.2	0.20	0.052	0.10
Dibenzo(a,h)anthracene	U	0.10	ug/L	1	.2	0.20	0.070	0.10
Benzo(g,h,i)perylene	U	0.10	ug/L	1	.2	0.20	0.065	0.10
2-Methylnaphthalene-D10		80.4	%					
Fluorene-D10		74.3	%					
Pyrene-D10		95.6	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-11
Client ID: MW-05-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1298.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
2-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.077	0.10
1-Methylnaphthalene	J	0.072	ug/L	1	.2	0.20	0.068	0.10
Acenaphthylene	U	0.10	ug/L	1	.2	0.20	0.054	0.10
Acenaphthene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
Fluorene	J	0.077	ug/L	1	.2	0.20	0.061	0.10
Phenanthrene	U	0.10	ug/L	1	.2	0.20	0.051	0.10
Anthracene	U	0.10	ug/L	1	.2	0.20	0.044	0.10
Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.073	0.10
Pyrene	U	0.10	ug/L	1	.2	0.20	0.059	0.10
Benzo(a)anthracene	U	0.10	ug/L	1	.2	0.20	0.046	0.10
Chrysene	U	0.10	ug/L	1	.2	0.20	0.036	0.10
Benzo(b)Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.089	0.10
Benzo(k)fluoranthene	U	0.10	ug/L	1	.2	0.20	0.049	0.10
Benzo(a)pyrene	U	0.10	ug/L	1	.2	0.20	0.066	0.10
Indeno(1,2,3-cd)pyrene	U	0.10	ug/L	1	.2	0.20	0.052	0.10
Dibenzo(a,h)anthracene	U	0.10	ug/L	1	.2	0.20	0.070	0.10
Benzo(g,h,i)perylene	U	0.10	ug/L	1	.2	0.20	0.065	0.10
2-Methylnaphthalene-D10		67.7	%					
Fluorene-D10		72.8	%					
Pyrene-D10		94.2	%					

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-12
Client ID: MW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1299.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.098	ug/L	1	.2	0.20	0.063	0.098
2-Methylnaphthalene	U	0.098	ug/L	1	.2	0.20	0.075	0.098
1-Methylnaphthalene	U	0.098	ug/L	1	.2	0.20	0.067	0.098
Acenaphthylene	U	0.098	ug/L	1	.2	0.20	0.053	0.098
Acenaphthene	U	0.098	ug/L	1	.2	0.20	0.063	0.098
Fluorene	U	0.098	ug/L	1	.2	0.20	0.060	0.098
Phenanthrene	U	0.098	ug/L	1	.2	0.20	0.050	0.098
Anthracene	U	0.098	ug/L	1	.2	0.20	0.043	0.098
Fluoranthene	U	0.098	ug/L	1	.2	0.20	0.072	0.098
Pyrene	U	0.098	ug/L	1	.2	0.20	0.058	0.098
Benzo(a)anthracene	U	0.098	ug/L	1	.2	0.20	0.045	0.098
Chrysene	U	0.098	ug/L	1	.2	0.20	0.035	0.098
Benzo(b)Fluoranthene	U	0.098	ug/L	1	.2	0.20	0.087	0.098
Benzo(k)fluoranthene	U	0.098	ug/L	1	.2	0.20	0.048	0.098
Benzo(a)pyrene	U	0.098	ug/L	1	.2	0.20	0.065	0.098
Indeno(1,2,3-cd)pyrene	U	0.098	ug/L	1	.2	0.20	0.051	0.098
Dibenzo(a,h)anthracene	U	0.098	ug/L	1	.2	0.20	0.069	0.098
Benzo(g,h,i)perylene	U	0.098	ug/L	1	.2	0.20	0.064	0.098
2-Methylnaphthalene-D10		76.4	%					
Fluorene-D10		70.1	%					
Pyrene-D10		91.0	%					

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-13
Client ID: GW-EB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1300.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.097	ug/L	1	.2	0.19	0.062	0.097
2-Methylnaphthalene	U	0.097	ug/L	1	.2	0.19	0.075	0.097
1-Methylnaphthalene	U	0.097	ug/L	1	.2	0.19	0.066	0.097
Acenaphthylene	U	0.097	ug/L	1	.2	0.19	0.052	0.097
Acenaphthene	U	0.097	ug/L	1	.2	0.19	0.062	0.097
Fluorene	U	0.097	ug/L	1	.2	0.19	0.059	0.097
Phenanthrene	U	0.097	ug/L	1	.2	0.19	0.050	0.097
Anthracene	U	0.097	ug/L	1	.2	0.19	0.043	0.097
Fluoranthene	U	0.097	ug/L	1	.2	0.19	0.071	0.097
Pyrene	U	0.097	ug/L	1	.2	0.19	0.057	0.097
Benzo(a)anthracene	U	0.097	ug/L	1	.2	0.19	0.045	0.097
Chrysene	U	0.097	ug/L	1	.2	0.19	0.035	0.097
Benzo(b)Fluoranthene	U	0.097	ug/L	1	.2	0.19	0.086	0.097
Benzo(k)fluoranthene	U	0.097	ug/L	1	.2	0.19	0.048	0.097
Benzo(a)pyrene	U	0.097	ug/L	1	.2	0.19	0.064	0.097
Indeno(1,2,3-cd)pyrene	U	0.097	ug/L	1	.2	0.19	0.050	0.097
Dibenzo(a,h)anthracene	U	0.097	ug/L	1	.2	0.19	0.068	0.097
Benzo(g,h,i)perylene	U	0.097	ug/L	1	.2	0.19	0.063	0.097
2-Methylnaphthalene-D10		88.6	%					
Fluorene-D10		79.8	%					
Pyrene-D10		102.	%					

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INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-EFF-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	10.9			MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	214			MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.035	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	5560			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	1.6	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	13.1			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.930	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	0.92	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.31	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	0.38	J		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	13			MS	5	10	3.9	8.0

Comments:

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INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-INF-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.078	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	1110			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.60	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	36.4			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	2.18			MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	0.35	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U	A	CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	3.06			MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	38			MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-MID-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	3.44			MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	90.3			MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.071	J		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.051	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	2980			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.48	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	4.68			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.33	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	3.58			MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.30	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	0.37	J		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.18	J		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	13			MS	5	10	3.9	8.0

Comments:

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INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-02R-EFF-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.058	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	67600			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.31	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	12.8			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	1.97			MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1.0	U		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	2.33			MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	22			MS	5	10	3.9	8.0

Comments:

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INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-02R-INF-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.060	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.033	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	72500			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.50	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	18.6			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	2.30			MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	7.04			MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.4	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	22			MS	5	10	3.9	8.0

Comments:

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-FD-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.061	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.046	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	72900			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.53	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	19.1			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	3.42			MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	7.89			MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	7.33			MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	55.9			MS	5	10	3.9	8.0

Comments:

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INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-01-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.15	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	69100		NA	MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.59	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	1.4	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.18	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1.6	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U	A	CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.25	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-02-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.043	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	89500			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	3.82	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	1.2	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.13	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1.8	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.28	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-03-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-009

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.033	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	66800			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.75	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	1.2	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.15	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	0.74	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.17	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-04-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-010

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	97800			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.75	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	1.3	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.21	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	2.3			MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.31	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-05-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-011

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.23	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.094	J		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	3.95			MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	93700			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	1.0	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	7.92			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.949	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	697			MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.3	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	26			MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-FD-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-012

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.037	J		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	92700			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.60	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	2.69	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.079	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1.1	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.23	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** GW-EB-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-013

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.049	J		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	45	J		MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.34	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	3.00	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.083	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1.0	U		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.2	U		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-1
Client ID: DW-01-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10113.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		93.2	%					
2,5-Dibromotoluene (PID)		92.1	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10114.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		96.0	%					
2,5-Dibromotoluene (PID)		94.5	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-3
Client ID: DW-01-MID-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10115.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		74.1	%					
2,5-Dibromotoluene (PID)		75.4	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-4
Client ID: DW-02R-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10116.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 05-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		93.6	%					
2,5-Dibromotoluene (PID)		92.4	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-5
Client ID: DW-02R-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10117.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		98.0	%					
2,5-Dibromotoluene (PID)		96.6	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-6
Client ID: DW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10118.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		94.5	%					
2,5-Dibromotoluene (PID)		93.0	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-7
Client ID: MW-01-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10119.D

Sample Date: 14-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		96.4	%					
2,5-Dibromotoluene (PID)		95.4	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-8
Client ID: MW-02-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10120.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		96.5	%					
2,5-Dibromotoluene (PID)		95.7	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-9
Client ID: MW-03-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10121.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 23-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		94.0	%					
2,5-Dibromotoluene (PID)		93.7	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-10
Client ID: MW-04-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10122.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 23-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		94.8	%					
2,5-Dibromotoluene (PID)		94.8	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-11
Client ID: MW-05-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10123.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 23-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	J	58	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		91.2	%					
2,5-Dibromotoluene (PID)		90.4	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-12
Client ID: MW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10124.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 23-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		90.6	%					
2,5-Dibromotoluene (PID)		91.6	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-13
Client ID: GW-EB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10112.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		92.5	%					
2,5-Dibromotoluene (PID)		91.4	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-14
Client ID: DW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10110.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		95.5	%					
2,5-Dibromotoluene (PID)		92.4	%					

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Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-15
Client ID: GW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10111.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		94.0	%					
2,5-Dibromotoluene (PID)		91.7	%					

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VOLATILES DATA
BY EPA METHOD 524.2

QC Summary Section

Katahdin
ANALYTICAL SERVICES

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** LO-58 Nike Missile Battery Launch Site **Matrix:** AQ
Lab Code: KAS **SDG:** TN0377

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DCZ	#
DW-01-EFF-WINTER2020	TN0377-1		86.1		87.7	
DW-TB-WINTER2020	TN0377-14		86.5		88.4	
DW-01-INF-WINTER2020	TN0377-2		84.8		85.1	
DW-01-MID-WINTER2020	TN0377-3		85.4		86.3	
DW-02R-EFF-WINTER202	TN0377-4		85.4		85.9	
DW-02R-INF-WINTER202	TN0377-5		85.0		86.1	
DW-FD-WINTER2020	TN0377-6		84.0		84.6	
Laboratory Control S	WG292404-1		100.		102.	
Method Blank Sample	WG292404-2		85.5		86.1	
Matrix Spike	WG292404-6		105.		105.	
Matrix Spike Duplica	WG292404-7		106.		107.	

		QC Limits
DCZ	1,2-DICHLOROBENZENE-D4	51-133
BFB	P-BROMOFLUOROBENZENE	60-121

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : D2236.D
Instrument ID : GCMS-D
Heated Purge : No

SDG : TN0377
Lab Sample ID : WG292404-2
Date Analyzed : 23-DEC-20
Time Analyzed : 10:22

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	WG292404-1	D2234.D	12/23/20	08:53
DW-TB-WINTER2020	TN0377-14	D2237.D	12/23/20	11:03
DW-01-EFF-WINTER2020	TN0377-1	D2239.D	12/23/20	12:27
DW-01-MID-WINTER2020	TN0377-3	D2240.D	12/23/20	13:08
DW-02R-EFF-WINTER2020	TN0377-4	D2241.D	12/23/20	13:49
DW-02R-INF-WINTER2020	TN0377-5	D2242.D	12/23/20	14:31
DW-FD-WINTER2020	TN0377-6	D2243.D	12/23/20	15:14
DW-01-INF-WINTER2020	TN0377-2	D2244.D	12/23/20	15:56
Matrix Spike	WG292404-6	D2245.D	12/23/20	16:38
Matrix Spike Duplica	WG292404-7	D2246.D	12/23/20	17:19

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : DB839A.D
Instrument ID : GCMS-D

SDG : TN0377
Date Analyzed : 21-DEC-20
Time Analyzed : 08:03
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	22.0		
75	30.0 - 60.0% of mass 95	55.9		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.6		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	71.4		
175	5.0 - 9.0% of mass 174	5.2	7.33	1
176	95.0 - 101.0% of mass 174	70.3	98.49	1
177	5.0 - 9.0% of mass 176	5.0	7.08	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG292262-4	D2199.D	12/21/20	08:31
Initial Calibration	WG292262-3	D2200.D	12/21/20	09:13
Initial Calibration	WG292262-2	D2201.D	12/21/20	09:55
Initial Calibration	WG292262-1	D2202.D	12/21/20	10:37
Initial Calibration	WG292262-7	D2203.D	12/21/20	11:18
Initial Calibration	WG292262-6	D2204.D	12/21/20	12:01
Initial Calibration	WG292262-5	D2205.D	12/21/20	12:42

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : DB842A.D
Instrument ID : GCMS-D

SDG : TN0377
Date Analyzed : 23-DEC-20
Time Analyzed : 06:58
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	24.5		
75	30.0 - 60.0% of mass 95	51.8		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	7.8		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	72.5		
175	5.0 - 9.0% of mass 174	4.6	6.28	1
176	95.0 - 101.0% of mass 174	69.2	95.39	1
177	5.0 - 9.0% of mass 176	3.9	5.69	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG292404-4	D2232.D	12/23/20	07:27
Laboratory Control S	WG292404-1	D2234.D	12/23/20	08:53
Independent Source	WG292404-8	D2234A.D	12/23/20	08:53
Method Blank Sample	WG292404-2	D2236.D	12/23/20	10:22
DW-TB-WINTER2020	TN0377-14	D2237.D	12/23/20	11:03
DW-01-EFF-WINTER2020	TN0377-1	D2239.D	12/23/20	12:27
DW-01-MID-WINTER2020	TN0377-3	D2240.D	12/23/20	13:08
DW-02R-EFF-WINTER2020	TN0377-4	D2241.D	12/23/20	13:49
DW-02R-INF-WINTER2020	TN0377-5	D2242.D	12/23/20	14:31
DW-FD-WINTER2020	TN0377-6	D2243.D	12/23/20	15:14
DW-01-INF-WINTER2020	TN0377-2	D2244.D	12/23/20	15:56
Matrix Spike	WG292404-6	D2245.D	12/23/20	16:38
Matrix Spike Duplica	WG292404-7	D2246.D	12/23/20	17:19
Continuing Calibrati	WG292404-5	D2247.D	12/23/20	18:02

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ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292262-4
Lab File ID : D2199.d

SDG: TN0377
Analytical Date: 12/21/20 08:31
Instrument ID: GCMS-D

		FLUOROBENZENE			
		Area	#	RT	#
	Std .	582955		7.60	
	Upper Limit	1165910		7.77	
	Lower Limit	291477.5		7.44	
Client Sample ID	Lab Sample ID				
Continuing Calibrati	WG292404-4	617010		7.60	
Laboratory Control S	WG292404-1	664999		7.60	
Method Blank Sample	WG292404-2	543899		7.60	
DW-TB-WINTER2020	TN0377-14	536995		7.60	
DW-01-EFF-WINTER2	TN0377-1	527279		7.60	
DW-01-MID-WINTER	TN0377-3	523520		7.60	
DW-02R-EFF-WINTEI	TN0377-4	515137		7.60	
DW-02R-INF-WINTEI	TN0377-5	518761		7.60	
DW-FD-WINTER2020	TN0377-6	526140		7.60	
DW-01-INF-WINTER2	TN0377-2	516879		7.60	
Matrix Spike	WG292404-6	610522		7.60	
Matrix Spike Duplica	WG292404-7	602542		7.60	
Continuing Calibrati	WG292404-5	616197		7.60	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Sample Data Section

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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), 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/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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), 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, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-1
Client ID: DW-01-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2239.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	0.72	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-1
Client ID: DW-01-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2239.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		86.1	%					
1,2-Dichlorobenzene-D4		87.7	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2239.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2239.d
Lab Smp Id: TN0377-1 Client Smp ID: W-01-EFF-WINTER2020
Inj Date : 23-DEC-2020 12:27
Operator : HG Inst ID: gcms-d.i
Smp Info : TN0377-1
Misc Info : WG292404,WG292260-4
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

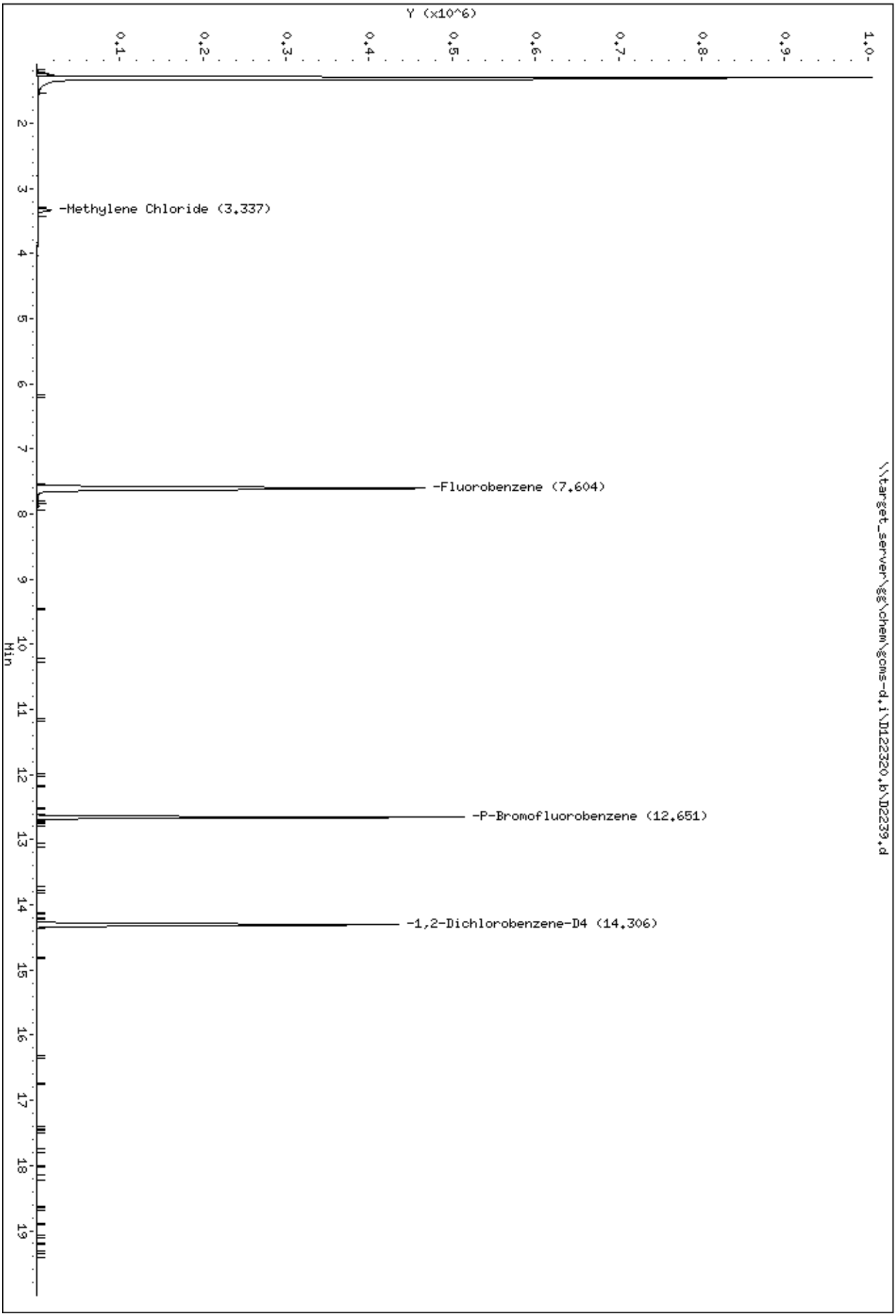
Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
10 Methylene Chloride	84	3.336	3.337	(0.439)	8210	0.72069	0.72(a)	
* 29 Fluorobenzene	96	7.603	7.604	(1.000)	527279	10.0000		
$ 53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	146473	8.60872	8.6	
$ 68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	117682	8.77298	8.8	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2239.d
Date : 23-DEC-2020 12:27
Client ID: W-01-EFF-WINTER2020
Sample Info: TN0377-1
Instrument: gcms-d.i
\\target_server\gg\chem\gcms-d.i\D122320.b\D2239.d
Y (x10^6)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
-Methylene Chloride (3.337)
-Fluorobenzene (7.604)
-P-Bromofluorobenzene (12.651)
-1,2-Dichlorobenzene-D4 (14.306)
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

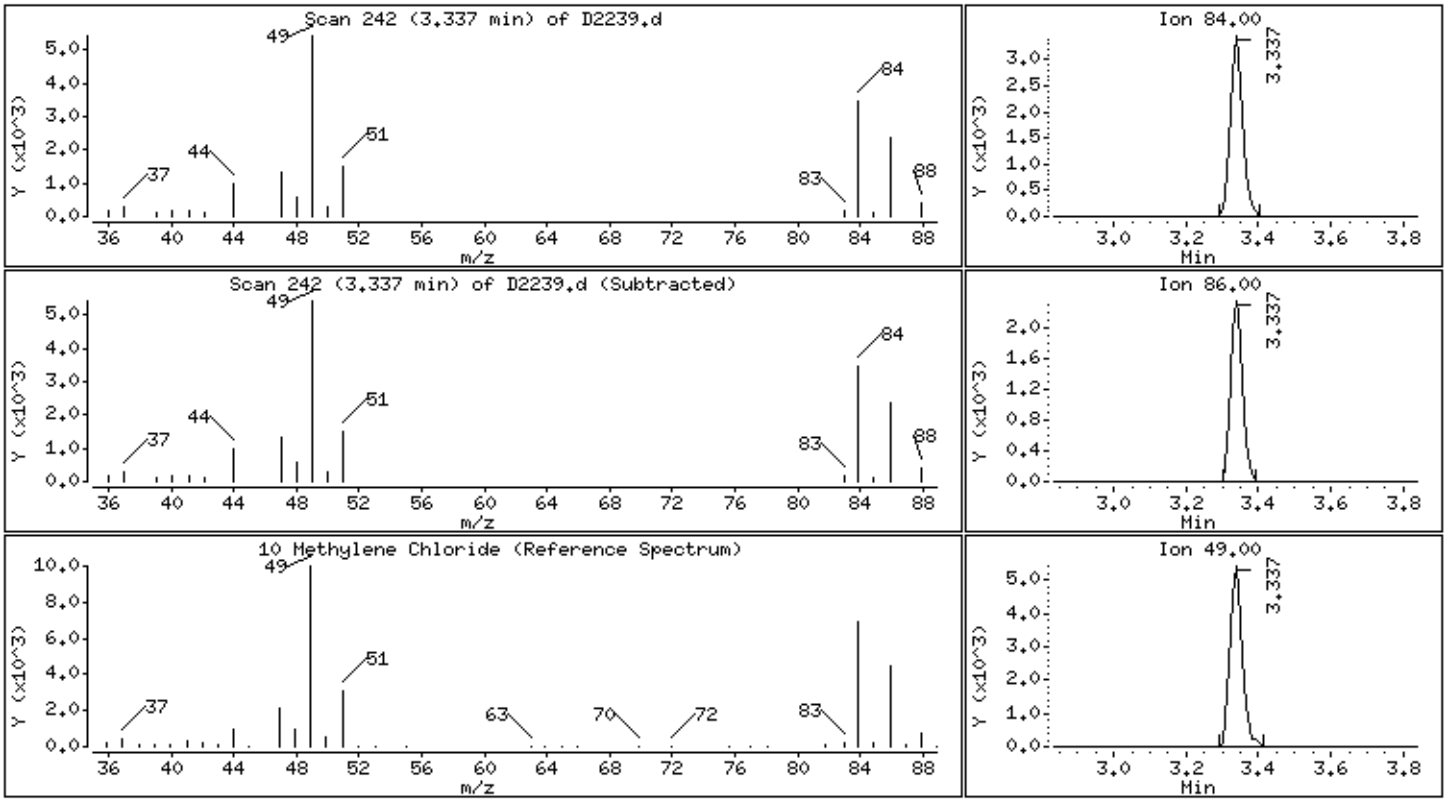
Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2239.d

Date : 23-DEC-2020 12:27

Client ID: W-01-EFF-WINTER2020 Instrument: gcms-d.i

Sample Info: TN0377-1

10 Methylene Chloride Concentration: 0.72 ug/l



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2244.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	ULMM	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	ULMM	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	ULMM	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	UMM	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	UMM	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		3.4	ug/L	1	2.5	2.5	0.62	1.2
Acetone	UMM	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	J	0.48	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	J	0.049	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene		2.4	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2244.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	UM	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		84.8	%					
1,2-Dichlorobenzene-D4		85.1	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2244.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2244.d
Lab Smp Id: TN0377-2 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 23-DEC-2020 15:56
Operator : HG Inst ID: gcms-d.i
Smp Info : TN0377-2
Misc Info : WG292404,WG292260-4
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

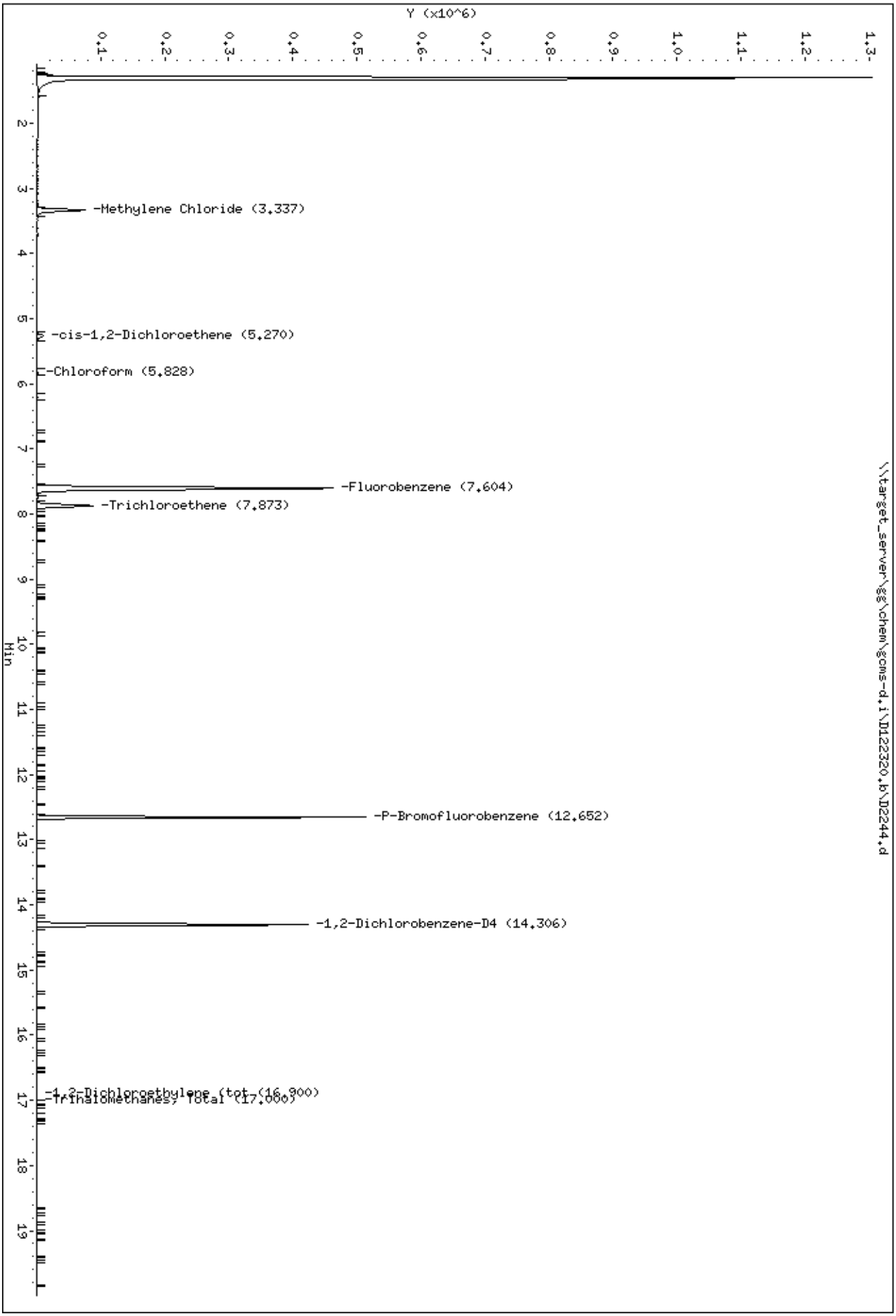
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
10 Methylene Chloride	84	3.336	3.337	(0.439)	38375	3.45019	3.4	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	7238	0.48008	0.48(a)	
21 Chloroform	83	5.837	5.828	(0.768)	1507	0.04917	0.049(aM)	M10
* 29 Fluorobenzene	96	7.603	7.604	(1.000)	516879	10.0000		
30 Trichloroethene	95	7.873	7.873	(1.035)	39881	2.42230	2.4(H)	
$ 53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	141379	8.47652	8.5	
$ 68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	111871	8.50759	8.5	
M 76 1,2-Dichloroethylene (total)	96				7238	0.48008	0.48(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

JLP

3:12 pm, Jan 27, 2021


Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2244.d
Date : 23-DEC-2020 15:56
Client ID: W-01-INF-WINTER2020
Sample Info: TN0377-2
Instrument: gcms-d.i
\\target_server\gg\chem\gcms-d.i\D122320.b\D2244.d
Y (x10^6)
Min
-Methylene Chloride (3.337)
-cis-1,2-Dichloroethene (5.270)
-Chloroform (5.828)
-Fluorobenzene (7.604)
-Trichloroethene (7.873)
-P-Bromofluorobenzene (12.652)
-1,2-Dichlorobenzene-D4 (14.306)
-1,2-Dichloroethylene (tot (16.900)
-Trihalomethanes, total (17.060)

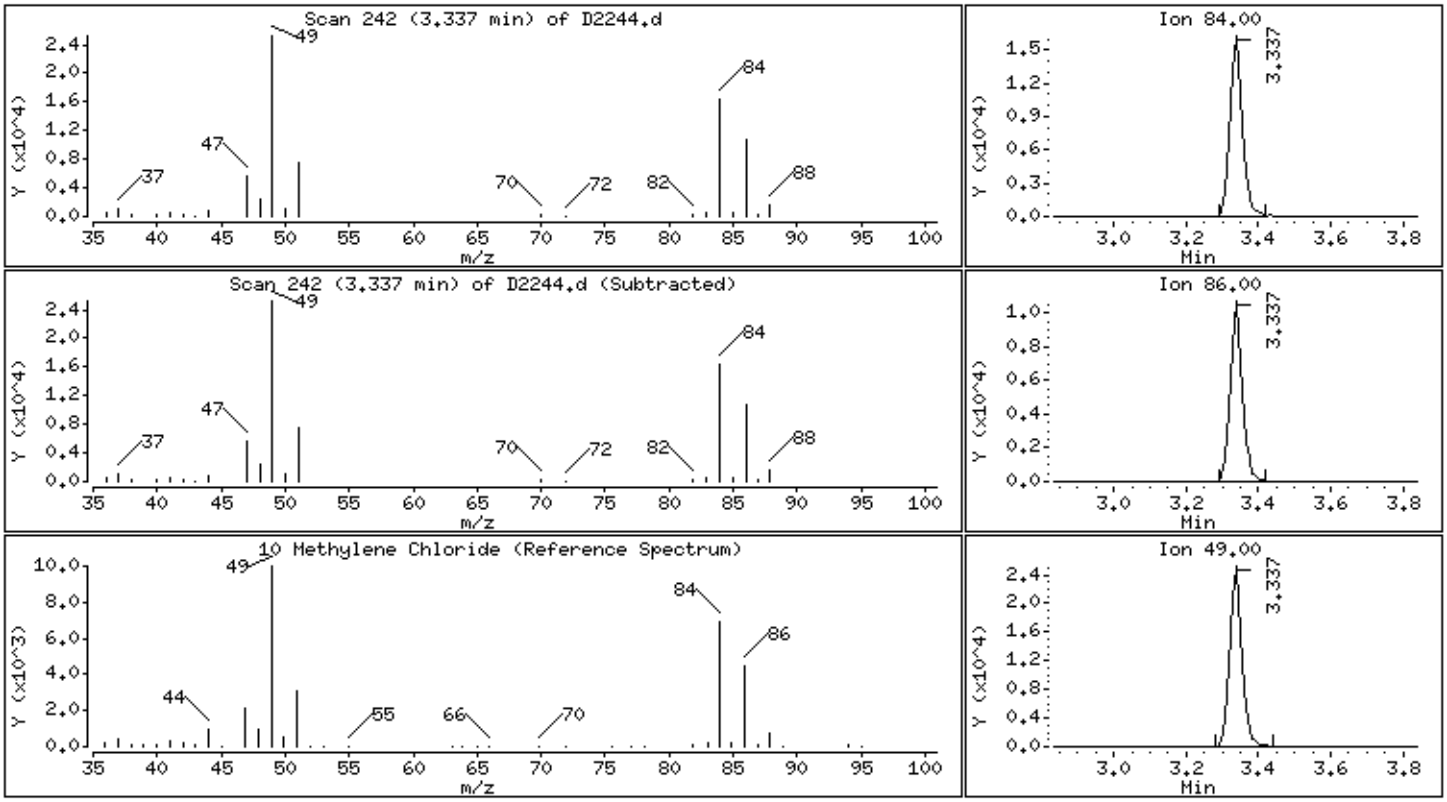
Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2244.d

Date : 23-DEC-2020 15:56

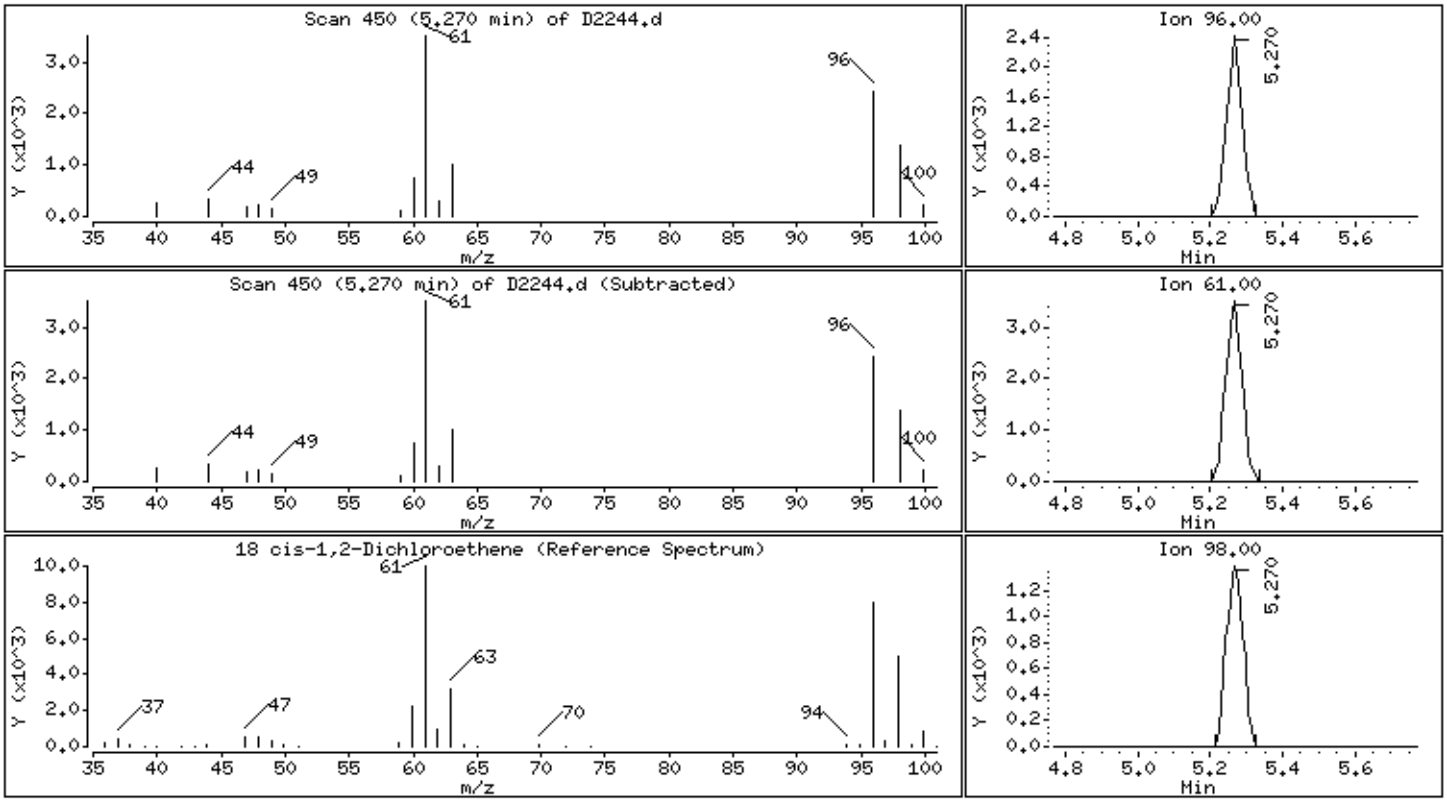
Client ID: W-01-INF-WINTER2020 Instrument: gcms-d.i

Sample Info: TN0377-2

10 Methylene Chloride Concentration: 3.4 ug/l



18 cis-1,2-Dichloroethene Concentration: 0.48 ug/l



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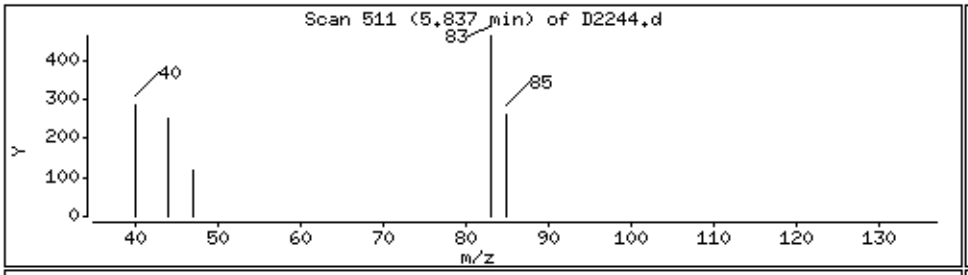
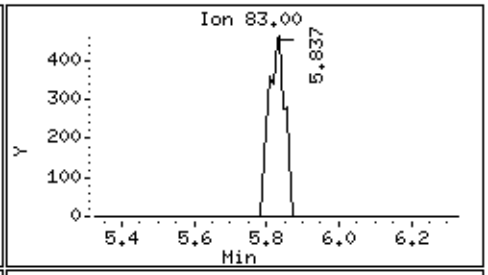
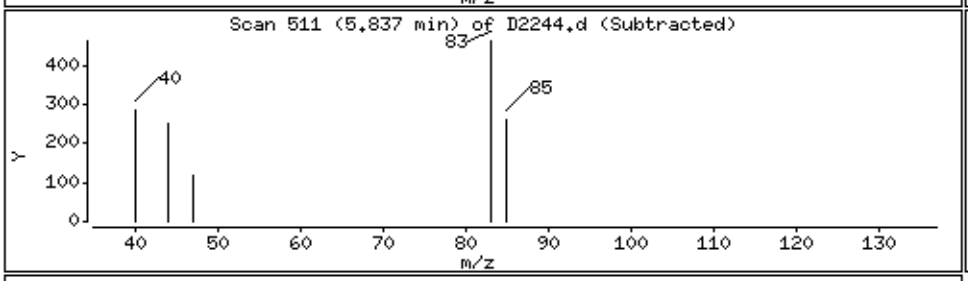
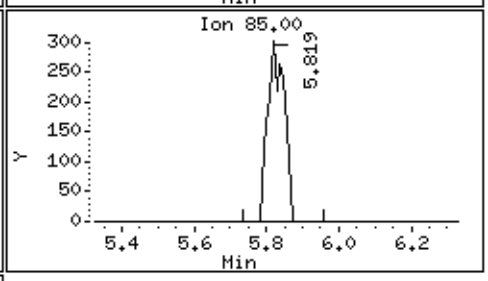
Date : 23-DEC-2020 15:56
Client ID: W-01-INF-WINTER2020 Instrument: gcms-d.i
Sample Info: TN0377-2

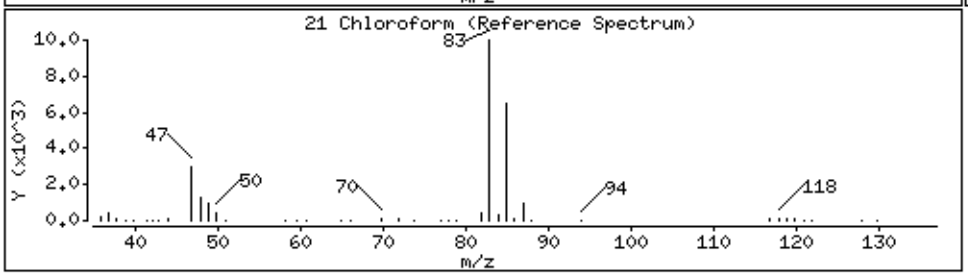
21 Chloroform Concentration: 0.049 ug/l



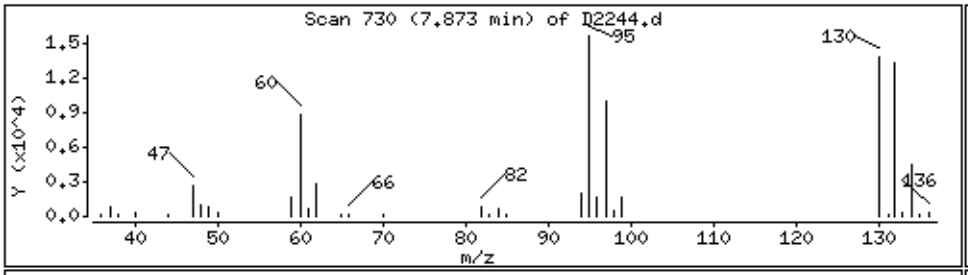


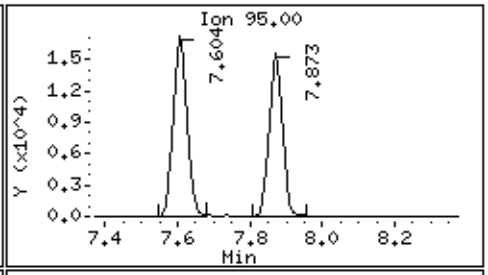


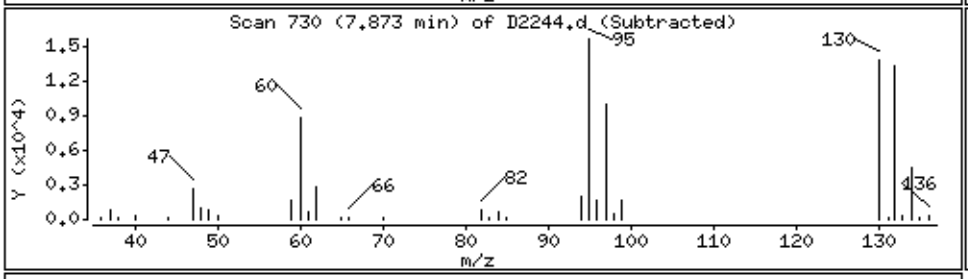


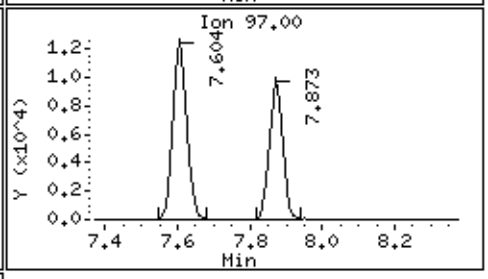


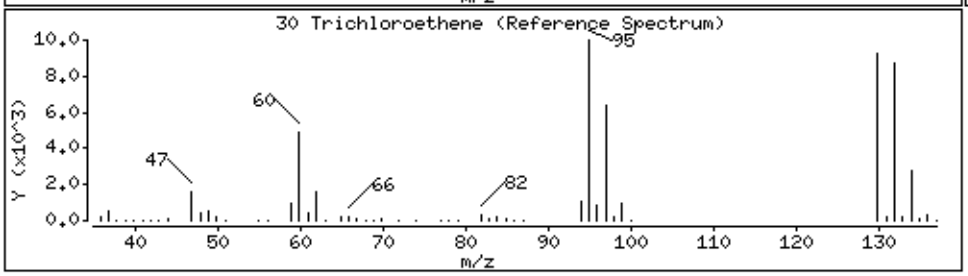
30 Trichloroethene Concentration: 2.4 ug/l











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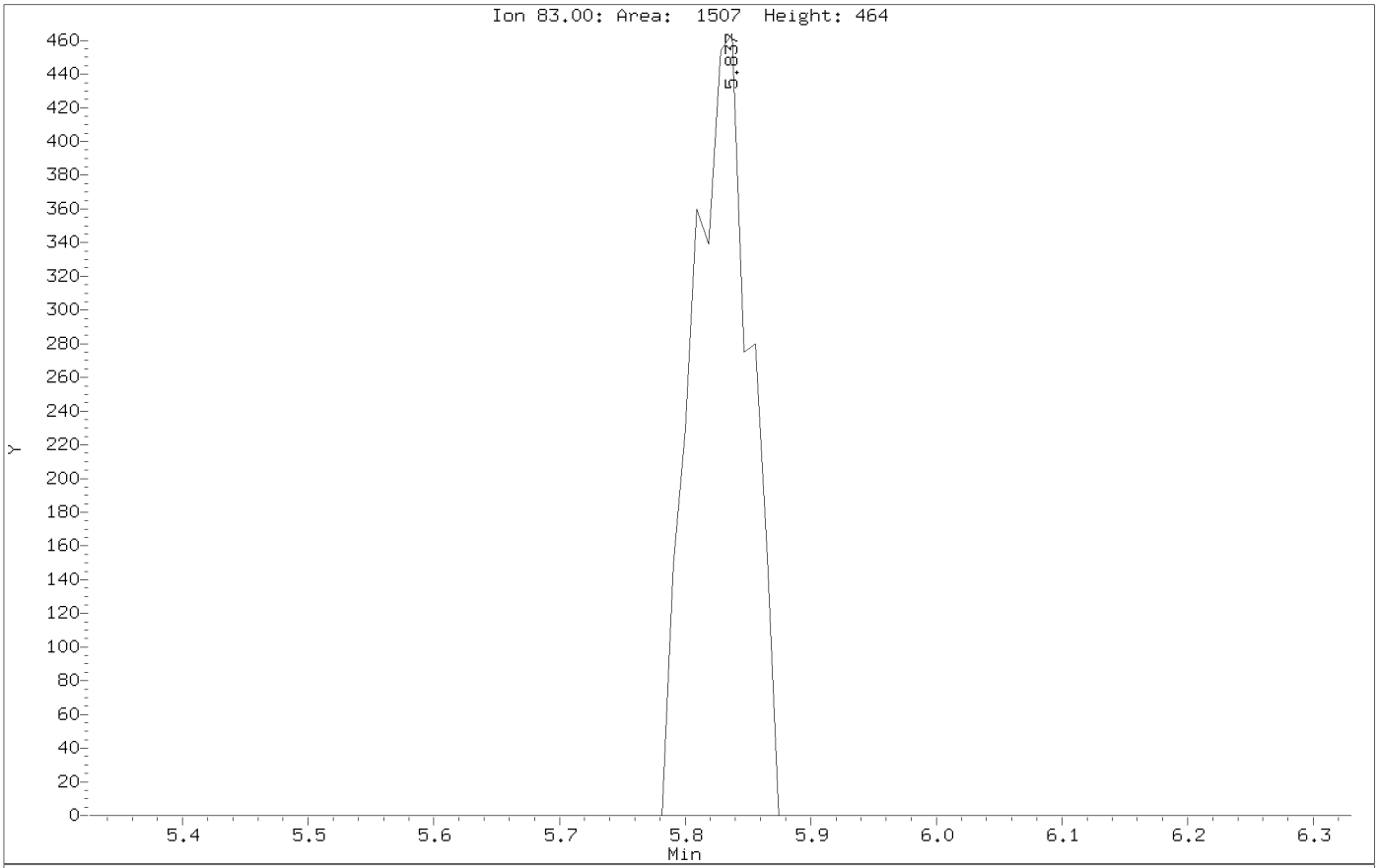
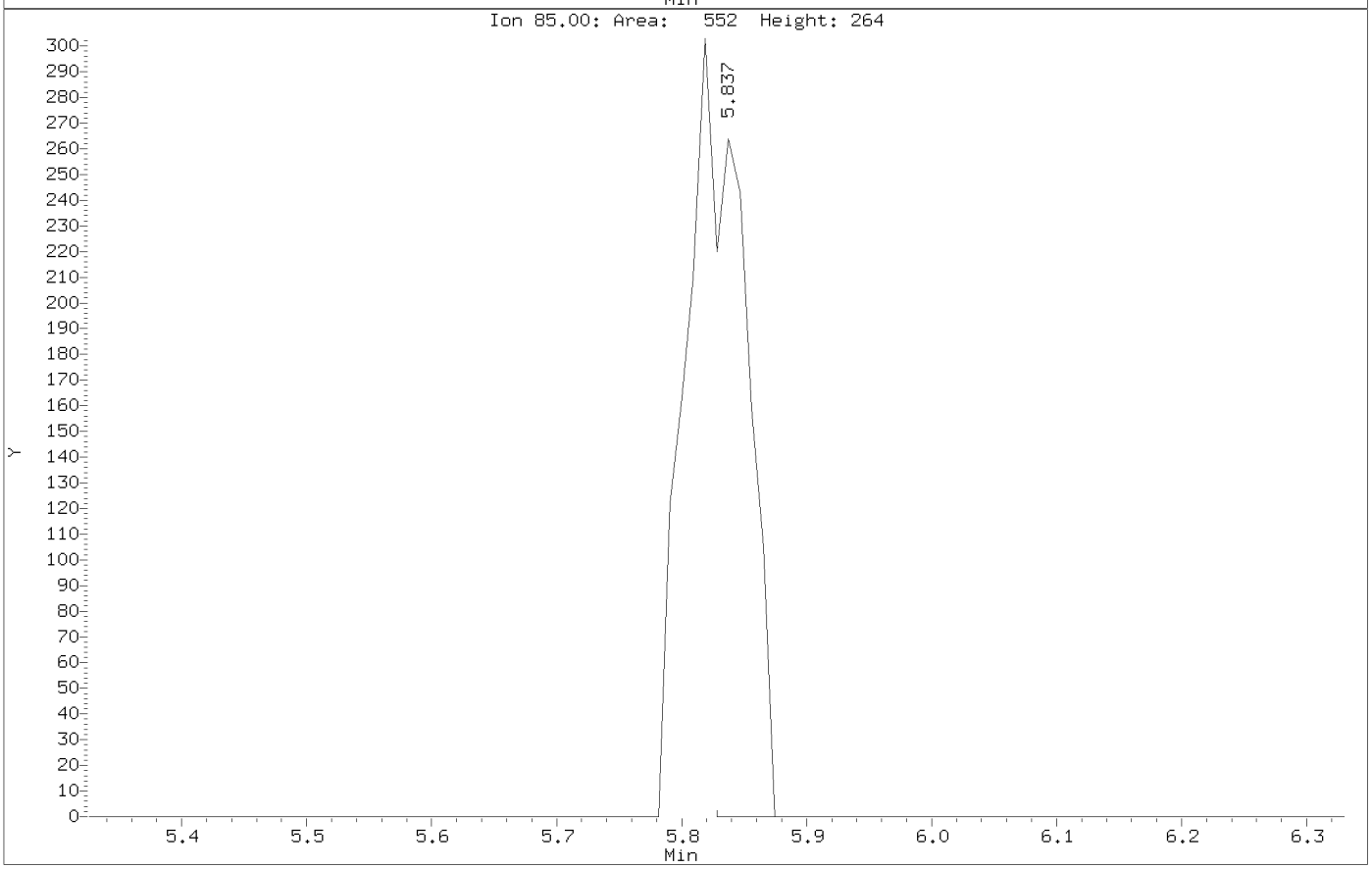
Injection Date: 23-DEC-2020 15:56
Instrument: gcms-d.i
Client Sample ID: W-01-INF-WINTER2020

Compound: Chloroform
CAS Number: 67-66-3

BEFORE MANUAL INTEGRATION

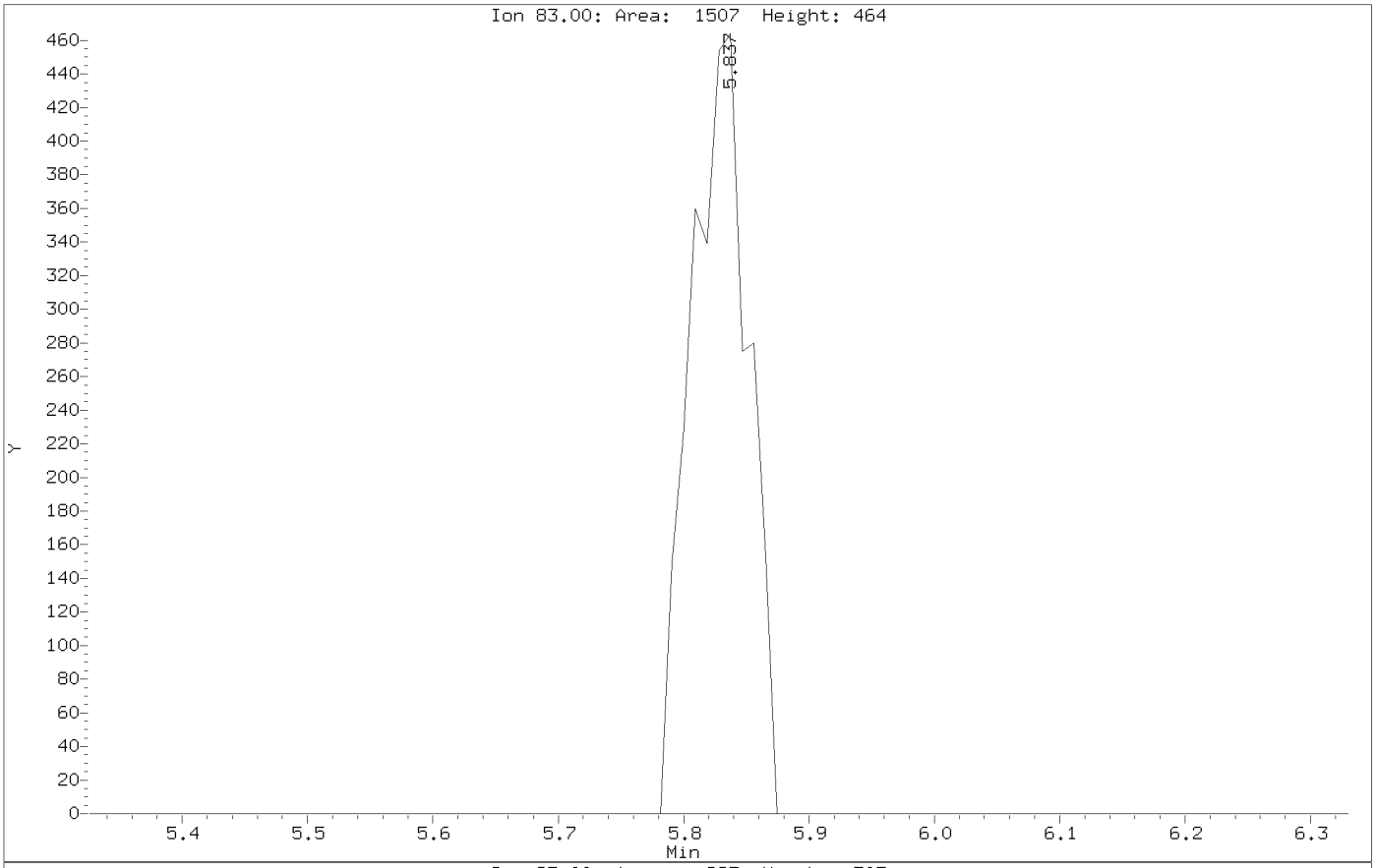


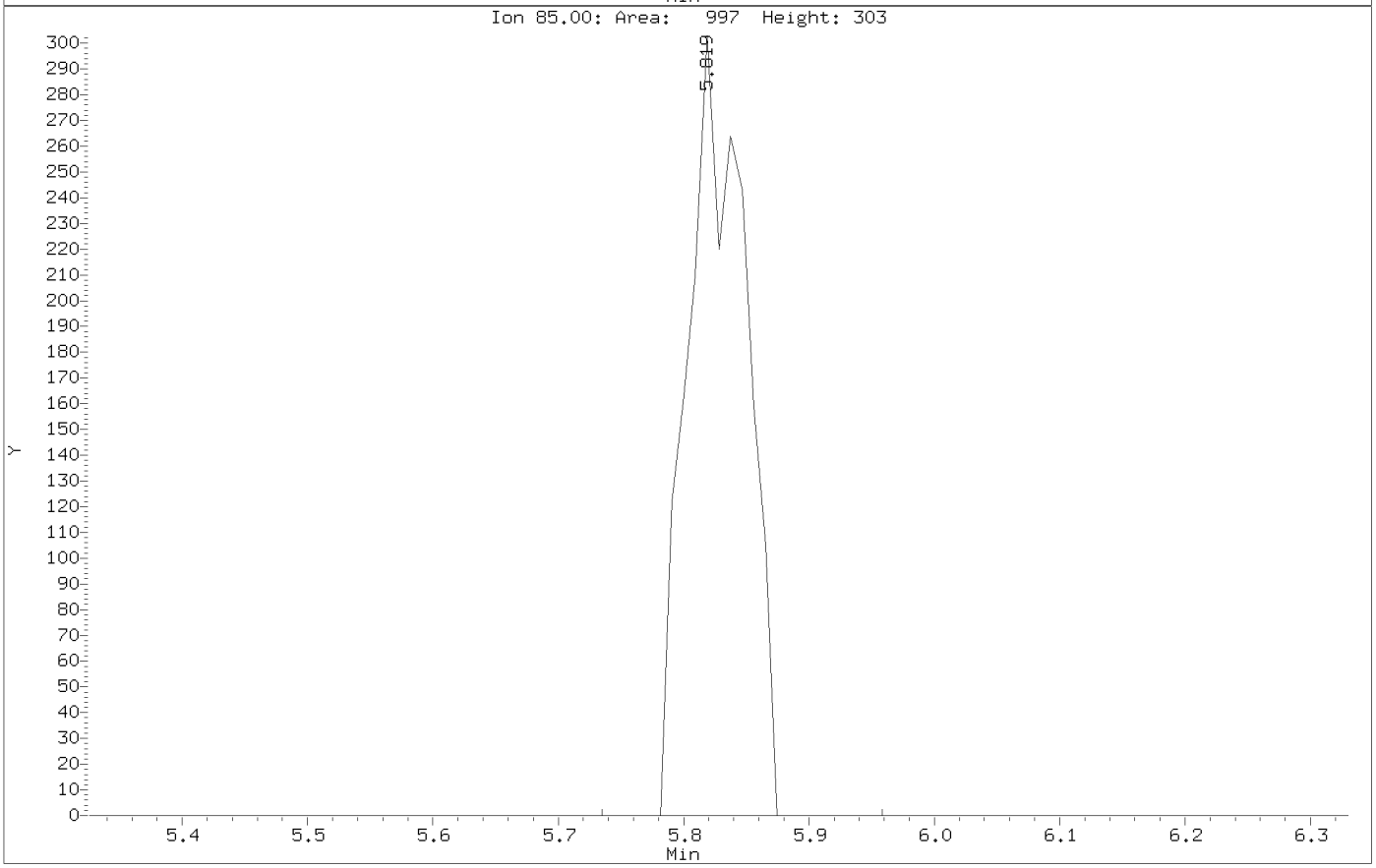


Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2244.d
Injection Date: 23-DEC-2020 15:56
Instrument: gcms-d.i
Client Sample ID: W-01-INF-WINTER2020

AFTER MANUAL INTEGRATION

Compound: Chloroform
CAS Number: 67-66-3





Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-3
Client ID: DW-01-MID-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2240.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	2.4	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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: Verina Consulting Group, LLC
Lab ID: TN0377-3
Client ID: DW-01-MID-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2240.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		85.4	%					
1,2-Dichlorobenzene-D4		86.3	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2240.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2240.d
Lab Smp Id: TN0377-3 Client Smp ID: W-01-MID-WINTER2020
Inj Date : 23-DEC-2020 13:08
Operator : HG Inst ID: gcms-d.i
Smp Info : TN0377-3
Misc Info : WG292404,WG292260-4
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

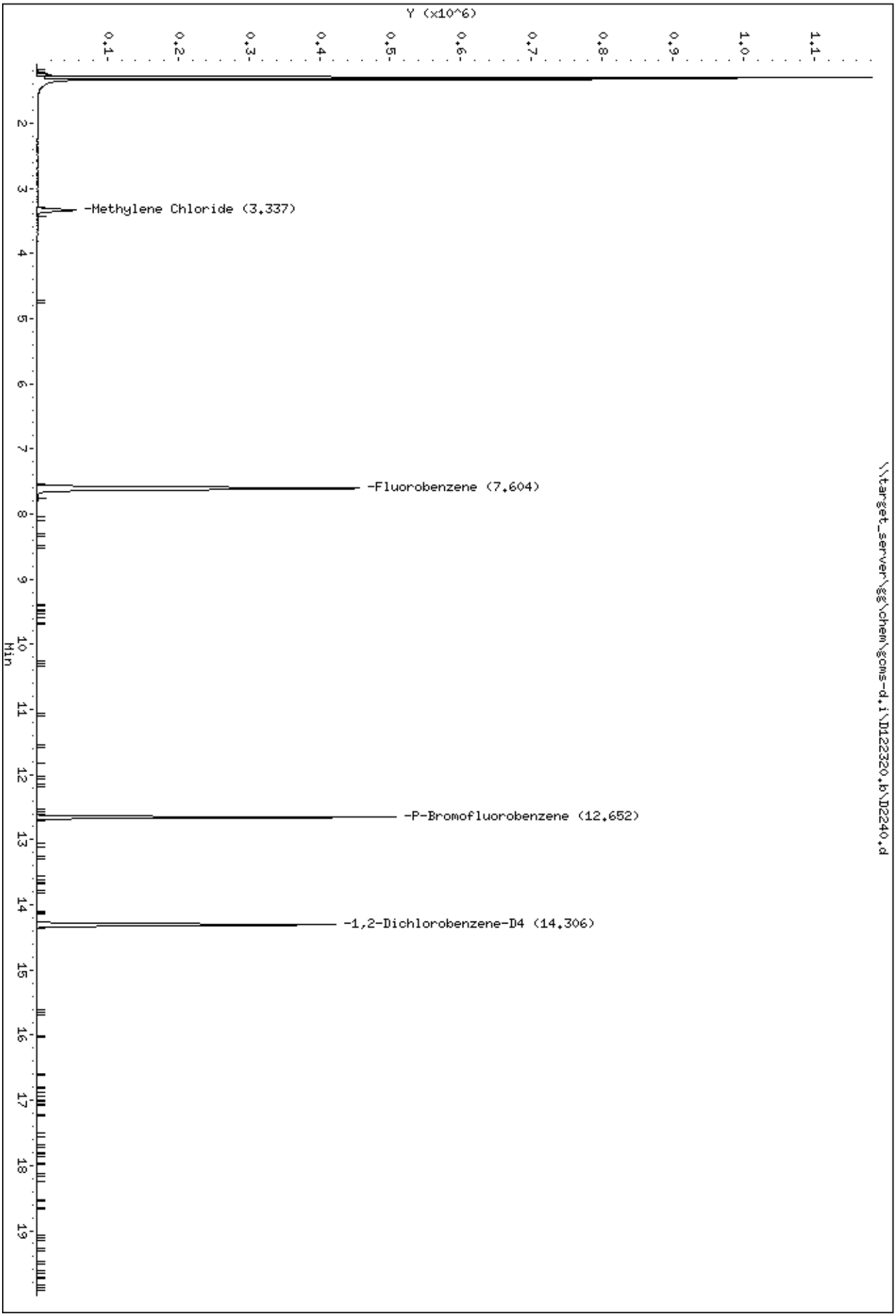
Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
10 Methylene Chloride	84	3.336	3.337	(0.439)	27168	2.40795	2.4(a)	
* 29 Fluorobenzene	96	7.603	7.604	(1.000)	523520	10.0000		
$ 53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	144228	8.53764	8.5	
$ 68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	114959	8.63152	8.6	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 23-DEC-2020 13:08
Client ID: W-01-MID-WINTER2020
Sample Info: TN0377-3
Instrument: gcms-d.i
\\target_server\gg\chem\gcms-d.i\D122320.b\D2240.d
Y (x10^6)
-Methylene Chloride (3.337)
-Fluorobenzene (7.604)
-P-Bromofluorobenzene (12.652)
-1,2-Dichlorobenzene-D4 (14.306)
Min

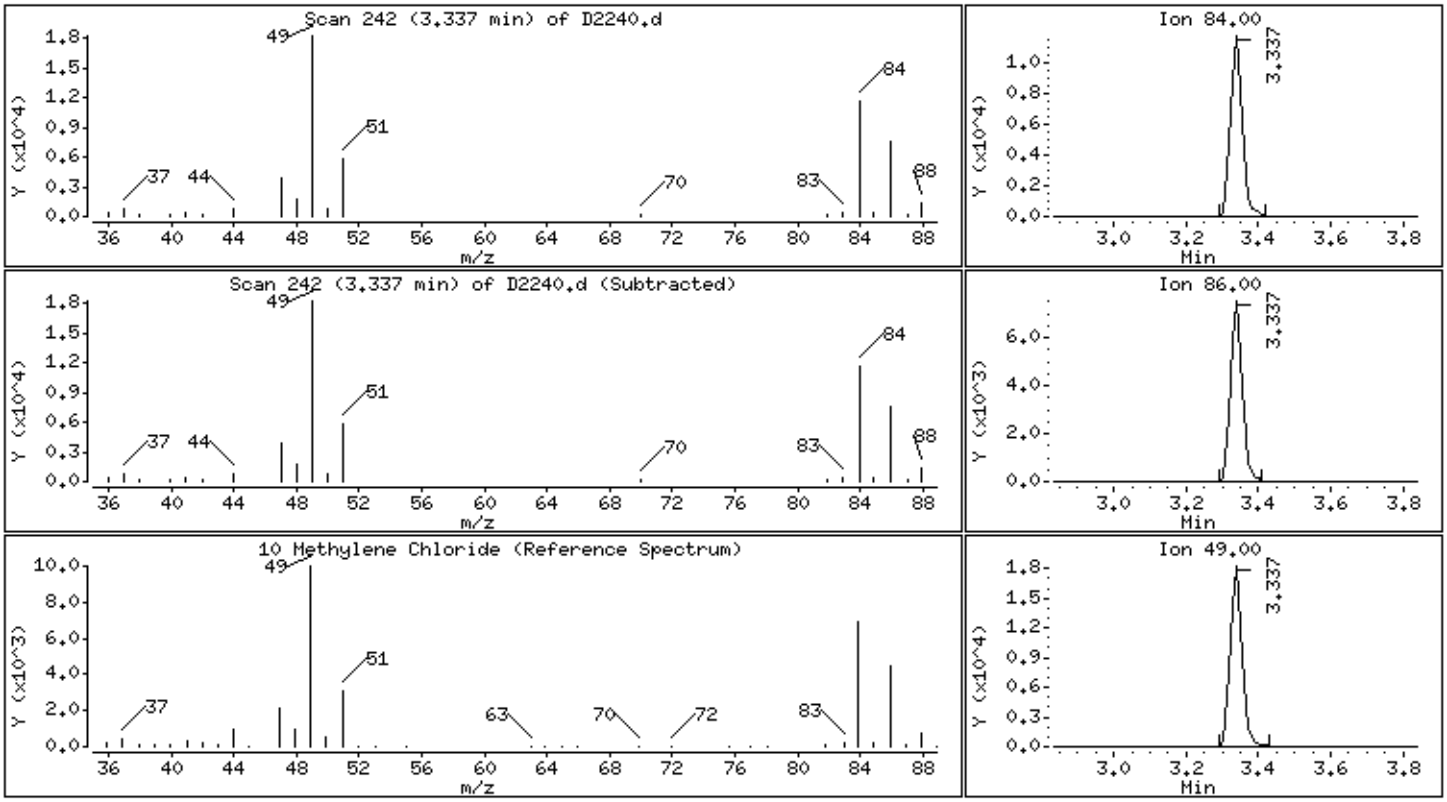
Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2240.d

Date : 23-DEC-2020 13:08

Client ID: W-01-MID-WINTER2020 Instrument: gcms-d.i

Sample Info: TN0377-3

10 Methylene Chloride Concentration: 2.4 ug/l



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-4
Client ID: DW-02R-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2241.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		4.2	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-4
Client ID: DW-02R-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2241.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		85.4	%					
1,2-Dichlorobenzene-D4		85.9	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2241.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

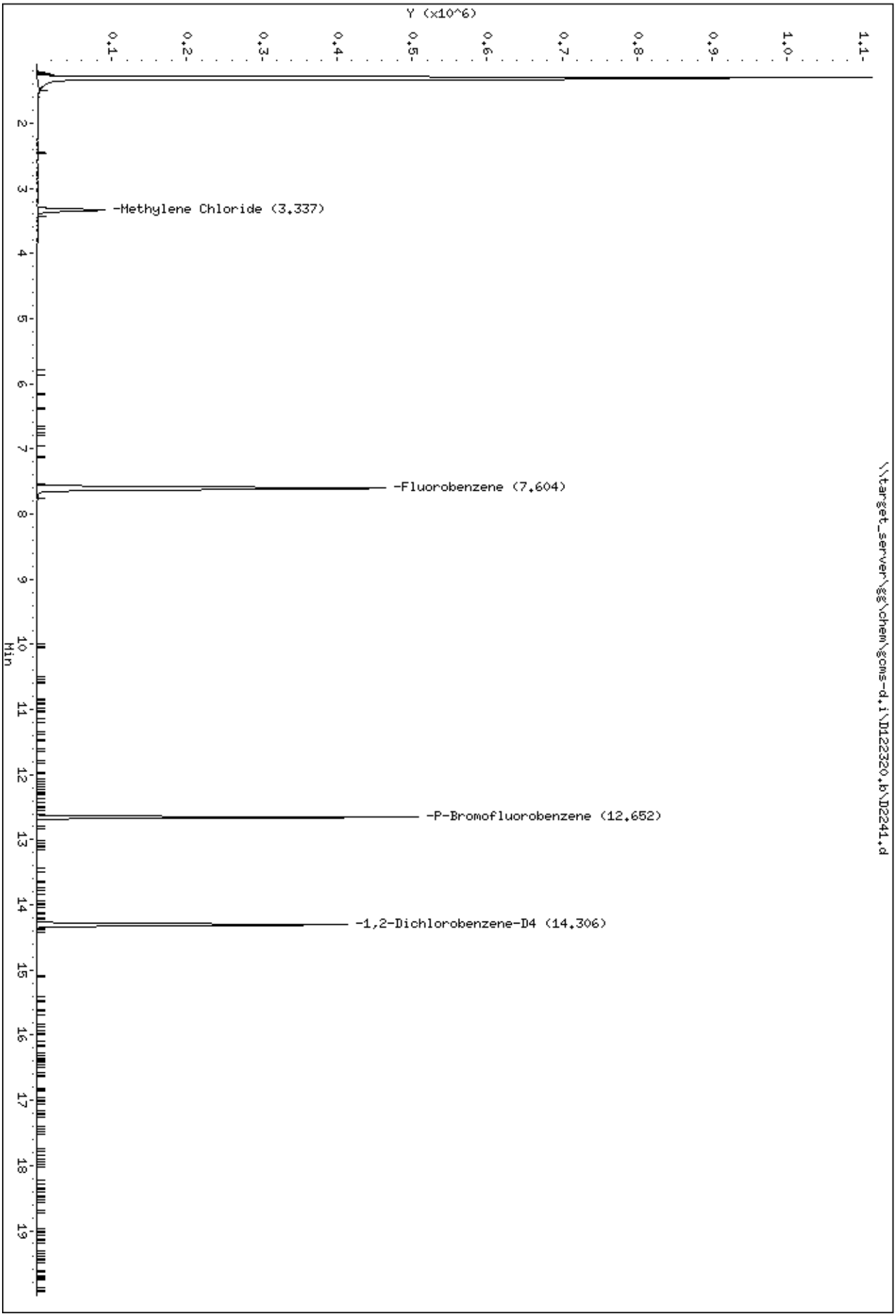
EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2241.d
Lab Smp Id: TN0377-4 Client Smp ID: W-02R-EFF-WINTER202
Inj Date : 23-DEC-2020 13:49
Operator : HG Inst ID: gcms-d.i
Smp Info : TN0377-4
Misc Info : WG292404,WG292260-4
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
10 Methylene Chloride	84	3.336	3.337	(0.439)	46723	4.21967	4.2	
* 29 Fluorobenzene	96	7.603	7.604	(1.000)	515137	10.0000		
$ 53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	142003	8.54272	8.5	
$ 68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	112590	8.59122	8.6	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Date : 23-DEC-2020 13:49
Client ID: W-02R-EFF-WINTER202
Sample Info: TN0377-4
Instrument: gcms-d.i
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Y (x10^6)
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
-Methylene Chloride (3.337)
-Fluorobenzene (7.604)
-P-Bromofluorobenzene (12.652)
-1,2-Dichlorobenzene-D4 (14.306)
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

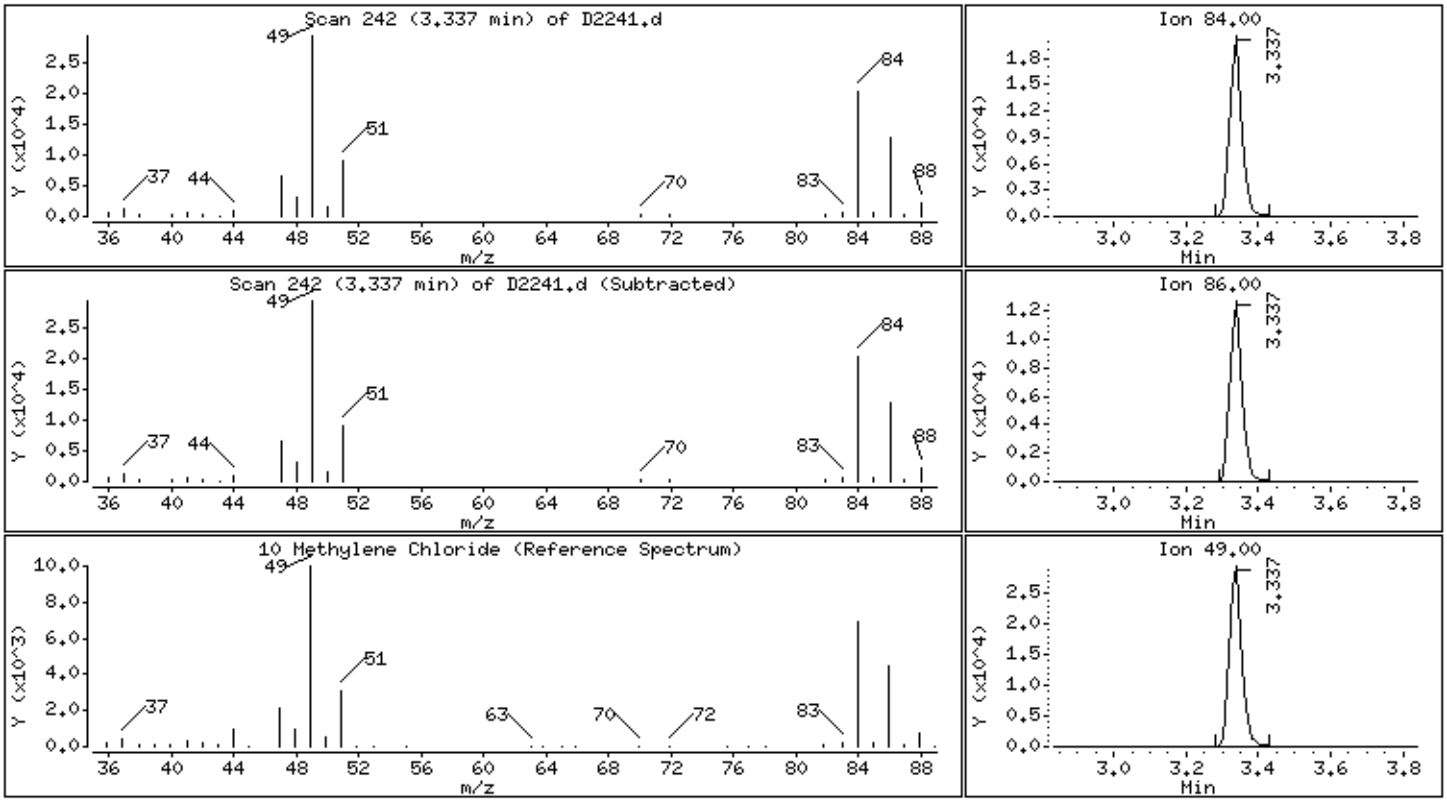
Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2241.d

Date : 23-DEC-2020 13:49

Client ID: W-02R-EFF-WINTER202 Instrument: gcms-d.i

Sample Info: TN0377-4

10 Methylene Chloride Concentration: 4.2 ug/l



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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-5
Client ID: DW-02R-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2242.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		2.5	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-5
Client ID: DW-02R-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2242.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		85.0	%					
1,2-Dichlorobenzene-D4		86.1	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2242.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

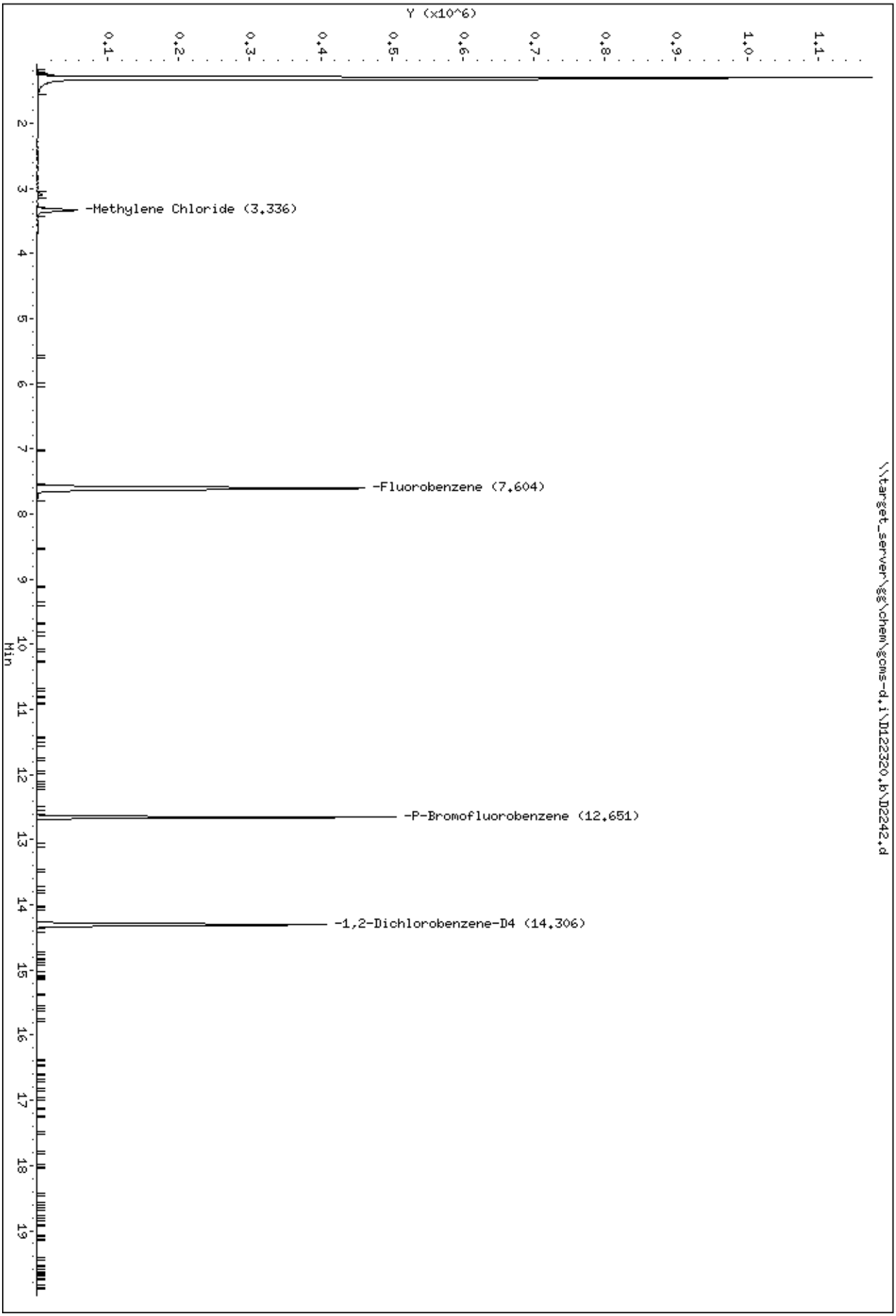
EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2242.d
Lab Smp Id: TN0377-5 Client Smp ID: W-02R-INF-WINTER202
Inj Date : 23-DEC-2020 14:31
Operator : HG Inst ID: gcms-d.i
Smp Info : TN0377-5
Misc Info : WG292404,WG292260-4
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
10 Methylene Chloride	84	3.336	3.337	(0.439)	27972	2.50230	2.5	
* 29 Fluorobenzene	96	7.603	7.604	(1.000)	518761	10.0000		
$ 53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	142238	8.49708	8.5	
$ 68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	113606	8.60819	8.6	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Sample Info: TN0377-5
Instrument: gcms-d.i
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Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
-Methylene Chloride (3.336)
-Fluorobenzene (7.604)
-P-Bromofluorobenzene (12.651)
-1,2-Dichlorobenzene-D4 (14.306)
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

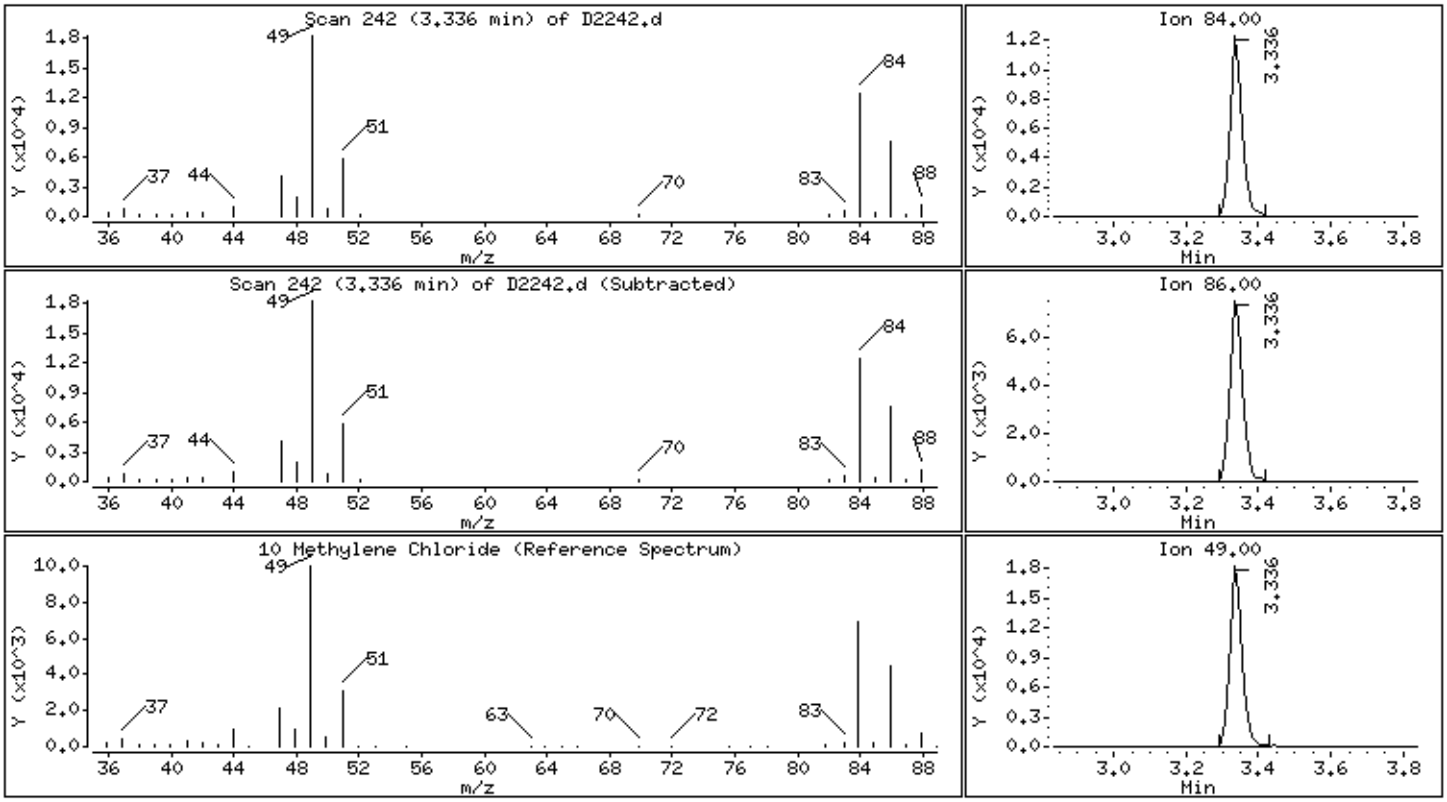
Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2242.d

Date : 23-DEC-2020 14:31

Client ID: W-02R-INF-WINTER202 Instrument: gcms-d.i

Sample Info: TN0377-5

10 Methylene Chloride Concentration: 2.5 ug/l



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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-6
Client ID: DW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2243.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		7.8	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-6
Client ID: DW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2243.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		84.0	%					
1,2-Dichlorobenzene-D4		84.6	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2243.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

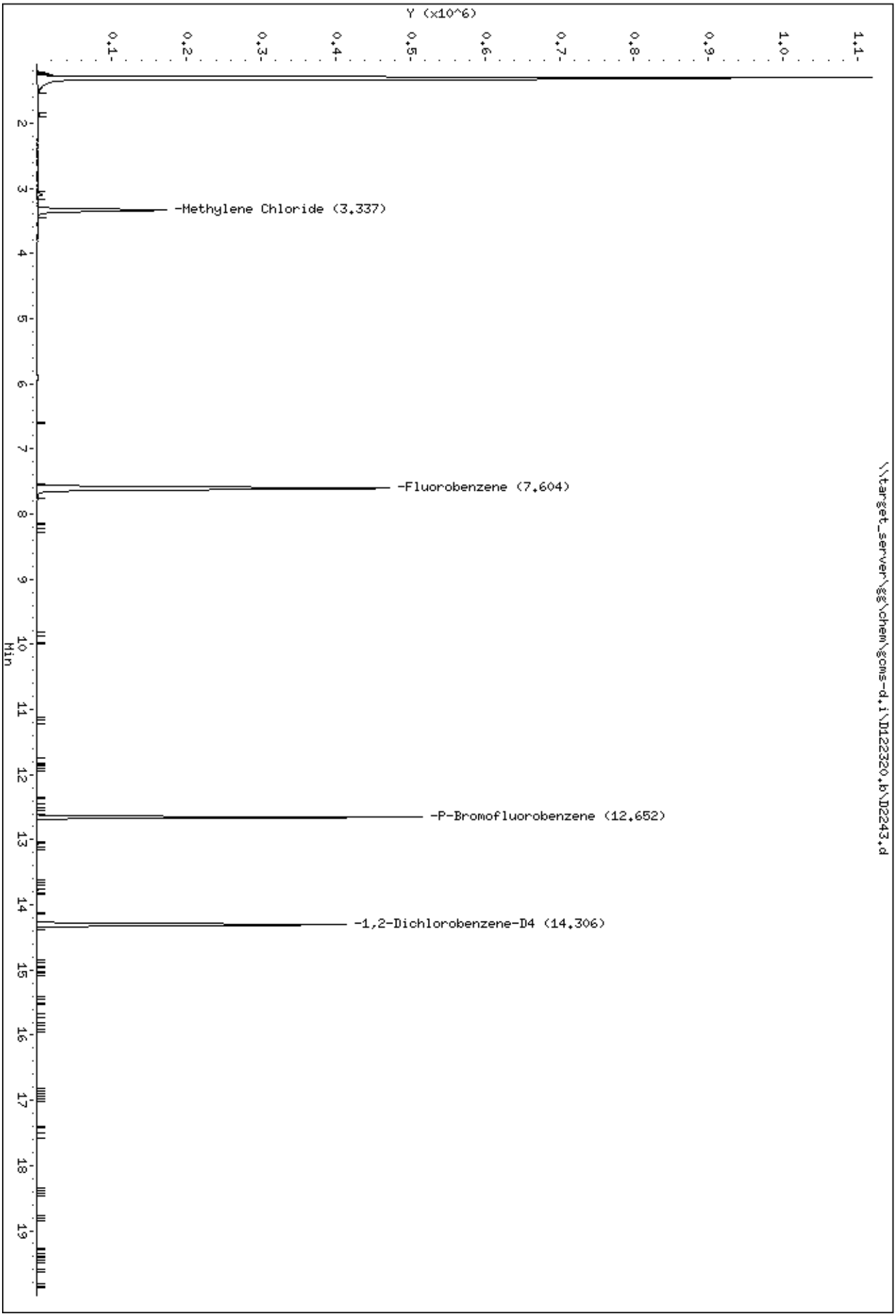
EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2243.d
Lab Smp Id: TN0377-6 Client Smp ID: DW-FD-WINTER2020
Inj Date : 23-DEC-2020 15:14
Operator : HG Inst ID: gcms-d.i
Smp Info : TN0377-6
Misc Info : WG292404,WG292260-4
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
10 Methylene Chloride	84	3.336	3.337	(0.439)	87690	7.79395	7.8	
* 29 Fluorobenzene	96	7.603	7.604	(1.000)	526140	10.0000		
$ 53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	142695	8.40483	8.4	
$ 68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	113233	8.45959	8.4	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Date : 23-DEC-2020 15:14
Client ID: DW-FD-WINTER2020
Sample Info: TN0377-6
Instrument: gcms-d.i
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Y (x10^6)
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
-Methylene Chloride (3.337)
-Fluorobenzene (7.604)
-P-Bromofluorobenzene (12.652)
-1,2-Dichlorobenzene-D4 (14.306)
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

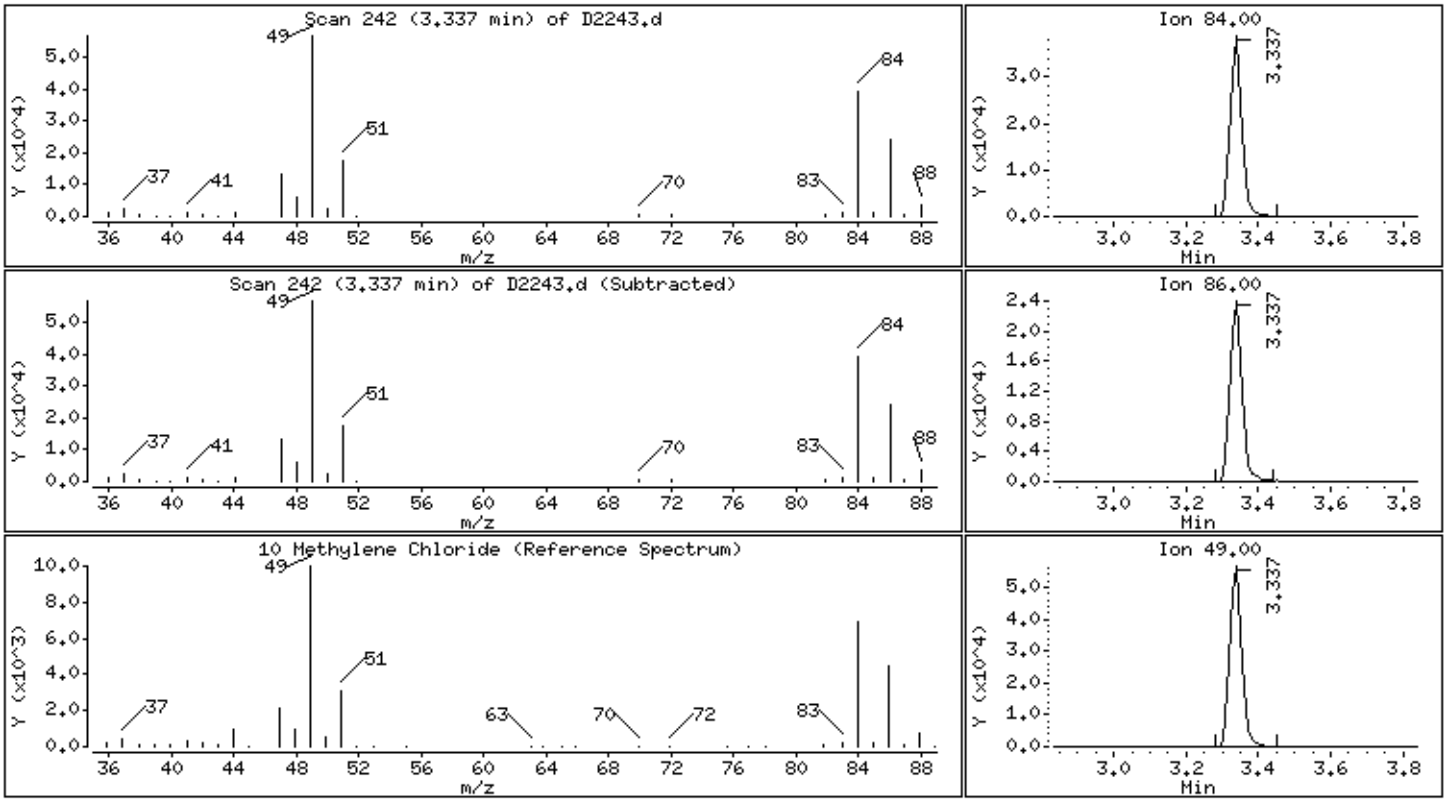
Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2243.d

Date : 23-DEC-2020 15:14

Client ID: DW-FD-WINTER2020 Instrument: gcms-d.i

Sample Info: TN0377-6

10 Methylene Chloride Concentration: 7.8 ug/l



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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-14
Client ID: DW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2237.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	UL	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	UL	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	UL	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		3.6	ug/L	1	2.5	2.5	0.62	1.2
Acetone	J	2.4	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-14
Client ID: DW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: D2237.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		86.5	%					
1,2-Dichlorobenzene-D4		88.4	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2237.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2237.d
Lab Smp Id: TN0377-14 Client Smp ID: DW-TB-WINTER2020
Inj Date : 23-DEC-2020 11:03
Operator : HG Inst ID: gcms-d.i
Smp Info : TN0377-14
Misc Info : WG292404,WG292260-4
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

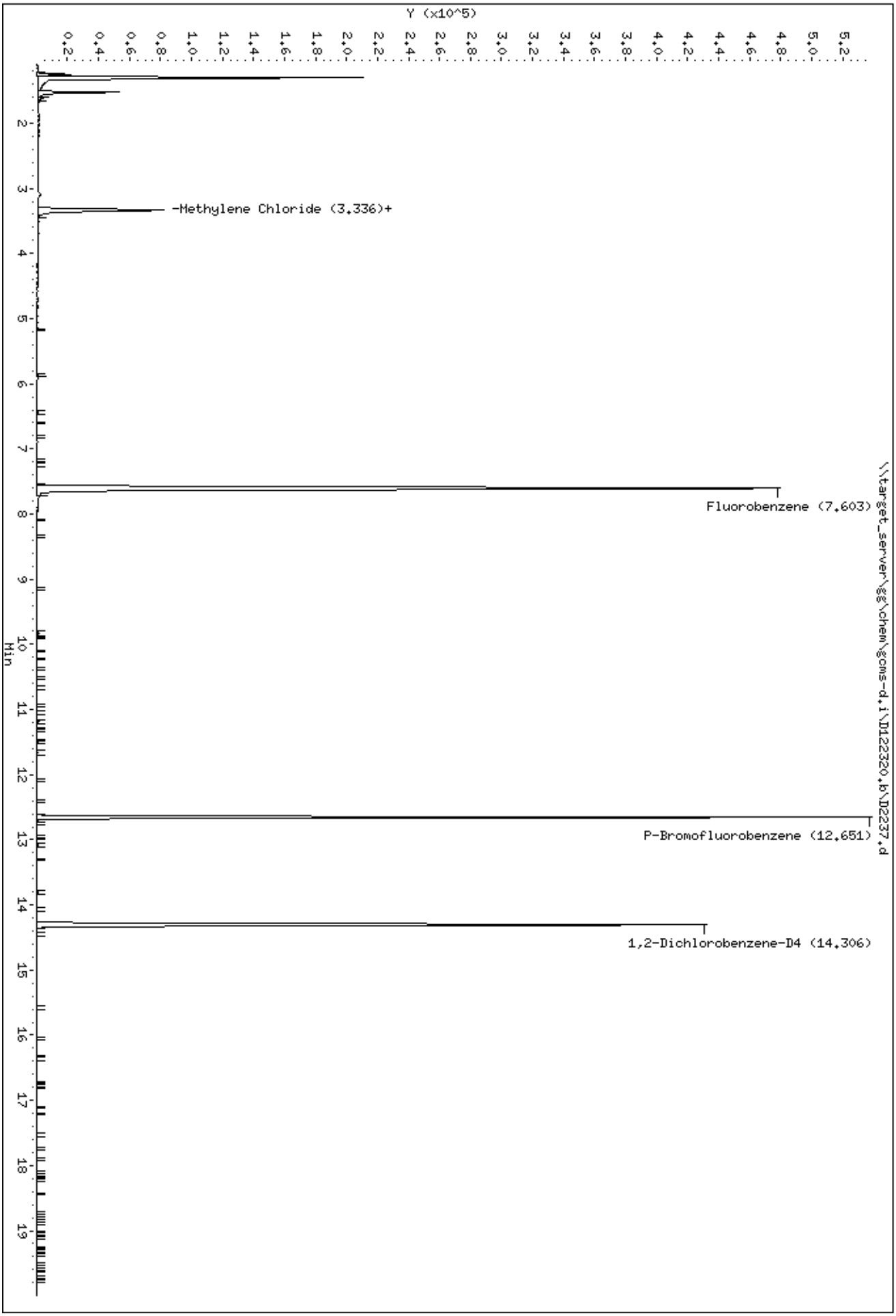
Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
10 Methylene Chloride	84	3.336	3.337	(0.439)	41189	3.56507	3.6	
11 Acetone	43	3.382	3.383	(0.445)	2852	2.35470	2.4(a)	
* 29 Fluorobenzene	96	7.603	7.604	(1.000)	536995	10.0000		
$ 53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	149894	8.65039	8.6	
$ 68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	120725	8.83700	8.8	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 23-DEC-2020 11:03
Client ID: DW-TB-WINTER2020
Sample Info: TN0377-14
Instrument: gcms-d.i
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Y (x10^5)
-Methylene Chloride (3.336)+
Fluorobenzene (7.603)
P-Bromofluorobenzene (12.651)
1,2-Dichlorobenzene-D4 (14.306)
Min

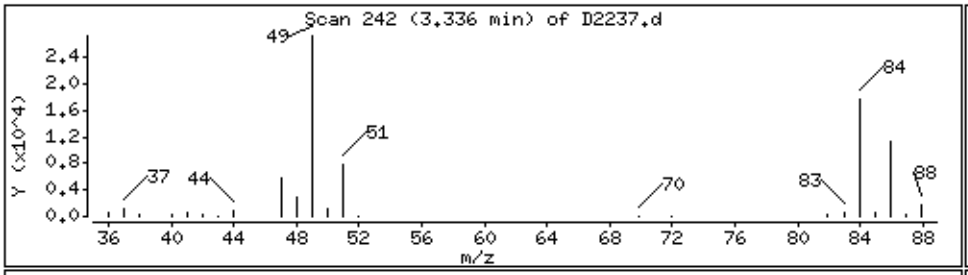
Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2237.d

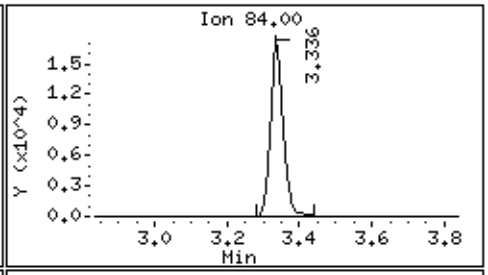
Date : 23-DEC-2020 11:03

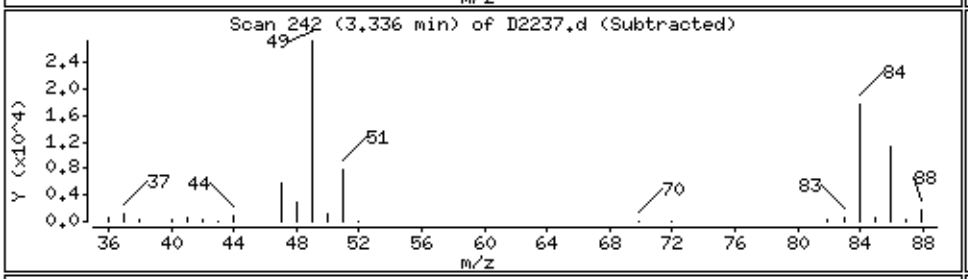
Client ID: DW-TB-WINTER2020 Instrument: gcms-d.i

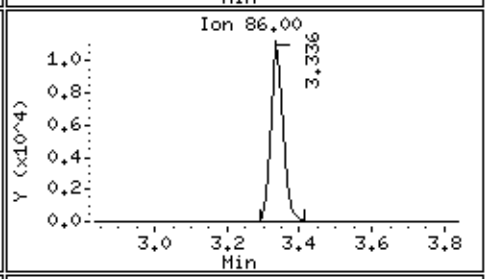
Sample Info: TN0377-14

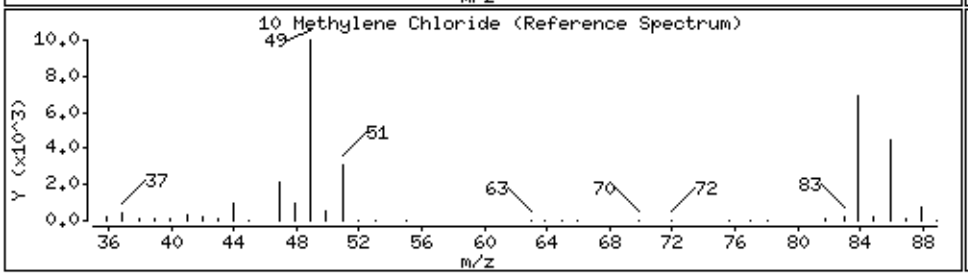
10 Methylene Chloride Concentration: 3.6 ug/l

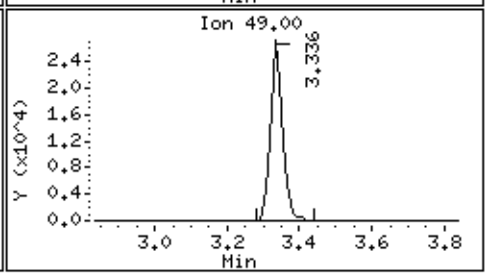




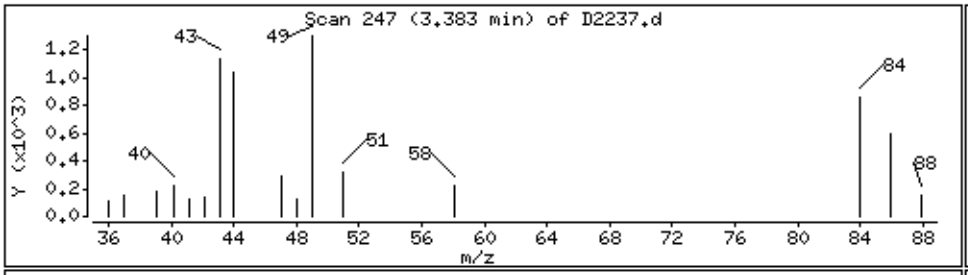


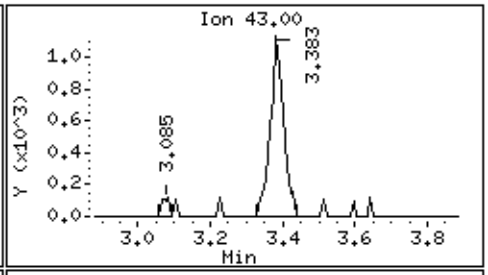


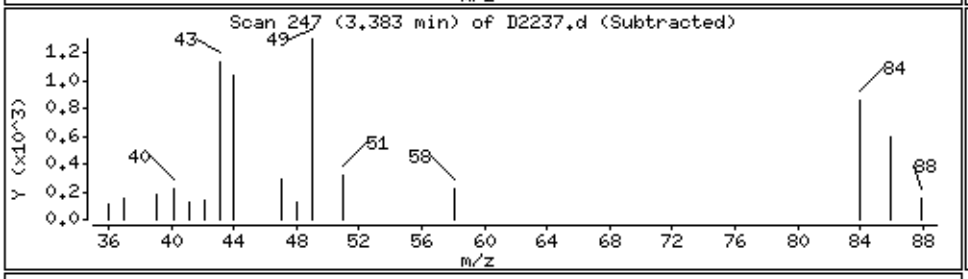


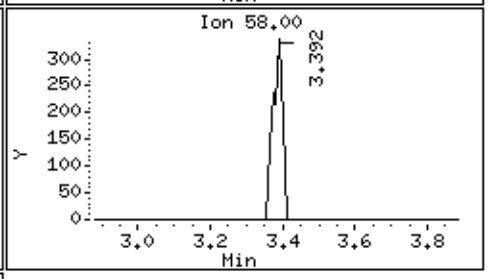


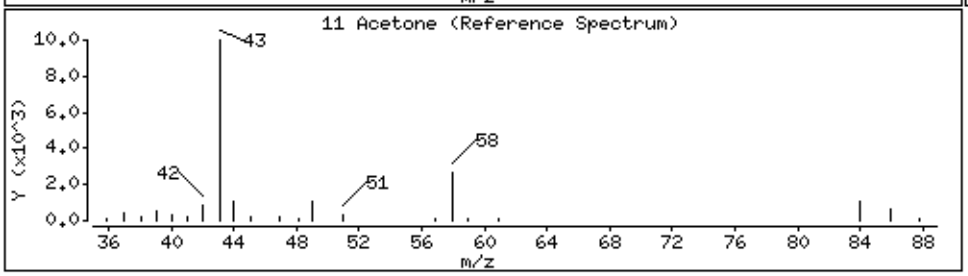
11 Acetone Concentration: 2.4 ug/l











Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** TN0377
Project : LO-58 Nike Missile Battery Launch Site **Instrument ID:** GCMS-D
Lab File IDs : D2202.d D2201.d D2200.d D2199.d D2205.d D2204.d D2203.d **Calibration Date(s):** 21-DEC-20 08:31 21-DEC-20 12:42

	0.5000000 Level 1	2.0000 Level 2	5.0000 Level 3	10.0000 Level 4	20.0000 Level 5	40.0000 Level 6	60.0000 Level 7		New Crv	b	m1	%RSD	Max %RSD	
Dichlorodifluoromethane	0.21910	0.21436	0.22060	0.22250	0.19872	0.21368	0.23163		AVG		0.21723	4.65474	20.00000	O
Chloromethane	0.32536	0.25705	0.24345	0.23815	0.28339	0.28691	0.28873		AVG		0.27472	11.13198	20.00000	O
Vinyl chloride	0.21410	0.20194	0.19950	0.20061	0.21185	0.22356	0.23387		AVG		0.21221	6.09423	20.00000	O
Bromomethane	701	3640	10563	21094	102765	194712	238385		QUA	0.000e+00	15.55921	0.99404	0.99000	O
Chloroethane	0.13255	0.12789	0.12904	0.12392	0.10814	0.09452	+++++		AVG		0.11934	12.45010	20.00000	O
Trichlorofluoromethane	0.45124	0.43663	0.45454	0.46928	0.40056	0.43131	0.48393		AVG		0.44679	6.09247	20.00000	O
1,1-Dichloroethene	0.22480	0.23062	0.22064	0.22572	0.22346	0.21615	0.23616		AVG		0.22537	2.89587	20.00000	O
Carbon Disulfide	0.48826	0.53432	0.54443	0.57977	0.59212	0.58005	0.62967		AVG		0.56409	8.12738	20.00000	O
Methylene Chloride	26987	46365	80384	135698	325659	551913	731075		QUA	0.000e+00	4.62363	0.99734	0.99000	O
Acetone	1750	4264	8210	14235	31714	62359	82647		LNR	0.000e+00	0.02256	0.99724	0.99000	O
trans-1,2-Dichloroethene	0.26528	0.25010	0.23604	0.24620	0.24454	0.23694	0.25127		AVG		0.24719	4.01032	20.00000	O
1,1-Dichloroethane	0.60487	0.60075	0.57222	0.58916	0.57891	0.56077	0.59210		AVG		0.58554	2.69662	20.00000	O
cis-1,2-Dichloroethene	0.26902	0.28643	0.28185	0.29409	0.30902	0.29884	0.30257		AVG		0.29169	4.67187	20.00000	O
2,2-Dichloropropane	0.30390	0.33799	0.34378	0.39358	0.36552	0.36850	0.43022		AVG		0.36335	11.22288	20.00000	O
Chloroform	0.59449	0.61151	0.58587	0.60441	0.57733	0.56739	0.60994		AVG		0.59299	2.85028	20.00000	O
Bromochloromethane	0.08940	0.09696	0.09723	0.09983	0.10563	0.09321	0.08074		AVG		0.09471	8.42862	20.00000	O
1,1,1-Trichloroethane	0.45057	0.51753	0.50165	0.54821	0.53741	0.52856	0.58989		AVG		0.52483	8.17967	20.00000	O
2-Butanone	0.02928	0.03287	0.03096	0.03012	0.03299	0.03182	0.03410		AVG		0.03174	5.41576	20.00000	O
1,2-Dichloroethane	0.30047	0.32600	0.31257	0.31179	0.28267	0.27581	0.31015		AVG		0.30278	5.88905	20.00000	O
1,1-Dichloropropene	0.32144	0.38650	0.38696	0.43922	0.42162	0.40623	0.44532		AVG		0.40104	10.48753	20.00000	O
Carbon Tetrachloride	0.37921	0.44173	0.43737	0.50026	0.47149	0.46607	0.53770		AVG		0.46198	10.88521	20.00000	O
Benzene	0.99445	1.11614	1.06194	1.09852	1.08678	1.02316	1.04616		AVG		1.06102	4.07090	20.00000	O
1,2-Dichloropropane	0.25686	0.26241	0.25930	0.26492	0.26702	0.25482	0.26714		AVG		0.26178	1.87988	20.00000	O
Trichloroethene	0.33267	0.31695	0.30640	0.32541	0.31594	0.30507	0.32725		AVG		0.31853	3.29460	20.00000	O
Dibromomethane	0.11343	0.11172	0.11250	0.11345	0.11000	0.10732	0.11450		AVG		0.11185	2.20406	20.00000	O
Bromodichloromethane	0.28988	0.31905	0.33260	0.34675	0.34482	0.34382	0.38222		AVG		0.33702	8.40053	20.00000	O
cis-1,3-dichloropropene	0.21385	0.26332	0.28966	0.31734	0.33195	0.33264	0.36129		AVG		0.30144	16.58837	20.00000	O
Toluene	0.51165	0.62836	0.63077	0.67621	0.65722	0.61930	0.64739		AVG		0.62441	8.54578	20.00000	O
trans-1,3-Dichloropropene	0.14731	0.19597	0.22946	0.24819	0.24846	0.25061	0.28043		AVG		0.22863	19.25059	20.00000	O
1,1,2-Trichloroethane	0.10488	0.11833	0.11505	0.11137	0.11508	0.11001	0.11747		AVG		0.11317	4.17997	20.00000	O
1,3-Dichloropropane	0.20612	0.23182	0.23627	0.23249	0.23417	0.22567	0.24540		AVG		0.23028	5.29519	20.00000	O
Dibromochloromethane	0.11946	0.15333	0.16232	0.17353	0.18494	0.18979	0.20717		AVG		0.17008	16.80243	20.00000	O
Tetrachloroethene	0.21143	0.22585	0.21673	0.23253	0.23256	0.22029	0.23740		AVG		0.22526	4.22201	20.00000	O
4-methyl-2-pentanone	1242	6586	18334	36475	115844	220536	302206		QUA	0.000e+00	14.44283	0.99936	0.99000	O
1,2-Dibromoethane	0.09446	0.11558	0.12066	0.11869	0.11888	0.11388	0.12617		AVG		0.11548	8.71181	20.00000	O
2-Hexanone	615	3503	9661	19318	69863	143157	206222		QUA	0.000e+00	24.12613	0.99848	0.99000	O

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sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** TN0377
Project : LO-58 Nike Missile Battery Launch Site **Instrument ID:** GCMS-D
Lab File IDs : D2202.d D2201.d D2200.d D2199.d D2205.d D2204.d D2203.d **Calibration Date(s):** 21-DEC-20 08:31 21-DEC-20 12:42

Chlorobenzene	0.54125	0.65766	0.65824	0.68398	0.67633	0.64246	0.66628		AVG		0.64660	7.48191	20.00000	O
1,1,1,2-Tetrachloroethane	0.18233	0.22557	0.22625	0.23523	0.23319	0.22476	0.24250		AVG		0.22426	8.72450	20.00000	O
Ethylbenzene	0.95740	1.33337	1.31791	1.39819	1.30064	1.22157	1.28570		AVG		1.25925	11.37853	20.00000	O
m+p-Xylenes	0.38836	0.48935	0.46861	0.48369	0.44574	0.40646	0.43325		AVG		0.44506	8.63117	20.00000	O
Bromoform	0.05467	0.06471	0.06928	0.07279	0.08145	0.08182	0.09056		AVG		0.07361	16.39122	20.00000	O
o-Xylene	0.33849	0.42908	0.43508	0.45510	0.43535	0.41135	0.43734		AVG		0.42026	9.11148	20.00000	O
Styrene	0.47695	0.66490	0.66720	0.68559	0.65632	0.61506	0.64477		AVG		0.63011	11.26841	20.00000	O
1,1,2,2-Tetrachloroethane	0.11679	0.12785	0.12588	0.11981	0.12079	0.11776	0.13036		AVG		0.12275	4.29486	20.00000	O
1,2,3-Trichloropropane	0.11932	0.11812	0.11267	0.10779	0.10186	0.09714	0.10649		AVG		0.10906	7.50879	20.00000	O
Isopropylbenzene	0.94353	1.25115	1.21791	1.31790	1.20347	1.13711	1.23684		AVG		1.18684	10.12993	20.00000	O
Bromobenzene	0.25308	0.24454	0.24581	0.24437	0.23877	0.22919	0.24629		AVG		0.24315	3.06386	20.00000	O
2-Chlorotoluene	0.91115	0.98677	0.94158	0.97404	0.88948	0.85002	0.93048		AVG		0.92622	5.13838	20.00000	O
N-Propylbenzene	1.49394	1.64711	1.59615	1.70401	1.51443	1.43357	1.54133		AVG		1.56151	5.98426	20.00000	O
4-Chlorotoluene	0.92353	0.99362	0.97098	1.00814	0.91415	0.87036	0.94907		AVG		0.94712	5.09910	20.00000	O
1,3,5-Trimethylbenzene	0.92784	1.08098	1.05173	1.12114	1.00192	0.95196	1.04090		AVG		1.02521	6.74033	20.00000	O
1,2,4-Trichlorobenzene	0.14899	0.19680	0.22764	0.23806	0.25607	0.25362	0.28896		AVG		0.23002	19.80357	20.00000	O
sec-Butylbenzene	1.17942	1.35099	1.31608	1.41952	1.24660	1.18526	1.31768		AVG		1.28794	6.87145	20.00000	O
1,3-Dichlorobenzene	0.52196	0.54890	0.52317	0.52643	0.49341	0.47179	0.51773		AVG		0.51477	4.84726	20.00000	O
P-Isopropyltoluene	0.88498	1.07251	1.07884	1.16969	1.04813	1.01407	1.13348		AVG		1.05738	8.70021	20.00000	O
1,4-Dichlorobenzene	0.45331	0.50446	0.49523	0.50384	0.47689	0.46088	0.50680		AVG		0.48592	4.57060	20.00000	O
1,2-Dichlorobenzene	0.45181	0.43703	0.41376	0.41329	0.39754	0.38266	0.42732		AVG		0.41763	5.61479	20.00000	O
N-Butylbenzene	0.78834	1.03639	1.07648	1.18994	1.06403	1.03170	1.17376		AVG		1.05152	12.56664	20.00000	O
1,2-Dibromo-3-Chloropropane	120	1167	3218	6368	20581	43708	65213		QUA	0.000e+00	80.57967	0.99936	0.99000	O
1,2,4-Trimethylbenzene	0.92499	1.06598	1.06239	1.11717	1.00949	0.97504	1.06717		AVG		1.03174	6.35225	20.00000	O
Naphthalene	2474	16042	55640	119614	388209	753389	1103543		QUA	0.000e+00	4.44220	0.99916	0.99000	O
Hexachlorobutadiene	0.18497	0.19241	0.19787	0.22310	0.21126	0.21279	0.25097		AVG		0.21048	10.51774	20.00000	O
1,2,3-Trichlorobenzene	0.11532	0.14698	0.16877	0.16768	0.18616	0.18619	0.20685		AVG		0.16828	17.80473	20.00000	O
Methyl tert-butyl ether	0.27722	0.26647	0.25744	0.24597	0.26849	0.24389	0.27573		AVG		0.26217	5.13570	20.00000	O
P-Bromofluorobenzene	0.31152	0.32928	0.33371	0.32025	0.31160	0.31005	0.34238		AVG		0.32268	3.93246	20.00000	
1,2-Dichlorobenzene-D4	0.25210	0.25754	0.26526	0.25114	0.24424	0.24143	0.26911		AVG		0.25440	4.03250	20.00000	
1,2-Dichlorobenzene	0.45181	0.43703	0.41376	0.41329	0.39754	0.38266	0.42732		AVG		0.41763	5.61479	20.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2234a.d
Report Date: 27-Jan-2021 15:04

Katahdin Analytical Services

RECOVERY REPORT

Client Name:
Client SDG: SDGa01600
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: WG292404-8
Level: LOW
Operator: HG
Data Type: MS DATA
SampleType: LCS
SpikeList File: INDCHK524.spk
Quant Type: ISTD
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Misc Info: WG292404,WG292262-4,TN0377-1

	SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	1 Dichlorodifluorome	5.0	8.4	168.13*	80-120
	2 Chloromethane	5.0	7.4	149.11*	80-120
	3 Vinyl chloride	5.0	6.6	132.49*	80-120
	4 Bromomethane	5.0	4.0	79.18*	80-120
	5 Chloroethane	5.0	6.1	121.25*	80-120
	6 Trichlorofluoromet	5.0	5.8	116.51	80-120
	9 Freon-113	5.0	4.7	93.40	80-120
	7 1,1-Dichloroethene	5.0	4.5	90.80	80-120
	11 Acetone	5.0	6.5	129.51*	80-120
	8 Carbon Disulfide	5.0	4.7	93.82	80-120
	10 Methylene Chloride	5.0	5.8	115.81	80-120
	12 trans-1,2-Dichloro	5.0	4.5	89.67	80-120
	13 Methyl tert-butyl	5.0	6.2	124.35*	80-120
	16 1,1-Dichloroethane	5.0	4.8	96.65	80-120
	15 Di-isopropyl Ether	5.0	4.9	98.46	80-120
	17 Ethyl tertiary-but	5.0	5.1	102.30	80-120
	14 Tertiary-butyl alc	25.0	26.7	106.69	80-120
	19 2,2-Dichloropropan	5.0	4.9	97.40	80-120
	18 cis-1,2-Dichloroet	5.0	4.7	93.90	80-120
M	76 1,2-Dichloroethyle	10.0	9.2	91.79	80-120
	25 2-Butanone	5.0	5.1	102.62	80-120
	20 Bromochloromethane	5.0	5.1	102.43	80-120
	21 Chloroform	5.0	4.6	92.59	80-120
	23 1,1,1-Trichloroeth	5.0	4.7	94.02	80-120
	22 Carbon Tetrachlori	5.0	4.4	88.89	80-120
	24 1,1-Dichloropropen	5.0	4.9	97.71	80-120
	26 Benzene	5.0	4.9	98.00	80-120
	28 1,2-Dichloroethane	5.0	4.9	97.59	80-120
	27 Tertiary-amyl meth	5.0	5.3	106.04	80-120
	30 Trichloroethene	5.0	4.8	95.87	80-120
	32 1,2-Dichloropropan	5.0	4.8	97.04	80-120
	31 Dibromomethane	5.0	4.5	89.42	80-120
	33 Bromodichlorometha	5.0	4.7	94.24	80-120
	42 2-Chloroethylvinyl	5.0	0.00	0.00*	80-120
	34 cis-1,3-dichloropr	5.0	4.8	96.84	80-120
M	77 Xylenes (total)	15.0	15.2	101.31	80-120
	37 4-methyl-2-pentano	5.0	4.5	90.31	80-120
	35 Toluene	5.0	5.1	101.42	80-120
	38 trans-1,3-Dichloro	5.0	5.0	100.93	80-120
	39 1,1,2-Trichloroeth	5.0	4.9	97.95	80-120

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2234a.d
Report Date: 27-Jan-2021 15:04

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
36 Tetrachloroethene	5.0	4.6	92.82	80-120
41 1,3-Dichloropropan	5.0	4.9	97.55	80-120
44 2-Hexanone	5.0	4.3	86.89	80-120
40 Dibromochlorometha	5.0	4.6	92.92	80-120
43 1,2-Dibromoethane	5.0	4.9	97.80	80-120
45 Chlorobenzene	5.0	5.0	99.08	80-120
46 Ethylbenzene	5.0	5.1	102.72	80-120
47 1,1,1,2-Tetrachlor	5.0	5.0	100.50	80-120
48 m+p-Xylenes	10.0	10.2	101.77	80-120
49 o-Xylene	5.0	5.0	100.37	80-120
50 Styrene	5.0	5.1	101.77	80-120
51 Bromoform	5.0	4.4	89.00	80-120
52 Isopropylbenzene	5.0	5.0	101.06	80-120
54 Bromobenzene	5.0	4.9	97.66	80-120
56 1,1,2,2-Tetrachlor	5.0	5.0	99.78	80-120
55 N-Propylbenzene	5.0	4.9	98.07	80-120
58 1,2,3-Trichloropro	5.0	4.8	96.50	80-120
57 2-Chlorotoluene	5.0	4.9	98.24	80-120
59 1,3,5-Trimethylben	5.0	5.0	99.57	80-120
60 4-Chlorotoluene	5.0	4.9	97.50	80-120
61 tert-Butylbenzene	5.0	4.9	98.76	80-120
62 1,2,4-Trimethylben	5.0	4.9	98.44	80-120
63 sec-Butylbenzene	5.0	5.0	100.63	80-120
65 1,3-Dichlorobenzen	5.0	4.9	97.42	80-120
64 P-Isopropyltoluene	5.0	5.0	100.38	80-120
66 1,4-Dichlorobenzen	5.0	4.8	95.47	80-120
67 N-Butylbenzene	5.0	5.0	100.26	80-120
69 1,2-Dichlorobenzen	5.0	4.7	94.45	80-120
70 1,2-Dibromo-3-Chlo	5.0	4.6	93.14	80-120
71 1,3,5-Trichloroben	5.0	4.8	95.04	80-120
73 1,2,4-Trichloroben	5.0	4.8	95.97	80-120
72 Hexachlorobutadien	5.0	4.5	90.58	80-120
74 Naphthalene	5.0	3.9	78.93*	80-120
75 1,2,3-Trichloroben	5.0	4.7	94.28	80-120
M 78 Trihalomethanes, T	20.0	18.4	92.19	80-120

SURROGATE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
$ 53 P-Bromofluorobenze	10.0	10.0	100.59	60-121
$ 68 1,2-Dichlorobenzen	10.0	10.2	101.57	51-133

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2234a.d
Report Date: 27-Jan-2021 15:04

Katahdin Analytical Services

EPA 524.2

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Inj Date : 23-DEC-2020 08:53
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292404-8,TN0377
Misc Info : WG292404,WG292262-4,TN0377-1
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Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

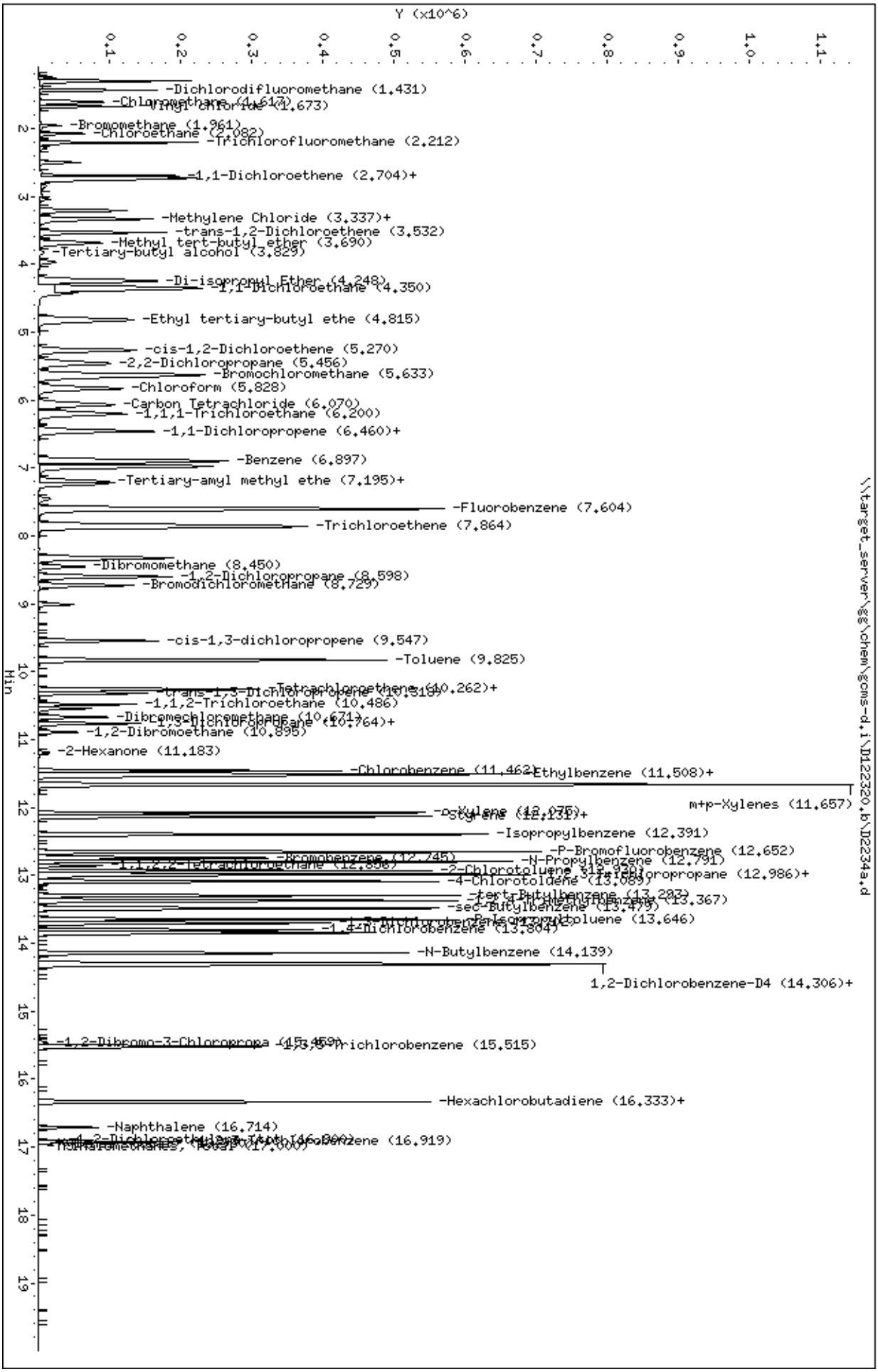
Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.430	1.431	(0.188)	121438	8.40658	8.4(R)	
2 Chloromethane	50	1.616	1.607	(0.213)	136200	7.45526	7.4(R)	
3 Vinyl chloride	62	1.672	1.673	(0.220)	93486	6.62475	6.6(R)	
4 Bromomethane	94	1.960	1.961	(0.258)	16963	3.95916	4.0(R)	
5 Chloroethane	64	2.081	2.072	(0.274)	48113	6.06240	6.1(R)	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	173082	5.82547	5.8	
7 1,1-Dichloroethene	96	2.704	2.695	(0.356)	68042	4.54014	4.5	
8 Carbon Disulfide	76	2.732	2.723	(0.359)	175962	4.69084	4.7	
9 Freon-113	151	2.750	2.751	(0.362)	50842	4.66978	4.7	
10 Methylene Chloride	84	3.336	3.337	(0.439)	82579	5.79038	5.8	
11 Acetone	43	3.383	3.383	(0.445)	9713	6.47573	6.5(R)	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	73700	4.48341	4.5	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	108399	6.21753	6.2(R)	
14 Tertiary-butyl alcohol	59	3.829	3.829	(0.504)	7639	26.6714	26.7	
15 Di-isopropyl Ether	45	4.247	4.238	(0.559)	247143	4.92279	4.9	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	188176	4.83267	4.8	
17 Ethyl tertiary-butyl ether	59	4.824	4.824	(0.634)	159800	5.11489	5.1	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	91072	4.69510	4.7	
19 2,2-Dichloropropane	77	5.456	5.465	(0.718)	117670	4.86985	4.9	
20 Bromochloromethane	128	5.632	5.624	(0.741)	32257	5.12144	5.1	
21 Chloroform	83	5.828	5.828	(0.766)	182567	4.62970	4.6	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	136543	4.44456	4.4	
23 1,1,1-Trichloroethane	97	6.199	6.200	(0.815)	164077	4.70119	4.7	
24 1,1-Dichloropropene	75	6.460	6.451	(0.850)	130297	4.88567	4.9	

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2234a.d
Report Date: 27-Jan-2021 15:04

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	25 2-Butanone	43	6.450	6.451	(0.848)	10828	5.13077	5.1	
	26 Benzene	78	6.897	6.897	(0.907)	345719	4.89981	4.9	
	27 Tertiary-amyl methyl ether	73	7.194	7.195	(0.946)	91010	5.30209	5.3	
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	98250	4.87958	4.9	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	664999	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	101541	4.79371	4.8	
	31 Dibromomethane	93	8.449	8.449	(1.111)	33256	4.47124	4.5	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	84466	4.85204	4.8	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	105604	4.71200	4.7	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	97056	4.84181	4.8	
	35 Toluene	92	9.825	9.825	(1.292)	210561	5.07089	5.1	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	69520	4.64100	4.6	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	21021	4.51572	4.5	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	76729	5.04659	5.0	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	36858	4.89765	4.9	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	52549	4.64616	4.6	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	74693	4.87762	4.9	
	42 2-Chloroethylvinylether	63	10.764	10.764	(1.416)	8520		(aR)	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	37550	4.88991	4.9	
	44 2-Hexanone	43	11.182	11.183	(1.471)	12154	4.34434	4.3	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	213026	4.95422	5.0	
	46 Ethylbenzene	91	11.508	11.508	(1.514)	430087	5.13596	5.1	
	47 1,1,1,2-Tetrachloroethane	131	11.536	11.536	(1.517)	74942	5.02516	5.0	
	48 m+p-Xylenes	106	11.656	11.657	(1.533)	301220	10.1775	10.2	
	49 o-Xylene	106	12.075	12.075	(1.588)	140257	5.01866	5.0	
	50 Styrene	104	12.130	12.131	(1.595)	213217	5.08840	5.1	
	51 Bromoform	173	12.140	12.140	(1.597)	21784	4.45014	4.4	
	52 Isopropylbenzene	105	12.391	12.391	(1.630)	398816	5.05310	5.0	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	215851	10.0590	10.0	
	54 Bromobenzene	156	12.744	12.745	(1.676)	78953	4.88284	4.9	
	55 N-Propylbenzene	91	12.791	12.791	(1.682)	509170	4.90341	4.9	
	56 1,1,2,2-Tetrachloroethane	83	12.856	12.856	(1.691)	40722	4.98880	5.0	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	302560	4.91221	4.9	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	34990	4.82476	4.8	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	339422	4.97859	5.0	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	307055	4.87517	4.9	
	61 tert-Butylbenzene	119	13.293	13.293	(1.748)	280584	4.93791	4.9	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	337715	4.92217	4.9	
	63 sec-Butylbenzene	105	13.478	13.479	(1.773)	430918	5.03129	5.0	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	352906	5.01886	5.0	
	65 1,3-Dichlorobenzene	146	13.702	13.702	(1.802)	166752	4.87121	4.9	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.815)	154249	4.77354	4.8	
	67 N-Butylbenzene	91	14.138	14.139	(1.860)	350554	5.01322	5.0	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	171837	10.1572	10.2	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	131157	4.72258	4.7	
	70 1,2-Dibromo-3-Chloropropane	157	15.459	15.459	(2.033)	3910	4.65688	4.6	
	71 1,3,5-Trichlorobenzene	180	15.524	15.524	(2.042)	114600	4.75176	4.8	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	63390	4.52881	4.5	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	73396	4.79830	4.8	
	74 Naphthalene	128	16.714	16.713	(2.198)	59857	3.94675	3.9(R)	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	52754	4.71417	4.7	
M	76 1,2-Dichloroethylene (total)	96				164772	9.17852	9.2	
M	77 Xylenes (total)	106				441477	15.1961	15.2	
M	78 Trihalomethanes, Total	100				362504	18.4380	18.4	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Operator: HG
Column diameter: 0.18
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Y (x10^6)
Min
-Dichlorodifluoromethane (1.431)
-Chloromethane (1.617)
-Vinyl chloride (1.673)
-Bromomethane (1.961)
-Chloroethane (2.082)
-Trichlorofluoromethane (2.212)
-1,1-Dichloroethene (2.704)+
-Methylene Chloride (3.337)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)
-Tertiary-butyl alcohol (3.829)
-Di-isopropyl Ether (4.248)
-1,1-Dichloroethane (4.350)
-Ethyl tertiary-butyl ethe (4.815)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.456)
-Bromochloromethane (5.633)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.200)
-1,1-Dichloropropene (6.460)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.195)+
-Fluorobenzene (7.604)
-Trichloroethene (7.864)
-Dibromomethane (8.450)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.729)
-cis-1,3-dichloropropene (9.547)
-Toluene (9.825)
-Tetrachloroethene (10.262)+
-trans-1,3-Dichloropropene (10.318)
-1,1,2-Trichloroethane (10.486)
-Dibromochloromethane (10.671)
-1,3-Dichloropropane (10.764)+
-1,2-Dibromoethane (10.895)
-2-Hexanone (11.183)
-Chlorobenzene (11.462)
-Ethylbenzene (11.508)+
m+p-Xylenes (11.657)
-o-Xylene (12.075)
-Styrene (12.131)+
-Isopropylbenzene (12.391)
-P-Bromofluorobenzene (12.652)
-Bromobenzene (12.745)
-N-Propylbenzene (12.791)
-1,1,2,2-Tetrachloroethane (12.856)
-2-Chlorotoluene (12.920)
-1,3,5-Trichloropropane (12.986)+
-4-Chlorotoluene (13.089)
-tert-Butylbenzene (13.283)
-1,2,4-Trimethylbenzene (13.367)
-sec-Butylbenzene (13.479)
-P-Isopropyltoluene (13.646)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.139)
1,2-Dichlorobenzene-D4 (14.306)+
-1,2-Dibromo-3-Chloropropa (15.459)
-1,2,4-Trichlorobenzene (15.515)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2,3-Trichlorobenzene (16.919)
-Hydrocarbons, Total (17.000)

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2199.d
Report Date: 27-Jan-2021 13:17

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Data file : \\target_server\gg\chem\gcms-d.i\D122120.b\D2199.d
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Cal Date : 21-DEC-2020 08:31 Cal File: D2199.d
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Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

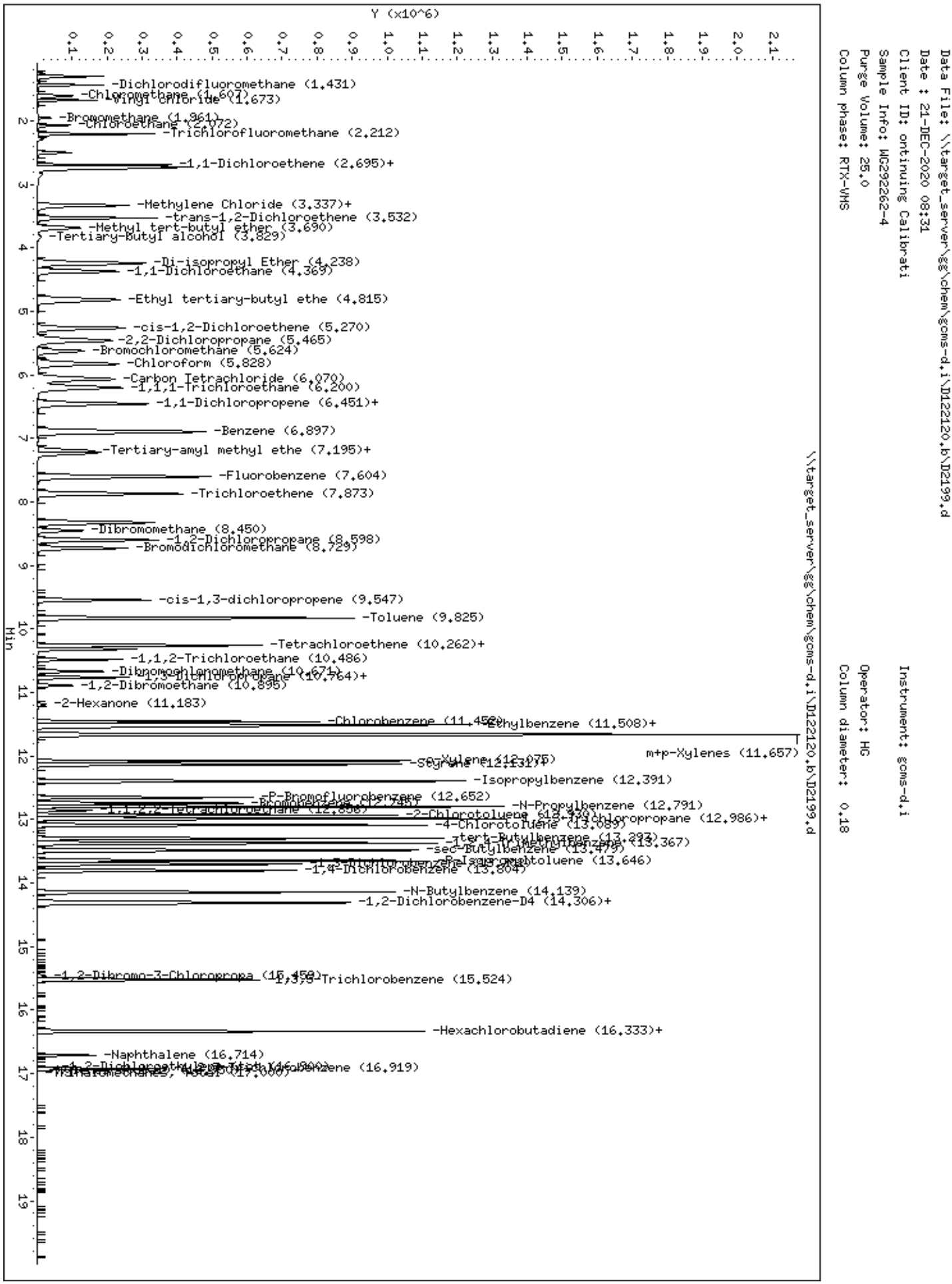
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.430	1.431	(0.188)	129706	10.0000	10.0	
2 Chloromethane	50	1.607	1.607	(0.211)	138833	10.0000	10.0	
3 Vinyl chloride	62	1.672	1.673	(0.220)	116945	10.0000	10.0	
4 Bromomethane	94	1.960	1.961	(0.258)	21094	10.0000	10.0	
5 Chloroethane	64	2.072	2.072	(0.273)	72237	10.0000	10.0	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	273571	10.0000	10.0	
7 1,1-Dichloroethene	96	2.695	2.695	(0.354)	131583	10.0000	10.0	
8 Carbon Disulfide	76	2.723	2.723	(0.358)	337977	10.0000	10.0	
9 Freon-113	151	2.750	2.751	(0.362)	99438	10.0000	10.0	
10 Methylene Chloride	84	3.336	3.337	(0.439)	135698	10.0000	10.0	
11 Acetone	43	3.383	3.383	(0.445)	14235	10.0000	10.0	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	143523	10.0000	10.0	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	143391	10.0000	10.0	
14 Tertiary-butyl alcohol	59	3.829	3.829	(0.504)	10132	50.0000	50.0	
15 Di-isopropyl Ether	45	4.238	4.238	(0.557)	435633	10.0000	10.0	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	343452	10.0000	10.0	
17 Ethyl tertiary-butyl ether	59	4.824	4.824	(0.634)	262685	10.0000	10.0	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	171444	10.0000	10.0	
19 2,2-Dichloropropane	77	5.465	5.465	(0.719)	229441	10.0000	10.0	
20 Bromochloromethane	128	5.623	5.624	(0.740)	58197	10.0000	10.0	
21 Chloroform	83	5.828	5.828	(0.766)	352343	10.0000	10.0	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	291631	10.0000	10.0	
23 1,1,1-Trichloroethane	97	6.199	6.200	(0.815)	319584	10.0000	10.0	

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2199.d
Report Date: 27-Jan-2021 13:17

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.450	6.451	(0.848)	256043	10.0000	10.0	
	25 2-Butanone	43	6.450	6.451	(0.848)	17559	10.0000	10.0	
	26 Benzene	78	6.897	6.897	(0.907)	640388	10.0000	10.0	
	27 Tertiary-amyl methyl ether	73	7.194	7.195	(0.946)	138587	10.0000	10.0	
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	181761	10.0000	10.0	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	582955	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	189702	10.0000	10.0	
	31 Dibromomethane	93	8.449	8.449	(1.111)	66137	10.0000	10.0	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	154434	10.0000	10.0	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	202137	10.0000	10.0	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	184995	10.0000	10.0	
	35 Toluene	92	9.825	9.825	(1.292)	394198	10.0000	10.0	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	135557	10.0000	10.0	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	36475	10.0000	10.0	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	144685	10.0000	10.0	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	64922	10.0000	10.0	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	101160	10.0000	10.0	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	135534	10.0000	10.0	
	42 2-Chloroethylvinylether	63	10.764	10.764	(1.416)	15597	10.0000	10.0	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	69190	10.0000	10.0	
	44 2-Hexanone	43	11.182	11.183	(1.471)	19318	10.0000	10.0	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	398732	10.0000	10.0	
	46 Ethylbenzene	91	11.508	11.508	(1.514)	815079	10.0000	10.0	
	47 1,1,1,2-Tetrachloroethane	131	11.536	11.536	(1.517)	137128	10.0000	10.0	
	48 m+p-Xylenes	106	11.656	11.657	(1.533)	563934	20.0000	20.0	
	49 o-Xylene	106	12.075	12.075	(1.588)	265304	10.0000	10.0	
	50 Styrene	104	12.130	12.131	(1.595)	399667	10.0000	10.0	
	51 Bromoform	173	12.140	12.140	(1.597)	42434	10.0000	10	
	52 Isopropylbenzene	105	12.391	12.391	(1.630)	768275	10.0000	10.0	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	186694	10.0000	10.0	
	54 Bromobenzene	156	12.744	12.745	(1.676)	142457	10.0000	10.0	
	55 N-Propylbenzene	91	12.791	12.791	(1.682)	993362	10.0000	10.0	
	56 1,1,2,2-Tetrachloroethane	83	12.856	12.856	(1.691)	69841	10.0000	10.0	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	567821	10.0000	10.0	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	62837	10.0000	10.0	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	653573	10.0000	10.0	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	587699	10.0000	10.0	
	61 tert-Butylbenzene	119	13.293	13.293	(1.748)	547763	10.0000	10.0	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	651262	10.0000	10.0	
	63 sec-Butylbenzene	105	13.478	13.479	(1.773)	827518	10.0000	10.0	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	681874	10.0000	10.0	
	65 1,3-Dichlorobenzene	146	13.702	13.702	(1.802)	306884	10.0000	10.0	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.815)	293717	10.0000	10.0	
	67 N-Butylbenzene	91	14.138	14.139	(1.860)	693679	10.0000	10.0	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	146401	10.0000	10.0	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	240931	10.0000	10.0	
	70 1,2-Dibromo-3-Chloropropane	157	15.459	15.459	(2.033)	6368	10.0000	10.0	
	71 1,3,5-Trichlorobenzene	180	15.524	15.524	(2.042)	220090	10.0000	10.0	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	130055	10.0000	10.0	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	138776	10.0000	10.0	
	74 Naphthalene	128	16.714	16.713	(2.198)	119614	10.0000	10.0	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	97750	10.0000	10.0	
M	76 1,2-Dichloroethylene (total)	96				314967	20.0000	20.0	
M	77 Xylenes (total)	106				829238	30.0000	30.0	

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2199.d
Report Date: 27-Jan-2021 13:17

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 78 Trihalomethanes, Total	100				698074	10.0000	40.0	


Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2199.d
Date : 21-DEC-2020 08:31
Client ID: ontinuing Calibrati
Sample Info: WG292262-4
Purge Volume: 25.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-d.i\D122120.b\D2199.d
-Dichlorodifluoromethane (1.431)
-Chloromethane (1.607)
-Vinyl chloride (1.673)
-Bromomethane (1.961)
-Chloroethane (2.072)
-Trichlorofluoromethane (2.212)
-1,1-Dichloroethene (2.695)+
-Methylene Chloride (3.337)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)
-Tertiary-butyl alcohol (3.829)
-Di-isopropyl Ether (4.238)
-1,1-Dichloroethane (4.369)
-Ethyl tertiary-butyl ethe (4.815)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.465)
-Bromochloromethane (5.624)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.200)
-1,1-Dichloropropene (6.451)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.195)+
-Fluorobenzene (7.604)
-Trichloroethene (7.873)
-Dibromomethane (8.450)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.729)
-cis-1,3-dichloropropene (9.547)
-Toluene (9.825)
-Tetrachloroethene (10.262)+
-1,1,2-Trichloroethane (10.486)
-Dibromochloromethane (10.671)
-1,3-Dichloropropane (10.764)+
-1,2-Dibromoethane (10.895)
-2-Hexanone (11.183)
-Chlorobenzene (11.458)
-Ethylbenzene (11.508)+
m+p-Xylenes (11.657)
-o-Xylene (12.075)
-Styrene (12.131)+
-Isopropylbenzene (12.391)
-P-Bromofluorobenzene (12.652)
-Bromobenzene (12.745)
-N-Propylbenzene (12.791)
-1,1,2,2-Tetrachloroethane (12.856)
-2-Chlorotoluene (12.930)
-1,2-Trichloropropane (12.986)+
-4-Chlorotoluene (13.089)
-tert-Butylbenzene (13.297)
-1,3,4-Trimethylbenzene (13.367)
-sec-Butylbenzene (13.479)
-P-Isopropyltoluene (13.646)
-1,3-Dichlorobenzene (13.704)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.139)
-1,2-Dichlorobenzene-D4 (14.306)+
-1,2-Dibromo-3-Chloropropa (15.459)
-1,3,5-Trichlorobenzene (15.524)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2-Dichloroethylene-Total (16.900)
-Trichloromethanes, Total (17.000)
-Trichlorobenzene (16.919)

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2200.d
Report Date: 27-Jan-2021 13:18

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122120.b\D2200.d
Lab Smp Id: WG292262-3 Client Smp ID: GC/MS Tune
Inj Date : 21-DEC-2020 09:13
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292262-3
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122120.b\D5A25(64)D.m
Meth Date : 22-Dec-2020 06:45 hgould Quant Type: ISTD
Cal Date : 21-DEC-2020 09:13 Cal File: D2200.d
Als bottle: 2 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

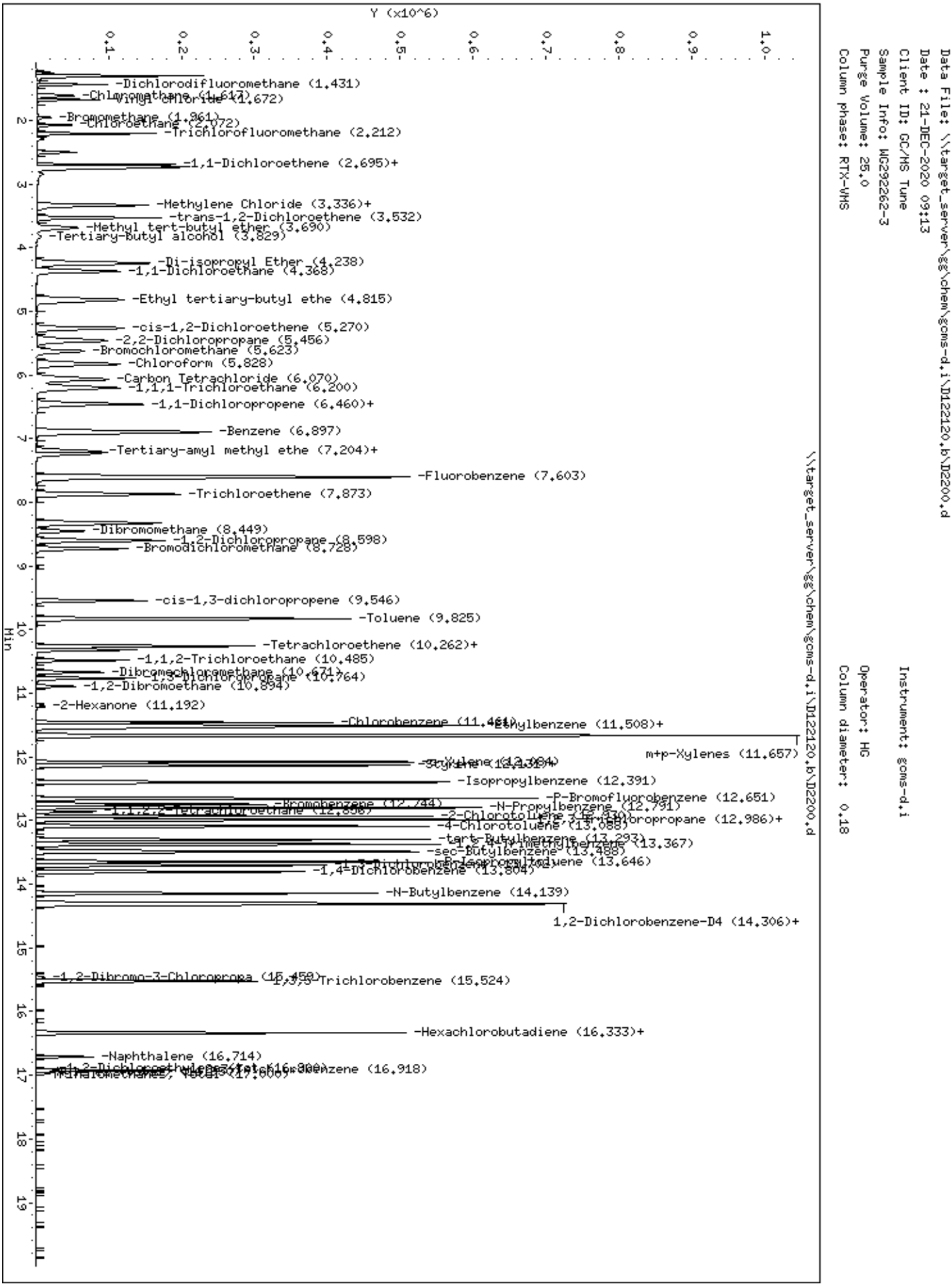
Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.430	1.431	(0.188)	66143	5.00000	5.1	
2 Chloromethane	50	1.607	1.607	(0.211)	72996	5.00000	4.4	
3 Vinyl chloride	62	1.672	1.673	(0.220)	59818	5.00000	4.7	
4 Bromomethane	94	1.960	1.961	(0.258)	10563	5.00000	3.7	
5 Chloroethane	64	2.081	2.072	(0.274)	38690	5.00000	5.8	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	136287	5.00000	5.1	
7 1,1-Dichloroethene	96	2.694	2.695	(0.354)	66157	5.00000	4.9	
8 Carbon Disulfide	76	2.722	2.723	(0.358)	163241	5.00000	4.8	
9 Freon-113	151	2.750	2.751	(0.362)	48778	5.00000	5.0	
10 Methylene Chloride	84	3.336	3.337	(0.439)	80384	5.00000	3.8	
11 Acetone	43	3.382	3.383	(0.445)	8210	5.00000	4.4	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	70772	5.00000	4.8	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	77190	5.00000	4.9	
14 Tertiary-butyl alcohol	59	3.829	3.829	(0.504)	6482	25.0000	25.1	
15 Di-isopropyl Ether	45	4.247	4.238	(0.559)	221257	5.00000	4.9	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	171572	5.00000	4.9	
17 Ethyl tertiary-butyl ether	59	4.823	4.824	(0.634)	135440	5.00000	4.8	
18 cis-1,2-Dichloroethene	96	5.260	5.270	(0.692)	84508	5.00000	4.8	
19 2,2-Dichloropropane	77	5.455	5.465	(0.718)	103077	5.00000	4.7	
20 Bromochloromethane	128	5.623	5.624	(0.740)	29152	5.00000	5.1	
21 Chloroform	83	5.827	5.828	(0.766)	175666	5.00000	4.9	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	131140	5.00000	4.7	
23 1,1,1-Trichloroethane	97	6.199	6.200	(0.815)	150412	5.00000	4.8	

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2200.d
Report Date: 27-Jan-2021 13:18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.459	6.451	(0.850)	116026	5.00000	4.8	
	25 2-Butanone	43	6.450	6.451	(0.848)	9284	5.00000	4.9	
	26 Benzene	78	6.896	6.897	(0.907)	318407	5.00000	5.0	
	27 Tertiary-amyl methyl ether	73	7.194	7.195	(0.946)	71480	5.00000	4.6	
	28 1,2-Dichloroethane	62	7.240	7.241	(0.952)	93721	5.00000	5.2	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	599672	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	91870	5.00000	4.8	
	31 Dibromomethane	93	8.449	8.449	(1.111)	33733	5.00000	5.0	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	77746	5.00000	5.0	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	99726	5.00000	4.9	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	86850	5.00000	4.8	
	35 Toluene	92	9.825	9.825	(1.292)	189127	5.00000	5.0	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	64984	5.00000	4.8	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	18334	5.00000	4.6	
	38 trans-1,3-Dichloropropene	75	10.317	10.318	(1.357)	68800	5.00000	5.0	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	34496	5.00000	5.1	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	48669	5.00000	4.8	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	70841	5.00000	5.1	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	36177	5.00000	5.2	
	44 2-Hexanone	43	11.191	11.183	(1.472)	9661	5.00000	4.2	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	197365	5.00000	5.1	
	46 Ethylbenzene	91	11.507	11.508	(1.514)	395157	5.00000	5.2	
	47 1,1,1,2-Tetrachloroethane	131	11.535	11.536	(1.517)	67839	5.00000	5.0	
	48 m+p-Xylenes	106	11.665	11.657	(1.534)	281013	10.0000	10.5	
	49 o-Xylene	106	12.084	12.075	(1.589)	130454	5.00000	5.2	
	50 Styrene	104	12.130	12.131	(1.595)	200050	5.00000	5.3	
	51 Bromoform	173	12.140	12.140	(1.597)	20773	5.00000	4.7	
	52 Isopropylbenzene	105	12.391	12.391	(1.630)	365172	5.00000	5.1	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	200117	10.0000	10.3	
	54 Bromobenzene	156	12.744	12.745	(1.676)	73704	5.00000	5.0	
	55 N-Propylbenzene	91	12.790	12.791	(1.682)	478583	5.00000	5.1	
	56 1,1,2,2-Tetrachloroethane	83	12.855	12.856	(1.691)	37743	5.00000	5.1	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	282320	5.00000	5.1	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	33782	5.00000	5.2	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	315347	5.00000	5.1	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	291134	5.00000	5.1	
	61 tert-Butylbenzene	119	13.302	13.293	(1.749)	259404	5.00000	5.1	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	318542	5.00000	5.1	
	63 sec-Butylbenzene	105	13.488	13.479	(1.774)	394609	5.00000	5.1	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	323474	5.00000	5.1	
	65 1,3-Dichlorobenzene	146	13.701	13.702	(1.802)	156865	5.00000	5.1	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.816)	148487	5.00000	5.1	
	67 N-Butylbenzene	91	14.138	14.139	(1.860)	322767	5.00000	5.1	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	159071	10.0000	10.4	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	124060	5.00000	5.0	
	70 1,2-Dibromo-3-Chloropropane	157	15.458	15.459	(2.033)	3218	5.00000	4.5	
	71 1,3,5-Trichlorobenzene	180	15.523	15.524	(2.042)	106317	5.00000	4.9	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	59329	5.00000	4.7	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	68254	5.00000	4.9	
	74 Naphthalene	128	16.713	16.713	(2.198)	55640	5.00000	4.5	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	50602	5.00000	5.0	
M	76 1,2-Dichloroethylene (total)	96				155280	10.0000	9.6	
M	77 Xylenes (total)	106				411467	15.0000	15.7	
M	78 Trihalomethanes, Total	100				344834	5.00000	19.4	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Client ID: GC/MS Tune
Sample Info: WG292262-3
Purge Volume: 25.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D122120.b\D2200.d
Y (x10^6)
Min
-Dichlorodifluoromethane (1.431)
-Chloromethane (1.617)
-Vinyl chloride (1.672)
-Bromomethane (1.961)
-Chloroethane (2.072)
-Trichlorofluoromethane (2.212)
-1,1-Dichloroethene (2.695)+
-Methylene Chloride (3.336)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)
-Tertiary-butyl alcohol (3.829)
-Di-isopropyl Ether (4.238)
-1,1-Dichloroethane (4.368)
-Ethyl tertiary-butyl ethe (4.815)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.456)
-Bromochloromethane (5.623)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.200)
-1,1-Dichloropropene (6.460)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.204)+
-Fluorobenzene (7.603)
-Trichloroethene (7.873)
-Dibromomethane (8.449)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.728)
-cis-1,3-dichloropropene (9.546)
-Toluene (9.825)
-Tetrachloroethene (10.262)+
-1,1,2-Trichloroethane (10.485)
-Dibromochloromethane (10.671)
-1,3-Dichloropropane (10.764)
-1,2-Dibromoethane (10.894)
-2-Hexanone (11.192)
-Chlorobenzene (11.461)
-Ethylbenzene (11.508)+
m+p-Xylenes (11.657)
-Isopropylbenzene (12.391)
-P-Bromofluorobenzene (12.651)
-Bromobenzene (12.744)
-N-Propylbenzene (12.791)
-1,1,2,2-Tetrachloroethane (12.856)
-2-Chlorotoluene (12.930)
-1,2,3-Trichloropropane (12.986)+
-4-Chlorotoluene (13.088)
-tert-Butylbenzene (13.293)
-1,2,4-Trimethylbenzene (13.367)
-sec-Butylbenzene (13.488)
-P-Isopropyltoluene (13.646)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.139)
1,2-Dichlorobenzene-D4 (14.306)+
-1,2-Dibromo-3-Chloropropa (15.459)
-1,3,5-Trichlorobenzene (15.524)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2-Dichloroethylene (16.900)
-1,2-Dichlorobenzene (16.918)
-Trihalomethanes, Total (17.000)

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2201.d
Report Date: 27-Jan-2021 13:18

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122120.b\D2201.d
Lab Smp Id: WG292262-2 Client Smp ID: WG292260-Blank
Inj Date : 21-DEC-2020 09:55
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292262-2
Misc Info :
Comment :
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Meth Date : 22-Dec-2020 06:45 hgould Quant Type: ISTD
Cal Date : 21-DEC-2020 09:55 Cal File: D2201.d
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

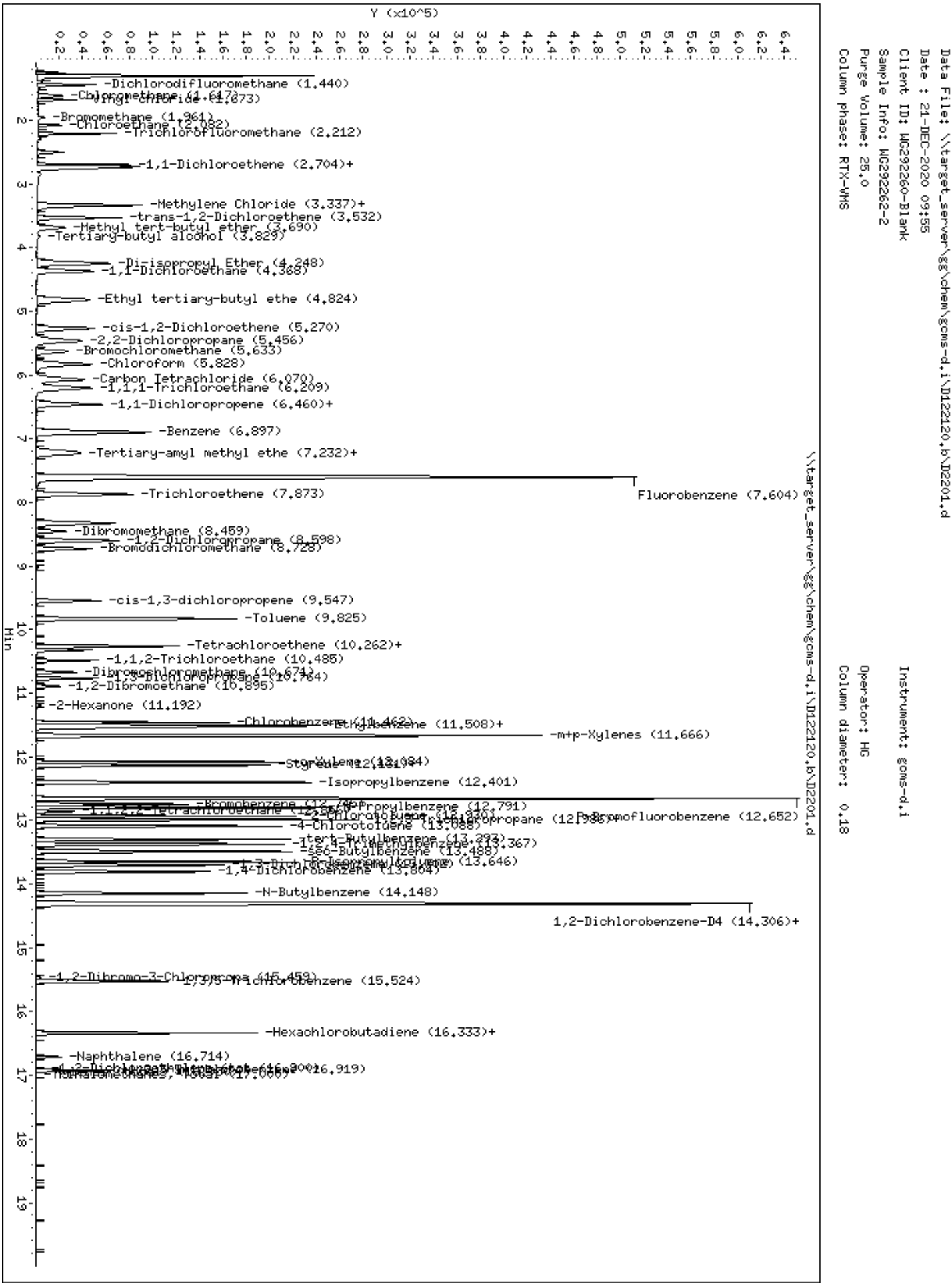
Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.440	1.431	(0.189)	25522	2.00000	2.0	
2 Chloromethane	50	1.616	1.607	(0.213)	30605	2.00000	1.9	
3 Vinyl chloride	62	1.672	1.673	(0.220)	24043	2.00000	1.9	
4 Bromomethane	94	1.960	1.961	(0.258)	3640	2.00000	1.3	
5 Chloroethane	64	2.081	2.072	(0.274)	15227	2.00000	2.3	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	51986	2.00000	2.0	
7 1,1-Dichloroethene	96	2.704	2.695	(0.356)	27458	2.00000	2.0	
8 Carbon Disulfide	76	2.732	2.723	(0.359)	63616	2.00000	1.9	
9 Freon-113	151	2.750	2.751	(0.362)	19905	2.00000	2.0	
10 Methylene Chloride	84	3.336	3.337	(0.439)	46365	2.00000	2.2(a)	
11 Acetone	43	3.383	3.383	(0.445)	4264	2.00000	2.3(a)	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	29777	2.00000	2.0	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	31726	2.00000	2.0	
14 Tertiary-butyl alcohol	59	3.829	3.829	(0.504)	2658	10.0000	10.4	
15 Di-isopropyl Ether	45	4.247	4.238	(0.559)	86116	2.00000	1.9	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	71526	2.00000	2.0	
17 Ethyl tertiary-butyl ether	59	4.823	4.824	(0.634)	51503	2.00000	1.8	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	34102	2.00000	2.0	
19 2,2-Dichloropropane	77	5.456	5.465	(0.718)	40241	2.00000	1.9	
20 Bromochloromethane	128	5.632	5.624	(0.741)	11544	2.00000	2.0	
21 Chloroform	83	5.828	5.828	(0.766)	72807	2.00000	2.1	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	52593	2.00000	1.9	
23 1,1,1-Trichloroethane	97	6.209	6.200	(0.817)	61617	2.00000	2.0	

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2201.d
Report Date: 27-Jan-2021 13:18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.460	6.451	(0.850)	46017	2.00000	1.9	
	25 2-Butanone	43	6.450	6.451	(0.848)	3914	2.00000	2.1(a)	
	26 Benzene	78	6.897	6.897	(0.907)	132888	2.00000	2.1	
	27 Tertiary-amyl methyl ether	73	7.203	7.195	(0.947)	27071	2.00000	1.8	
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	38814	2.00000	2.2	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	595304	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	37736	2.00000	2.0	
	31 Dibromomethane	93	8.449	8.449	(1.111)	13301	2.00000	2.0	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	31243	2.00000	2.0	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	37986	2.00000	1.9	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	31351	2.00000	1.7	
	35 Toluene	92	9.825	9.825	(1.292)	74813	2.00000	2.0	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	26890	2.00000	2.0	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	6586	2.00000	1.7(a)	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	23332	2.00000	1.7	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	14088	2.00000	2.1	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	18256	2.00000	1.8	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	27601	2.00000	2.0	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	13761	2.00000	2.0	
	44 2-Hexanone	43	11.192	11.183	(1.472)	3503	2.00000	1.5(a)	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	78302	2.00000	2.0	
	46 Ethylbenzene	91	11.508	11.508	(1.514)	158752	2.00000	2.1	
	47 1,1,1,2-Tetrachloroethane	131	11.535	11.536	(1.517)	26856	2.00000	2.0	
	48 m+p-Xylenes	106	11.666	11.657	(1.534)	116525	4.00000	4.4	
	49 o-Xylene	106	12.084	12.075	(1.589)	51087	2.00000	2.0	
	50 Styrene	104	12.130	12.131	(1.595)	79164	2.00000	2.1	
	51 Bromoform	173	12.140	12.140	(1.597)	7705	2.00000	1.8	
	52 Isopropylbenzene	105	12.400	12.391	(1.631)	148963	2.00000	2.1	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	196024	10.0000	10.2	
	54 Bromobenzene	156	12.744	12.745	(1.676)	29115	2.00000	2.0	
	55 N-Propylbenzene	91	12.790	12.791	(1.682)	196106	2.00000	2.1	
	56 1,1,2,2-Tetrachloroethane	83	12.856	12.856	(1.691)	15222	2.00000	2.1	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	117486	2.00000	2.1	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	14063	2.00000	2.2	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	128702	2.00000	2.1	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	118301	2.00000	2.1	
	61 tert-Butylbenzene	119	13.302	13.293	(1.749)	104582	2.00000	2.0	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	126916	2.00000	2.1	
	63 sec-Butylbenzene	105	13.488	13.479	(1.774)	160850	2.00000	2.1	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	127694	2.00000	2.0	
	65 1,3-Dichlorobenzene	146	13.702	13.702	(1.802)	65353	2.00000	2.1	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.815)	60062	2.00000	2.1	
	67 N-Butylbenzene	91	14.148	14.139	(1.861)	123394	2.00000	2.0	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	153312	10.0000	10.1	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	52033	2.00000	2.1	
	70 1,2-Dibromo-3-Chloropropane	157	15.459	15.459	(2.033)	1167	2.00000	1.6	
	71 1,3,5-Trichlorobenzene	180	15.524	15.524	(2.042)	39393	2.00000	1.8	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	22909	2.00000	1.8	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	23431	2.00000	1.7	
	74 Naphthalene	128	16.714	16.713	(2.198)	16042	2.00000	1.3	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	17500	2.00000	1.7	
M	76 1,2-Dichloroethylene (total)	96				63879	4.00000	4.0	
M	77 Xylenes (total)	106				167612	6.00000	6.4	
M	78 Trihalomethanes, Total	100				136754	2.00000	7.5	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Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
Y (x10^5)
Min
\\target_server\gg\chem\gcms-d.i\D122120.b\D2201.d
-Dichlorodifluoromethane (1.440)
-Chloromethane (1.617)
-Vinyl chloride (1.673)
-Bromomethane (1.961)
-Chloroethane (2.082)
-Trichlorofluoromethane (2.212)
-1,1-Dichloroethene (2.704)+
-Methylene Chloride (3.337)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)
-Tertiary-butyl alcohol (3.829)
-Di-isopropyl Ether (4.248)
-1,1-Dichloroethane (4.368)
-Ethyl tertiary-butyl ethe (4.824)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.456)
-Bromochloromethane (5.633)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.209)
-1,1-Dichloropropene (6.460)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.232)+
-Trichloroethene (7.873)
Fluorobenzene (7.604)
-Dibromomethane (8.459)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.728)
-cis-1,3-dichloropropene (9.547)
-Toluene (9.825)
-Tetrachloroethene (10.262)+
-1,1,2-Trichloroethane (10.485)
-Dibromochloromethane (10.671)
-1,3-Dichloropropane (10.764)
-1,2-Dibromoethane (10.895)
-2-Hexanone (11.192)
-Chlorobenzene (11.462)
-Ethylbenzene (11.508)+
-m+p-Xylenes (11.666)
-o-Xylene (12.084)
-Styrene (12.131)+
-Isopropylbenzene (12.401)
-Bromobenzene (12.746)
-1,1,2,2-Tetrachloroethane (12.866)
-Propylbenzene (12.791)
-2-Chlorotoluene (12.930)
-1,2,3-Trichloropropane (12.986)
P-Bromofluorobenzene (12.652)
-4-Chlorotoluene (13.088)
-tert-Butylbenzene (13.293)
-1,2,4-Trimethylbenzene (13.367)
-sec-Butylbenzene (13.488)
-P-Isopropyltoluene (13.646)
-1,3-Dichlorobenzene (13.804)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.148)
1,2-Dichlorobenzene-D4 (14.306)+
-1,2-Dibromo-3-Chloropropa (15.459)
-1,3,5-Trichlorobenzene (15.524)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2-Dichloroethylbenzene (16.900)
-Tetrachloroethanes, Total (17.000)
(16.919)

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2202.d
Report Date: 27-Jan-2021 13:18

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EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122120.b\D2202.d
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Inj Date : 21-DEC-2020 10:37
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292262-1
Misc Info :
Comment :
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Meth Date : 22-Dec-2020 06:45 hgould Quant Type: ISTD
Cal Date : 21-DEC-2020 10:37 Cal File: D2202.d
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.440	1.431	(0.189)	6144	0.50000	0.50	
2 Chloromethane	50	1.616	1.607	(0.213)	9124	0.50000	0.61	
3 Vinyl chloride	62	1.672	1.673	(0.220)	6004	0.50000	0.52	
4 Bromomethane	94	1.960	1.961	(0.258)	701	0.50000	0.39(a)	
5 Chloroethane	64	2.081	2.072	(0.274)	3717	0.50000	0.52	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	12654	0.50000	0.50	
7 1,1-Dichloroethene	96	2.695	2.695	(0.354)	6304	0.50000	0.50	
8 Carbon Disulfide	76	2.732	2.723	(0.359)	13692	0.50000	0.45(a)	
9 Freon-113	151	2.750	2.751	(0.362)	4472	0.50000	0.48(a)	
10 Methylene Chloride	84	3.336	3.337	(0.439)	26987	0.50000	1.0(a)	
11 Acetone	43	3.383	3.383	(0.445)	1750	0.50000	0.83(a)	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	7439	0.50000	0.53	
13 Methyl tert-butyl ether	73	3.699	3.690	(0.486)	7774	0.50000	0.53	
14 Tertiary-butyl alcohol	59	3.829	3.829	(0.504)	567	2.50000	2.5	
15 Di-isopropyl Ether	45	4.247	4.238	(0.559)	18721	0.50000	0.46(a)	
16 1,1-Dichloroethane	63	4.377	4.369	(0.576)	16962	0.50000	0.51	
17 Ethyl tertiary-butyl ether	59	4.824	4.824	(0.634)	10125	0.50000	0.42(a)	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	7544	0.50000	0.48(a)	
19 2,2-Dichloropropane	77	5.465	5.465	(0.719)	8522	0.50000	0.44(a)	
20 Bromochloromethane	128	5.632	5.624	(0.741)	2507	0.50000	0.47(a)	
21 Chloroform	83	5.828	5.828	(0.766)	16671	0.50000	0.50	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	10634	0.50000	0.43(a)	
23 1,1,1-Trichloroethane	97	6.209	6.200	(0.817)	12635	0.50000	0.45(a)	

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2202.d
Report Date: 27-Jan-2021 13:18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.450	6.451	(0.848)	9014	0.50000	0.42(a)	
	25 2-Butanone	43	6.450	6.451	(0.848)	821	0.50000	0.48(a)	
	26 Benzene	78	6.897	6.897	(0.907)	27887	0.50000	0.46(a)	
	27 Tertiary-amyl methyl ether	73	7.203	7.195	(0.947)	5237	0.50000	0.42(a)	
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	8426	0.50000	0.48(a)	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	560851	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	9329	0.50000	0.52	
	31 Dibromomethane	93	8.458	8.449	(1.112)	3181	0.50000	0.50	
	32 1,2-Dichloropropane	63	8.607	8.598	(1.132)	7203	0.50000	0.49(Ta)	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	8129	0.50000	0.45(a)	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	5997	0.50000	0.39(a)	
	35 Toluene	92	9.825	9.825	(1.292)	14348	0.50000	0.42(a)	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	5929	0.50000	0.48(a)	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	1242	0.50000	0.40(Ta)	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	4131	0.50000	0.36(a)	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	2941	0.50000	0.47(a)	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	3350	0.50000	0.39(a)	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	5780	0.50000	0.45(a)	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	2649	0.50000	0.42(Ta)	
	44 2-Hexanone	43	11.192	11.183	(1.472)	615	0.50000	0.38(Ta)	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	15178	0.50000	0.42(a)	
	46 Ethylbenzene	91	11.508	11.508	(1.513)	26848	0.50000	0.38(a)	
	47 1,1,1,2-Tetrachloroethane	131	11.536	11.536	(1.517)	5113	0.50000	0.42(a)	
	48 m+p-Xylenes	106	11.666	11.657	(1.534)	21781	1.00000	0.85(a)	
	49 o-Xylene	106	12.084	12.075	(1.589)	9492	0.50000	0.41(a)	
	50 Styrene	104	12.131	12.131	(1.595)	13375	0.50000	0.38(a)	
	51 Bromoform	173	12.140	12.140	(1.597)	1533	0.50000	0.42(Ta)	
	52 Isopropylbenzene	105	12.400	12.391	(1.631)	26459	0.50000	0.40(a)	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	174716	10.0000	9.6	
	54 Bromobenzene	156	12.744	12.745	(1.676)	7097	0.50000	0.51	
	55 N-Propylbenzene	91	12.791	12.791	(1.682)	41894	0.50000	0.46(a)	
	56 1,1,2,2-Tetrachloroethane	83	12.856	12.856	(1.691)	3275	0.50000	0.48(a)	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	25551	0.50000	0.48(a)	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	3346	0.50000	0.52	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	26019	0.50000	0.44(a)	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	25898	0.50000	0.47(a)	
	61 tert-Butylbenzene	119	13.302	13.293	(1.749)	20358	0.50000	0.42(a)	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	25939	0.50000	0.44(a)	
	63 sec-Butylbenzene	105	13.488	13.479	(1.774)	33074	0.50000	0.45(a)	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	24817	0.50000	0.42(a)	
	65 1,3-Dichlorobenzene	146	13.702	13.702	(1.802)	14637	0.50000	0.49(a)	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.815)	12712	0.50000	0.46(a)	
	67 N-Butylbenzene	91	14.148	14.139	(1.861)	22107	0.50000	0.38(a)	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	141391	10.0000	9.8	
	69 1,2-Dichlorobenzene	146	14.324	14.316	(1.884)	12670	0.50000	0.53	
	70 1,2-Dibromo-3-Chloropropane	157	15.468	15.459	(2.034)	120	0.50000	0.24(a)	
	71 1,3,5-Trichlorobenzene	180	15.524	15.524	(2.042)	8536	0.50000	0.44(a)	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	5187	0.50000	0.46(a)	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	4178	0.50000	0.37(a)	
	74 Naphthalene	128	16.714	16.713	(2.198)	2474	0.50000	0.29(a)	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	3234	0.50000	0.38(a)	
M	76 1,2-Dichloroethylene (total)	96				14983	1.00000	1.0	
M	77 Xylenes (total)	106				31273	1.50000	1.2(a)	
M	78 Trihalomethanes, Total	100				29683	0.50000	1.8(a)	

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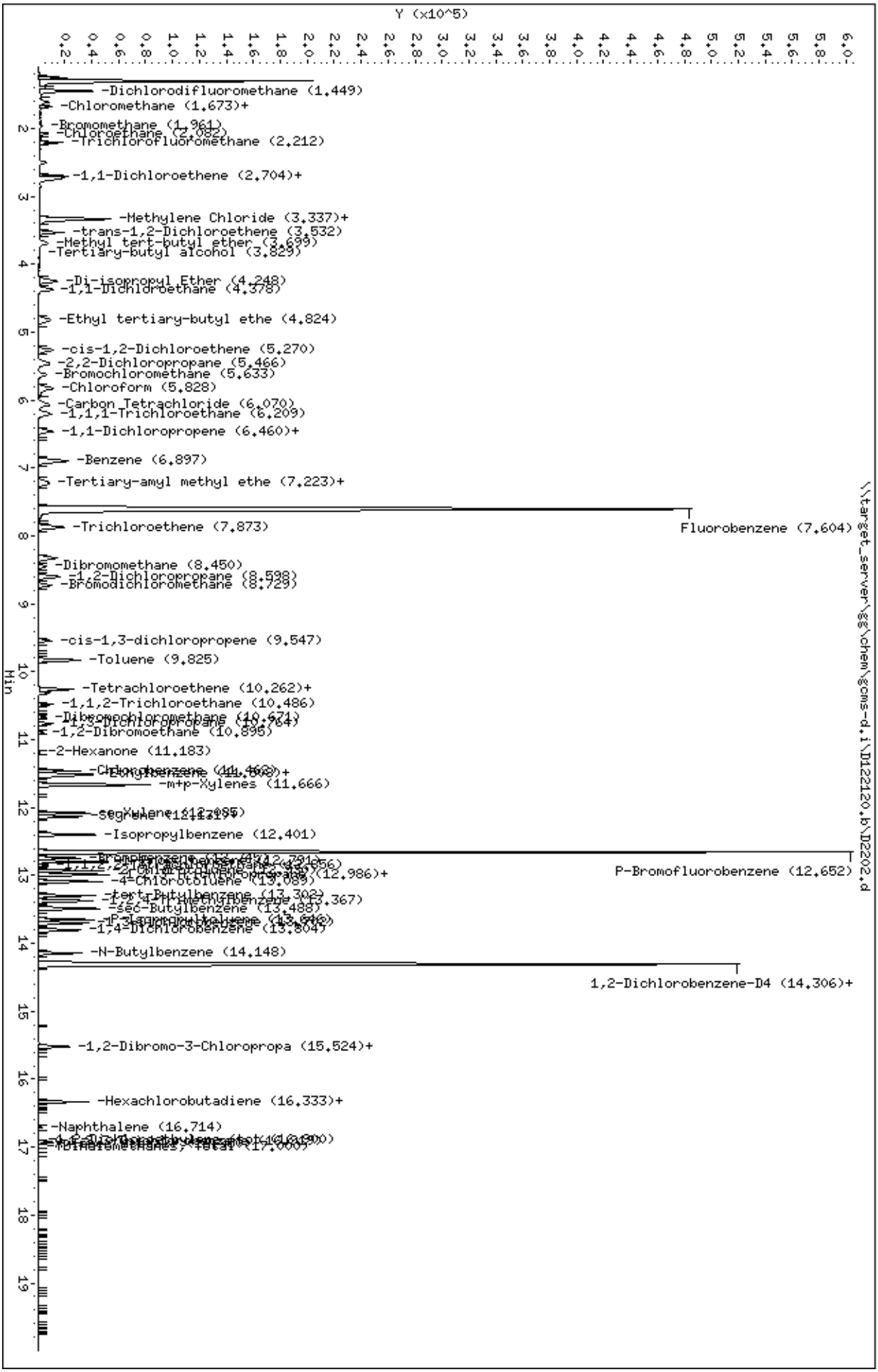
Purge Volume: 25.0
Column phase: RTX-VMS

Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18



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Report Date: 27-Jan-2021 13:18

Katahdin Analytical Services

EPA 524.2

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Misc Info :
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Cal Date : 21-DEC-2020 11:18 Cal File: D2203.d
Als bottle: 5 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

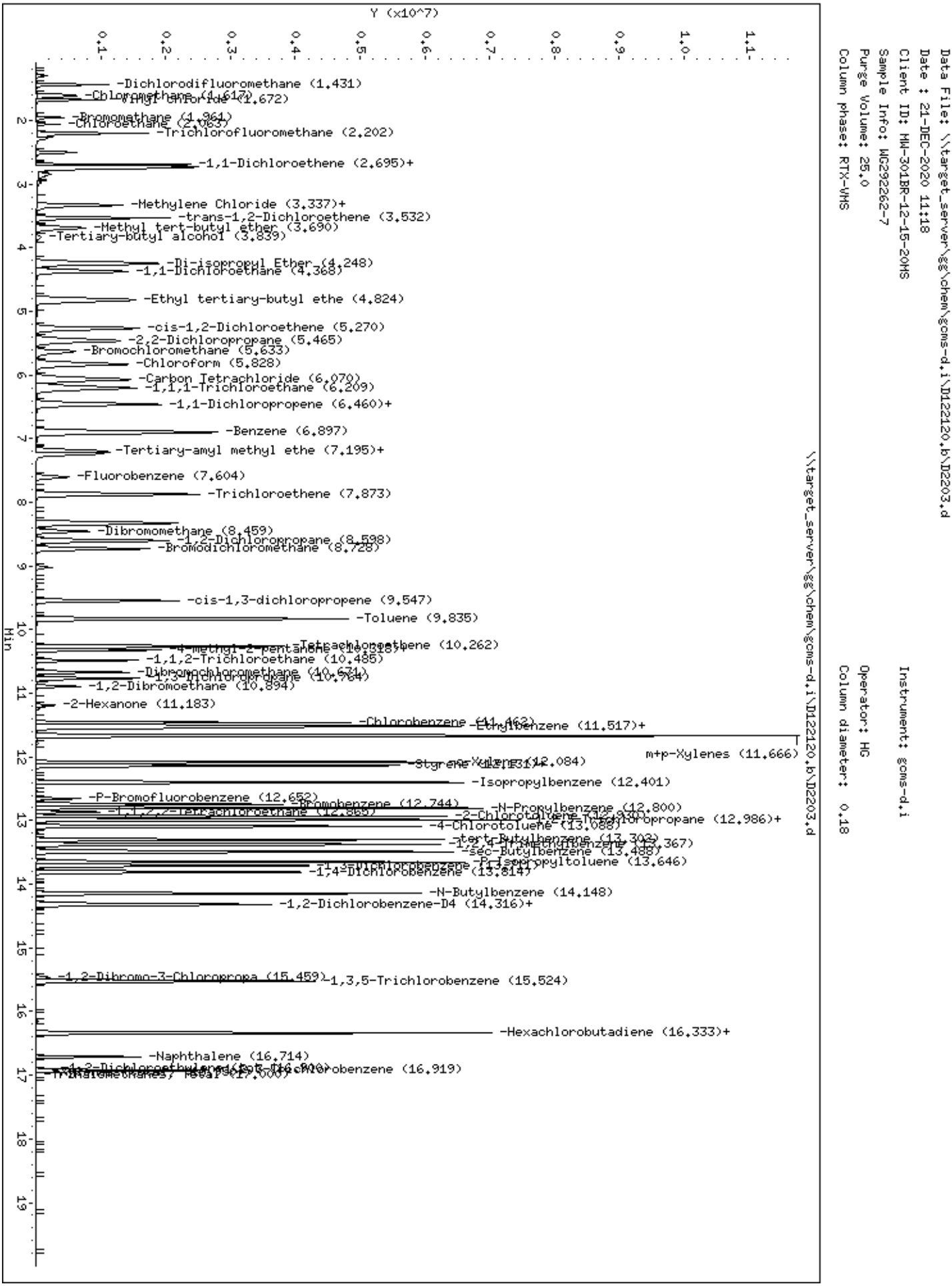
Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.430	1.431	(0.188)	836796	60.0000	64.0(A)	
2 Chloromethane	50	1.616	1.607	(0.213)	1043063	60.0000	63.0(A)	
3 Vinyl chloride	62	1.672	1.673	(0.220)	844881	60.0000	66.1(A)	
4 Bromomethane	94	1.960	1.961	(0.258)	238385	60.0000	84.3(A)	
5 Chloroethane	64	2.062	2.072	(0.271)	236605	60.0000	35.2	
6 Trichlorofluoromethane	101	2.202	2.212	(0.290)	1748254	60.0000	65.0(A)	
7 1,1-Dichloroethene	96	2.695	2.695	(0.354)	853162	60.0000	62.9(A)	
8 Carbon Disulfide	76	2.722	2.723	(0.358)	2274749	60.0000	67.0(A)	
9 Freon-113	151	2.750	2.751	(0.362)	621449	60.0000	63.0(A)	
10 Methylene Chloride	84	3.336	3.337	(0.439)	731075	60.0000	34.5	
11 Acetone	43	3.392	3.383	(0.446)	82647	60.0000	44.6	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	907717	60.0000	61.0(A)	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	996082	60.0000	63.1(A)	
14 Tertiary-butyl alcohol	59	3.838	3.829	(0.505)	83073	300.000	320(A)	
15 Di-isopropyl Ether	45	4.247	4.238	(0.559)	2937555	60.0000	64.6(A)	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	2139026	60.0000	60.7(A)	
17 Ethyl tertiary-butyl ether	59	4.823	4.824	(0.634)	1948356	60.0000	68.9(A)	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	1093054	60.0000	62.2(A)	
19 2,2-Dichloropropane	77	5.465	5.465	(0.719)	1554189	60.0000	71.0(A)	
20 Bromochloromethane	128	5.632	5.624	(0.741)	291681	60.0000	51.1	
21 Chloroform	83	5.827	5.828	(0.766)	2203452	60.0000	61.7(A)	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	1942486	60.0000	69.8(A)	
23 1,1,1-Trichloroethane	97	6.209	6.200	(0.817)	2131020	60.0000	67.4(A)	

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2203.d
Report Date: 27-Jan-2021 13:18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.460	6.451	(0.850)	1608738	60.0000	66.6(A)	
	25 2-Butanone	43	6.450	6.451	(0.848)	123204	60.0000	64.5(A)	
	26 Benzene	78	6.897	6.897	(0.907)	3779321	60.0000	59.2	
	27 Tertiary-amyl methyl ether	73	7.194	7.195	(0.946)	1140740	60.0000	73.4(A)	
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	1120426	60.0000	61.4(A)	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	602097	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	1182209	60.0000	61.6(A)	
	31 Dibromomethane	93	8.458	8.449	(1.112)	413627	60.0000	61.4(A)	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	965072	60.0000	61.2(A)	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	1380798	60.0000	68.0(A)	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	1305173	60.0000	71.9(A)	
	35 Toluene	92	9.834	9.825	(1.293)	2338755	60.0000	62.2(A)	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	857631	60.0000	63.2(A)	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	302206	60.0000	76.3(A)	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	1013092	60.0000	73.6(A)	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	424368	60.0000	62.3(A)	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	748412	60.0000	73.1(A)	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	886537	60.0000	63.9(A)	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	455805	60.0000	65.6(A)	
	44 2-Hexanone	43	11.182	11.183	(1.471)	206222	60.0000	88.8(A)	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	2406993	60.0000	61.8(A)	
	46 Ethylbenzene	91	11.508	11.508	(1.514)	4644699	60.0000	61.3(A)	
	47 1,1,1,2-Tetrachloroethane	131	11.535	11.536	(1.517)	876051	60.0000	64.9(A)	
	48 m+p-Xylenes	106	11.666	11.657	(1.534)	3130267	120.000	117	
	49 o-Xylene	106	12.084	12.075	(1.589)	1579933	60.0000	62.4(A)	
	50 Styrene	104	12.130	12.131	(1.595)	2329290	60.0000	61.4(A)	
	51 Bromoform	173	12.140	12.140	(1.597)	327166	60.0000	73.8(A)	
	52 Isopropylbenzene	105	12.400	12.391	(1.631)	4468196	60.0000	62.5(A)	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	206145	10.0000	10.6	
	54 Bromobenzene	156	12.744	12.745	(1.676)	889730	60.0000	60.8(A)	
	55 N-Propylbenzene	91	12.800	12.791	(1.683)	5568199	60.0000	59.2	
	56 1,1,2,2-Tetrachloroethane	83	12.865	12.856	(1.692)	470945	60.0000	63.7(A)	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	3361440	60.0000	60.3(A)	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	384712	60.0000	58.6	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	3760349	60.0000	60.9(A)	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	3428602	60.0000	60.1(A)	
	61 tert-Butylbenzene	119	13.302	13.293	(1.749)	3277847	60.0000	63.7(A)	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	3855230	60.0000	62.0(A)	
	63 sec-Butylbenzene	105	13.488	13.479	(1.774)	4760212	60.0000	61.4(A)	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	4094804	60.0000	64.3(A)	
	65 1,3-Dichlorobenzene	146	13.711	13.702	(1.803)	1870348	60.0000	60.3(A)	
	66 1,4-Dichlorobenzene	146	13.813	13.804	(1.817)	1830850	60.0000	62.6(A)	
	67 N-Butylbenzene	91	14.148	14.139	(1.861)	4240301	60.0000	67.0(A)	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	162030	10.0000	10.6	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	1543712	60.0000	61.4(A)	
	70 1,2-Dibromo-3-Chloropropane	157	15.459	15.459	(2.033)	65213	60.0000	91.7(A)	
	71 1,3,5-Trichlorobenzene	180	15.524	15.524	(2.042)	1524624	60.0000	69.8(A)	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	906641	60.0000	71.5(A)	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	1043899	60.0000	75.4(A)	
	74 Naphthalene	128	16.714	16.713	(2.198)	1103543	60.0000	89.2(A)	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	747248	60.0000	73.8(A)	
M	76 1,2-Dichloroethylene (total)	96				2000771	120.000	123	
M	77 Xylenes (total)	106				4710200	180.000	179	
M	78 Trihalomethanes, Total	100				4659828	60.0000	277	


Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2203.d
Date : 21-DEC-2020 11:18
Client ID: MW-301BR-12-15-20MS
Sample Info: WG292262-7
Purge Volume: 25.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D122120.b\D2203.d
Y (x10^7)
Min
-Dichlorodifluoromethane (1.431)
-Chloromethane (1.617)
-Vinyl chloride (1.672)
-Bromomethane (1.961)
-Chloroethane (2.063)
-Trichlorofluoromethane (2.202)
-1,1-Dichloroethene (2.695)+
-Methylene Chloride (3.337)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)
-Tertiary-butyl alcohol (3.839)
-Di-isopropyl Ether (4.248)
-1,1-Dichloroethane (4.368)
-Ethyl tertiary-butyl ethe (4.824)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.465)
-Bromochloromethane (5.633)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.209)
-1,1-Dichloropropene (6.460)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.195)+
-Fluorobenzene (7.604)
-Trichloroethene (7.873)
-Dibromomethane (8.459)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.728)
-cis-1,3-dichloropropene (9.547)
-Toluene (9.835)
-Tetrachloroethene (10.262)
-1,1,2-Trichloroethane (10.485)
-Dibromochloromethane (10.671)
-1,3-Dichloropropane (10.764)
-1,2-Dibromoethane (10.894)
-2-Hexanone (11.183)
-Chlorobenzene (11.462)
-Ethylbenzene (11.517)+
m+p-Xylenes (11.666)
-o-Xylene (12.084)
-Isopropylbenzene (12.401)
-P-Bromofluorobenzene (12.652)
-Bromobenzene (12.744)
-N-Propylbenzene (12.800)
-2-Chlorotoluene (12.930)
-1,2,3-Trichloropropane (12.986)+
-4-Chlorotoluene (13.088)
-tert-Butylbenzene (13.302)
-1,2,4-Trimethylbenzene (13.367)
-sec-Butylbenzene (13.488)
-P-Isopropyltoluene (13.646)
-1,3-Dichlorobenzene (13.814)
-1,4-Dichlorobenzene (13.814)
-N-Butylbenzene (14.148)
-1,2-Dichlorobenzene-D4 (14.316)+
-1,2-Dibromo-3-Chloropropa (15.459)
-1,3,5-Trichlorobenzene (15.524)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2-Dichloroethylene (16.900)
-1,2-Trichlorobenzene (16.919)
-Trihalomethanes, Total (17.000)

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2204.d
Report Date: 27-Jan-2021 13:18

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122120.b\D2204.d
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Inj Date : 21-DEC-2020 12:01
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292262-6
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122120.b\D5A25(64)D.m
Meth Date : 22-Dec-2020 06:45 hgould Quant Type: ISTD
Cal Date : 21-DEC-2020 12:01 Cal File: D2204.d
Als bottle: 6 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.430	1.431	(0.188)	608205	40.0000	38.8	
2 Chloromethane	50	1.598	1.607	(0.210)	816630	40.0000	42.0	
3 Vinyl chloride	62	1.672	1.673	(0.220)	636324	40.0000	42.1	
4 Bromomethane	94	1.960	1.961	(0.258)	194712	40.0000	62.8(A)	
5 Chloroethane	64	2.062	2.072	(0.271)	269042	40.0000	33.7	
6 Trichlorofluoromethane	101	2.202	2.212	(0.290)	1227632	40.0000	38.0	
7 1,1-Dichloroethene	96	2.694	2.695	(0.354)	615218	40.0000	38.3	
8 Carbon Disulfide	76	2.732	2.723	(0.359)	1650987	40.0000	41.5	
9 Freon-113	151	2.750	2.751	(0.362)	440050	40.0000	37.6	
10 Methylene Chloride	84	3.336	3.337	(0.439)	551913	40.0000	20.7	
11 Acetone	43	3.382	3.383	(0.445)	62359	40.0000	27.0	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	674394	40.0000	38.3	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	694166	40.0000	37.4	
14 Tertiary-butyl alcohol	59	3.838	3.829	(0.505)	63885	200.000	212	
15 Di-isopropyl Ether	45	4.238	4.238	(0.557)	2241405	40.0000	42.2	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	1596115	40.0000	38.2	
17 Ethyl tertiary-butyl ether	59	4.823	4.824	(0.634)	1485724	40.0000	45.4	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	850568	40.0000	41.4	
19 2,2-Dichloropropane	77	5.465	5.465	(0.719)	1048843	40.0000	40.6	
20 Bromochloromethane	128	5.632	5.624	(0.741)	265303	40.0000	40.1	
21 Chloroform	83	5.827	5.828	(0.766)	1614959	40.0000	38.1	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	1326565	40.0000	40.5	
23 1,1,1-Trichloroethane	97	6.199	6.200	(0.815)	1504422	40.0000	40.4	

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2204.d
Report Date: 27-Jan-2021 13:18

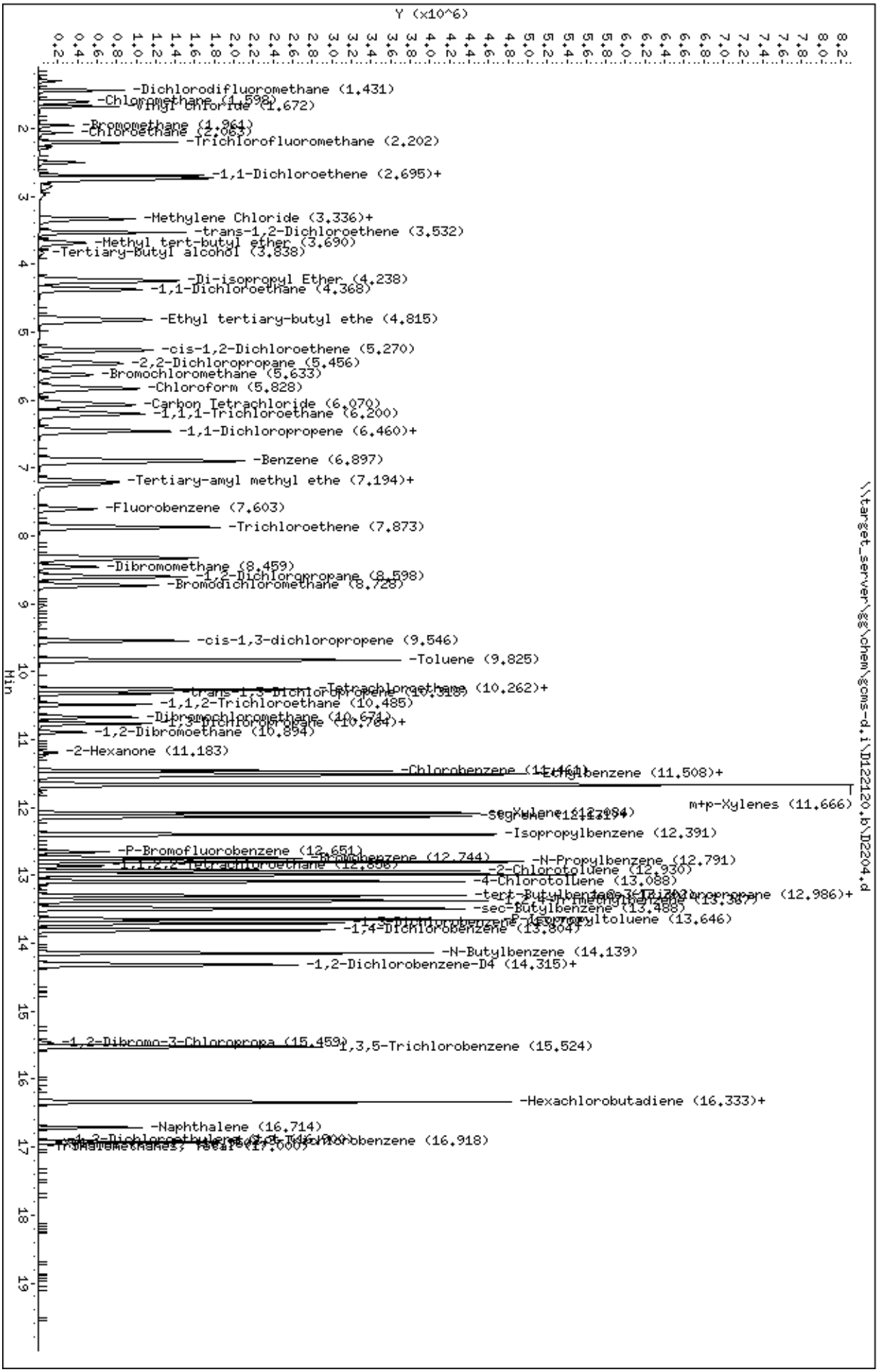
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.460	6.451	(0.850)	1156253	40.0000	40.9	
	25 2-Butanone	43	6.450	6.451	(0.848)	90579	40.0000	40.4	
	26 Benzene	78	6.896	6.897	(0.907)	2912189	40.0000	38.7	
	27 Tertiary-amyl methyl ether	73	7.194	7.195	(0.946)	854787	40.0000	47.8	
	28 1,2-Dichloroethane	62	7.240	7.241	(0.952)	785036	40.0000	36.0	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	711568	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	868325	40.0000	38.2	
	31 Dibromomethane	93	8.458	8.449	(1.112)	305467	40.0000	38.3	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	725278	40.0000	39.1	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	978602	40.0000	41.0	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	946777	40.0000	44.9	
	35 Toluene	92	9.825	9.825	(1.292)	1762689	40.0000	40.0	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	627006	40.0000	39.3	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	220536	40.0000	48.4	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	713318	40.0000	44.5	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	313118	40.0000	39.0	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	540208	40.0000	45.3	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	642319	40.0000	39.3	
	42 2-Chloroethylvinylether	63	10.764	10.764	(1.416)	73406	40.0000	38.2	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	324144	40.0000	39.6	
	44 2-Hexanone	43	11.182	11.183	(1.471)	143157	40.0000	53.9	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	1828612	40.0000	40.0	
	46 Ethylbenzene	91	11.507	11.508	(1.514)	3476913	40.0000	39.0	
	47 1,1,1,2-Tetrachloroethane	131	11.535	11.536	(1.517)	639714	40.0000	40.4	
	48 m+p-Xylenes	106	11.665	11.657	(1.534)	2313769	80.0000	73.1	
	49 o-Xylene	106	12.084	12.075	(1.589)	1170827	40.0000	39.4	
	50 Styrene	104	12.130	12.131	(1.595)	1750637	40.0000	39.3	
	51 Bromoform	173	12.140	12.140	(1.597)	232869	40.0000	45.3	
	52 Isopropylbenzene	105	12.400	12.391	(1.631)	3236527	40.0000	38.4	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	220619	10.0000	9.6	
	54 Bromobenzene	156	12.744	12.745	(1.676)	652338	40.0000	37.6	
	55 N-Propylbenzene	91	12.790	12.791	(1.682)	4080323	40.0000	36.5	
	56 1,1,2,2-Tetrachloroethane	83	12.855	12.856	(1.691)	335169	40.0000	38.3	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	2419395	40.0000	36.5	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	276500	40.0000	35.2	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	2709536	40.0000	37.0	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	2477279	40.0000	36.5	
	61 tert-Butylbenzene	119	13.302	13.293	(1.749)	2320285	40.0000	38.1	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	2775216	40.0000	37.7	
	63 sec-Butylbenzene	105	13.488	13.479	(1.774)	3373586	40.0000	36.6	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	2886308	40.0000	38.3	
	65 1,3-Dichlorobenzene	146	13.701	13.702	(1.802)	1342838	40.0000	36.4	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.816)	1311794	40.0000	37.8	
	67 N-Butylbenzene	91	14.138	14.139	(1.860)	2936510	40.0000	39.3	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	171796	10.0000	9.4	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	1089147	40.0000	36.4	
	70 1,2-Dibromo-3-Chloropropane	157	15.458	15.459	(2.033)	43708	40.0000	53.3	
	71 1,3,5-Trichlorobenzene	180	15.523	15.524	(2.042)	1065636	40.0000	41.5	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	605669	40.0000	40.5	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	721876	40.0000	45.0	
	74 Naphthalene	128	16.713	16.713	(2.198)	753389	40.0000	53.6	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	529937	40.0000	45.0	
M	76 1,2-Dichloroethylene (total)	96				1524962	80.0000	79.7	
M	77 Xylenes (total)	106				3484596	120.000	112	

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2204.d
Report Date: 27-Jan-2021 13:18

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 78 Trihalomethanes, Total	100				3366638	40.0000	170	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2204.d
Date : 21-DEC-2020 12:01
Client ID: MW-301BR-12-15-20MS
Sample Info: WG292262-6
Purge Volume: 25.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.431)
-Chloromethane (1.598)
Vinyl chloride (1.672)
-Bromomethane (1.861)
-Chloroethane (2.063)
-Trichlorofluoromethane (2.202)
-1,1-Dichloroethene (2.695)+
-Methylene Chloride (3.336)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)
-Tertiary-butyl alcohol (3.838)
-Di-isopropyl Ether (4.238)
-1,1-Dichloroethane (4.368)
-Ethyl tertiary-butyl ethe (4.815)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.456)
-Bromochloromethane (5.633)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.200)
-1,1-Dichloropropene (6.460)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.194)+
-Fluorobenzene (7.603)
-Trichloroethene (7.873)
-Dibromomethane (8.459)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.728)
-cis-1,3-dichloropropene (9.546)
-Toluene (9.825)
-Tetrachloroethane (10.262)+
-1,1,2-Trichloroethane (10.485)
-Dibromochloromethane (10.671)
-1,2-Dibromoethane (10.894)
-2-Hexanone (11.183)
-Chlorobenzene (11.464)
-Ethylbenzene (11.508)+
m+p-Xylenes (11.666)
-Isopropylbenzene (12.391)
-P-Bromofluorobenzene (12.651)
-N-Propylbenzene (12.791)
-2-Chlorotoluene (12.930)
-4-Chlorotoluene (13.088)
-sec-Butylbenzene (13.488)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.139)
-1,2-Dichlorobenzene-D4 (14.315)+
-1,2-Dibromo-3-Chloropropa (15.459)
1,3,5-Trichlorobenzene (15.524)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2,3-Trichlorobenzene (16.918)

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2205.d
Report Date: 27-Jan-2021 13:18

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122120.b\D2205.d
Lab Smp Id: WG292262-5 Client Smp ID: ontinuing Calibrati
Inj Date : 21-DEC-2020 12:42
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292262-5
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122120.b\D5A25(64)D.m
Meth Date : 22-Dec-2020 06:45 hgould Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.440	1.431	(0.189)	302402	20.0000	18.3	
2 Chloromethane	50	1.616	1.607	(0.213)	431242	20.0000	20.6	
3 Vinyl chloride	62	1.672	1.673	(0.220)	322382	20.0000	20.0	
4 Bromomethane	94	1.960	1.961	(0.258)	102765	20.0000	20.7	
5 Chloroethane	64	2.072	2.072	(0.273)	164561	20.0000	18.1	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	609547	20.0000	17.9	
7 1,1-Dichloroethene	96	2.704	2.695	(0.356)	340048	20.0000	19.8	
8 Carbon Disulfide	76	2.732	2.723	(0.359)	901059	20.0000	21.0	
9 Freon-113	151	2.750	2.751	(0.362)	242730	20.0000	19.5	
10 Methylene Chloride	84	3.336	3.337	(0.439)	325659	20.0000	20.4	
11 Acetone	43	3.383	3.383	(0.445)	31714	20.0000	18.5	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	372132	20.0000	19.8	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	408571	20.0000	20.5	
14 Tertiary-butyl alcohol	59	3.829	3.829	(0.504)	36156	100.000	110	
15 Di-isopropyl Ether	45	4.238	4.238	(0.557)	1229402	20.0000	21.4	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	880947	20.0000	19.8	
17 Ethyl tertiary-butyl ether	59	4.823	4.824	(0.634)	808616	20.0000	22.6	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	470257	20.0000	21.2	
19 2,2-Dichloropropane	77	5.465	5.465	(0.719)	556228	20.0000	20.1	
20 Bromochloromethane	128	5.632	5.624	(0.741)	160736	20.0000	22.3	
21 Chloroform	83	5.827	5.828	(0.766)	878543	20.0000	19.5	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	717486	20.0000	20.4	
23 1,1,1-Trichloroethane	97	6.209	6.200	(0.817)	817802	20.0000	20.5	

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2205.d
Report Date: 27-Jan-2021 13:18

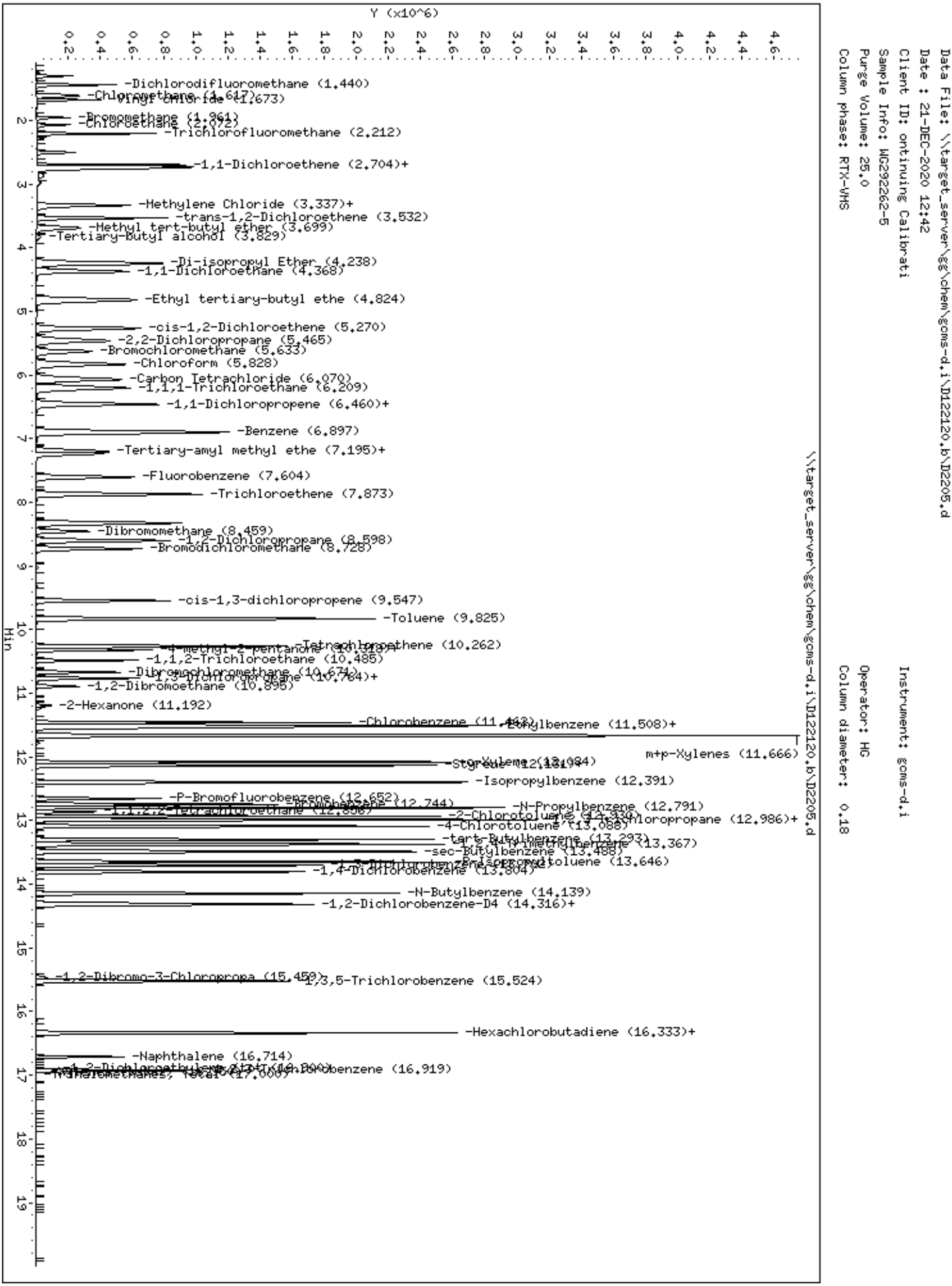
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.460	6.451	(0.850)	641601	20.0000	21.0	
	25 2-Butanone	43	6.450	6.451	(0.848)	50195	20.0000	20.8	
	26 Benzene	78	6.897	6.897	(0.907)	1653798	20.0000	20.5	
	27 Tertiary-amyl methyl ether	73	7.194	7.195	(0.946)	457281	20.0000	23.3	
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	430152	20.0000	18.7	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	760873	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	480787	20.0000	19.8	
	31 Dibromomethane	93	8.458	8.449	(1.112)	167388	20.0000	19.7	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	406336	20.0000	20.4	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	524723	20.0000	20.5	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	505146	20.0000	22.0	
	35 Toluene	92	9.825	9.825	(1.292)	1000125	20.0000	21.0	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	353896	20.0000	20.6	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	115844	20.0000	20.8	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	378091	20.0000	21.7	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	175117	20.0000	20.3	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	281438	20.0000	21.7	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	356344	20.0000	20.3	
	42 2-Chloroethylvinylether	63	10.764	10.764	(1.416)	41245	20.0000	(a)	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	180909	20.0000	20.6	
	44 2-Hexanone	43	11.191	11.183	(1.472)	69863	20.0000	20.5	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	1029200	20.0000	20.9	
	46 Ethylbenzene	91	11.508	11.508	(1.514)	1979251	20.0000	20.6	
	47 1,1,1,2-Tetrachloroethane	131	11.535	11.536	(1.517)	354863	20.0000	20.8	
	48 m+p-Xylenes	106	11.666	11.657	(1.534)	1356613	40.0000	40.1	
	49 o-Xylene	106	12.084	12.075	(1.589)	662497	20.0000	20.7	
	50 Styrene	104	12.130	12.131	(1.595)	998759	20.0000	20.8	
	51 Bromoform	173	12.140	12.140	(1.597)	123939	20.0000	22.1	
	52 Isopropylbenzene	105	12.391	12.391	(1.630)	1831382	20.0000	20.3	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	237088	10.0000	9.6	
	54 Bromobenzene	156	12.744	12.745	(1.676)	363350	20.0000	19.6	
	55 N-Propylbenzene	91	12.790	12.791	(1.682)	2304580	20.0000	19.4	
	56 1,1,2,2-Tetrachloroethane	83	12.856	12.856	(1.691)	183813	20.0000	19.7	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	1353565	20.0000	19.2	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	155001	20.0000	18.7	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	1524663	20.0000	19.5	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	1391105	20.0000	19.3	
	61 tert-Butylbenzene	119	13.292	13.293	(1.748)	1292927	20.0000	19.9	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	1536182	20.0000	19.6	
	63 sec-Butylbenzene	105	13.488	13.479	(1.774)	1897001	20.0000	19.4	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	1594993	20.0000	19.8	
	65 1,3-Dichlorobenzene	146	13.702	13.702	(1.802)	750846	20.0000	19.2	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.815)	725699	20.0000	19.6	
	67 N-Butylbenzene	91	14.138	14.139	(1.860)	1619181	20.0000	20.2	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	185838	10.0000	9.6	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	604954	20.0000	19.0	
	70 1,2-Dibromo-3-Chloropropane	157	15.459	15.459	(2.033)	20581	20.0000	20.1	
	71 1,3,5-Trichlorobenzene	180	15.524	15.524	(2.042)	570441	20.0000	20.7	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	321490	20.0000	20.1	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	389673	20.0000	22.3	
	74 Naphthalene	128	16.714	16.713	(2.198)	388209	20.0000	21.0	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	283293	20.0000	22.1	
M	76 1,2-Dichloroethylene (total)	96				842389	40.0000	41.0	
M	77 Xylenes (total)	106				2019110	60.0000	60.8	

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2205.d
Report Date: 27-Jan-2021 13:18

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	ON-COL (ug/L)	REVIEW CODE
M 78 Trihalomethanes, Total	100				1808643	20.0000	83.8	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\D2205.d
Date : 21-DEC-2020 12:42
Client ID: ontinuing Calibrati
Sample Info: WG292262-5
Purge Volume: 25.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-d.i\D122120.b\D2205.d
-Dichlorodifluoromethane (1.440)
-Chloromethane (1.617)
-Vinyl chloride (1.673)
-Bromomethane (1.961)
-Chloroethane (2.072)
-Trichlorofluoromethane (2.212)
-1,1-Dichloroethene (2.704)+
-Methylene Chloride (3.337)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.699)
-Tertiary-butyl alcohol (3.829)
-Di-isopropyl Ether (4.238)
-1,1-Dichloroethane (4.368)
-Ethyl tertiary-butyl ethe (4.824)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.465)
-Bromochloromethane (5.633)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.209)
-1,1-Dichloropropene (6.460)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.195)+
-Fluorobenzene (7.604)
-Trichloroethene (7.873)
-Dibromomethane (8.459)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.728)
-cis-1,3-dichloropropene (9.547)
-Toluene (9.825)
-Tetrachloroethene (10.262)
-1,1,2-Trichloroethane (10.485)
-Dibromochloromethane (10.671)
-1,2-Dibromoethane (10.895)
-2-Hexanone (11.192)
-Chlorobenzene (11.462)
-Ethylbenzene (11.508)+
m+p-Xylenes (11.666)
-Isopropylbenzene (12.391)
-P-Bromofluorobenzene (12.652)
-N-Propylbenzene (12.791)
-2-Chlorotoluene (12.930)
-1,2,4-Trichloropropane (12.986)+
-4-Chlorotoluene (13.088)
-tert-Butylbenzene (13.293)
-1,2,4-Trimethylbenzene (13.367)
-sec-Butylbenzene (13.488)
-P-Isopropyltoluene (13.646)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.139)
-1,2-Dichlorobenzene-D4 (14.316)+
-1,2-Dibromo-3-Chloropropa (15.459)
-1,3,5-Trichlorobenzene (15.524)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2-Dichloroethylene (16.900)
-1,2-Dichlorobenzene (16.919)
-Trihalomethanes, Total (17.000)

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292404-4
Analytical Date: 12/23/20 07:27
Lab File ID : D2232.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 12/21/20 08:31 12/21/20 12:42
Column ID:

Compound	RRF/Amount	RF10	CCAL RRF10	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
1 Dichlorodifluoromethane	0.21723	0.22036	0.22036	0.010	1.44194	30.00000	Averaged
2 Chloromethane	0.27472	0.28937	0.28937	0.010	5.33074	30.00000	Averaged
3 Vinyl chloride	0.21221	0.21576	0.21576	0.010	1.67503	30.00000	Averaged
4 Bromomethane	10.00000	8.09218	0.05227	0.010	-19.07824	30.00000	Quadratic
5 Chloroethane	0.11934	0.11970	0.11970	0.010	0.30178	30.00000	Averaged
6 Trichlorofluoromethane	0.44679	0.47205	0.47205	0.010	5.65400	30.00000	Averaged
7 1,1-Dichloroethene	0.22537	0.22149	0.22149	0.010	-1.72060	30.00000	Averaged
8 Carbon Disulfide	0.56409	0.58731	0.58731	0.010	4.11742	30.00000	Averaged
10 Methylene Chloride	10.00000	10.41570	0.22190	0.010	4.15696	30.00000	Quadratic
11 Acetone	10.00000	11.02203	0.02486	0.010	10.22028	30.00000	Linear
12 trans-1,2-Dichloroethene	0.24719	0.24001	0.24001	0.010	-2.90654	30.00000	Averaged
13 Methyl tert-butyl ether	0.26217	0.26518	0.26518	0.010	1.14875	30.00000	Averaged
16 1,1-Dichloroethane	0.58554	0.59020	0.59020	0.010	0.79607	30.00000	Averaged
18 cis-1,2-Dichloroethene	0.29169	0.29216	0.29216	0.010	0.16090	30.00000	Averaged
19 2,2-Dichloropropane	0.36335	0.41889	0.41889	0.010	15.28425	30.00000	Averaged
20 Bromochloromethane	0.09471	0.09598	0.09598	0.010	1.33460	30.00000	Averaged
21 Chloroform	0.59299	0.59308	0.59308	0.010	0.01565	30.00000	Averaged
22 Carbon Tetrachloride	0.46198	0.49375	0.49375	0.010	6.87813	30.00000	Averaged
23 1,1,1-Trichloroethane	0.52483	0.55454	0.55454	0.010	5.66128	30.00000	Averaged
24 1,1-Dichloropropene	0.40104	0.42935	0.42935	0.010	7.05779	30.00000	Averaged
25 2-Butanone	0.03174	0.03033	0.03033	0.005	-4.41800	30.00000	Averaged
26 Benzene	1.06102	1.08672	1.08672	0.010	2.42237	30.00000	Averaged
28 1,2-Dichloroethane	0.30278	0.30093	0.30093	0.010	-0.61127	30.00000	Averaged
30 Trichloroethene	0.31853	0.32116	0.32116	0.010	0.82504	30.00000	Averaged
31 Dibromomethane	0.11185	0.10659	0.10659	0.010	-4.69514	30.00000	Averaged
32 1,2-Dichloropropane	0.26178	0.26152	0.26152	0.010	-0.09780	30.00000	Averaged
33 Bromodichloromethane	0.33702	0.34107	0.34107	0.010	1.20234	30.00000	Averaged
34 cis-1,3-dichloropropene	0.30144	0.31467	0.31467	0.010	4.39087	30.00000	Averaged
35 Toluene	0.62441	0.65952	0.65952	0.010	5.62294	30.00000	Averaged
36 Tetrachloroethene	0.22526	0.23348	0.23348	0.010	3.65176	30.00000	Averaged
37 4-methyl-2-pentanone	10.00000	8.86387	0.06273	0.010	-11.36132	30.00000	Quadratic
38 trans-1,3-Dichloropropene	0.22863	0.23879	0.23879	0.010	4.44146	30.00000	Averaged
39 1,1,2-Trichloroethane	0.11317	0.10879	0.10879	0.010	-3.87204	30.00000	Averaged
40 Dibromochloromethane	0.17008	0.17058	0.17058	0.010	0.29330	30.00000	Averaged
41 1,3-Dichloropropane	0.23028	0.22498	0.22498	0.010	-2.30094	30.00000	Averaged
43 1,2-Dibromoethane	0.11548	0.11011	0.11011	0.010	-4.64743	30.00000	Averaged
44 2-Hexanone	10.00000	8.24430	0.03517	0.010	-17.55704	30.00000	Quadratic
45 Chlorobenzene	0.64660	0.66848	0.66848	0.010	3.38422	30.00000	Averaged
46 Ethylbenzene	1.25925	1.35744	1.35744	0.010	7.79738	30.00000	Averaged
47 1,1,1,2-Tetrachloroethane	0.22426	0.22999	0.22999	0.010	2.55373	30.00000	Averaged
48 m+p-Xylenes	0.44506	0.46923	0.46923	0.010	5.42904	30.00000	Averaged

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292404-4
Analytical Date: 12/23/20 07:27
Lab File ID : D2232.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 12/21/20 08:31 12/21/20 12:42
Column ID:

Compound	RRF/Amount	RF10	CCAL RRF10	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
49 o-Xylene	0.42026	0.44490	0.44490	0.010	5.86406	30.00000	Averaged
50 Styrene	0.63011	0.66226	0.66226	0.010	5.10123	30.00000	Averaged
51 Bromoform	0.07361	0.07246	0.07246	0.010	-1.55837	30.00000	Averaged
52 Isopropylbenzene	1.18684	1.28741	1.28741	0.010	8.47363	30.00000	Averaged
54 Bromobenzene	0.24315	0.23761	0.23761	0.010	-2.27971	30.00000	Averaged
55 N-Propylbenzene	1.56151	1.65879	1.65879	0.010	6.22999	30.00000	Averaged
56 1,1,2,2-Tetrachloroethane	0.12275	0.11584	0.11584	0.010	-5.62528	30.00000	Averaged
57 2-Chlorotoluene	0.92622	0.95956	0.95956	0.010	3.59937	30.00000	Averaged
58 1,2,3-Trichloropropane	0.10906	0.10260	0.10260	0.010	-5.91673	30.00000	Averaged
59 1,3,5-Trimethylbenzene	1.02521	1.07782	1.07782	0.010	5.13157	30.00000	Averaged
60 4-Chlorotoluene	0.94712	0.98121	0.98121	0.010	3.59908	30.00000	Averaged
62 1,2,4-Trimethylbenzene	1.03174	1.08663	1.08663	0.010	5.32002	30.00000	Averaged
63 sec-Butylbenzene	1.28794	1.37259	1.37259	0.010	6.57273	30.00000	Averaged
64 P-Isopropyltoluene	1.05738	1.13957	1.13957	0.010	7.77219	30.00000	Averaged
65 1,3-Dichlorobenzene	0.51477	0.51069	0.51069	0.010	-0.79347	30.00000	Averaged
66 1,4-Dichlorobenzene	0.48592	0.48757	0.48757	0.010	0.33958	30.00000	Averaged
67 N-Butylbenzene	1.05152	1.15346	1.15346	0.010	9.69466	30.00000	Averaged
69 1,2-Dichlorobenzene	0.41763	0.39684	0.39684	0.010	-4.97769	30.00000	Averaged
70 1,2-Dibromo-3-Chloropropane	10.00000	8.70608	0.01117	0.005	-12.93922	30.00000	Quadratic
72 Hexachlorobutadiene	0.21048	0.21752	0.21752	0.010	3.34205	30.00000	Averaged
73 1,2,4-Trichlorobenzene	0.23002	0.23553	0.23553	0.010	2.39770	30.00000	Averaged
74 Naphthalene	10.00000	8.40984	0.19477	0.010	-15.90161	30.00000	Quadratic
75 1,2,3-Trichlorobenzene	0.16828	0.16341	0.16341	0.010	-2.89564	30.00000	Averaged
53 P-Bromofluorobenzene	0.32268	0.31926	0.31926	0.010	-1.06063	30.00000	Averaged
68 1,2-Dichlorobenzene-D4	0.25440	0.24981	0.24981	0.010	-1.80432	30.00000	Averaged
69 1,2-Dichlorobenzene	0.41763	0.39684	0.39684	0.010	-4.97769	30.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2232.d
Report Date: 27-Jan-2021 15:01

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2232.d
Lab Smp Id: WG292404-4
Inj Date : 23-DEC-2020 07:27
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292404-4,TN0377
Misc Info : WG292404,WG292262-4,TN0377-1
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.430	1.431	(0.188)	135964	10.0000	10.1	
2 Chloromethane	50	1.607	1.607	(0.211)	178542	10.0000	10.5	
3 Vinyl chloride	62	1.672	1.673	(0.220)	133126	10.0000	10.2	
4 Bromomethane	94	1.960	1.961	(0.258)	32252	10.0000	8.1	
5 Chloroethane	64	2.072	2.072	(0.273)	73858	10.0000	10.0	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	291258	10.0000	10.6	
7 1,1-Dichloroethene	96	2.695	2.695	(0.354)	136660	10.0000	9.8	
8 Carbon Disulfide	76	2.723	2.723	(0.358)	362379	10.0000	10.4	
9 Freon-113	151	2.750	2.751	(0.362)	102094	10.0000	10.1	
10 Methylene Chloride	84	3.336	3.337	(0.439)	136915	10.0000	10.4	
11 Acetone	43	3.383	3.383	(0.445)	15339	10.0000	11.0	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	148088	10.0000	9.7	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	163621	10.0000	10.1	
14 Tertiary-butyl alcohol	59	3.829	3.829	(0.504)	13337	50.0000	50.2	
15 Di-isopropyl Ether	45	4.238	4.238	(0.557)	463375	10.0000	9.9	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	364160	10.0000	10.1	
17 Ethyl tertiary-butyl ether	59	4.824	4.824	(0.634)	297501	10.0000	10.3	
18 cis-1,2-Dichloroethene	96	5.260	5.270	(0.692)	180264	10.0000	10.0	
19 2,2-Dichloropropane	77	5.456	5.465	(0.718)	258459	10.0000	11.5	
20 Bromochloromethane	128	5.623	5.624	(0.740)	59219	10.0000	10.1	
21 Chloroform	83	5.828	5.828	(0.766)	365939	10.0000	10.0	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	304650	10.0000	10.7	
23 1,1,1-Trichloroethane	97	6.199	6.200	(0.815)	342158	10.0000	10.6	

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2232.d
Report Date: 27-Jan-2021 15:01

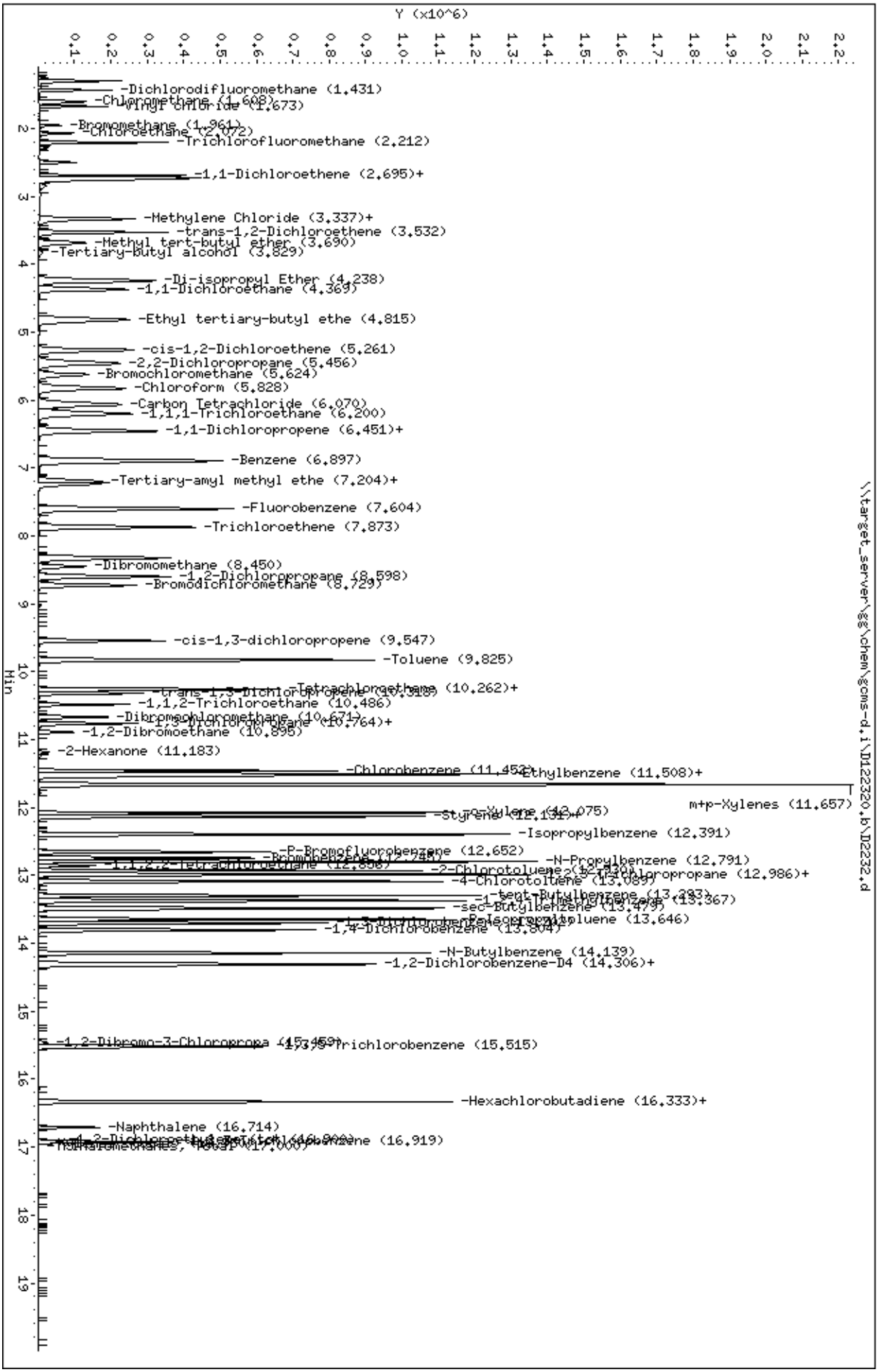
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.450	6.451	(0.848)	264911	10.0000	10.7	
	25 2-Butanone	43	6.441	6.451	(0.847)	18716	10.0000	9.6	
	26 Benzene	78	6.897	6.897	(0.907)	670518	10.0000	10.2	
	27 Tertiary-amyl methyl ether	73	7.194	7.195	(0.946)	165641	10.0000	10.4	
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	185677	10.0000	9.9	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	617010	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	198157	10.0000	10.1	
	31 Dibromomethane	93	8.449	8.449	(1.111)	65770	10.0000	9.5	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	161363	10.0000	10	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	210444	10.0000	10.1	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	194155	10.0000	10.4	
	35 Toluene	92	9.825	9.825	(1.292)	406933	10.0000	10.6	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	144061	10.0000	10.4	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	38704	10.0000	8.9	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	147335	10.0000	10.4	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	67122	10.0000	9.6	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	105248	10.0000	10.0	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	138814	10.0000	9.8	
	42 2-Chloroethylvinylether	63	10.764	10.764	(1.416)	15900	10.0000	(a)	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	67938	10.0000	9.5	
	44 2-Hexanone	43	11.182	11.183	(1.471)	21701	10.0000	8.2	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	412461	10.0000	10.3	
	46 Ethylbenzene	91	11.508	11.508	(1.514)	837556	10.0000	10.8	
	47 1,1,1,2-Tetrachloroethane	131	11.536	11.536	(1.517)	141905	10.0000	10.2	
	48 m+p-Xylenes	106	11.656	11.657	(1.533)	579035	20.0000	21.1	
	49 o-Xylene	106	12.075	12.075	(1.588)	274509	10.0000	10.6	
	50 Styrene	104	12.130	12.131	(1.595)	408620	10.0000	10.5	
	51 Bromoform	173	12.140	12.140	(1.597)	44711	10.0000	9.8	
	52 Isopropylbenzene	105	12.391	12.391	(1.630)	794347	10.0000	10.8	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	196988	10.0000	9.9	
	54 Bromobenzene	156	12.744	12.745	(1.676)	146606	10.0000	9.8	
	55 N-Propylbenzene	91	12.791	12.791	(1.682)	1023489	10.0000	10.6	
	56 1,1,2,2-Tetrachloroethane	83	12.856	12.856	(1.691)	71476	10.0000	9.4	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	592056	10.0000	10.4	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	63307	10.0000	9.4	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	665025	10.0000	10.5	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	605415	10.0000	10.4	
	61 tert-Butylbenzene	119	13.293	13.293	(1.748)	563095	10.0000	10.7	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	670464	10.0000	10.5	
	63 sec-Butylbenzene	105	13.478	13.479	(1.773)	846901	10.0000	10.6	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	703124	10.0000	10.8	
	65 1,3-Dichlorobenzene	146	13.702	13.702	(1.802)	315098	10.0000	9.9	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.815)	300833	10.0000	10.0	
	67 N-Butylbenzene	91	14.139	14.139	(1.860)	711697	10.0000	11.0	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	154137	10.0000	9.8	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	244855	10.0000	9.5	
	70 1,2-Dibromo-3-Chloropropane	157	15.459	15.459	(2.033)	6890	10.0000	8.7	
	71 1,3,5-Trichlorobenzene	180	15.514	15.524	(2.040)	226876	10.0000	10.1	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	134210	10.0000	10.3	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	145327	10.0000	10.2	
	74 Naphthalene	128	16.714	16.713	(2.198)	120173	10.0000	8.4	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	100823	10.0000	9.7	
M	76 1,2-Dichloroethylene (total)	96				328352	20.0000	19.7	
M	77 Xylenes (total)	106				853544	30.0000	31.7	

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2232.d
Report Date: 27-Jan-2021 15:01

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 78 Trihalomethanes, Total	100				726342	10.0000	40.0	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2232.d
Date : 23-DEC-2020 07:27
Client ID:
Sample Info: WG292404-4,TN0377
Purge Volume: 25.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.431)
-Chloromethane (1.608)
-Vinyl chloride (1.673)
-Bromomethane (1.961)
-Chloroethane (2.072)
-Trichlorofluoromethane (2.212)
-1,1-Dichloroethene (2.695)+
-Methylene Chloride (3.337)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)
-Tertiary-butyl alcohol (3.829)
-Di-isopropyl Ether (4.238)
-1,1-Dichloroethane (4.369)
-Ethyl tertiary-butyl ethe (4.815)
-cis-1,2-Dichloroethene (5.261)
-2,2-Dichloropropane (5.456)
-Bromochloromethane (5.624)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.200)
-1,1-Dichloropropene (6.451)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.204)+
-Fluorobenzene (7.604)
-Trichloroethene (7.873)
-Dibromomethane (8.450)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.729)
-cis-1,3-dichloropropene (9.547)
-Toluene (9.825)
-Tetrachloroethane (10.262)+
-1,1,2-Trichloroethane (10.486)
-Dibromochloromethane (10.671)
-1,2-Dibromoethane (10.895)
-2-Hexanone (11.183)
-Chlorobenzene (11.452)
-Ethylbenzene (11.508)+
m+p-Xylenes (11.657)
-Styrene (12.131)+
-Isopropylbenzene (12.391)
-P-Bromofluorobenzene (12.652)
-N-Propylbenzene (12.791)
-2-Chlorotoluene
-4-Chlorotoluene (13.089)
-sec-Butylbenzene (13.479)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.139)
-1,2-Dichlorobenzene-D4 (14.306)+
-1,2-Dibromo-3-Chloropropa (15.459)
-1,3,5-Trichlorobenzene (15.515)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2,3-Trichlorobenzene (16.919)
\\target_server\gg\chem\gcms-d.i\D122320.b\D2232.d

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292404-5
Analytical Date: 12/23/20 18:02
Lab File ID : D2247.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 12/21/20 08:31 12/21/20 12:42
Column ID:

	Compound	RRF/Amount	RF10	CCAL RRF10	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
1	Dichlorodifluoromethane	0.21723	0.21561	0.21561	0.010	-0.74614	30.00000	Averaged	
2	Chloromethane	0.27472	0.30262	0.30262	0.010	10.15477	30.00000	Averaged	
3	Vinyl chloride	0.21221	0.23056	0.23056	0.010	8.64994	30.00000	Averaged	
4	Bromomethane	10.00000	8.87356	0.05735	0.010	-11.26436	30.00000	Quadratic	
5	Chloroethane	0.11934	0.12660	0.12660	0.010	6.08420	30.00000	Averaged	
6	Trichlorofluoromethane	0.44679	0.46415	0.46415	0.010	3.88680	30.00000	Averaged	
7	1,1-Dichloroethene	0.22537	0.21462	0.21462	0.010	-4.76874	30.00000	Averaged	
8	Carbon Disulfide	0.56409	0.56711	0.56711	0.010	0.53547	30.00000	Averaged	
10	Methylene Chloride	10.00000	11.05034	0.23521	0.010	10.50342	30.00000	Quadratic	
11	Acetone	10.00000	13.04544	0.02942	0.010	30.45443	30.00000	Linear	*
12	trans-1,2-Dichloroethene	0.24719	0.23446	0.23446	0.010	-5.15238	30.00000	Averaged	
13	Methyl tert-butyl ether	0.26217	0.28733	0.28733	0.010	9.59482	30.00000	Averaged	
16	1,1-Dichloroethane	0.58554	0.57350	0.57350	0.010	-2.05674	30.00000	Averaged	
18	cis-1,2-Dichloroethene	0.29169	0.28918	0.28918	0.010	-0.85919	30.00000	Averaged	
19	2,2-Dichloropropane	0.36335	0.30353	0.30353	0.010	-16.46352	30.00000	Averaged	
20	Bromochloromethane	0.09471	0.09753	0.09753	0.010	2.97613	30.00000	Averaged	
21	Chloroform	0.59299	0.58952	0.58952	0.010	-0.58611	30.00000	Averaged	
22	Carbon Tetrachloride	0.46198	0.46329	0.46329	0.010	0.28394	30.00000	Averaged	
23	1,1,1-Trichloroethane	0.52483	0.52505	0.52505	0.010	0.04186	30.00000	Averaged	
24	1,1-Dichloropropene	0.40104	0.40624	0.40624	0.010	1.29504	30.00000	Averaged	
25	2-Butanone	0.03174	0.03390	0.03390	0.005	6.83553	30.00000	Averaged	
26	Benzene	1.06102	1.05772	1.05772	0.010	-0.31066	30.00000	Averaged	
28	1,2-Dichloroethane	0.30278	0.31983	0.31983	0.010	5.63008	30.00000	Averaged	
30	Trichloroethene	0.31853	0.30858	0.30858	0.010	-3.12189	30.00000	Averaged	
31	Dibromomethane	0.11185	0.11483	0.11483	0.010	2.66661	30.00000	Averaged	
32	1,2-Dichloropropane	0.26178	0.26669	0.26669	0.010	1.87707	30.00000	Averaged	
33	Bromodichloromethane	0.33702	0.35437	0.35437	0.010	5.14961	30.00000	Averaged	
34	cis-1,3-dichloropropene	0.30144	0.31827	0.31827	0.010	5.58436	30.00000	Averaged	
35	Toluene	0.62441	0.64421	0.64421	0.010	3.17030	30.00000	Averaged	
36	Tetrachloroethene	0.22526	0.21676	0.21676	0.010	-3.77043	30.00000	Averaged	
37	4-methyl-2-pentanone	10.00000	10.75720	0.07650	0.010	7.57202	30.00000	Quadratic	
38	trans-1,3-Dichloropropene	0.22863	0.24960	0.24960	0.010	9.16957	30.00000	Averaged	
39	1,1,2-Trichloroethane	0.11317	0.11738	0.11738	0.010	3.71890	30.00000	Averaged	
40	Dibromochloromethane	0.17008	0.18247	0.18247	0.010	7.28714	30.00000	Averaged	
41	1,3-Dichloropropane	0.23028	0.24603	0.24603	0.010	6.84160	30.00000	Averaged	
43	1,2-Dibromoethane	0.11548	0.12220	0.12220	0.010	5.82756	30.00000	Averaged	
44	2-Hexanone	10.00000	9.53106	0.04085	0.010	-4.68938	30.00000	Quadratic	
45	Chlorobenzene	0.64660	0.66706	0.66706	0.010	3.16473	30.00000	Averaged	
46	Ethylbenzene	1.25925	1.32018	1.32018	0.010	4.83812	30.00000	Averaged	
47	1,1,1,2-Tetrachloroethane	0.22426	0.23908	0.23908	0.010	6.60686	30.00000	Averaged	
48	m+p-Xylenes	0.44506	0.46137	0.46137	0.010	3.66420	30.00000	Averaged	

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Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292404-5
Analytical Date: 12/23/20 18:02
Lab File ID : D2247.d
Instrument ID: GCMS-D
Initial Calibration Date(s): 12/21/20 08:31 12/21/20 12:42
Column ID:

Compound	RRF/Amount	RF10	CCAL RRF10	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
49 o-Xylene	0.42026	0.44038	0.44038	0.010	4.78888	30.00000	Averaged
50 Styrene	0.63011	0.67560	0.67560	0.010	7.21839	30.00000	Averaged
51 Bromoform	0.07361	0.07987	0.07987	0.010	8.50340	30.00000	Averaged
52 Isopropylbenzene	1.18684	1.23288	1.23288	0.010	3.87854	30.00000	Averaged
54 Bromobenzene	0.24315	0.24562	0.24562	0.010	1.01751	30.00000	Averaged
55 N-Propylbenzene	1.56151	1.59507	1.59507	0.010	2.14959	30.00000	Averaged
56 1,1,2,2-Tetrachloroethane	0.12275	0.13079	0.13079	0.010	6.55161	30.00000	Averaged
57 2-Chlorotoluene	0.92622	0.93801	0.93801	0.010	1.27255	30.00000	Averaged
58 1,2,3-Trichloropropane	0.10906	0.11710	0.11710	0.010	7.37563	30.00000	Averaged
59 1,3,5-Trimethylbenzene	1.02521	1.05573	1.05573	0.010	2.97721	30.00000	Averaged
60 4-Chlorotoluene	0.94712	0.97118	0.97118	0.010	2.54080	30.00000	Averaged
62 1,2,4-Trimethylbenzene	1.03174	1.06938	1.06938	0.010	3.64744	30.00000	Averaged
63 sec-Butylbenzene	1.28794	1.31488	1.31488	0.010	2.09187	30.00000	Averaged
64 P-Isopropyltoluene	1.05738	1.08079	1.08079	0.010	2.21327	30.00000	Averaged
65 1,3-Dichlorobenzene	0.51477	0.52111	0.52111	0.010	1.23181	30.00000	Averaged
66 1,4-Dichlorobenzene	0.48592	0.50198	0.50198	0.010	3.30644	30.00000	Averaged
67 N-Butylbenzene	1.05152	1.09010	1.09010	0.010	3.66864	30.00000	Averaged
69 1,2-Dichlorobenzene	0.41763	0.41880	0.41880	0.010	0.27937	30.00000	Averaged
70 1,2-Dibromo-3-Chloropropane	10.00000	10.24436	0.01322	0.005	2.44356	30.00000	Quadratic
72 Hexachlorobutadiene	0.21048	0.19834	0.19834	0.010	-5.76997	30.00000	Averaged
73 1,2,4-Trichlorobenzene	0.23002	0.24622	0.24622	0.010	7.04398	30.00000	Averaged
74 Naphthalene	10.00000	9.72794	0.22635	0.010	-2.72060	30.00000	Quadratic
75 1,2,3-Trichlorobenzene	0.16828	0.18117	0.18117	0.010	7.66233	30.00000	Averaged
53 P-Bromofluorobenzene	0.32268	0.34531	0.34531	0.010	7.01308	30.00000	Averaged
68 1,2-Dichlorobenzene-D4	0.25440	0.27649	0.27649	0.010	8.68167	30.00000	Averaged
69 1,2-Dichlorobenzene	0.41763	0.41880	0.41880	0.010	0.27937	30.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2247.d
Report Date: 27-Jan-2021 15:02

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2247.d
Lab Smp Id: WG292404-5
Inj Date : 23-DEC-2020 18:02
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292404-5,TN0377
Misc Info : WG292404,WG292262-4,TN0377-2
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 16 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.430	1.431	(0.188)	132856	10.0000	9.9	
2 Chloromethane	50	1.616	1.607	(0.213)	186473	10.0000	11.0	
3 Vinyl chloride	62	1.672	1.673	(0.220)	142071	10.0000	10.9	
4 Bromomethane	94	1.960	1.961	(0.258)	35337	10.0000	8.9	
5 Chloroethane	64	2.072	2.072	(0.273)	78013	10.0000	10.6	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	286009	10.0000	10.4	
7 1,1-Dichloroethene	96	2.704	2.695	(0.356)	132247	10.0000	9.5	
8 Carbon Disulfide	76	2.732	2.723	(0.359)	349451	10.0000	10.0	
9 Freon-113	151	2.751	2.751	(0.362)	95665	10.0000	9.5	
10 Methylene Chloride	84	3.336	3.337	(0.439)	144936	10.0000	11.0	
11 Acetone	43	3.383	3.383	(0.445)	18131	10.0000	13.0	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	144472	10.0000	9.5	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	177050	10.0000	11.0	
14 Tertiary-butyl alcohol	59	3.829	3.829	(0.504)	14249	50.0000	53.7	
15 Di-isopropyl Ether	45	4.238	4.238	(0.557)	495271	10.0000	10.6	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	353387	10.0000	9.8	
17 Ethyl tertiary-butyl ether	59	4.824	4.824	(0.634)	316836	10.0000	10.9	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	178193	10.0000	9.9	
19 2,2-Dichloropropane	77	5.456	5.465	(0.718)	187036	10.0000	8.4	
20 Bromochloromethane	128	5.632	5.624	(0.741)	60099	10.0000	10.3	
21 Chloroform	83	5.828	5.828	(0.766)	363258	10.0000	9.9	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	285477	10.0000	10.0	
23 1,1,1-Trichloroethane	97	6.199	6.200	(0.815)	323534	10.0000	10.0	

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2247.d
Report Date: 27-Jan-2021 15:02

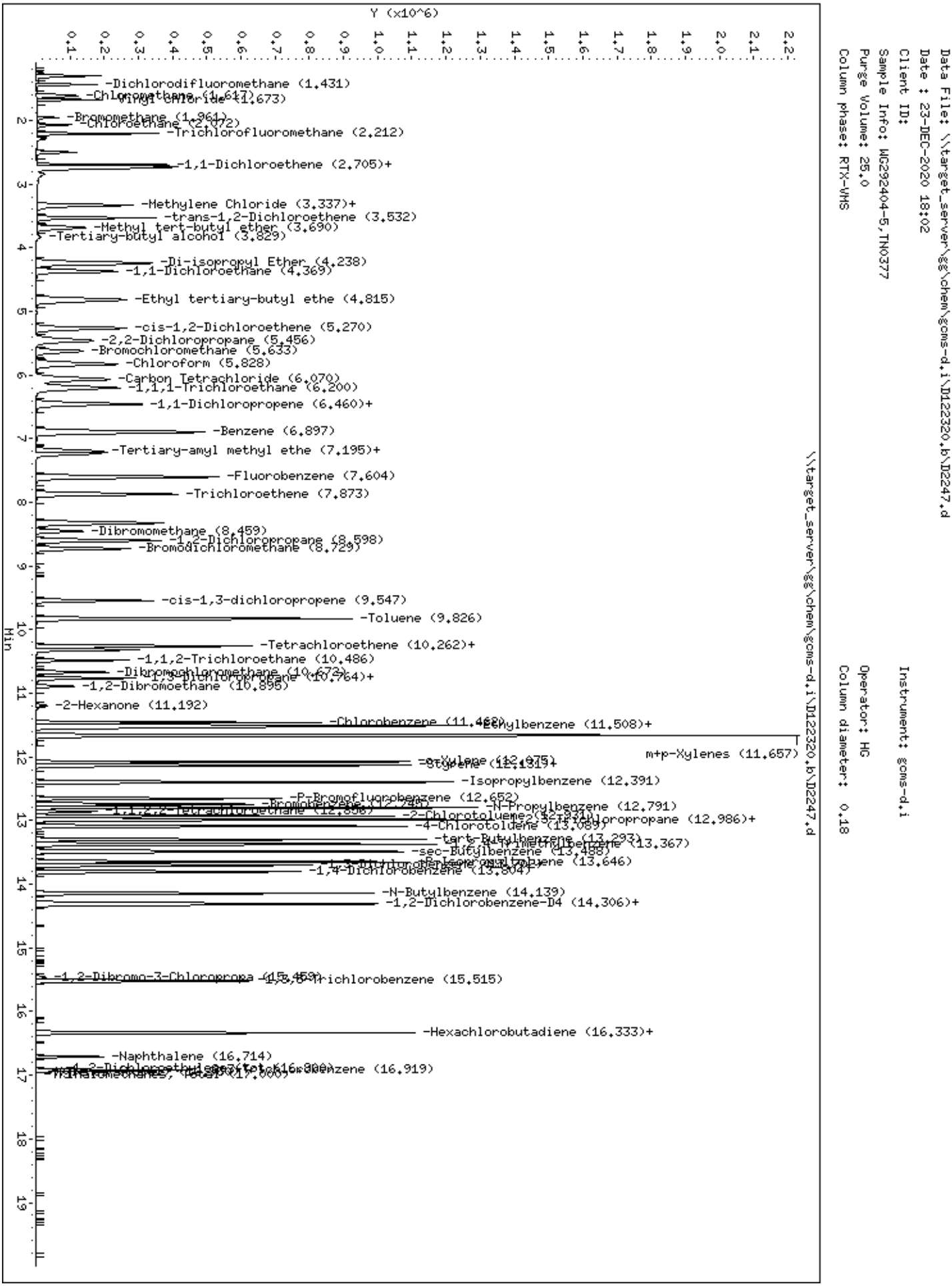
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.460	6.451	(0.850)	250321	10.0000	10.1	
	25 2-Butanone	43	6.441	6.451	(0.847)	20892	10.0000	10.7	
	26 Benzene	78	6.897	6.897	(0.907)	651766	10.0000	10	
	27 Tertiary-amyl methyl ether	73	7.194	7.195	(0.946)	176974	10.0000	11.1	
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	197077	10.0000	10.6	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	616197	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	190149	10.0000	9.7	
	31 Dibromomethane	93	8.458	8.449	(1.112)	70757	10.0000	10.3	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	164336	10.0000	10.2	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	218364	10.0000	10.5	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	196116	10.0000	10.6	
	35 Toluene	92	9.825	9.825	(1.292)	396960	10.0000	10.3	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	133569	10.0000	9.6	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	47138	10.0000	10.8	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	153802	10.0000	10.9	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	72327	10.0000	10.4	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	112439	10.0000	10.7	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	151604	10.0000	10.7	
	42 2-Chloroethylvinylether	63	10.764	10.764	(1.416)	16886	10.0000	(a)	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	75302	10.0000	10.6	
	44 2-Hexanone	43	11.192	11.183	(1.472)	25174	10.0000	9.5	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	411043	10.0000	10.3	
	46 Ethylbenzene	91	11.508	11.508	(1.513)	813490	10.0000	10.5	
	47 1,1,1,2-Tetrachloroethane	131	11.536	11.536	(1.517)	147319	10.0000	10.7	
	48 m+p-Xylenes	106	11.656	11.657	(1.533)	568592	20.0000	20.7	
	49 o-Xylene	106	12.075	12.075	(1.588)	271363	10.0000	10.5	
	50 Styrene	104	12.131	12.131	(1.595)	416302	10.0000	10.7	
	51 Bromoform	173	12.140	12.140	(1.597)	49216	10.0000	10.8	
	52 Isopropylbenzene	105	12.391	12.391	(1.630)	759695	10.0000	10.4	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	212782	10.0000	10.7	
	54 Bromobenzene	156	12.744	12.745	(1.676)	151353	10.0000	10.1	
	55 N-Propylbenzene	91	12.791	12.791	(1.682)	982879	10.0000	10.2	
	56 1,1,2,2-Tetrachloroethane	83	12.856	12.856	(1.691)	80592	10.0000	10.6	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	577996	10.0000	10.1	
	58 1,2,3-Trichloropropane	75	12.977	12.977	(1.707)	72156	10.0000	10.7	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	650539	10.0000	10.3	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	598441	10.0000	10.2	
	61 tert-Butylbenzene	119	13.293	13.293	(1.748)	538507	10.0000	10.2	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	658947	10.0000	10.4	
	63 sec-Butylbenzene	105	13.488	13.479	(1.774)	810224	10.0000	10.2	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	665978	10.0000	10.2	
	65 1,3-Dichlorobenzene	146	13.702	13.702	(1.802)	321107	10.0000	10.1	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.815)	309320	10.0000	10.3	
	67 N-Butylbenzene	91	14.139	14.139	(1.859)	671714	10.0000	10.4	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	170372	10.0000	10.9	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	258061	10.0000	10.0	
	70 1,2-Dibromo-3-Chloropropane	157	15.459	15.459	(2.033)	8147	10.0000	10.2	
	71 1,3,5-Trichlorobenzene	180	15.524	15.524	(2.042)	225911	10.0000	10.1	
	72 Hexachlorobutadiene	225	16.333	16.332	(2.148)	122215	10.0000	9.4	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	151721	10.0000	10.7	
	74 Naphthalene	128	16.714	16.713	(2.198)	139476	10.0000	9.7	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	111638	10.0000	10.8	
M	76 1,2-Dichloroethylene (total)	96				322665	20.0000	19.4	
M	77 Xylenes (total)	106				839955	30.0000	31.2	

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2247.d
Report Date: 27-Jan-2021 15:02

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 78 Trihalomethanes, Total	100				743277	10.0000	42.0	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2247.d
Date : 23-DEC-2020 18:02
Client ID:
Sample Info: WG292404-5,TN0377
Purge Volume: 25.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D122320.b\D2247.d
Y (x10^6)
Min
-Dichlorodifluoromethane (1.431)
-Chloromethane (1.617)
-Vinyl chloride (1.673)
-Bromomethane (1.961)
-Chloroethane (2.072)
-Trichlorofluoromethane (2.212)
-1,1-Dichloroethene (2.705)+
-Methylene Chloride (3.337)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)
-Tertiary-butyl alcohol (3.829)
-Di-isopropyl Ether (4.238)
-1,1-Dichloroethane (4.369)
-Ethyl tertiary-butyl ethe (4.815)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.456)
-Bromochloromethane (5.633)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.200)
-1,1-Dichloropropene (6.460)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.195)+
-Fluorobenzene (7.604)
-Trichloroethene (7.873)
-Dibromomethane (8.459)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.729)
-cis-1,3-dichloropropene (9.547)
-Toluene (9.826)
-Tetrachloroethene (10.262)+
-1,1,2-Trichloroethane (10.486)
-Dibromochloromethane (10.672)
-1,3-Dichloropropane (10.764)+
-1,2-Dibromoethane (10.895)
-2-Hexanone (11.192)
-Chlorobenzene (11.462)
-Ethylbenzene (11.508)+
m+p-Xylenes (11.657)
-o-Xylene (12.075)
-Styrene (12.131)+
-Isopropylbenzene (12.391)
-P-Bromofluorobenzene (12.652)
-Bromobenzene (12.745)
-N-Propylbenzene (12.791)
-1,1,2,2-Tetrachloroethane (12.856)
-2-Chlorotoluene (12.931)
-1,2,3-Trichloropropane (12.986)+
-4-Chlorotoluene (13.089)
-tert-Butylbenzene (13.293)
-1,2,4-Trimethylbenzene (13.367)
-sec-Butylbenzene (13.488)
-P-Isopropyltoluene (13.646)
-1,3-Dichlorobenzene (13.804)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.139)
-1,2-Dichlorobenzene-D4 (14.306)+
-1,2-Dibromo-3-Chloropropa (15.459)
-1,3,5-Trichlorobenzene (15.515)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2-Dichloroethylene (16.800)
-1,2-Dichlorobenzene (16.919)
-Trihalomethanes, Total (17.000)

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\DB839a.d

Date : 21-DEC-2020 08:03

Client ID:

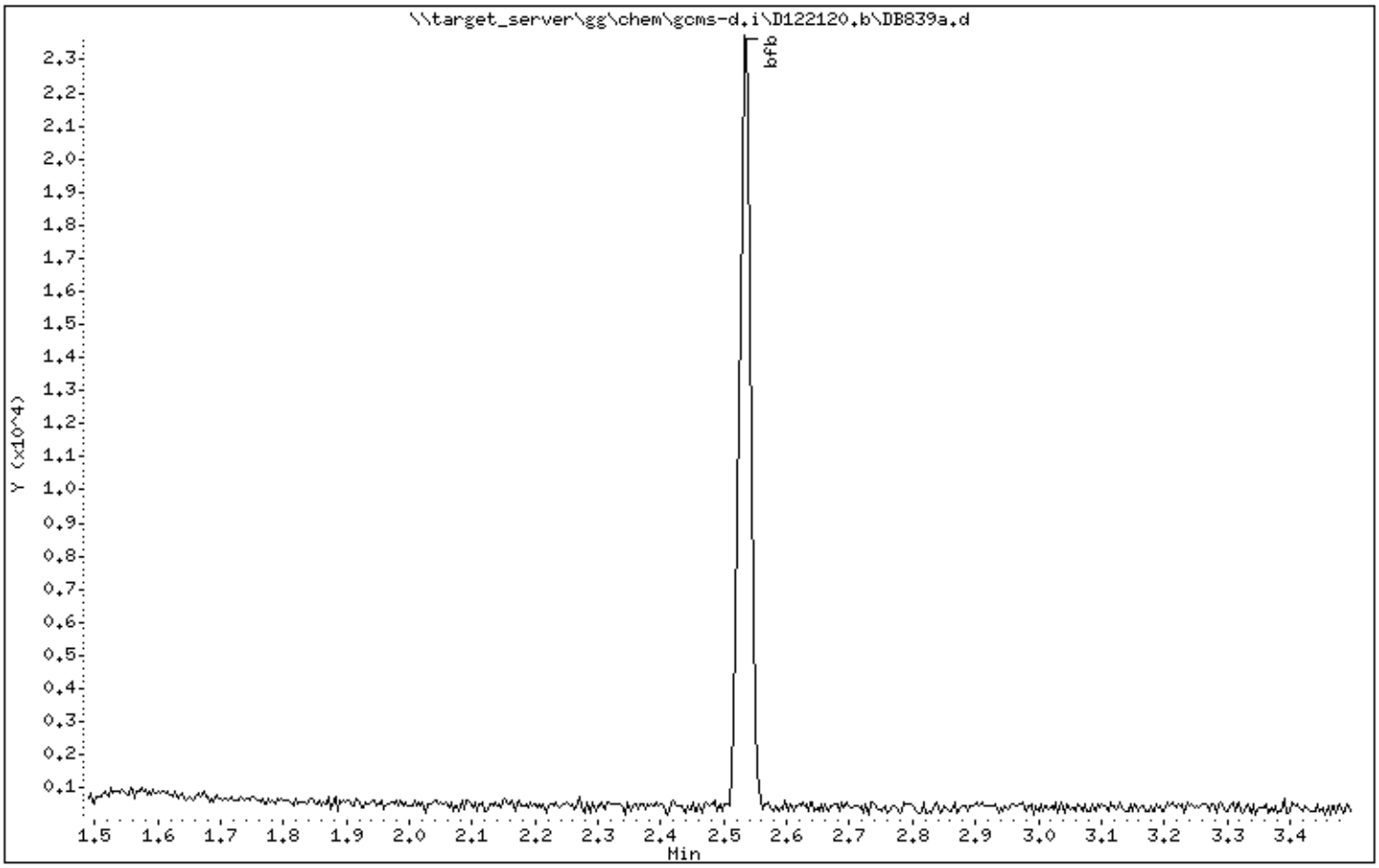
Instrument: gcms-d.i

Sample Info: WG292262-11,TN0377

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18



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Date : 21-DEC-2020 08:03

Client ID:

Instrument: gcms-d.i

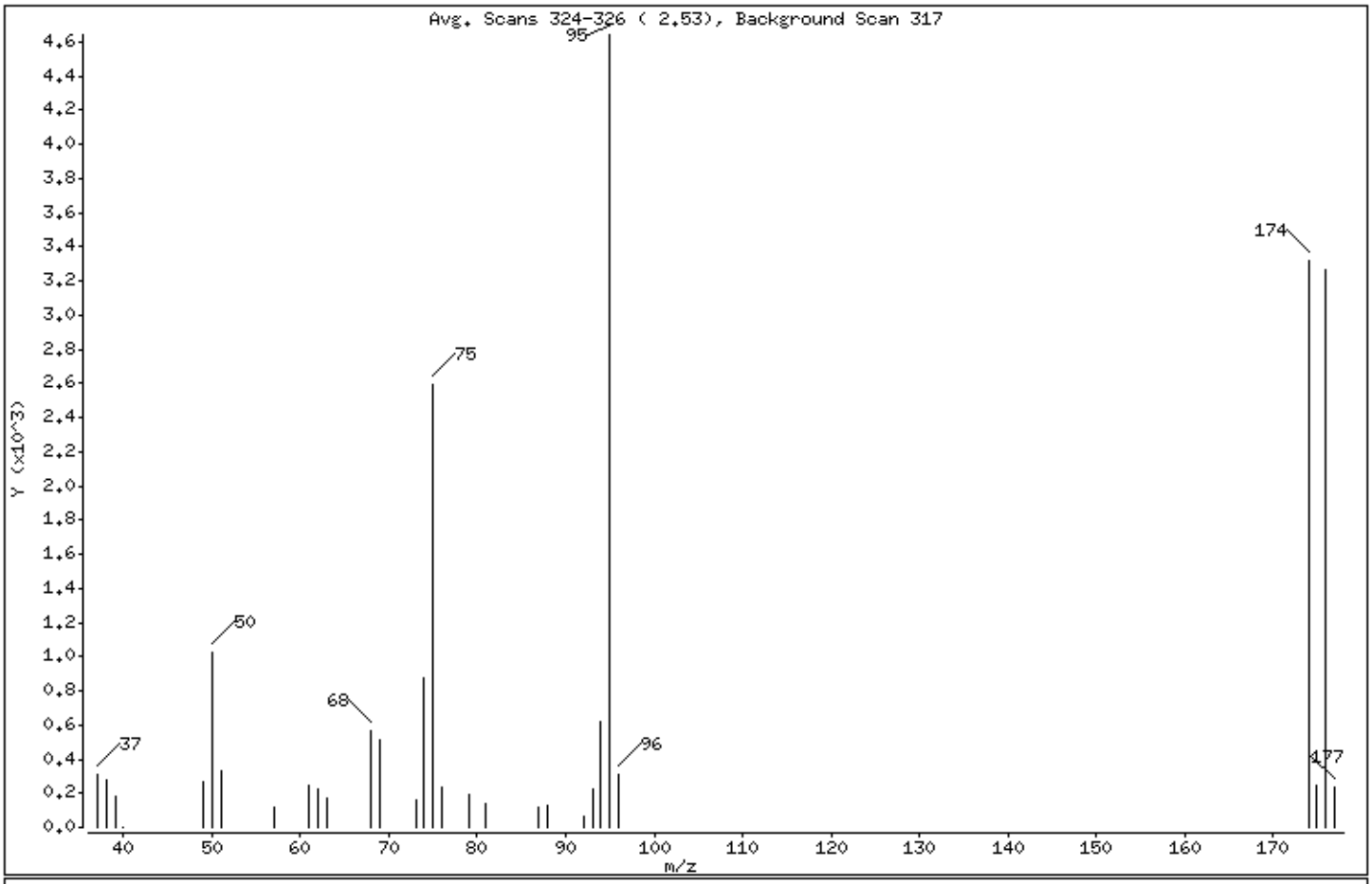
Sample Info: WG292262-11,TN0377

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.04
75	30.00 - 60.00% of mass 95	55.86
96	5.00 - 9.00% of mass 95	6.64
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	71.39
175	5.00 - 9.00% of mass 174	5.23 (7.33)
176	95.00 - 101.00% of mass 174	70.31 (98.49)
177	5.00 - 9.00% of mass 176	4.98 (7.08)

Data File: \\target_server\gg\chem\gcms-d.i\D122120.b\DB839a.d

Date : 21-DEC-2020 08:03

Client ID:

Instrument: gcms-d.i

Sample Info: WG292262-11,TN0377

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18

Data File: DB839a.d
Spectrum: Avg. Scans 324-326 (2.53), Background Scan 317
Location of Maximum: 95.00
Number of points: 30

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	312	61.00	246	76.00	230	95.00	4642
38.00	279	62.00	229	79.00	194	96.00	308
39.00	186	63.00	168	81.00	137	174.00	3314
40.00	5	68.00	561	87.00	116	175.00	243
49.00	262	69.00	511	88.00	125	176.00	3264
50.00	1023	73.00	156	92.00	63	177.00	231
51.00	334	74.00	879	93.00	226		
57.00	121	75.00	2593	94.00	617		

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\DB842a.d

Date : 23-DEC-2020 06:58

Client ID:

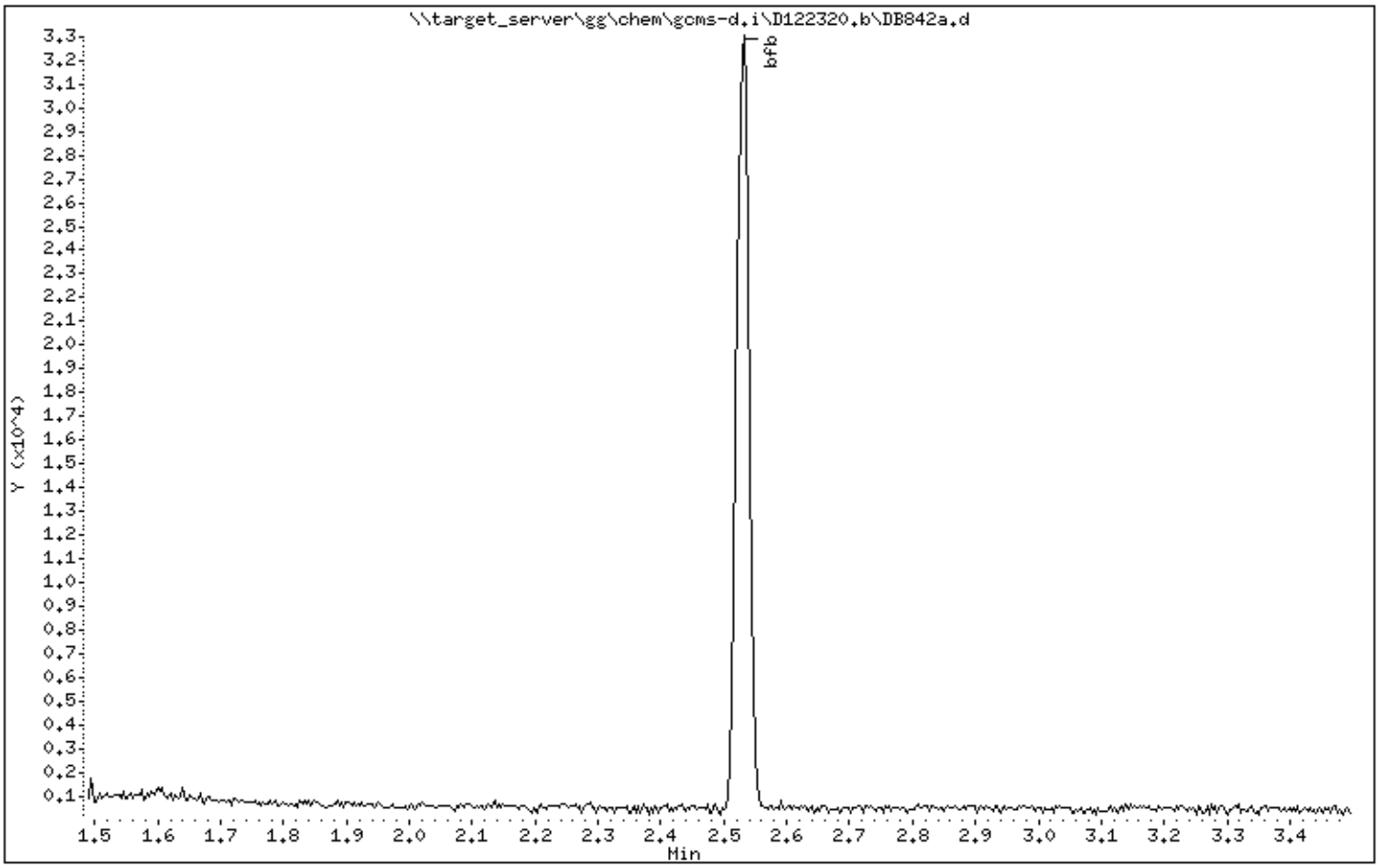
Instrument: gcms-d.i

Sample Info: WG292404-3,TN0377

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\DB842a.d

Date : 23-DEC-2020 06:58

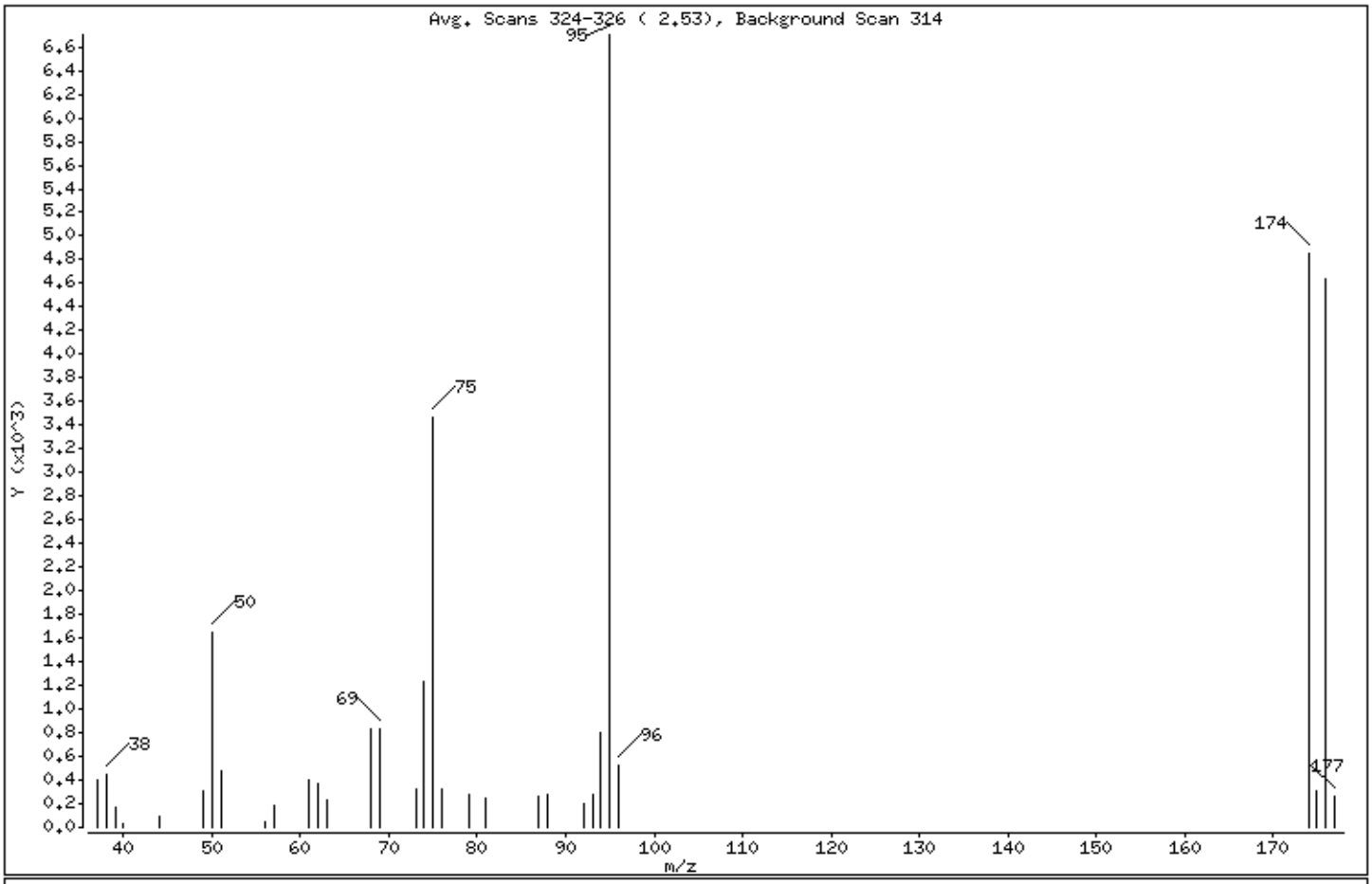
Client ID: Instrument: gcms-d.i

Sample Info: WG292404-3,TN0377

Operator: HG

Column phase: RTX-VMS Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.50
75	30.00 - 60.00% of mass 95	51.79
96	5.00 - 9.00% of mass 95	7.85
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	72.52
175	5.00 - 9.00% of mass 174	4.55 (6.28)
176	95.00 - 101.00% of mass 174	69.17 (95.39)
177	5.00 - 9.00% of mass 176	3.94 (5.69)

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\DB842a.d

Date : 23-DEC-2020 06:58

Client ID:

Instrument: gcms-d.i

Sample Info: WG292404-3,TN0377

Operator: HG

Column phase: RTX-VMS

Column diameter: 0.18

Data File: DB842a.d
Spectrum: Avg. Scans 324-326 (2.53), Background Scan 314
Location of Maximum: 95.00
Number of points: 32

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	396	57.00	184	76.00	330	96.00	526
38.00	445	61.00	400	79.00	280	174.00	4860
39.00	176	62.00	369	81.00	250	175.00	305
40.00	28	63.00	227	87.00	256	176.00	4636
44.00	99	68.00	825	88.00	273	177.00	264
49.00	312	69.00	833	92.00	198		
50.00	1642	73.00	328	93.00	274		
51.00	472	74.00	1230	94.00	803		
56.00	53	75.00	3471	95.00	6702		

Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG292404-2
Client ID: Method Blank Sample
Project:
SDG: TN0377
Lab File ID: D2236.D

Sample Date:
Received Date:
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Dichlorodifluoromethane	U	0.50	ug/L	1	1	1.0	0.10	0.50
Chloromethane	U	0.50	ug/L	1	1	1.0	0.077	0.50
Vinyl Chloride	U	0.50	ug/L	1	1	1.0	0.083	0.50
Bromomethane	U	0.50	ug/L	1	1	1.0	0.13	0.50
Chloroethane	U	0.50	ug/L	1	1	1.0	0.085	0.50
Trichlorofluoromethane	U	0.25	ug/L	1	.5	0.50	0.072	0.25
1,1-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.084	0.25
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	0.94	ug/L	1	2.5	2.5	0.62	1.2
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.076	0.25
1,1-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.049	0.25
cis-1,2-Dichloroethene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
2,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.14	0.25
Chloroform	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Bromochloromethane	U	0.25	ug/L	1	.5	0.50	0.087	0.25
1,1,1-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.058	0.25
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
1,2-Dichloroethane	U	0.25	ug/L	1	.5	0.50	0.10	0.25
1,1-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.054	0.25
Carbon Tetrachloride	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Benzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
1,2-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.066	0.25
Trichloroethene	U	0.25	ug/L	1	.5	0.50	0.044	0.25
Dibromomethane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Bromodichloromethane	U	0.25	ug/L	1	.5	0.50	0.061	0.25
cis-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
Toluene	U	0.25	ug/L	1	1	1.0	0.061	0.25
trans-1,3-Dichloropropene	U	0.25	ug/L	1	.5	0.50	0.12	0.25
1,1,2-Trichloroethane	U	0.25	ug/L	1	.5	0.50	0.13	0.25
1,3-Dichloropropane	U	0.25	ug/L	1	.5	0.50	0.071	0.25
Dibromochloromethane	U	0.25	ug/L	1	.5	0.50	0.092	0.25
Tetrachloroethene	U	0.25	ug/L	1	.5	0.50	0.073	0.25
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG292404-2
Client ID: Method Blank Sample
Project:
SDG: TN0377
Lab File ID: D2236.D

Sample Date:
Received Date:
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,2-Dibromoethane	U	0.25	ug/L	1	.5	0.50	0.090	0.25
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.25	ug/L	1	.5	0.50	0.057	0.25
1,1,1,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Ethylbenzene	U	0.25	ug/L	1	.5	0.50	0.062	0.25
m+p-Xylenes	U	0.25	ug/L	1	1	1.0	0.098	0.25
Bromoform	U	0.25	ug/L	1	.5	0.50	0.055	0.25
o-Xylene	U	0.25	ug/L	1	.5	0.50	0.043	0.25
Styrene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,1,2,2-Tetrachloroethane	U	0.25	ug/L	1	.5	0.50	0.11	0.25
1,2,3-Trichloropropane	U	0.25	ug/L	1	.5	0.50	0.099	0.25
Isopropylbenzene	U	0.25	ug/L	1	.5	0.50	0.059	0.25
Bromobenzene	U	0.25	ug/L	1	.5	0.50	0.066	0.25
2-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
N-Propylbenzene	U	0.25	ug/L	1	.5	0.50	0.063	0.25
4-Chlorotoluene	U	0.25	ug/L	1	.5	0.50	0.077	0.25
1,3,5-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.053	0.25
1,2,4-Trichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.10	0.25
sec-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.085	0.25
1,3-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.049	0.25
p-Isopropyltoluene	U	0.25	ug/L	1	.5	0.50	0.071	0.25
1,4-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2-Dichlorobenzene	U	0.25	ug/L	1	.5	0.50	0.065	0.25
N-Butylbenzene	U	0.25	ug/L	1	.5	0.50	0.083	0.25
1,2-Dibromo-3-Chloropropane	U	0.25	ug/L	1	.5	0.50	0.080	0.25
1,2,4-Trimethylbenzene	U	0.25	ug/L	1	.5	0.50	0.047	0.25
Naphthalene	U	0.50	ug/L	1	1	1.0	0.14	0.50
Hexachlorobutadiene	U	0.25	ug/L	1	.5	0.50	0.075	0.25
1,2,3-Trichlorobenzene	U	0.50	ug/L	1	1	1.0	0.13	0.50
Methyl tert-butyl Ether	U	0.25	ug/L	1	1	1.0	0.097	0.25
p-Bromofluorobenzene		85.5	%					
1,2-Dichlorobenzene-D4		86.1	%					

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2236.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2236.d
Lab Smp Id: WG292404-2 Client Smp ID: WG292404-Blank
Inj Date : 23-DEC-2020 10:22
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292404-2,TN0377
Misc Info : WG292404,WG292260-4,TN0377-1
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

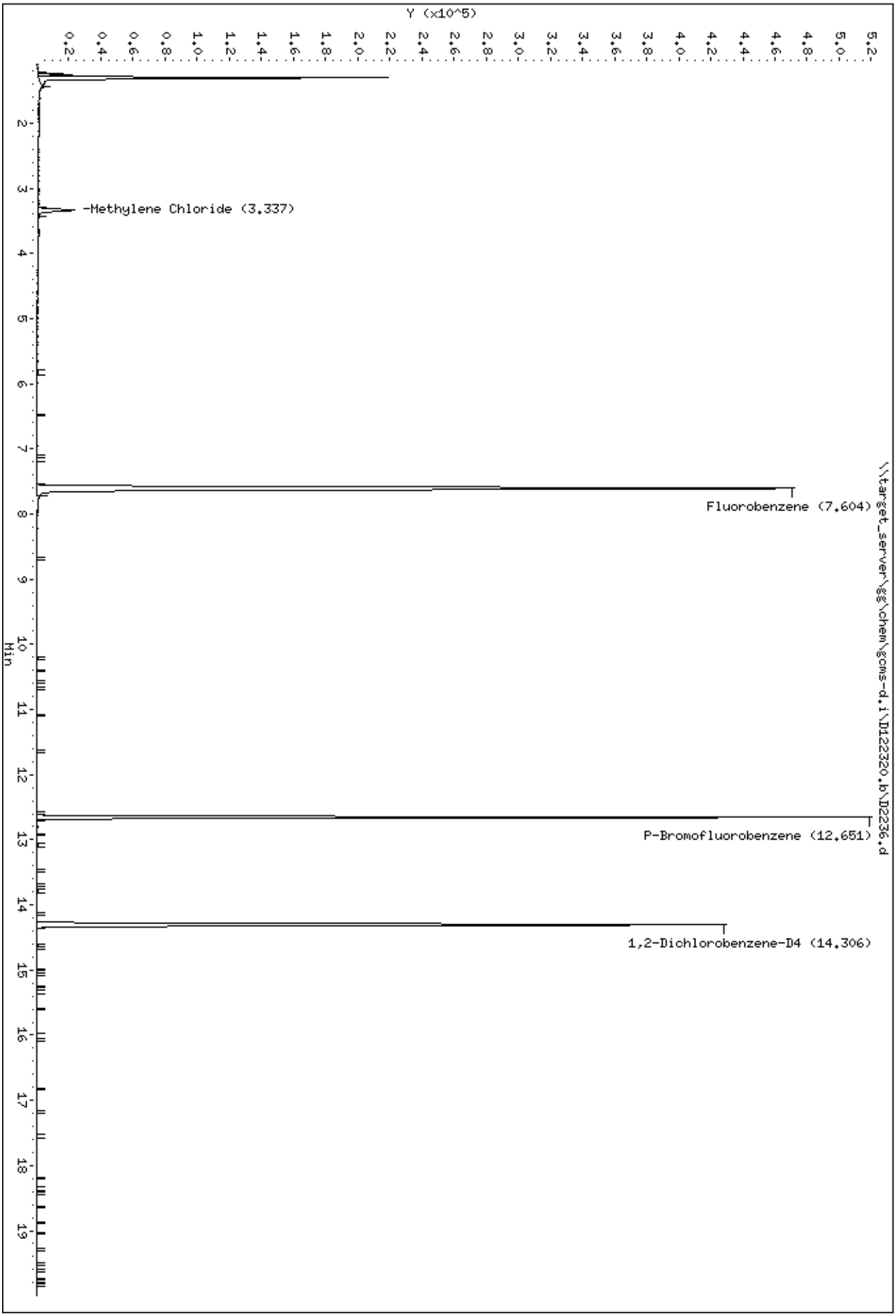
Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
10 Methylene Chloride	84	3.336	3.337	(0.439)	11091	0.94415	0.94(a)	
* 29 Fluorobenzene	96	7.603	7.604	(1.000)	543899	10.0000		
$ 53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	150083	8.55135	8.6	
$ 68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	119152	8.61114	8.6	

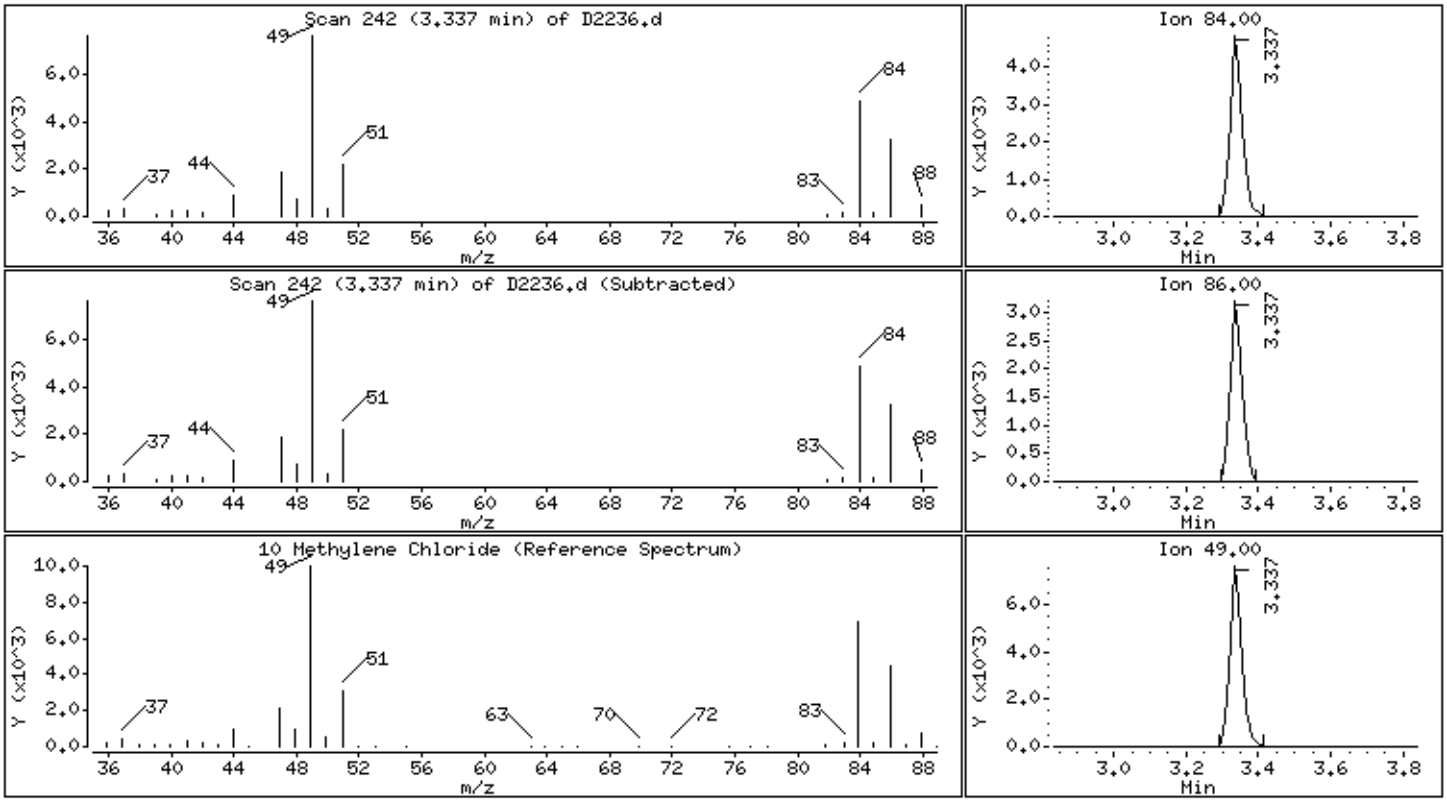
QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2236.d
Date : 23-DEC-2020 10:22
Client ID: WG292404-Blank
Sample Info: WG292404-2,TN0377
Instrument: gcms-d.i
\\target_server\gg\chem\gcms-d.i\D122320.b\D2236.d
Y (x10^5)
Min
-Methylene Chloride (3.337)
Fluorobenzene (7.604)
P-Bromofluorobenzene (12.651)
1,2-Dichlorobenzene-D4 (14.306)

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2236.d
Date : 23-DEC-2020 10:22
Client ID: WG292404-Blank Instrument: gcms-d.i
Sample Info: WG292404-2,TN0377

10 Methylene Chloride Concentration: 0.94 ug/l



Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG292404-1
Client ID: LCS
Project:
SDG: TN0377
LCS File ID: D2234.D

Sample Date:
Received Date:
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Dichlorodifluoromethane	* 168.	5.00	8.40	ug/L	70-130
Chloromethane	* 148.	5.00	7.40	ug/L	70-130
Vinyl Chloride	* 132.	5.00	6.60	ug/L	70-130
Bromomethane	80.0	5.00	4.00	ug/L	70-130
Chloroethane	122.	5.00	6.10	ug/L	70-130
Trichlorofluoromethane	116.	5.00	5.80	ug/L	70-130
1,1-Dichloroethene	90.0	5.00	4.50	ug/L	70-130
Carbon Disulfide	94.0	5.00	4.70	ug/L	70-130
Methylene Chloride	116.	5.00	5.80	ug/L	70-130
Acetone	130.	5.00	6.50	ug/L	70-130
trans-1,2-Dichloroethene	90.0	5.00	4.50	ug/L	70-130
1,1-Dichloroethane	96.0	5.00	4.80	ug/L	70-130
cis-1,2-Dichloroethene	94.0	5.00	4.70	ug/L	70-130
2,2-Dichloropropane	98.0	5.00	4.90	ug/L	70-130
Chloroform	92.0	5.00	4.60	ug/L	70-130
Bromochloromethane	102.	5.00	5.10	ug/L	70-130
1,1,1-Trichloroethane	94.0	5.00	4.70	ug/L	70-130
2-Butanone	102.	5.00	5.10	ug/L	70-130
1,2-Dichloroethane	98.0	5.00	4.90	ug/L	70-130
1,1-Dichloropropene	98.0	5.00	4.90	ug/L	70-130
Carbon Tetrachloride	88.0	5.00	4.40	ug/L	70-130
Benzene	98.0	5.00	4.90	ug/L	70-130
1,2-Dichloropropane	96.0	5.00	4.80	ug/L	70-130
Trichloroethene	96.0	5.00	4.80	ug/L	70-130
Dibromomethane	90.0	5.00	4.50	ug/L	70-130
Bromodichloromethane	94.0	5.00	4.70	ug/L	70-130
cis-1,3-Dichloropropene	96.0	5.00	4.80	ug/L	70-130
Toluene	102.	5.00	5.10	ug/L	70-130
trans-1,3-Dichloropropene	100.	5.00	5.00	ug/L	70-130
1,1,2-Trichloroethane	98.0	5.00	4.90	ug/L	70-130
1,3-Dichloropropane	98.0	5.00	4.90	ug/L	70-130
Dibromochloromethane	92.0	5.00	4.60	ug/L	70-130
Tetrachloroethene	92.0	5.00	4.60	ug/L	70-130
4-Methyl-2-Pentanone	90.0	5.00	4.50	ug/L	70-130
1,2-Dibromoethane	98.0	5.00	4.90	ug/L	70-130

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Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG292404-1
Client ID: LCS
Project:
SDG: TN0377
LCS File ID: D2234.D

Sample Date:
Received Date:
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
2-Hexanone	86.0	5.00	4.30	ug/L	70-130
Chlorobenzene	100.	5.00	5.00	ug/L	70-130
1,1,1,2-Tetrachloroethane	100.	5.00	5.00	ug/L	70-130
Ethylbenzene	102.	5.00	5.10	ug/L	70-130
m+p-Xylenes	102.	10.0	10.2	ug/L	70-130
Bromoform	88.0	5.00	4.40	ug/L	70-130
o-Xylene	100.	5.00	5.00	ug/L	70-130
Styrene	102.	5.00	5.10	ug/L	70-130
1,1,2,2-Tetrachloroethane	100.	5.00	5.00	ug/L	70-130
1,2,3-Trichloropropane	96.0	5.00	4.80	ug/L	70-130
Isopropylbenzene	100.	5.00	5.00	ug/L	70-130
Bromobenzene	98.0	5.00	4.90	ug/L	70-130
2-Chlorotoluene	98.0	5.00	4.90	ug/L	70-130
N-Propylbenzene	98.0	5.00	4.90	ug/L	70-130
4-Chlorotoluene	98.0	5.00	4.90	ug/L	70-130
1,3,5-Trimethylbenzene	100.	5.00	5.00	ug/L	70-130
1,2,4-Trichlorobenzene	96.0	5.00	4.80	ug/L	70-130
sec-Butylbenzene	100.	5.00	5.00	ug/L	70-130
1,3-Dichlorobenzene	98.0	5.00	4.90	ug/L	70-130
p-Isopropyltoluene	100.	5.00	5.00	ug/L	70-130
1,4-Dichlorobenzene	96.0	5.00	4.80	ug/L	70-130
1,2-Dichlorobenzene	94.0	5.00	4.70	ug/L	70-130
N-Butylbenzene	100.	5.00	5.00	ug/L	70-130
1,2-Dibromo-3-Chloropropane	92.0	5.00	4.60	ug/L	70-130
1,2,4-Trimethylbenzene	98.0	5.00	4.90	ug/L	70-130
Naphthalene	78.0	5.00	3.90	ug/L	70-130
Hexachlorobutadiene	90.0	5.00	4.50	ug/L	70-130
1,2,3-Trichlorobenzene	94.0	5.00	4.70	ug/L	70-130
Methyl tert-butyl Ether	124.	5.00	6.20	ug/L	70-130
p-Bromofluorobenzene	100.				60-121
1,2-Dichlorobenzene-D4	102.				51-133

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2234.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2234.d
Lab Smp Id: WG292404-1
Inj Date : 23-DEC-2020 08:53
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292404-1,TN0377
Misc Info : WG292404,WG292260-4,TN0377-1
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.430	1.431	(0.188)	121438	8.40658	8.4(R)	
2 Chloromethane	50	1.616	1.607	(0.213)	136200	7.45526	7.4(R)	
3 Vinyl chloride	62	1.672	1.673	(0.220)	93486	6.62475	6.6(R)	
4 Bromomethane	94	1.960	1.961	(0.258)	16963	3.95916	4.0	
5 Chloroethane	64	2.081	2.072	(0.274)	48113	6.06240	6.1	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	173082	5.82547	5.8	
7 1,1-Dichloroethene	96	2.704	2.695	(0.356)	68042	4.54014	4.5	
8 Carbon Disulfide	76	2.732	2.723	(0.359)	175962	4.69084	4.7	
9 Freon-113	151	2.750	2.751	(0.362)	50842	4.66978	4.7	
10 Methylene Chloride	84	3.336	3.337	(0.439)	82579	5.79038	5.8	
11 Acetone	43	3.383	3.383	(0.445)	9713	6.47573	6.5	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	73700	4.48341	4.5	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	108399	6.21753	6.2	
14 Tertiary-butyl alcohol	59	3.829	3.829	(0.504)	7639	26.6714	26.7	
15 Di-isopropyl Ether	45	4.247	4.238	(0.559)	247143	4.92279	4.9	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	188176	4.83267	4.8	
17 Ethyl tertiary-butyl ether	59	4.824	4.824	(0.634)	159800	5.11489	5.1	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	91072	4.69510	4.7	
19 2,2-Dichloropropane	77	5.456	5.465	(0.718)	117670	4.86985	4.9	
20 Bromochloromethane	128	5.632	5.624	(0.741)	32257	5.12144	5.1	
21 Chloroform	83	5.828	5.828	(0.766)	182567	4.62970	4.6	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	136543	4.44456	4.4	
23 1,1,1-Trichloroethane	97	6.199	6.200	(0.815)	164077	4.70119	4.7	

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2234.d
Report Date: 27-Jan-2021 13:01

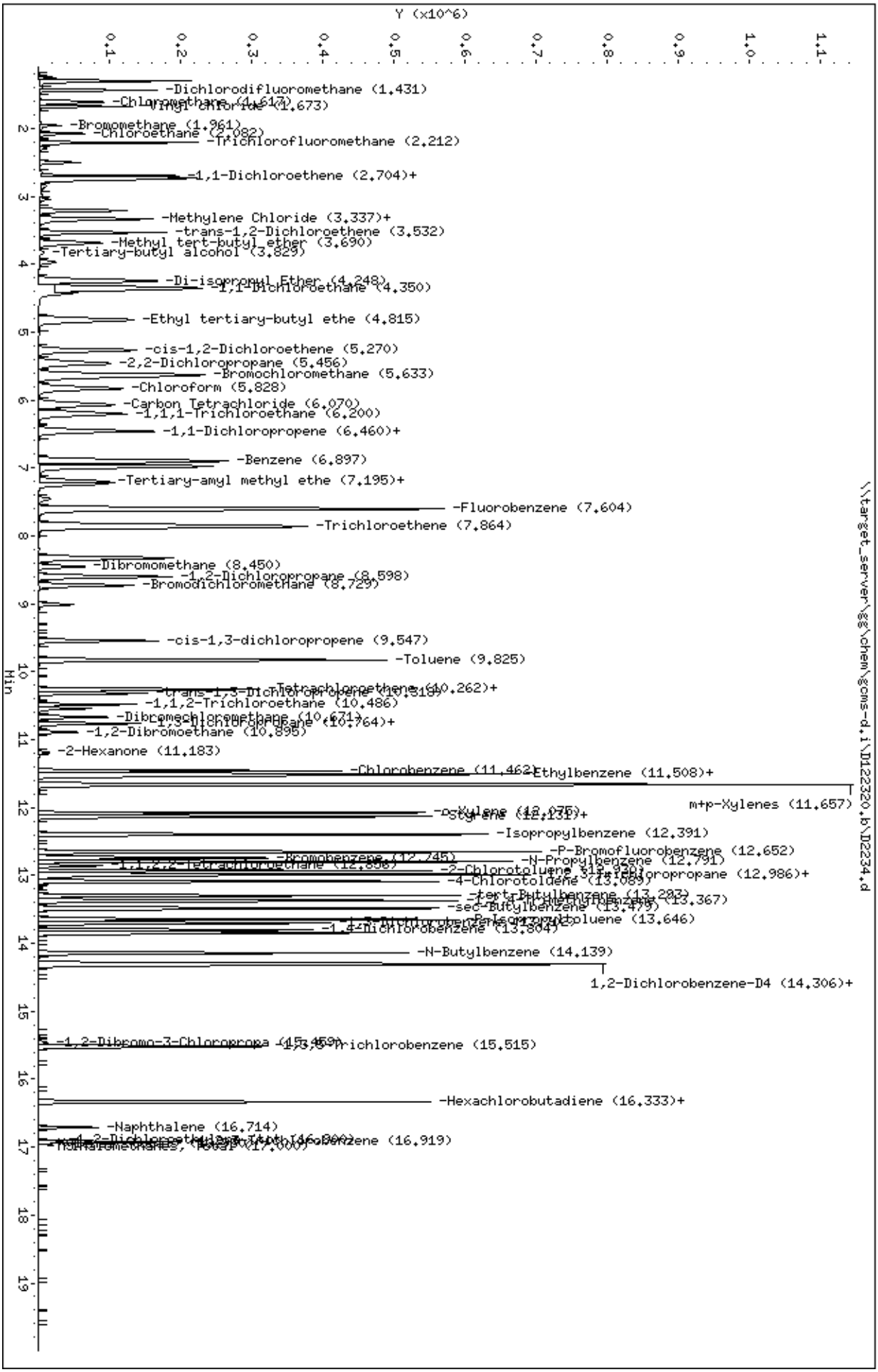
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.460	6.451	(0.850)	130297	4.88567	4.9	
	25 2-Butanone	43	6.450	6.451	(0.848)	10828	5.13077	5.1	
	26 Benzene	78	6.897	6.897	(0.907)	345719	4.89981	4.9	
	27 Tertiary-amyl methyl ether	73	7.194	7.195	(0.946)	91010	5.30209	5.3	
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	98250	4.87958	4.9	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	664999	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	101541	4.79371	4.8	
	31 Dibromomethane	93	8.449	8.449	(1.111)	33256	4.47124	4.5	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	84466	4.85204	4.8	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	105604	4.71200	4.7	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	97056	4.84181	4.8	
	35 Toluene	92	9.825	9.825	(1.292)	210561	5.07089	5.1	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	69520	4.64100	4.6	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	21021	4.51572	4.5	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	76729	5.04659	5.0	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	36858	4.89765	4.9	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	52549	4.64616	4.6	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	74693	4.87762	4.9	
	42 2-Chloroethylvinylether	63	10.764	10.764	(1.416)	8520			(aR)
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	37550	4.88991	4.9	
	44 2-Hexanone	43	11.182	11.183	(1.471)	12154	4.34434	4.3	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	213026	4.95422	5.0	
	46 Ethylbenzene	91	11.508	11.508	(1.514)	430087	5.13596	5.1	
	47 1,1,1,2-Tetrachloroethane	131	11.536	11.536	(1.517)	74942	5.02516	5.0	
	48 m+p-Xylenes	106	11.656	11.657	(1.533)	301220	10.1775	10.2	
	49 o-Xylene	106	12.075	12.075	(1.588)	140257	5.01866	5.0	
	50 Styrene	104	12.130	12.131	(1.595)	213217	5.08840	5.1	
	51 Bromoform	173	12.140	12.140	(1.597)	21784	4.45014	4.4	
	52 Isopropylbenzene	105	12.391	12.391	(1.630)	398816	5.05310	5.0	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	215851	10.0590	10.0	
	54 Bromobenzene	156	12.744	12.745	(1.676)	78953	4.88284	4.9	
	55 N-Propylbenzene	91	12.791	12.791	(1.682)	509170	4.90341	4.9	
	56 1,1,2,2-Tetrachloroethane	83	12.856	12.856	(1.691)	40722	4.98880	5.0	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	302560	4.91221	4.9	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	34990	4.82476	4.8	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	339422	4.97859	5.0	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	307055	4.87517	4.9	
	61 tert-Butylbenzene	119	13.293	13.293	(1.748)	280584	4.93791	4.9	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	337715	4.92217	4.9	
	63 sec-Butylbenzene	105	13.478	13.479	(1.773)	430918	5.03129	5.0	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	352906	5.01886	5.0	
	65 1,3-Dichlorobenzene	146	13.702	13.702	(1.802)	166752	4.87121	4.9	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.815)	154249	4.77354	4.8	
	67 N-Butylbenzene	91	14.138	14.139	(1.860)	350554	5.01322	5.0	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	171837	10.1572	10.2	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	131157	4.72258	4.7	
	70 1,2-Dibromo-3-Chloropropane	157	15.459	15.459	(2.033)	3910	4.65688	4.6	
	71 1,3,5-Trichlorobenzene	180	15.524	15.524	(2.042)	114600	4.75176	4.8	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	63390	4.52881	4.5	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	73396	4.79830	4.8	
	74 Naphthalene	128	16.714	16.713	(2.198)	59857	3.94675	3.9	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	52754	4.71417	4.7	
M	76 1,2-Dichloroethylene (total)	96				164772	9.17852	9.2	
M	77 Xylenes (total)	106				441477	15.1961	15.2	

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2234.d
Report Date: 27-Jan-2021 13:01

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
M 78 Trihalomethanes, Total	100				362504	18.4380	18.4	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2234.d
Date : 23-DEC-2020 08:53
Client ID:
Sample Info: WG292404-1,TN0377
Purge Volume: 25.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D122320.b\D2234.d
Y (x10^6)
Min
-Dichlorodifluoromethane (1.431)
-Chloromethane (1.617)
-Vinyl chloride (1.673)
-Bromomethane (1.961)
-Chloroethane (2.082)
-Trichlorofluoromethane (2.212)
-1,1-Dichloroethene (2.704)+
-Methylene Chloride (3.337)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)
-Tertiary-butyl alcohol (3.829)
-Di-isopropyl Ether (4.248)
-1,1-Dichloroethane (4.350)
-Ethyl tertiary-butyl ethe (4.815)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.456)
-Bromochloromethane (5.633)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.200)
-1,1-Dichloropropene (6.460)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.195)+
-Fluorobenzene (7.604)
-Trichloroethene (7.864)
-Dibromomethane (8.450)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.729)
-cis-1,3-dichloropropene (9.547)
-Toluene (9.825)
-trans-1,3-Dichloropropene (10.318)
-Tetrachloroethene (10.262)+
-1,1,2-Trichloroethane (10.486)
-Dibromochloromethane (10.671)
-1,3-Dichloropropane (10.764)+
-1,2-Dibromoethane (10.895)
-2-Hexanone (11.183)
-Chlorobenzene (11.462)
-Ethylbenzene (11.508)+
m+p-Xylenes (11.657)
-o-Xylene (12.075)
-Styrene (12.131)+
-Isopropylbenzene (12.391)
-P-Bromofluorobenzene (12.652)
-Bromobenzene (12.745)
-N-Propylbenzene (12.791)
-1,1,2,2-Tetrachloroethane (12.856)
-2-Chlorotoluene (12.920)
-1,3,5-Trichloropropane (12.986)+
-4-Chlorotoluene (13.089)
-tert-Butylbenzene (13.283)
-1,2,4-Trimethylbenzene (13.367)
-sec-Butylbenzene (13.479)
-P-Isopropyltoluene (13.646)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.139)
1,2-Dichlorobenzene-D4 (14.306)+
-1,2-Dibromo-3-Chloropropa (15.459)
-1,2,4-Trichlorobenzene (15.515)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2,3-Trichlorobenzene (16.919)

Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG292404-6
MSD ID: WG292404-7
Sample ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project:
SDG: TN0377
MS File ID: D2245.D

Received Date:
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404
Report Date: 27-JAN-21
MSD File ID: D2246.d

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Dichlorodifluoromethane	5.00	5.00	ug/L	ULMM0.50	10.3	11.2	206.*	224.*	8	20	70-130
Chloromethane	5.00	5.00	ug/L	ULMM0.50	8.00	8.90	160.*	178.*	11	20	70-130
Vinyl Chloride	5.00	5.00	ug/L	ULMM0.50	7.70	8.60	154.*	172.*	11	20	70-130
Bromomethane	5.00	5.00	ug/L	U0.50	3.80	4.60	76.0	92.0	19	20	70-130
Chloroethane	5.00	5.00	ug/L	UMM0.50	7.00	7.60	140.*	152.*	8	20	70-130
Trichlorofluoromethane	5.00	5.00	ug/L	UMM0.25	7.30	7.70	146.*	154.*	5	20	70-130
1,1-Dichloroethene	5.00	5.00	ug/L	U0.25	5.30	5.50	106.	110.	4	20	70-130
Carbon Disulfide	5.00	5.00	ug/L	U0.50	5.50	5.90	110.	118.	7	20	70-130
Methylene Chloride	5.00	5.00	ug/L	3.4	7.70	7.80	86.0	88.0	1	20	70-130
Acetone	5.00	5.00	ug/L	UMM2.5	8.60	8.20	172.*	164.*	5	20	70-130
trans-1,2-Dichloroethene	5.00	5.00	ug/L	U0.25	5.20	5.40	104.	108.	4	20	70-130
1,1-Dichloroethane	5.00	5.00	ug/L	U0.25	5.50	5.30	110.	106.	4	20	70-130
cis-1,2-Dichloroethene	5.00	5.00	ug/L	J0.48	5.70	5.70	104.	104.	0	20	70-130
2,2-Dichloropropane	5.00	5.00	ug/L	U0.25	4.70	4.70	94.0	94.0	0	20	70-130
Chloroform	5.00	5.00	ug/L	J0.049	5.20	5.40	103.	107.	4	20	70-130
Bromochloromethane	5.00	5.00	ug/L	U0.25	5.70	5.80	114.	116.	2	20	70-130
1,1,1-Trichloroethane	5.00	5.00	ug/L	U0.25	5.60	5.80	112.	116.	4	20	70-130
2-Butanone	5.00	5.00	ug/L	U2.5	5.20	5.70	104.	114.	9	20	70-130
1,2-Dichloroethane	5.00	5.00	ug/L	U0.25	5.50	5.40	110.	108.	2	20	70-130
1,1-Dichloropropene	5.00	5.00	ug/L	U0.25	5.90	6.00	118.	120.	2	20	70-130
Carbon Tetrachloride	5.00	5.00	ug/L	U0.25	5.50	5.60	110.	112.	2	20	70-130
Benzene	5.00	5.00	ug/L	U0.25	5.50	5.60	110.	112.	2	20	70-130
1,2-Dichloropropane	5.00	5.00	ug/L	U0.25	5.40	5.40	108.	108.	0	20	70-130
Trichloroethene	5.00	5.00	ug/L	2.4	8.10	8.00	114.	112.	1	20	70-130
Dibromomethane	5.00	5.00	ug/L	U0.25	5.10	4.80	102.	96.0	6	20	70-130
Bromodichloromethane	5.00	5.00	ug/L	U0.25	5.30	5.40	106.	108.	2	20	70-130
cis-1,3-Dichloropropene	5.00	5.00	ug/L	U0.25	5.00	5.00	100.	100.	0	20	70-130
Toluene	5.00	5.00	ug/L	U0.25	5.70	5.80	114.	116.	2	20	70-130
trans-1,3-Dichloropropene	5.00	5.00	ug/L	U0.25	5.30	5.40	106.	108.	2	20	70-130
1,1,2-Trichloroethane	5.00	5.00	ug/L	U0.25	5.30	5.60	106.	112.	6	20	70-130
1,3-Dichloropropane	5.00	5.00	ug/L	U0.25	5.40	5.40	108.	108.	0	20	70-130
Dibromochloromethane	5.00	5.00	ug/L	U0.25	5.10	5.10	102.	102.	0	20	70-130
Tetrachloroethene	5.00	5.00	ug/L	U0.25	5.20	5.40	104.	108.	4	20	70-130

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG292404-6
MSD ID: WG292404-7
Sample ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project:
SDG: TN0377
MS File ID: D2245.D

Received Date:
Extract Date: 23-DEC-20
Extracted By: HG
Extraction Method: EPA 524.2
Lab Prep Batch: WG292404
Report Date: 27-JAN-21
MSD File ID: D2246.d

Analysis Date: 23-DEC-20
Analyst: HG
Analysis Method: EPA 524.2
Matrix: AQ
% Solids: NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
4-Methyl-2-Pentanone	5.00	5.00	ug/L	U2.5	4.80	4.90	96.0	98.0	2	20	70-130
1,2-Dibromoethane	5.00	5.00	ug/L	U0.25	5.30	5.30	106.	106.	0	20	70-130
2-Hexanone	5.00	5.00	ug/L	U2.5	4.20	4.30	84.0	86.0	2	20	70-130
Chlorobenzene	5.00	5.00	ug/L	U0.25	5.50	5.60	110.	112.	2	20	70-130
1,1,1,2-Tetrachloroethane	5.00	5.00	ug/L	U0.25	5.70	5.70	114.	114.	0	20	70-130
Ethylbenzene	5.00	5.00	ug/L	U0.25	6.00	6.00	120.	120.	0	20	70-130
m+p-Xylenes	10.0	10.0	ug/L	U0.25	11.8	11.9	118.	119.	1	20	70-130
Bromoform	5.00	5.00	ug/L	U0.25	5.00	5.00	100.	100.	0	20	70-130
o-Xylene	5.00	5.00	ug/L	U0.25	5.70	5.70	114.	114.	0	20	70-130
Styrene	5.00	5.00	ug/L	U0.25	5.70	5.80	114.	116.	2	20	70-130
1,1,2,2-Tetrachloroethane	5.00	5.00	ug/L	U0.25	5.60	5.50	112.	110.	2	20	70-130
1,2,3-Trichloropropane	5.00	5.00	ug/L	U0.25	5.50	5.50	110.	110.	0	20	70-130
Isopropylbenzene	5.00	5.00	ug/L	U0.25	6.00	5.90	120.	118.	2	20	70-130
Bromobenzene	5.00	5.00	ug/L	U0.25	5.40	5.50	108.	110.	2	20	70-130
2-Chlorotoluene	5.00	5.00	ug/L	U0.25	5.60	5.70	112.	114.	2	20	70-130
N-Propylbenzene	5.00	5.00	ug/L	U0.25	5.90	5.90	118.	118.	0	20	70-130
4-Chlorotoluene	5.00	5.00	ug/L	U0.25	5.60	5.70	112.	114.	2	20	70-130
1,3,5-Trimethylbenzene	5.00	5.00	ug/L	U0.25	5.80	5.90	116.	118.	2	20	70-130
1,2,4-Trichlorobenzene	5.00	5.00	ug/L	U0.25	5.10	5.30	102.	106.	4	20	70-130
sec-Butylbenzene	5.00	5.00	ug/L	U0.25	6.10	6.10	122.	122.	0	20	70-130
1,3-Dichlorobenzene	5.00	5.00	ug/L	U0.25	5.50	5.50	110.	110.	0	20	70-130
p-Isopropyltoluene	5.00	5.00	ug/L	U0.25	6.00	6.00	120.	120.	0	20	70-130
1,4-Dichlorobenzene	5.00	5.00	ug/L	U0.25	5.40	5.40	108.	108.	0	20	70-130
1,2-Dichlorobenzene	5.00	5.00	ug/L	U0.25	5.30	5.40	106.	108.	2	20	70-130
N-Butylbenzene	5.00	5.00	ug/L	U0.25	6.00	6.00	120.	120.	0	20	70-130
1,2-Dibromo-3-Chloropropane	5.00	5.00	ug/L	U0.25	4.70	4.70	94.0	94.0	0	20	70-130
1,2,4-Trimethylbenzene	5.00	5.00	ug/L	U0.25	5.70	5.60	114.	112.	2	20	70-130
Naphthalene	5.00	5.00	ug/L	U0.50	4.00	4.20	80.0	84.0	5	20	70-130
Hexachlorobutadiene	5.00	5.00	ug/L	U0.25	5.20	5.20	104.	104.	0	20	70-130
1,2,3-Trichlorobenzene	5.00	5.00	ug/L	U0.50	5.00	5.20	100.	104.	4	20	70-130
Methyl tert-butyl Ether	5.00	5.00	ug/L	UM0.25	6.10	6.60	122.	132.*	8	20	70-130
p-Bromofluorobenzene							105.	106.			60-121
1,2-Dichlorobenzene-D4							105.	107.			51-133

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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2245.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2245.d
Lab Smp Id: WG292404-6 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 23-DEC-2020 16:38
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292404-6,TN0377
Misc Info : WG292404,WG292260-4,TN0377-2
Comment :
Method : \\target_server\gg\chem\gcms-d.i\D122320.b\D5A25(64)D.m
Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 14 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T2

Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.440	1.431	(0.189)	136438	10.2877	10.3(R)	
2 Chloromethane	50	1.616	1.607	(0.213)	134282	8.00614	8.0(R)	
3 Vinyl chloride	62	1.672	1.673	(0.220)	99852	7.70724	7.7(R)	
4 Bromomethane	94	1.960	1.961	(0.258)	15064	3.82997	3.8	
5 Chloroethane	64	2.081	2.072	(0.274)	51357	7.04858	7.0(R)	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	198667	7.28324	7.3(R)	
7 1,1-Dichloroethene	96	2.704	2.695	(0.356)	72579	5.27501	5.3	
8 Carbon Disulfide	76	2.732	2.723	(0.359)	189672	5.50750	5.5	
9 Freon-113	151	2.750	2.751	(0.362)	41185	4.12033	4.1	
10 Methylene Chloride	84	3.336	3.337	(0.439)	100170	7.67130	7.7(R)	
11 Acetone	43	3.383	3.383	(0.445)	11868	8.61852	8.6(R)	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	79083	5.24016	5.2	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	98003	6.12282	6.1	
14 Tertiary-butyl alcohol	59	3.829	3.829	(0.504)	4915	18.6919	18.7	
15 Di-isopropyl Ether	45	4.247	4.238	(0.559)	165993	3.60141	3.6	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	196981	5.51019	5.5	
17 Ethyl tertiary-butyl ether	59	4.824	4.824	(0.634)	106114	3.69958	3.7	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	101251	5.68564	5.7	
19 2,2-Dichloropropane	77	5.465	5.465	(0.719)	104549	4.71291	4.7	
20 Bromochloromethane	128	5.632	5.624	(0.741)	33110	5.72594	5.7	
21 Chloroform	83	5.828	5.828	(0.766)	189647	5.23837	5.2	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	154024	5.46093	5.5	
23 1,1,1-Trichloroethane	97	6.209	6.200	(0.817)	180398	5.63004	5.6	

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2245.d
Report Date: 27-Jan-2021 13:01

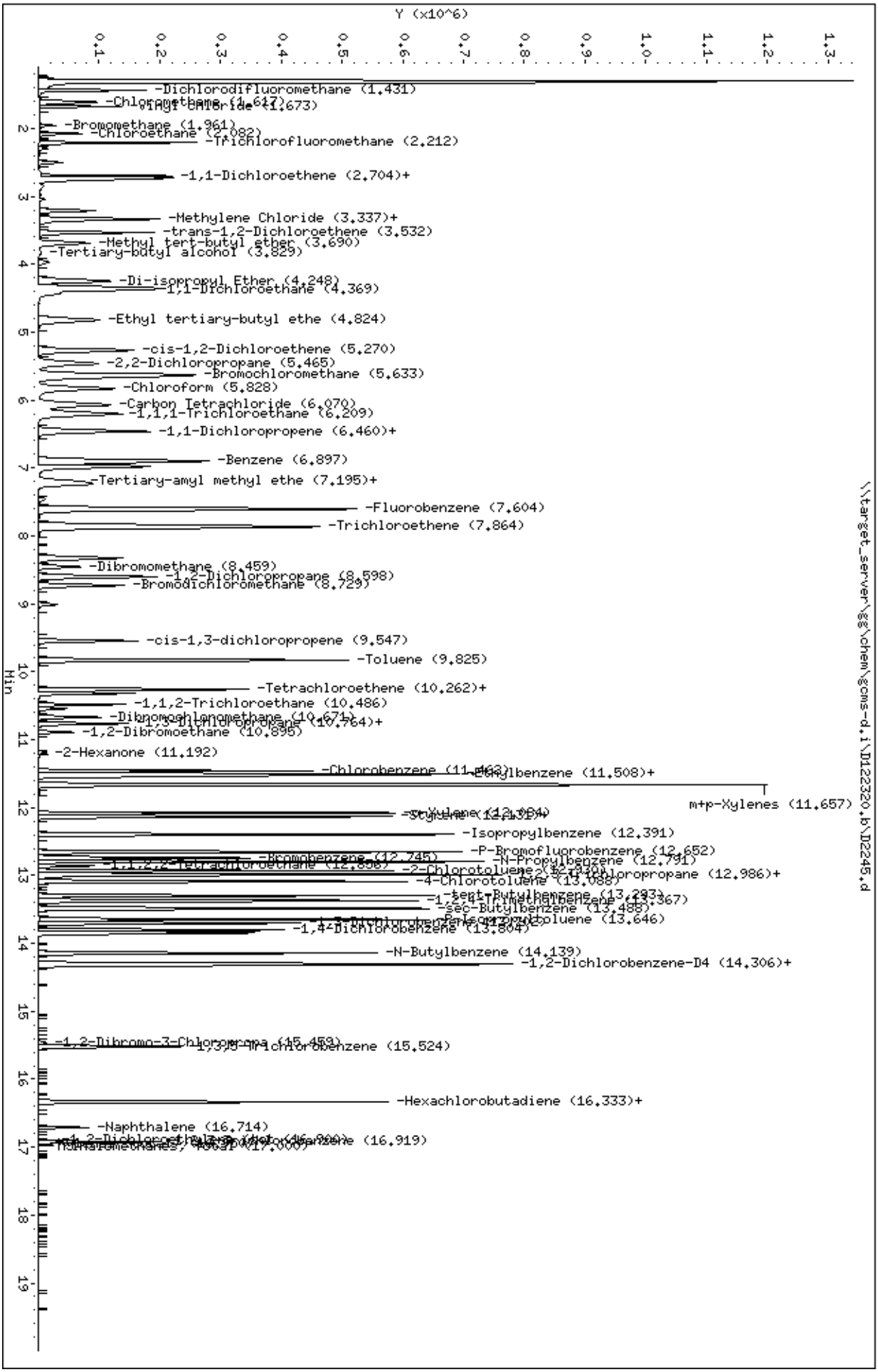
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 1,1-Dichloropropene	75	6.460	6.451	(0.850)	143619	5.86572	5.9	
	25 2-Butanone	43	6.450	6.451	(0.848)	10087	5.20614	5.2	
	26 Benzene	78	6.897	6.897	(0.907)	359259	5.54604	5.5	
	27 Tertiary-amyl methyl ether	73	7.194	7.195	(0.946)	59490	3.77504	3.8	
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	101857	5.51012	5.5	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	610522	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	156948	8.07060	8.1(R)	
	31 Dibromomethane	93	8.458	8.449	(1.112)	34648	5.07407	5.1	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	86316	5.40074	5.4	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	109606	5.32696	5.3	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	92214	5.01074	5.0	
	35 Toluene	92	9.825	9.825	(1.292)	218754	5.73829	5.7	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	72139	5.24555	5.2	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	20687	4.83667	4.8	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	74077	5.30690	5.3	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	36918	5.34335	5.3	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	53435	5.14606	5.1	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	75930	5.40084	5.4	
	42 2-Chloroethylvinylether	63	10.764	10.764	(1.416)	9073		(aR)	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	37575	5.32978	5.3	
	44 2-Hexanone	43	11.192	11.183	(1.472)	10690	4.16462	4.2	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	215717	5.46445	5.5	
	46 Ethylbenzene	91	11.508	11.508	(1.514)	460063	5.98415	6.0	
	47 1,1,1,2-Tetrachloroethane	131	11.536	11.536	(1.517)	77853	5.68617	5.7	
	48 m+p-Xylenes	106	11.666	11.657	(1.534)	320255	11.7862	11.8	
	49 o-Xylene	106	12.084	12.075	(1.589)	145403	5.66704	5.7	
	50 Styrene	104	12.130	12.131	(1.595)	218141	5.67043	5.7	
	51 Bromoform	173	12.140	12.140	(1.597)	22418	4.98830	5.0	
	52 Isopropylbenzene	105	12.391	12.391	(1.630)	432110	5.96347	6.0	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	206949	10.5047	10.5	
	54 Bromobenzene	156	12.744	12.745	(1.676)	80569	5.42740	5.4	
	55 N-Propylbenzene	91	12.791	12.791	(1.682)	559226	5.86600	5.9	
	56 1,1,2,2-Tetrachloroethane	83	12.856	12.856	(1.691)	41611	5.55258	5.6	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	314151	5.55551	5.6	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	36596	5.49649	5.5	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	361997	5.78350	5.8	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	325188	5.62378	5.6	
	61 tert-Butylbenzene	119	13.293	13.293	(1.748)	303822	5.82397	5.8	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	357892	5.68170	5.7	
	63 sec-Butylbenzene	105	13.488	13.479	(1.774)	476778	6.06346	6.1	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	384340	5.95362	6.0	
	65 1,3-Dichlorobenzene	146	13.702	13.702	(1.802)	173329	5.51514	5.5	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.815)	159446	5.37466	5.4	
	67 N-Butylbenzene	91	14.138	14.139	(1.860)	383086	5.96730	6.0	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	163762	10.5436	10.5	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	135893	5.32972	5.3	
	70 1,2-Dibromo-3-Chloropropane	157	15.459	15.459	(2.033)	3662	4.74902	4.7	
	71 1,3,5-Trichlorobenzene	180	15.524	15.524	(2.042)	83196	3.75744	3.8	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	67076	5.21976	5.2	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	71457	5.08838	5.1	
	74 Naphthalene	128	16.714	16.713	(2.198)	55585	3.99150	4.0	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	51560	5.01860	5.0	
M	76 1,2-Dichloroethylene (total)	96				180334	10.9258	10.9	
M	77 Xylenes (total)	106				465658	17.4532	17.4	

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2245.d
Report Date: 27-Jan-2021 13:01

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
M 78 Trihalomethanes, Total	100				375106	20.6997	20.7	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2245.d
Date : 23-DEC-2020 16:38
Client ID: W-01-INF-WINTER2020
Sample Info: WG292404-6,TN0377
Purge Volume: 25.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.431)
-Chloromethane (1.617)
-Vinyl Chloride (1.673)
-Bromomethane (1.961)
-Chloroethane (2.082)
-Trichlorofluoromethane (2.212)
-1,1-Dichloroethene (2.704)+
-Methylene Chloride (3.337)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)
-Tertiary-butyl alcohol (3.829)
-Di-isopropyl Ether (4.248)
-1,1-Dichloroethane (4.369)
-Ethyl tertiary-butyl ethe (4.824)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.465)
-Bromochloromethane (5.633)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.209)
-1,1-Dichloropropene (6.460)+
-Benzene (6.897)
-Tertiary-amyl methyl ethe (7.195)+
-Fluorobenzene (7.604)
-Trichloroethene (7.864)
-Dibromomethane (8.459)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.729)
-cis-1,3-dichloropropene (9.547)
-Toluene (9.825)
-Tetrachloroethene (10.262)+
-1,1,2-Trichloroethane (10.486)
-Dibromochloromethane (10.671)
-1,3-Dichloropropane (10.764)+
-1,2-Dibromoethane (10.895)
-2-Hexanone (11.192)
-Chlorobenzene (11.462)
-Ethylbenzene (11.508)+
m+p-Xylenes (11.657)
-o-Xylene (12.004)
-Styrene (12.131)+
-Isopropylbenzene (12.391)
-P-Bromofluorobenzene (12.652)
-Bromobenzene (12.745)
-N-Propylbenzene (12.791)
-1,1,2,2-Tetrachloroethane (12.858)
-2-Chlorotoluene (12.940)
-1,2,4-Trichloropropane (12.986)+
-4-Chlorotoluene (13.088)
-tert-Butylbenzene (13.293)
-1,2,4-Trimethylbenzene (13.367)
-sec-Butylbenzene (13.488)
-1,3-Dichlorobenzene (13.646)
-P-Isopropyltoluene (13.646)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.139)
-1,2-Dichlorobenzene-D4 (14.306)+
-1,2-Dibromo-3-Chloropropa (15.459)
-1,3,5-Trichlorobenzene (15.524)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2-Dichlorobenzene (16.919)
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Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2246.d
Report Date: 27-Jan-2021 13:01

Katahdin Analytical Services

EPA 524.2

Data file : \\target_server\gg\chem\gcms-d.i\D122320.b\D2246.d
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Inj Date : 23-DEC-2020 17:19
Operator : HG Inst ID: gcms-d.i
Smp Info : WG292404-7,TN0377
Misc Info : WG292404,WG292260-4,TN0377-2
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Meth Date : 24-Dec-2020 06:15 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 12:42 Cal File: D2205.d
Als bottle: 15 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T2

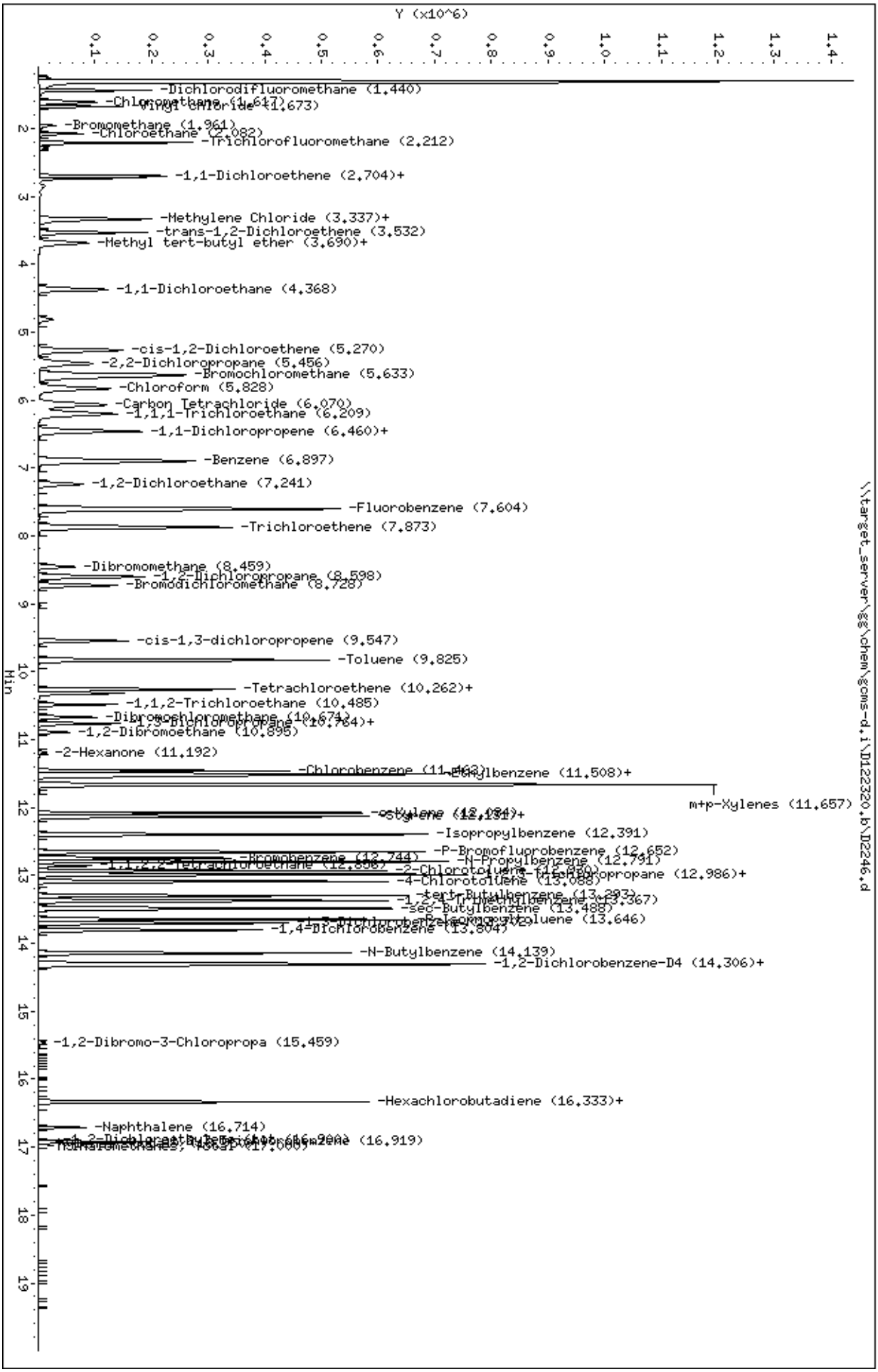
Concentration Formula: Amt * DF * 25/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	25.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.440	1.431	(0.189)	146091	11.1615	11.2(R)	
2 Chloromethane	50	1.616	1.607	(0.213)	147286	8.89777	8.9(R)	
3 Vinyl chloride	62	1.672	1.673	(0.220)	110036	8.60580	8.6(R)	
4 Bromomethane	94	1.960	1.961	(0.258)	17856	4.59776	4.6	
5 Chloroethane	64	2.081	2.072	(0.274)	54949	7.64145	7.6(R)	
6 Trichlorofluoromethane	101	2.211	2.212	(0.291)	207854	7.72096	7.7(R)	
7 1,1-Dichloroethene	96	2.704	2.695	(0.356)	75267	5.54282	5.5	
8 Carbon Disulfide	76	2.732	2.723	(0.359)	200668	5.90396	5.9	
10 Methylene Chloride	84	3.336	3.337	(0.439)	100902	7.83150	7.8(R)	
11 Acetone	43	3.383	3.383	(0.445)	11223	8.25807	8.2(R)	
12 trans-1,2-Dichloroethene	96	3.531	3.532	(0.464)	80888	5.43074	5.4	
13 Methyl tert-butyl ether	73	3.689	3.690	(0.485)	103786	6.57000	6.6(R)	
14 Tertiary-butyl alcohol	59	3.689	3.829	(0.485)	430	1.65696	1.6(aR)	
16 1,1-Dichloroethane	63	4.368	4.369	(0.575)	186445	5.28454	5.3	
18 cis-1,2-Dichloroethene	96	5.270	5.270	(0.693)	100446	5.71514	5.7	
19 2,2-Dichloropropane	77	5.456	5.465	(0.718)	103834	4.74267	4.7	
20 Bromochloromethane	128	5.632	5.624	(0.741)	33236	5.82385	5.8	
21 Chloroform	83	5.827	5.828	(0.766)	192127	5.37715	5.4	
22 Carbon Tetrachloride	117	6.069	6.070	(0.798)	157234	5.64858	5.6	
23 1,1,1-Trichloroethane	97	6.209	6.200	(0.817)	183385	5.79906	5.8	
24 1,1-Dichloropropene	75	6.460	6.451	(0.850)	145258	6.01123	6.0	
25 2-Butanone	43	6.450	6.451	(0.848)	10977	5.74053	5.7	
26 Benzene	78	6.897	6.897	(0.907)	361048	5.64747	5.6	

Data File: \\target_server\gg\chem\gcms-d.i\D122320.b\D2246.d
Report Date: 27-Jan-2021 13:01

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	28 1,2-Dichloroethane	62	7.241	7.241	(0.952)	99345	5.44540	5.4	
*	29 Fluorobenzene	96	7.603	7.604	(1.000)	602542	10.0000		
	30 Trichloroethene	95	7.873	7.873	(1.035)	153308	7.98783	8.0(R)	
	31 Dibromomethane	93	8.458	8.449	(1.112)	32528	4.82669	4.8	
	32 1,2-Dichloropropane	63	8.598	8.598	(1.131)	84813	5.37698	5.4	
	33 Bromodichloromethane	83	8.728	8.728	(1.148)	109355	5.38515	5.4	
	34 cis-1,3-dichloropropene	75	9.546	9.547	(1.256)	91438	5.03437	5.0	
	35 Toluene	92	9.825	9.825	(1.292)	219190	5.82587	5.8	
	36 Tetrachloroethene	164	10.262	10.262	(1.350)	73927	5.44676	5.4	
	37 4-methyl-2-pentanone	43	10.290	10.290	(1.353)	20856	4.93951	4.9	
	38 trans-1,3-Dichloropropene	75	10.318	10.318	(1.357)	75057	5.44833	5.4	
	39 1,1,2-Trichloroethane	83	10.485	10.486	(1.379)	38188	5.60037	5.6	
	40 Dibromochloromethane	129	10.671	10.671	(1.403)	52585	5.13127	5.1	
	41 1,3-Dichloropropane	76	10.764	10.764	(1.416)	74671	5.38163	5.4	
	42 2-Chloroethylvinylether	63	10.764	10.764	(1.416)	8477		(aR)	
	43 1,2-Dibromoethane	107	10.894	10.895	(1.433)	36986	5.31572	5.3	
	44 2-Hexanone	43	11.182	11.183	(1.471)	10819	4.26914	4.3	
	45 Chlorobenzene	112	11.461	11.462	(1.507)	217795	5.59016	5.6	
	46 Ethylbenzene	91	11.508	11.508	(1.514)	459347	6.05397	6.0	
	47 1,1,1,2-Tetrachloroethane	131	11.535	11.536	(1.517)	77326	5.72248	5.7	
	48 m+p-Xylenes	106	11.656	11.657	(1.533)	319784	11.9247	11.9	
	49 o-Xylene	106	12.084	12.075	(1.589)	144597	5.71026	5.7	
	50 Styrene	104	12.130	12.131	(1.595)	220747	5.81417	5.8	
	51 Bromoform	173	12.140	12.140	(1.597)	22399	5.05008	5.0	
	52 Isopropylbenzene	105	12.391	12.391	(1.630)	424800	5.94023	5.9	
$	53 P-Bromofluorobenzene	95	12.651	12.652	(1.664)	205778	10.5836	10.6	
	54 Bromobenzene	156	12.744	12.745	(1.676)	80045	5.46351	5.5	
	55 N-Propylbenzene	91	12.790	12.791	(1.682)	553909	5.88718	5.9	
	56 1,1,2,2-Tetrachloroethane	83	12.856	12.856	(1.691)	41008	5.54458	5.5	
	57 2-Chlorotoluene	91	12.930	12.930	(1.701)	317476	5.68866	5.7	
	58 1,2,3-Trichloropropane	75	12.976	12.977	(1.707)	36189	5.50734	5.5	
	59 1,3,5-Trimethylbenzene	105	12.986	12.986	(1.708)	364349	5.89817	5.9	
	60 4-Chlorotoluene	91	13.088	13.089	(1.721)	325961	5.71180	5.7	
	61 tert-Butylbenzene	119	13.292	13.293	(1.748)	305073	5.92540	5.9	
	62 1,2,4-Trimethylbenzene	105	13.367	13.367	(1.758)	350480	5.63772	5.6	
	63 sec-Butylbenzene	105	13.488	13.479	(1.774)	475199	6.12342	6.1	
	64 P-Isopropyltoluene	119	13.646	13.646	(1.795)	381856	5.99348	6.0	
	65 1,3-Dichlorobenzene	146	13.702	13.702	(1.802)	170540	5.49827	5.5	
	66 1,4-Dichlorobenzene	146	13.804	13.804	(1.815)	159246	5.43901	5.4	
	67 N-Butylbenzene	91	14.138	14.139	(1.860)	380522	6.00586	6.0	
$	68 1,2-Dichlorobenzene-D4	152	14.306	14.306	(1.882)	163736	10.6816	10.7	
	69 1,2-Dichlorobenzene	146	14.315	14.316	(1.883)	135350	5.37873	5.4	
	70 1,2-Dibromo-3-Chloropropane	157	15.459	15.459	(2.033)	3564	4.68430	4.7	
	72 Hexachlorobutadiene	225	16.332	16.332	(2.148)	66664	5.25640	5.2	
	73 1,2,4-Trichlorobenzene	180	16.342	16.341	(2.149)	72912	5.26075	5.3	
	74 Naphthalene	128	16.714	16.713	(2.198)	57637	4.19085	4.2	
	75 1,2,3-Trichlorobenzene	180	16.918	16.919	(2.225)	52393	5.16722	5.2	
M	76 1,2-Dichloroethylene (total)	96				181334	11.1459	11.1	
M	77 Xylenes (total)	106				464381	17.6350	17.6	
M	78 Trihalomethanes, Total	100				376466	20.9436	20.9	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Client ID: W-01-INF-WINTER2020
Sample Info: WG292404-7,TN0377
Purge Volume: 25.0
Column phase: RTX-VMS
Instrument: gcms-d.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-d.i\D122320.b\D2246.d
Y (x10^6)
Min
-Dichlorodifluoromethane (1.440)
-Chloromethane (1.617)
-Vinyl chloride (1.673)
-Bromomethane (1.961)
-Chloroethane (2.082)
-Trichlorofluoromethane (2.212)
-1,1-Dichloroethene (2.704)+
-Methylene Chloride (3.337)+
-trans-1,2-Dichloroethene (3.532)
-Methyl tert-butyl ether (3.690)+
-1,1-Dichloroethane (4.368)
-cis-1,2-Dichloroethene (5.270)
-2,2-Dichloropropane (5.456)
-Bromochloromethane (5.633)
-Chloroform (5.828)
-Carbon Tetrachloride (6.070)
-1,1,1-Trichloroethane (6.209)
-1,1-Dichloropropene (6.460)+
-Benzene (6.897)
-1,2-Dichloroethane (7.241)
-Fluorobenzene (7.604)
-Trichloroethene (7.873)
-Dibromomethane (8.459)
-1,2-Dichloropropane (8.598)
-Bromodichloromethane (8.728)
-cis-1,3-dichloropropene (9.547)
-Toluene (9.825)
-Tetrachloroethene (10.262)+
-1,1,2-Trichloroethane (10.485)
-Dibromochloromethane (10.674)
-1,3-Dichloropropane (10.764)+
-1,2-Dibromoethane (10.895)
-2-Hexanone (11.192)
-Chlorobenzene (11.462)
-Ethylbenzene (11.508)+
m+p-Xylenes (11.657)
-o-Xylene (12.131)+
-Isopropylbenzene (12.391)
-P-Bromofluorobenzene (12.652)
-Bromobenzene (12.744)
-N-Propylbenzene (12.791)
-1,1,2,2-Tetrachloroethane (12.886)
-2-Chlorotoluene (12.930)
-1,2,3-Trichloropropane (12.986)+
-4-Chlorotoluene (13.088)
-tert-Butylbenzene (13.293)
-1,2,4-Trimethylbenzene (13.367)
-sec-Butylbenzene (13.488)
-P-Isopropyltoluene (13.646)
-1,4-Dichlorobenzene (13.804)
-N-Butylbenzene (14.139)
-1,2-Dichlorobenzene-D4 (14.306)+
-1,2-Dibromo-3-Chloropropa (15.459)
-Hexachlorobutadiene (16.333)+
-Naphthalene (16.714)
-1,2,3-Trichlorobenzene (16.919)

Logbooks and Supporting Documents

KATAHDIN ANALYTICAL SERVICES

GCMS-D INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 12-21-20

Method - Check One:	8260	8260 - 10 mL	8260 SIM	624	524 ✓

STD IDs: *	BFB STD: ✓2055	CAL STD: ✓2104	GAS STD: ✓2107	XTRAs STD: ✓2055	LCS/MS STD: ✓2107 ✓2059
SURR STD: ✓2103		IS STD: ✓2103			

pH Paper Lot #: 600205 KI Paper Lot # 3/17/2020

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	Prep Method 5030	5035	1311	Criteria KAS	DoD	QAPP	Y/N	ANALYST	pH	TRC	COMMENTS
HG292260-11	D3739	—	—	1008FB	✓						✓	PD	N/A	N/A	HG292262
rstd 10 - 4	D2159	1	1	D5A25(1x)							✓				PD 12-21-20
5 - 3	D2200	1	2								✓				
2 - 2	01	1	3								✓				Curve [illegible]
05 - 1	02	1	4								✓				PD 12-21-20
60 - 57	03	1	5								✓				
40 - 46	04	1	6								✓				
20 - 75	05	1	7								✓				
LCS -	06	1	8								✓				[illegible]

PD 12-21-20

* Refer to page 1 for standard preparation instructions.

VOA-012 - Revision 3 - 11/12/2018

QAMS729 - 000245

0000040

WG

KATAHDIN ANALYTICAL SERVICES

6:58

GCMS-D INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 12-23-20

Method - Check One:	8260	8260 - 10 mL	8260 SIM	624	524 ✓

STD IDs: *	BFB STD: √2095	CAL STD: √2104	GAS STD: √2107	XTRAs STD: √2099	LCS/MS STD: √2108
SURR STD: √2103		IS STD: √2103		pH Paper Lot #: 6003003	KI Paper Lot # 3/17/2020

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	Prep Method 5030	5035	1311	Criteria KAS	DoD	QAPP	Y/N	ANALYST	pH	TRC	COMMENTS
WG292404-3	D3842	—	—	VGAB5B	✓						Y	TB	N/A	N/A	
rstd10	D2232	1	1	D5A25(64)							Y				
LCS	33	1	2								✓				
V/NP 1 /-8	34	1	3								Y				
rBIKA	35	1	4								✓				target hit
V B-2	36	1	5								Y				
TN0377-14A	37	1	6						5.3		Y		<2	N/O	
TN0119-1RA3	38	1	7					✓			Y				
TN0377-1 A	39	1	8						5.3		Y				
3 A	40	1	9								Y				
4 A	41	1	10								Y				
5 A	42	1	11								Y				
6 A	43	1	12								Y				
2 A	44	1	13								Y				
-6 2MS B	45	1	14								Y				
-7 2MSD C	46	1	15								Y				
CCV -5	47	1	16								Y		N/A	N/A	18:02 ✓
2	48	1	17								N				not needed
3	49	1	18								N				
Rinse	50	1	19								—				

TB 12-24-20

* Refer to page 1 for standard preparation instructions.

VOLATILES DATA

QC Summary Section

Katahdin
ANALYTICAL SERVICES

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** LO-58 Nike Missile Battery Launch Site **Matrix:** AQ
Lab Code: KAS **SDG:** TN0377

Client Sample ID	Lab Sample ID	Col. ID	BFB	#	DBF	#	DCA	#	TOL	#
MW-04-WINTER2020	TN0377-10		92.8		106.		113.		99.6	
MW-05-WINTER2020	TN0377-11		98.6		106.		115.		98.2	
MW-FD-WINTER2020	TN0377-12		89.9		105.		110.		99.2	
GW-EB-WINTER2020	TN0377-13		92.4		113.		122.	*	98.9	
GW-TB-WINTER2020	TN0377-15		99.5		103.		103.		100.	
MW-01-WINTER2020	TN0377-7		102.		102.		104.		101.	
MW-02-WINTER2020	TN0377-8		91.3		109.		114.		99.6	
MW-03-WINTER2020	TN0377-9		93.5		112.		119.	*	102.	
Method Blank Sample	WG292401-10		99.4		100.		102.		100.	
Matrix Spike	WG292401-13		102.		102.		104.		101.	
Matrix Spike Duplica	WG292401-14		101.		101.		101.		101.	
Laboratory Control S	WG292401-9		101.		101.		100.		100.	
Laboratory Control S	WG292631-1		97.7		98.6		98.6		98.1	
Method Blank Sample	WG292631-2		91.8		112.		117.		99.2	
Laboratory Control S	WG292631-6		99.2		101.		102.		97.4	
Laboratory Control S	WG292678-1		97.7		96.9		97.1		98.9	
Method Blank Sample	WG292678-2		93.1		105.		110.		99.0	
Laboratory Control S	WG292678-6		95.9		93.8		96.9		97.7	

		QC Limits
DCA	1,2-DICHLOROETHANE-D4	81-118
TOL	TOLUENE-D8	89-112
DBF	DIBROMOFLUOROMETHANE	80-119
BFB	P-BROMOFLUOROBENZENE	85-114

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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ANALYTICAL SERVICES

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : C8363.D
Instrument ID : GCMS-C
Heated Purge : No

SDG : TN0377
Lab Sample ID : WG292631-2
Date Analyzed : 29-DEC-20
Time Analyzed : 06:30

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	WG292631-1	C8360.D	12/29/20	04:54
Laboratory Control S	WG292631-6	C8361.D	12/29/20	05:26
GW-EB-WINTER2020	TN0377-13	C8367.D	12/29/20	08:38
MW-02-WINTER2020	TN0377-8	C8378.D	12/29/20	14:30
MW-03-WINTER2020	TN0377-9	C8379.D	12/29/20	15:02

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ANALYTICAL SERVICES

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : C8385.D
Instrument ID : GCMS-C
Heated Purge : No

SDG : TN0377
Lab Sample ID : WG292678-2
Date Analyzed : 29-DEC-20
Time Analyzed : 18:46

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	WG292678-1	C8382.D	12/29/20	17:04
Laboratory Control S	WG292678-6	C8383.D	12/29/20	17:42
MW-04-WINTER2020	TN0377-10	C8392.D	12/29/20	22:30
MW-05-WINTER2020	TN0377-11	C8393.D	12/29/20	23:02
MW-FD-WINTER2020	TN0377-12	C8394.D	12/29/20	23:34

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ANALYTICAL SERVICES

Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : T9670.D
Instrument ID : GCMS-T
Heated Purge : No

SDG : TN0377
Lab Sample ID : WG292401-10
Date Analyzed : 23-DEC-20
Time Analyzed : 16:24

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	WG292401-9	T9668.D	12/23/20	15:14
GW-TB-WINTER2020	TN0377-15	T9673.D	12/23/20	17:58
MW-01-WINTER2020	TN0377-7	T9677.D	12/23/20	20:04
Matrix Spike	WG292401-13	T9678.D	12/23/20	20:36
Matrix Spike Duplica	WG292401-14	T9679.D	12/23/20	21:08

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ANALYTICAL SERVICES

Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : CB502A.D
Instrument ID : GCMS-C

SDG : TN0377
Date Analyzed : 28-DEC-20
Time Analyzed : 10:01
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	25.4		
75	30.0 - 60.0% of mass 95	51.0		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.9		
173	Less than 2.0% of mass 174	0.8	1.06	1
174	Greater than 50.0% of mass 95	72.5		
175	5.0 - 9.0% of mass 174	5.5	7.62	1
176	95.0 - 101.0% of mass 174	70.4	97.14	1
177	5.0 - 9.0% of mass 176	5.1	7.25	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG292597-6	C8335.D	12/28/20	10:23
Initial Calibration	WG292597-5	C8336.D	12/28/20	10:55
Initial Calibration	WG292597-7	C8337.D	12/28/20	11:27
Initial Calibration	WG292597-4	C8338.D	12/28/20	11:59
Initial Calibration	WG292597-3	C8339.D	12/28/20	12:31
Initial Calibration	WG292597-2	C8340.D	12/28/20	13:03
Initial Calibration	WG292597-1	C8341.D	12/28/20	13:35
Independent Source	WG292597-8	C8342A.D	12/28/20	14:28

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : CB503A.D
Instrument ID : GCMS-C

SDG : TN0377
Date Analyzed : 29-DEC-20
Time Analyzed : 03:54
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	24.5		
75	30.0 - 60.0% of mass 95	55.3		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	6.7		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	70.2		
175	5.0 - 9.0% of mass 174	5.1	7.30	1
176	95.0 - 101.0% of mass 174	68.5	97.58	1
177	5.0 - 9.0% of mass 176	4.8	7.05	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG292631-4	C8359.D	12/29/20	04:18
Laboratory Control S	WG292631-1	C8360.D	12/29/20	04:54
Laboratory Control S	WG292631-6	C8361.D	12/29/20	05:26
Method Blank Sample	WG292631-2	C8363.D	12/29/20	06:30
GW-EB-WINTER2020	TN0377-13	C8367.D	12/29/20	08:38
MW-02-WINTER2020	TN0377-8	C8378.D	12/29/20	14:30
MW-03-WINTER2020	TN0377-9	C8379.D	12/29/20	15:02
Continuing Calibrati	WG292631-5	C8380.D	12/29/20	15:34

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : CB504A.D
Instrument ID : GCMS-C

SDG : TN0377
Date Analyzed : 29-DEC-20
Time Analyzed : 15:58
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	26.1		
75	30.0 - 60.0% of mass 95	52.8		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	7.9		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	70.3		
175	5.0 - 9.0% of mass 174	6.2	8.82	1
176	95.0 - 101.0% of mass 174	68.3	97.18	1
177	5.0 - 9.0% of mass 176	4.3	6.25	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG292678-4	C8381.D	12/29/20	16:22
Laboratory Control S	WG292678-1	C8382.D	12/29/20	17:04
Laboratory Control S	WG292678-6	C8383.D	12/29/20	17:42
Method Blank Sample	WG292678-2	C8385.D	12/29/20	18:46
MW-04-WINTER2020	TN0377-10	C8392.D	12/29/20	22:30
MW-05-WINTER2020	TN0377-11	C8393.D	12/29/20	23:02
MW-FD-WINTER2020	TN0377-12	C8394.D	12/29/20	23:34
Continuing Calibrati	WG292678-5	C8401.D	12/30/20	03:18

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Form 5
Volatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : TB380A.D
Instrument ID : GCMS-T

SDG : TN0377
Date Analyzed : 23-DEC-20
Time Analyzed : 09:02
Heated Purge : No

m/e	Ion Abundance Criteria	% Relative Abundance		
50	15.0 - 40.0% of mass 95	16.8		
75	30.0 - 60.0% of mass 95	48.2		
95	Base Peak, 100% relative abundance	100		
96	5.0 - 9.0% of mass 95	7.3		
173	Less than 2.0% of mass 174	0.0	0.0	1
174	Greater than 50.0% of mass 95	82.0		
175	5.0 - 9.0% of mass 174	6.4	7.85	1
176	95.0 - 101.0% of mass 174	82.0	99.90	1
177	5.0 - 9.0% of mass 176	4.8	5.89	2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG292401-6	T9660.D	12/23/20	09:24
Initial Calibration	WG292401-5	T9661.D	12/23/20	09:55
Initial Calibration	WG292401-4	T9663.D	12/23/20	10:58
Initial Calibration	WG292401-3	T9664.D	12/23/20	11:30
Initial Calibration	WG292401-2	T9665.D	12/23/20	12:01
Initial Calibration	WG292401-1	T9666.D	12/23/20	12:33
Initial Calibration	WG292401-7	T9667.D	12/23/20	14:35
Laboratory Control S	WG292401-9	T9668.D	12/23/20	15:14
Independent Source	WG292401-8	T9668A.D	12/23/20	15:14
Method Blank Sample	WG292401-10	T9670.D	12/23/20	16:24
GW-TB-WINTER2020	TN0377-15	T9673.D	12/23/20	17:58
MW-01-WINTER2020	TN0377-7	T9677.D	12/23/20	20:04
Matrix Spike	WG292401-13	T9678.D	12/23/20	20:36
Matrix Spike Duplica	WG292401-14	T9679.D	12/23/20	21:08
Continuing Calibrati	WG292401-12	T9680.D	12/23/20	21:39
Continuing Calibrati	WG292401-15	T9681.D	12/23/20	22:11
Continuing Calibrati	WG292401-16	T9682.D	12/23/20	22:42

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ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292597-4
Lab File ID : C8338.D

SDG: TN0377
Analytical Date: 12/28/20 11:59
Instrument ID: GCMS-C

		PENTAFLUOROBENZENE				1,4-DIFLUOROBENZENE				CHLOROBENZENE-D5			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	154230		5.95		262935		6.65		224056		9.96	
	Upper Limit	308460		6.11		525870		6.82		448112		10.13	
	Lower Limit	77115		5.78		131467.5		6.49		112028		9.80	
Client Sample ID	Lab Sample ID												
Continuing Calibrati	WG292631-4	141962		5.94		238932		6.65		207016		9.96	
Laboratory Control S	WG292631-1	147439		5.94		249699		6.65		213667		9.96	
Laboratory Control S	WG292631-6	144534		5.94		244798		6.65		210505		9.96	
Method Blank Sample	WG292631-2	117068		5.94		205299		6.65		178330		9.96	
GW-EB-WINTER2020	TN0377-13	109684		5.95		193596		6.65		167678		9.96	
MW-02-WINTER2020	TN0377-8	110569		5.95		184832		6.65		159491		9.96	
MW-03-WINTER2020	TN0377-9	109517		5.95		184721		6.66		161435		9.96	
Continuing Calibrati	WG292631-5	134111		5.95		219495		6.65		194209		9.96	
Continuing Calibrati	WG292678-4	145060		5.95		240769		6.65		203003		9.96	
Laboratory Control S	WG292678-1	149688		5.95		247088		6.65		209980		9.96	
Laboratory Control S	WG292678-6	151054		5.95		246741		6.65		207864		9.96	
Method Blank Sample	WG292678-2	123116		5.94		207600		6.65		178362		9.96	
MW-04-WINTER2020	TN0377-10	118236		5.94		201544		6.65		173437		9.96	
MW-05-WINTER2020	TN0377-11	118212		5.95		200843		6.65		177445		9.96	
MW-FD-WINTER202(	TN0377-12	117416		5.94		195874		6.65		165666		9.96	
Continuing Calibrati	WG292678-5	139326		5.94		226418		6.65		195611		9.96	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292597-4
Lab File ID : C8338.D

SDG: TN0377
Analytical Date: 12/28/20 11:59
Instrument ID: GCMS-C

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	109938		12.87	
	Upper Limit	219876		13.03	
	Lower Limit	54969		12.70	
Client Sample ID	Lab Sample ID				
Continuing Calibrati	WG292631-4	103297		12.86	
Laboratory Control S	WG292631-1	104753		12.86	
Laboratory Control S	WG292631-6	105126		12.86	
Method Blank Sample	WG292631-2	82013		12.87	
GW-EB-WINTER2020	TN0377-13	77723		12.87	
MW-02-WINTER2020	TN0377-8	74191		12.87	
MW-03-WINTER2020	TN0377-9	76077		12.87	
Continuing Calibrati	WG292631-5	97803		12.87	
Continuing Calibrati	WG292678-4	101788		12.87	
Laboratory Control S	WG292678-1	106459		12.87	
Laboratory Control S	WG292678-6	103966		12.87	
Method Blank Sample	WG292678-2	83730		12.87	
MW-04-WINTER2020	TN0377-10	80061		12.87	
MW-05-WINTER2020	TN0377-11	85976		12.87	
MW-FD-WINTER202(	TN0377-12	77746		12.87	
Continuing Calibrati	WG292678-5	98187		12.87	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292401-4
Lab File ID : T9663.D

SDG: TN0377
Analytical Date: 12/23/20 10:58
Instrument ID: GCMS-T

		PENTAFLUOROBENZENE				1,4-DIFLUOROBENZENE				CHLOROBENZENE-D5			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	575670		5.38		951851		6.21		862176		10.34	
	Upper Limit	1151340		5.55		1903702		6.38		1724352		10.51	
	Lower Limit	287835		5.22		475925.5		6.04		431088		10.17	
Client Sample ID	Lab Sample ID												
Laboratory Control S	WG292401-9	571272		5.38		954227		6.21		870781		10.34	
Method Blank Sample	WG292401-10	534648		5.39		892564		6.21		807614		10.34	
GW-TB-WINTER2020	TN0377-15	520467		5.38		876804		6.21		792462		10.34	
MW-01-WINTER2020	TN0377-7	561878		5.38		924924		6.21		848339		10.35	
Matrix Spike	WG292401-13	564254		5.38		949865		6.21		874173		10.35	
Matrix Spike Duplica	WG292401-14	566393		5.39		941533		6.21		861114		10.35	
Continuing Calibrati	WG292401-12	560227		5.38		950636		6.21		866022		10.35	
Continuing Calibrati	WG292401-15	548083		5.38		924464		6.21		846145		10.35	
Continuing Calibrati	WG292401-16	562111		5.39		951686		6.20		870893		10.35	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292401-4
Lab File ID : T9663.D

SDG: TN0377
Analytical Date: 12/23/20 10:58
Instrument ID: GCMS-T

		1,4-DICHLOROBENZENE-D4			
		Area	#	RT	#
	Std .	418679		13.41	
	Upper Limit	837358		13.57	
	Lower Limit	209339.5		13.24	
Client Sample ID	Lab Sample ID				
Laboratory Control S	WG292401-9	423824		13.41	
Method Blank Sample	WG292401-10	388643		13.40	
GW-TB-WINTER2020	TN0377-15	377882		13.40	
MW-01-WINTER2020	TN0377-7	409366		13.41	
Matrix Spike	WG292401-13	416511		13.41	
Matrix Spike Duplica	WG292401-14	420093		13.41	
Continuing Calibrati	WG292401-12	419661		13.41	
Continuing Calibrati	WG292401-15	412771		13.41	
Continuing Calibrati	WG292401-16	428326		13.41	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Sample Data Section

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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), 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/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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), 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, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-7
Client ID: MW-01-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: T9677.D

Sample Date: 14-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	UM	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	UM	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	2.2	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-7
Client ID: MW-01-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: T9677.D

Sample Date: 14-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		102.	%					
Toluene-d8		101.	%					
1,2-Dichloroethane-d4		104.	%					
Dibromofluoromethane		102.	%					

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Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9677.D
Report Date: 27-Jan-2021 16:11

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9677.D
Lab Smp Id: TN0377-7 Client Smp ID: MW-01-WINTER2020
Inj Date : 23-DEC-2020 20:04
Operator : CR Inst ID: gcms-t.i
Smp Info : TN0377-7
Misc Info : WG292401,WG292401-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

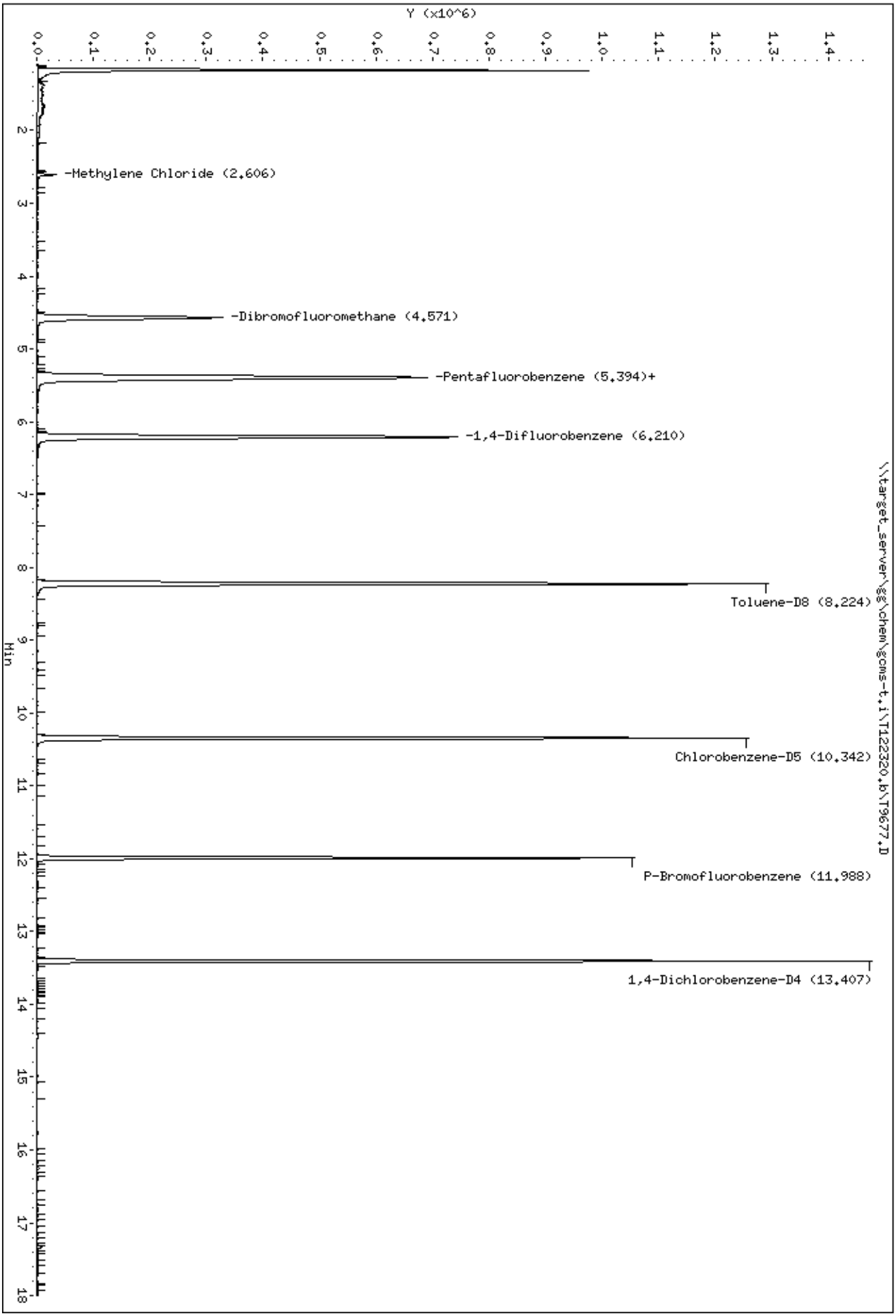
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
14 Methylene Chloride	84	2.606	2.606	(0.484)	14275	2.21827	2.2(a)	
$ 34 Dibromofluoromethane	113	4.574	4.571	(0.850)	312424	50.8064	50.8	
* 41 Pentafluorobenzene	168	5.383	5.383	(1.000)	561878	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.004)	351133	51.8682	51.9	
* 48 1,4-Difluorobenzene	114	6.210	6.210	(1.000)	924924	50.0000		
$ 56 Toluene-D8	98	8.223	8.220	(1.324)	1083356	50.6531	50.6	
* 68 Chlorobenzene-D5	117	10.345	10.342	(1.000)	848339	50.0000		
$ 77 P-Bromofluorobenzene	95	11.988	11.988	(1.930)	400546	50.9109	50.9	
* 93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	409366	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9677.D
Date : 23-DEC-2020 20:04
Client ID: MW-01-WINTER2020
Sample Info: TN0377-7
Instrument: gcms-t.i
\\target_server\gg\chem\gcms-t.i\T122320.b\T9677.D
Y (x10^6)
Min
-Methylene Chloride (2.606)
-Dibromofluoromethane (4.571)
-Pentafluorobenzene (5.394)+
-1,4-Difluorobenzene (6.210)
Toluene-D8 (8.224)
Chlorobenzene-D5 (10.342)
P-Bromofluorobenzene (11.988)
1,4-Dichlorobenzene-D4 (13.407)

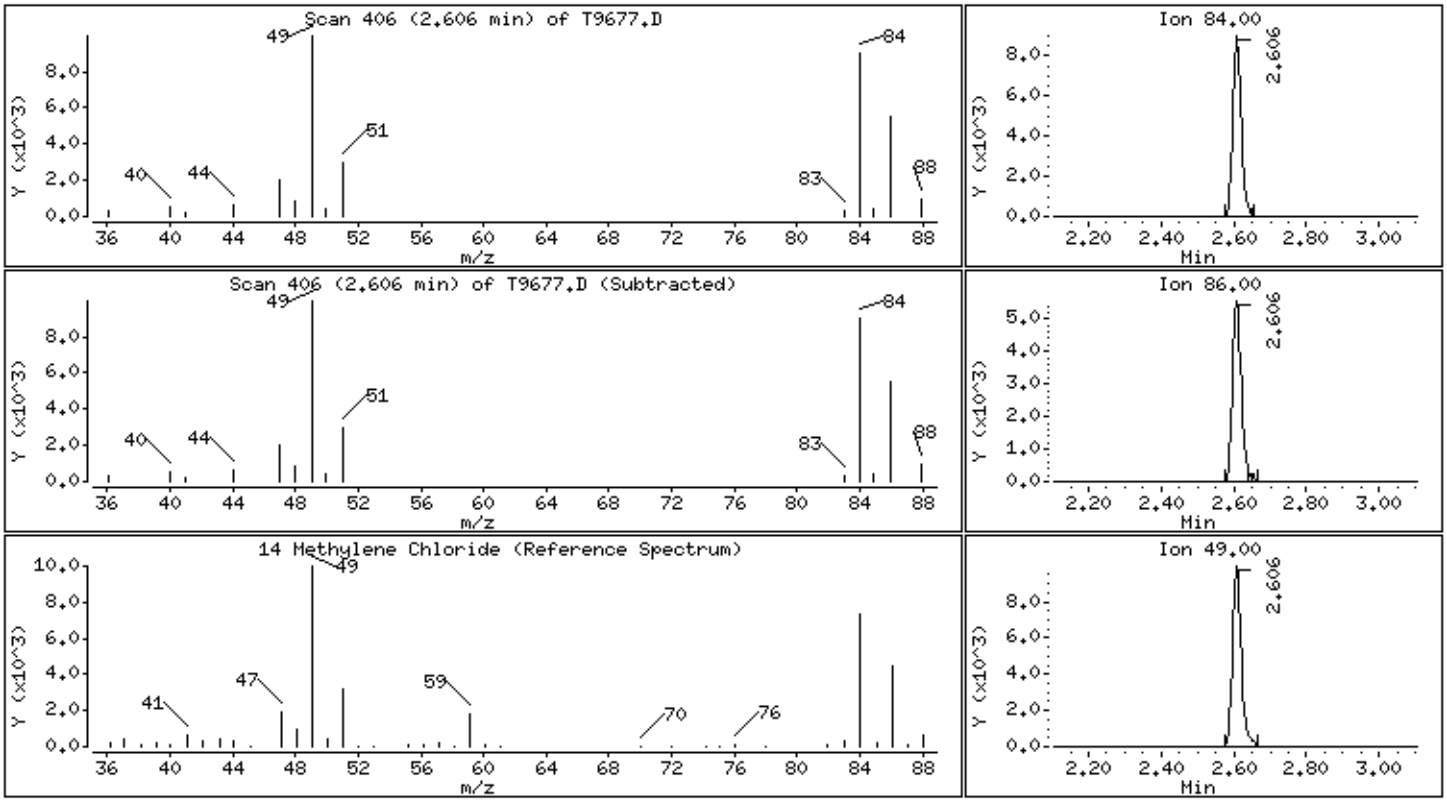
Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9677.D

Date : 23-DEC-2020 20:04

Client ID: MW-01-WINTER2020 Instrument: gcms-t.i

Sample Info: TN0377-7

14 Methylene Chloride Concentration: 2.2 ug/l



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-8
Client ID: MW-02-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8378.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		9.3	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-8
Client ID: MW-02-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8378.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		91.3	%					
Toluene-d8		99.6	%					
1,2-Dichloroethane-d4		114.	%					
Dibromofluoromethane		109.	%					

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Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8378.D
Report Date: 27-Jan-2021 15:52

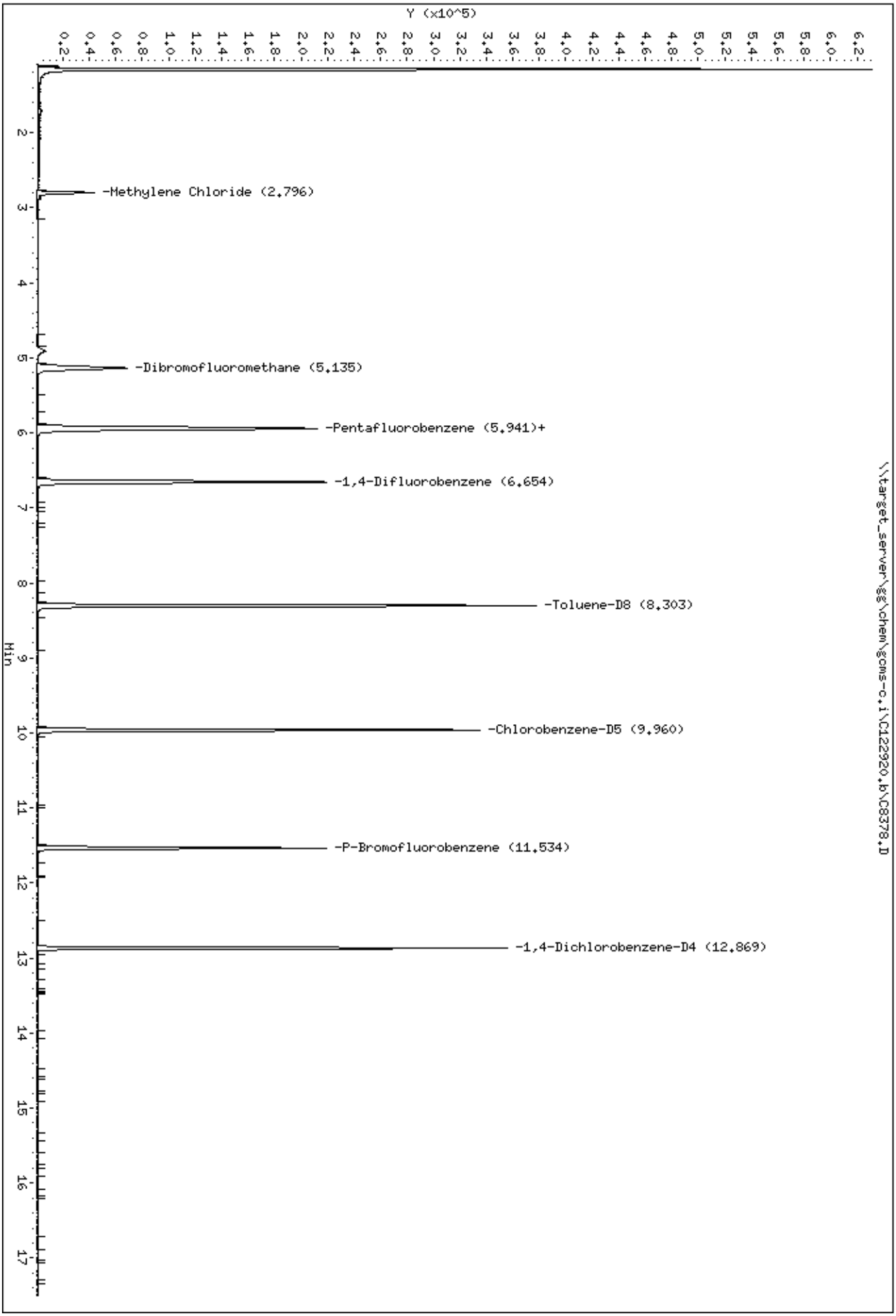
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920.b\C8378.D
Lab Smp Id: TN0377-8 Client Smp ID: MW-02-WINTER2020
Inj Date : 29-DEC-2020 14:30
Operator : CR Inst ID: gcms-c.i
Smp Info : TN0377-8
Misc Info : WG292631,WG292597-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920.b\C8A05(37)DN.m
Meth Date : 29-Dec-2020 15:49 tcote Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
14 Methylene Chloride	84	2.796	2.796	(0.470)	15699	9.30828	9.3	
$ 34 Dibromofluoromethane	113	5.135	5.135	(0.864)	64999	54.5790	54.6	
* 41 Pentafluorobenzene	168	5.945	5.945	(1.000)	110569	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.998)	92460	57.2558	57.2	
* 48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	184832	50.0000		
$ 58 Toluene-D8	98	8.306	8.303	(1.248)	216844	49.7969	49.8	
* 68 Chlorobenzene-D5	117	9.963	9.964	(1.000)	159491	50.0000		
$ 78 P-Bromofluorobenzene	95	11.530	11.534	(1.733)	73011	45.6580	45.6	
* 94 1,4-Dichlorobenzene-D4	152	12.865	12.869	(1.000)	74191	50.0000		


Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8378.D
Date : 29-DEC-2020 14:30
Client ID: MW-02-WINTER2020
Sample Info: TN0377-8
Instrument: gcms-c.i
\\target_server\gg\chem\gcms-c.i\C122920.b\C8378.D
Y (x10^5)
Min
-Methylene Chloride (2.796)
-Dibromofluoromethane (5.135)
-Pentafluorobenzene (5.941)+
-1,4-Difluorobenzene (6.654)
-Toluene-D8 (8.303)
-Chlorobenzene-D5 (9.960)
-P-Bromofluorobenzene (11.534)
-1,4-Dichlorobenzene-D4 (12.869)

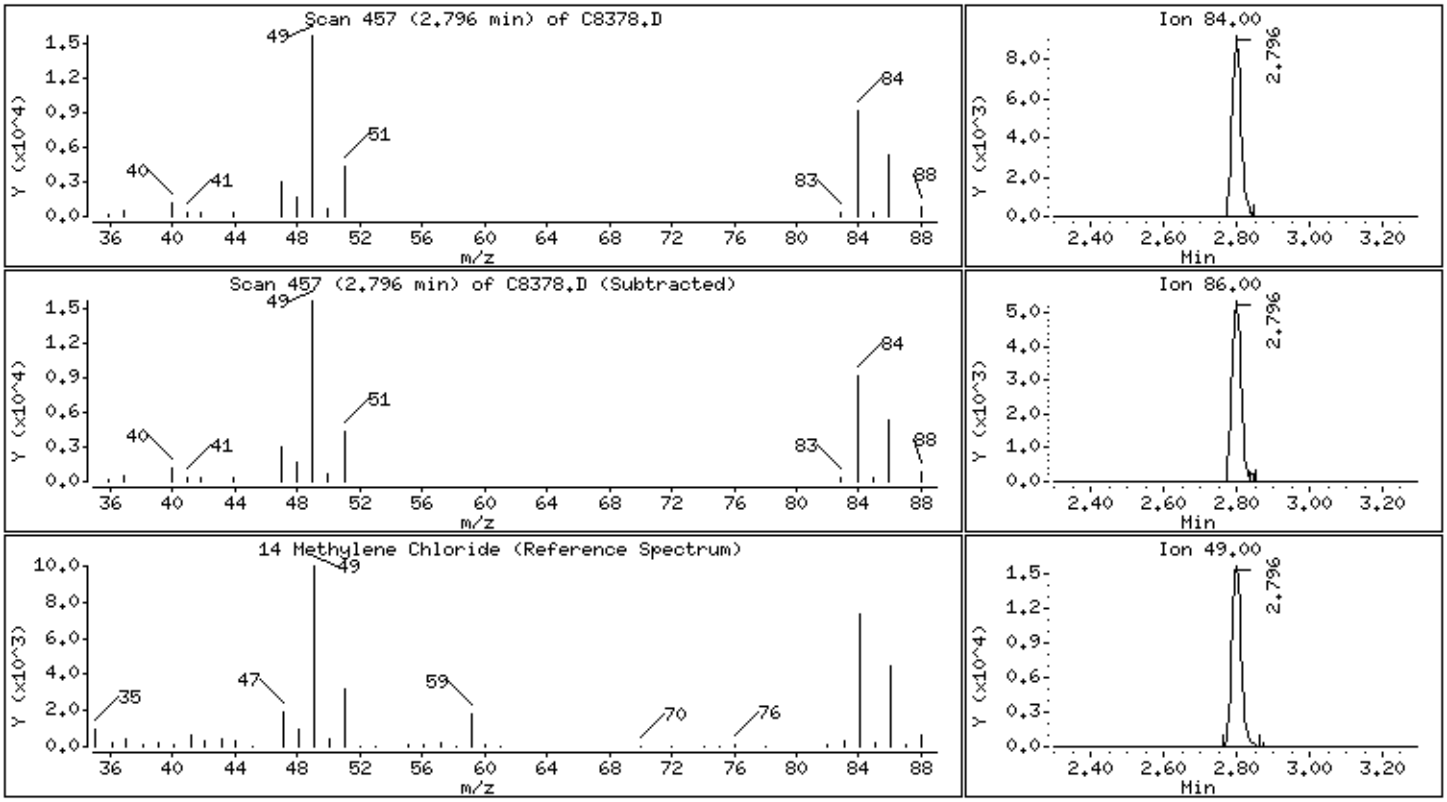
Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8378.D

Date : 29-DEC-2020 14:30

Client ID: MW-02-WINTER2020 Instrument: gcms-c.i

Sample Info: TN0377-8

14 Methylene Chloride Concentration: 9.3 ug/l



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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-9
Client ID: MW-03-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8379.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	1.6	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-9
Client ID: MW-03-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8379.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		93.5	%					
Toluene-d8		102.	%					
1,2-Dichloroethane-d4	*	119.	%					
Dibromofluoromethane		112.	%					

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Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8379.D
Report Date: 27-Jan-2021 15:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920.b\C8379.D
Lab Smp Id: TN0377-9 Client Smp ID: MW-03-WINTER2020
Inj Date : 29-DEC-2020 15:02
Operator : CR Inst ID: gcms-c.i
Smp Info : TN0377-9
Misc Info : WG292631,WG292597-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920.b\C8A05(37)DN.m
Meth Date : 29-Dec-2020 15:49 tcote Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

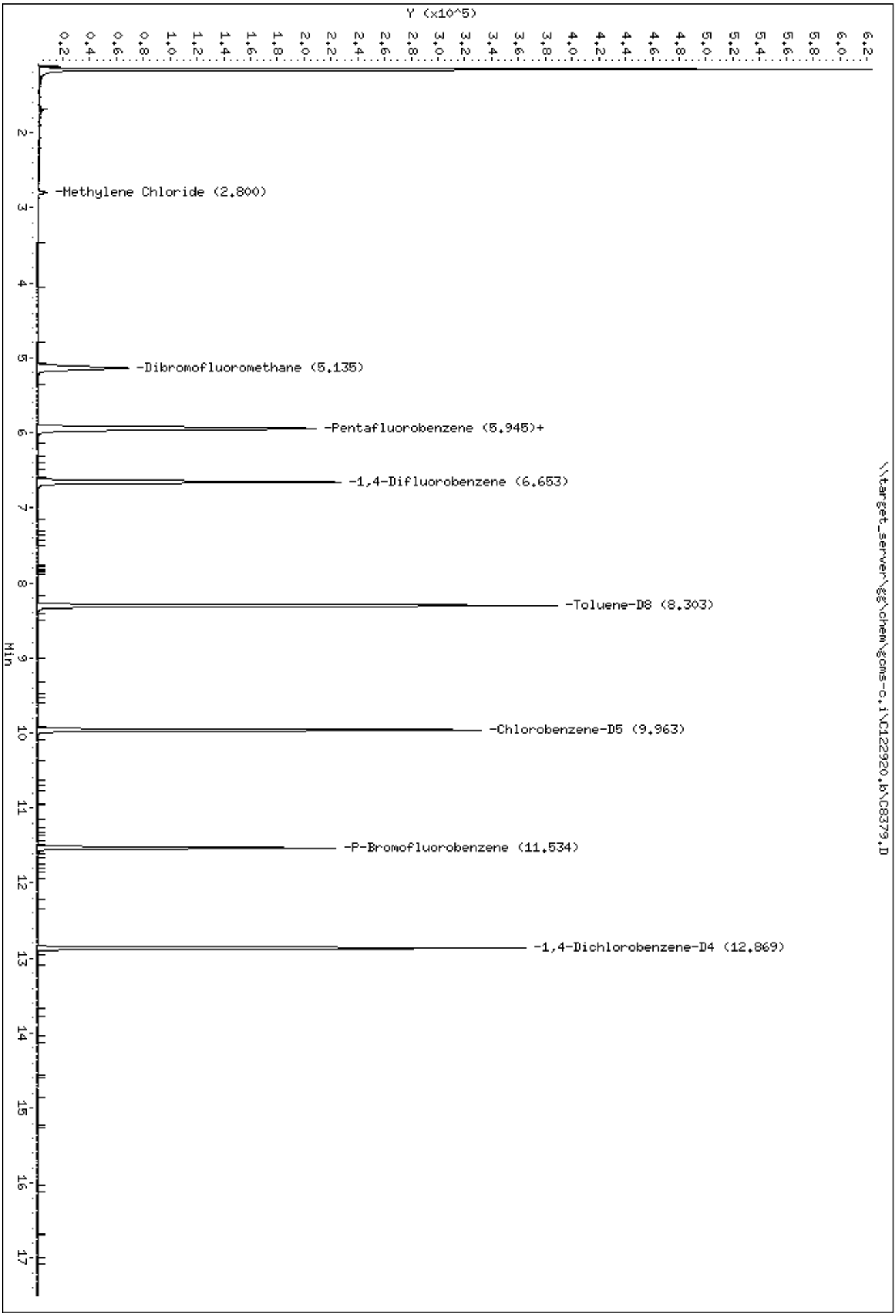
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
14 Methylene Chloride	84	2.799	2.796	(0.471)	2626	1.57197	1.6(a)	
$ 34 Dibromofluoromethane	113	5.131	5.135	(0.863)	65840	55.8163	55.8	
* 41 Pentafluorobenzene	168	5.948	5.945	(1.000)	109517	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.997)	94850	59.3000	59.3	
* 48 1,4-Difluorobenzene	114	6.657	6.654	(1.000)	184721	50.0000		
$ 58 Toluene-D8	98	8.302	8.303	(1.247)	221587	50.9167	50.9	
* 68 Chlorobenzene-D5	117	9.963	9.964	(1.000)	161435	50.0000		
$ 78 P-Bromofluorobenzene	95	11.534	11.534	(1.733)	74729	46.7605	46.8	
* 94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	76077	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-c,i\C122920,b\C8379,D
Date : 29-DEC-2020 15:02
Client ID: MW-03-WINTER2020
Sample Info: TN0377-9
Instrument: gcms-c,i
\\target_server\gg\chem\gcms-c,i\C122920,b\C8379,D
Y (x10^5)
Min
-Methylene Chloride (2,800)
-Dibromofluoromethane (5,135)
-Pentafluorobenzene (5,945)+
-1,4-Difluorobenzene (6,653)
-Toluene-D8 (8,303)
-Chlorobenzene-D5 (9,963)
-P-Bromofluorobenzene (11,534)
-1,4-Dichlorobenzene-D4 (12,869)

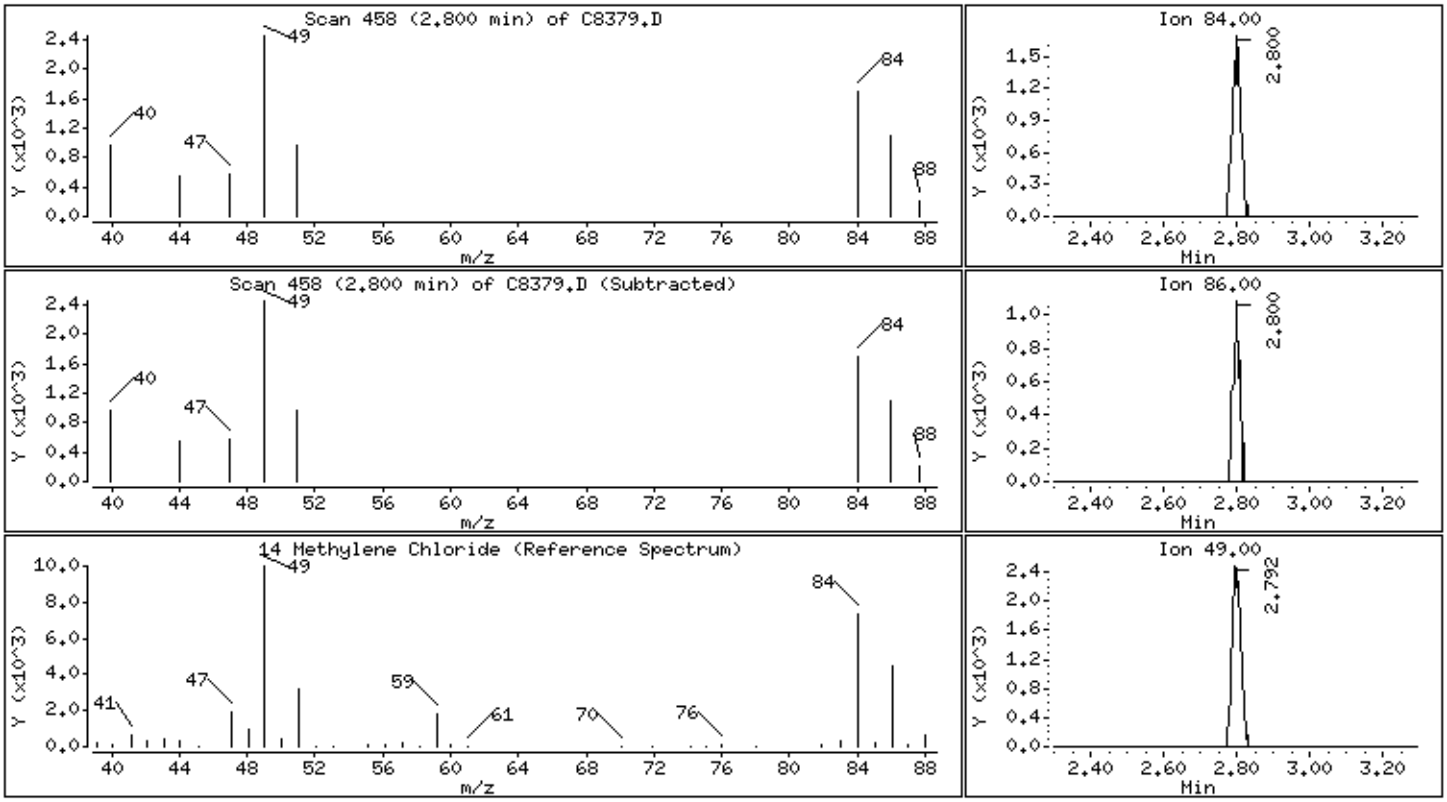
Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8379.D

Date : 29-DEC-2020 15:02

Client ID: MW-03-WINTER2020 Instrument: gcms-c.i

Sample Info: TN0377-9

14 Methylene Chloride Concentration: 1.6 ug/l



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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-10
Client ID: MW-04-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8392.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		17	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-10
Client ID: MW-04-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8392.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		92.8	%					
Toluene-d8		99.6	%					
1,2-Dichloroethane-d4		113.	%					
Dibromofluoromethane		106.	%					

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Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8392.D
Report Date: 27-Jan-2021 16:03

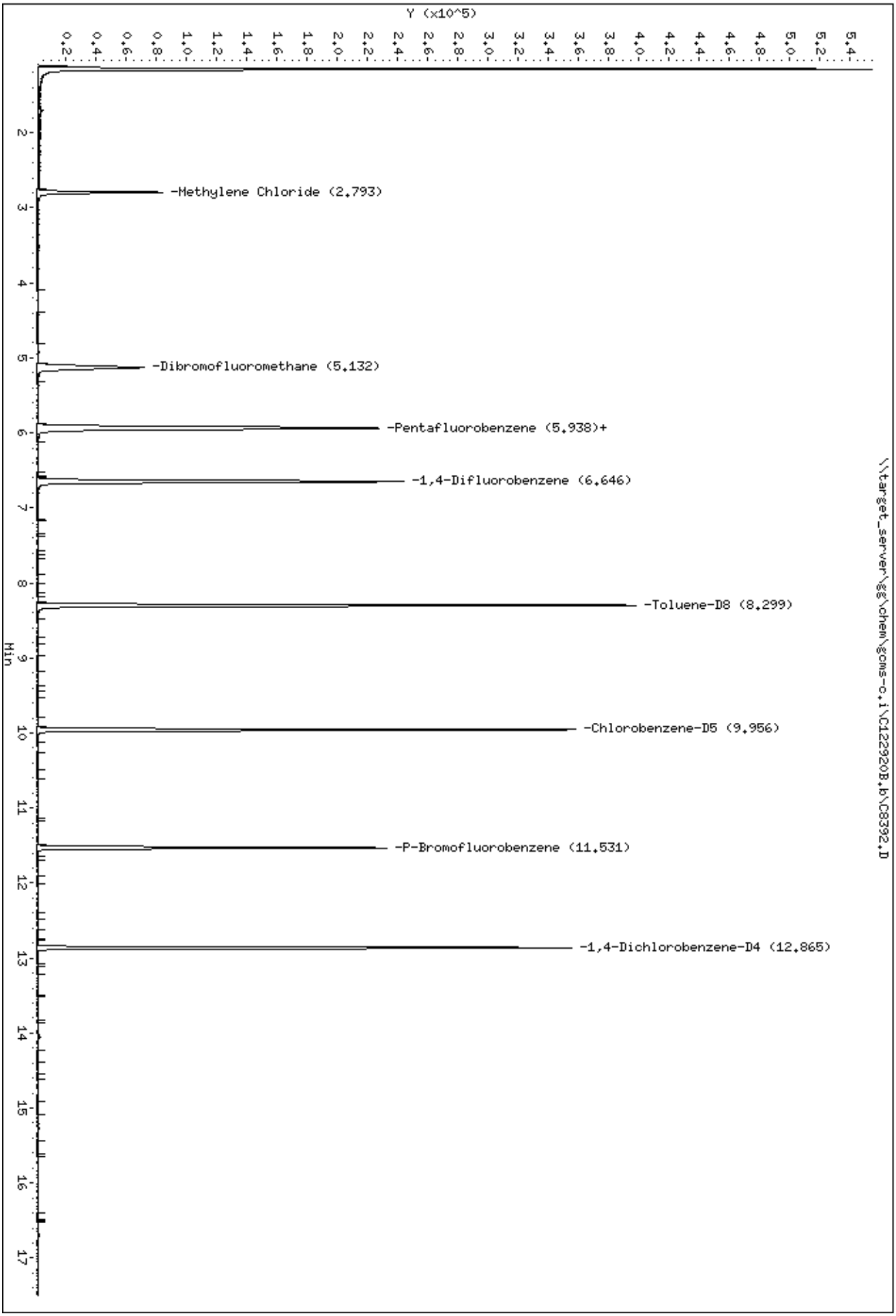
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8392.D
Lab Smp Id: TN0377-10
Inj Date : 29-DEC-2020 22:30
Operator : HG Inst ID: gcms-c.i
Smp Info : TN0377-10
Misc Info : WG292678,WG292597-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 07:21 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
14 Methylene Chloride	84	2.796	2.796	(0.471)	30124	16.7030	16.7	
$ 34 Dibromofluoromethane	113	5.131	5.135	(0.864)	67848	53.2770	53.3	
* 41 Pentafluorobenzene	168	5.937	5.945	(1.000)	118236	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.930	5.934	(0.999)	97915	56.7020	56.7	
* 48 1,4-Difluorobenzene	114	6.646	6.654	(1.000)	201544	50.0000		
$ 58 Toluene-D8	98	8.299	8.303	(1.249)	236518	49.8112	49.8	
* 68 Chlorobenzene-D5	117	9.956	9.964	(1.000)	173437	50.0000		
$ 78 P-Bromofluorobenzene	95	11.530	11.534	(1.735)	80888	46.3895	46.4	
* 94 1,4-Dichlorobenzene-D4	152	12.865	12.869	(1.000)	80061	50.0000		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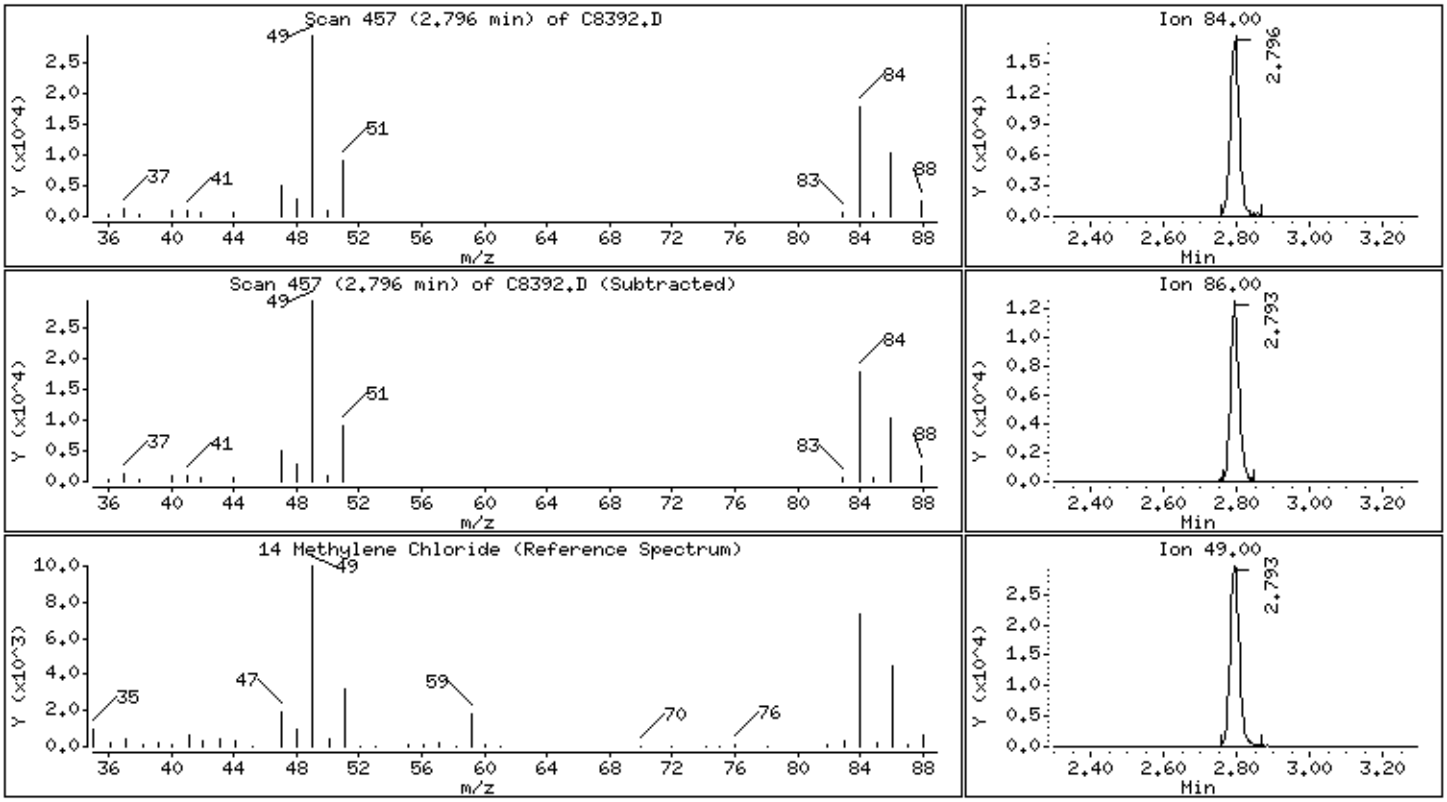
Date : 29-DEC-2020 22:30
Client ID:
Sample Info: TN0377-10
Instrument: gcms-c.i
\\target_server\gg\chem\gcms-c.i\C122920B.b\C8392.D
Y (x10^5)
-Methylene Chloride (2.793)
-Dibromofluoromethane (5.132)
-Pentafluorobenzene (5.938)+
-1,4-Difluorobenzene (6.646)
-Toluene-D8 (8.299)
-Chlorobenzene-D5 (9.956)
-P-Bromofluorobenzene (11.531)
-1,4-Dichlorobenzene-D4 (12.865)
Min

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8392.D
Date : 29-DEC-2020 22:30
Client ID: Instrument: gcms-c.i
Sample Info: TN0377-10

14 Methylene Chloride Concentration: 16.7 ug/l



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-11
Client ID: MW-05-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8393.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		5.8	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-11
Client ID: MW-05-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8393.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		98.6	%					
Toluene-d8		98.2	%					
1,2-Dichloroethane-d4		115.	%					
Dibromofluoromethane		106.	%					

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Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8393.D
Report Date: 27-Jan-2021 16:03

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8393.D
Lab Smp Id: TN0377-11
Inj Date : 29-DEC-2020 23:02
Operator : HG Inst ID: gcms-c.i
Smp Info : TN0377-11
Misc Info : WG292678,WG292597-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 07:21 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

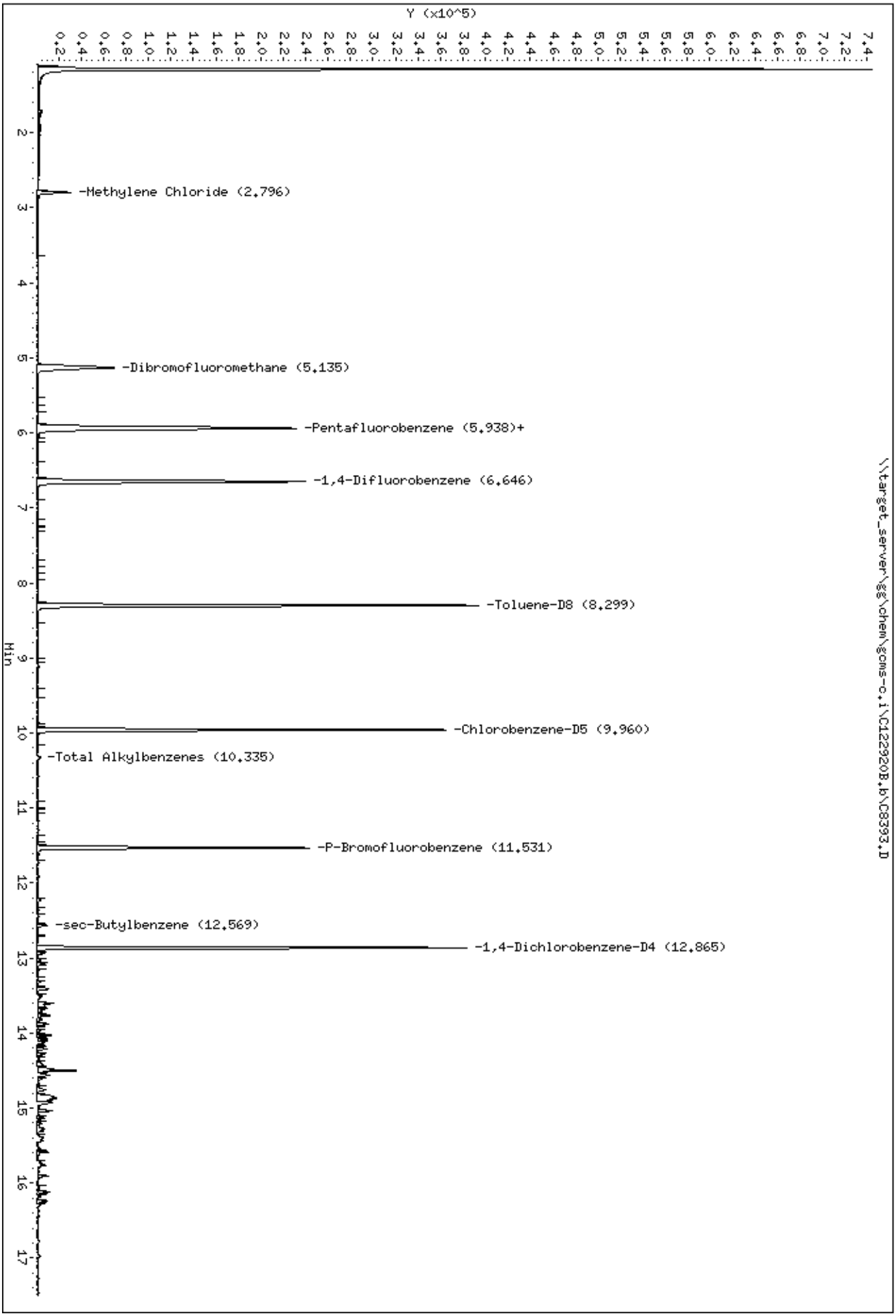
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
14 Methylene Chloride	84	2.796	2.796	(0.470)	10373	5.75273	5.8	
$ 34 Dibromofluoromethane	113	5.135	5.135	(0.864)	67700	53.1716	53.2	
* 41 Pentafluorobenzene	168	5.945	5.945	(1.000)	118212	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.926	5.934	(0.997)	99013	57.3495	57.3	
* 48 1,4-Difluorobenzene	114	6.646	6.654	(1.000)	200843	50.0000		
M 55 Total Alkylbenzenes	100				3561	0.46020	0.46(a)	
$ 58 Toluene-D8	98	8.299	8.303	(1.249)	232294	49.0923	49.1	
* 68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	177445	50.0000		
$ 78 P-Bromofluorobenzene	95	11.530	11.534	(1.735)	85675	49.3064	49.3	
91 sec-Butylbenzene	105	12.568	12.573	(0.977)	3561	0.46020	0.46(a)	
* 94 1,4-Dichlorobenzene-D4	152	12.865	12.869	(1.000)	85976	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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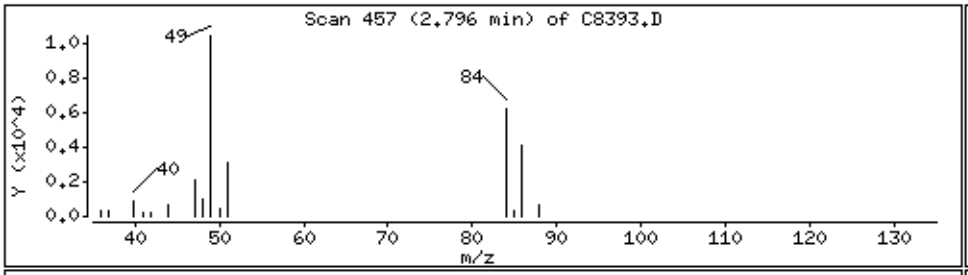
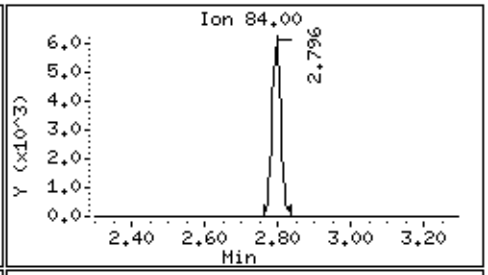
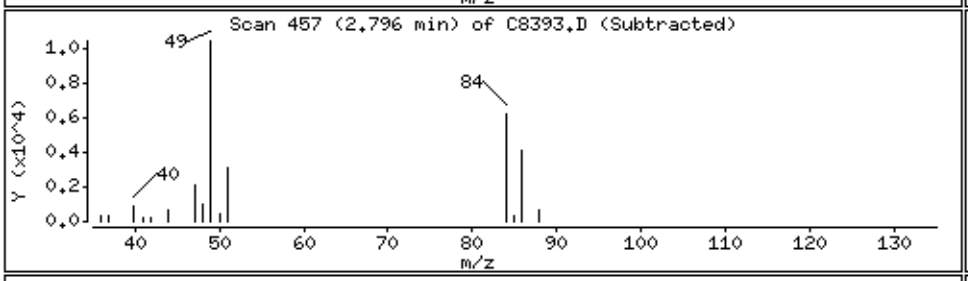
Date : 29-DEC-2020 23:02
Client ID:
Sample Info: TN0377-11
Instrument: gcms-c.i
\\target_server\gg\chem\gcms-c.i\C122920B.b\C8393.D
Y (x10^5)
Min
-Methylene Chloride (2.796)
-Dibromofluoromethane (5.135)
-Pentafluorobenzene (5.938)+
-1,4-Difluorobenzene (6.646)
-Toluene-D8 (8.299)
-Chlorobenzene-D5 (9.960)
-Total Alkylbenzenes (10.335)
-P-Bromofluorobenzene (11.531)
-sec-Butylbenzene (12.569)
-1,4-Dichlorobenzene-D4 (12.865)

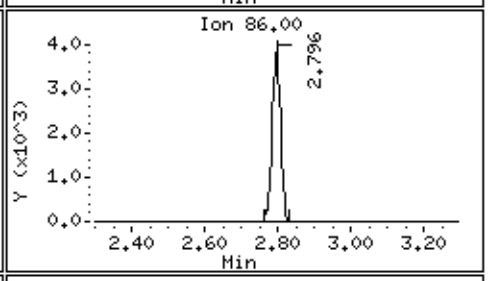
Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8393.D
Date : 29-DEC-2020 23:02
Client ID: Instrument: gcms-c.i
Sample Info: TN0377-11

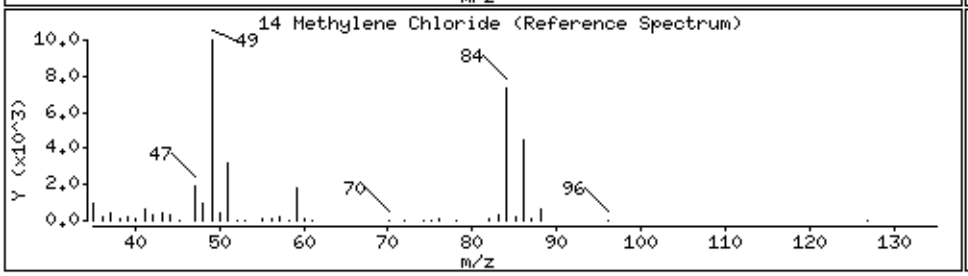
14 Methylene Chloride Concentration: 5.8 ug/l

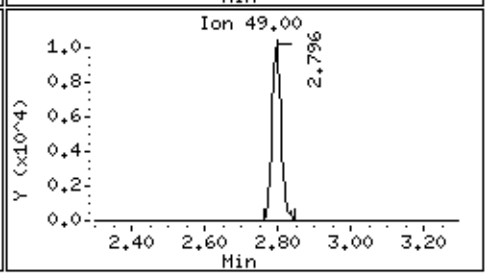




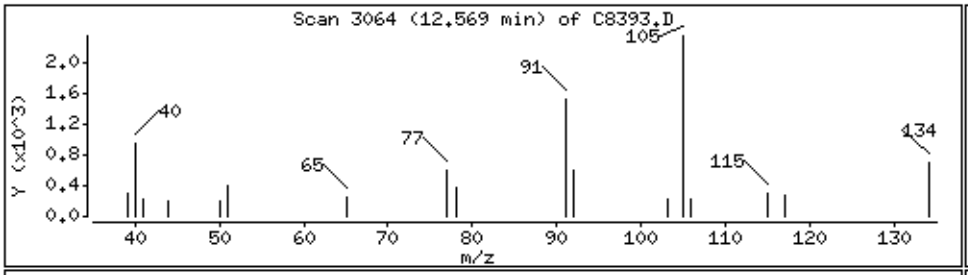


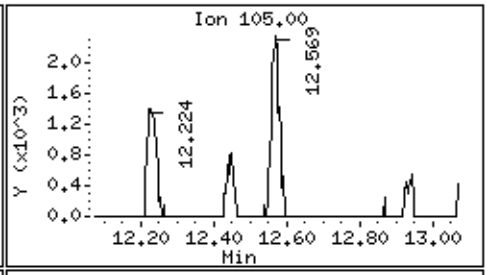


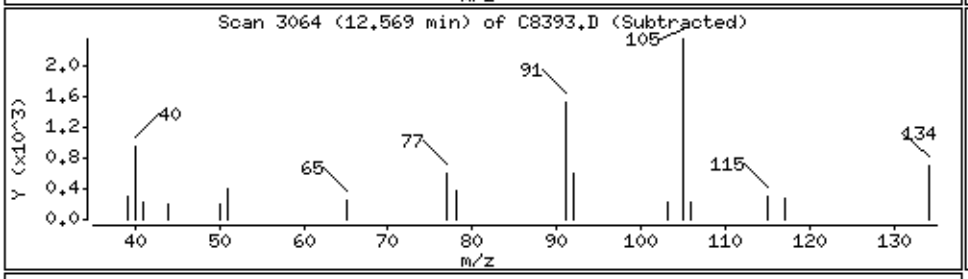


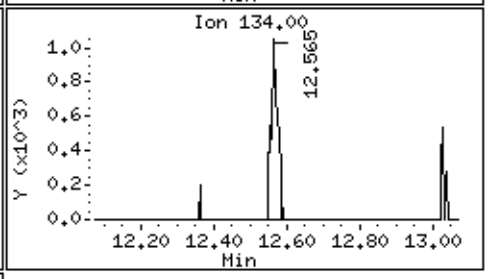


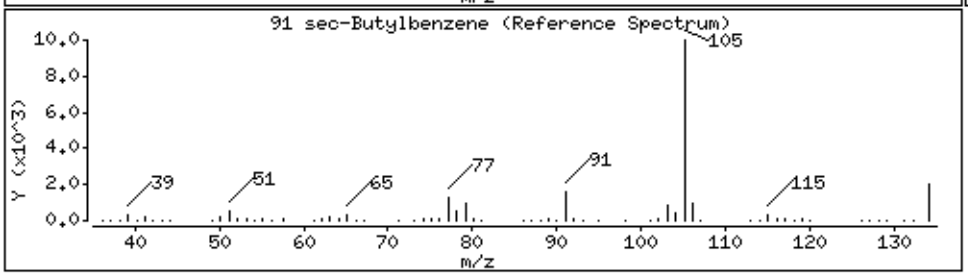
91 sec-Butylbenzene Concentration: 0.46 ug/l











Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-12
Client ID: MW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8394.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		9.4	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-12
Client ID: MW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8394.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		89.9	%					
Toluene-d8		99.2	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		105.	%					

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Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8394.D
Report Date: 27-Jan-2021 16:03

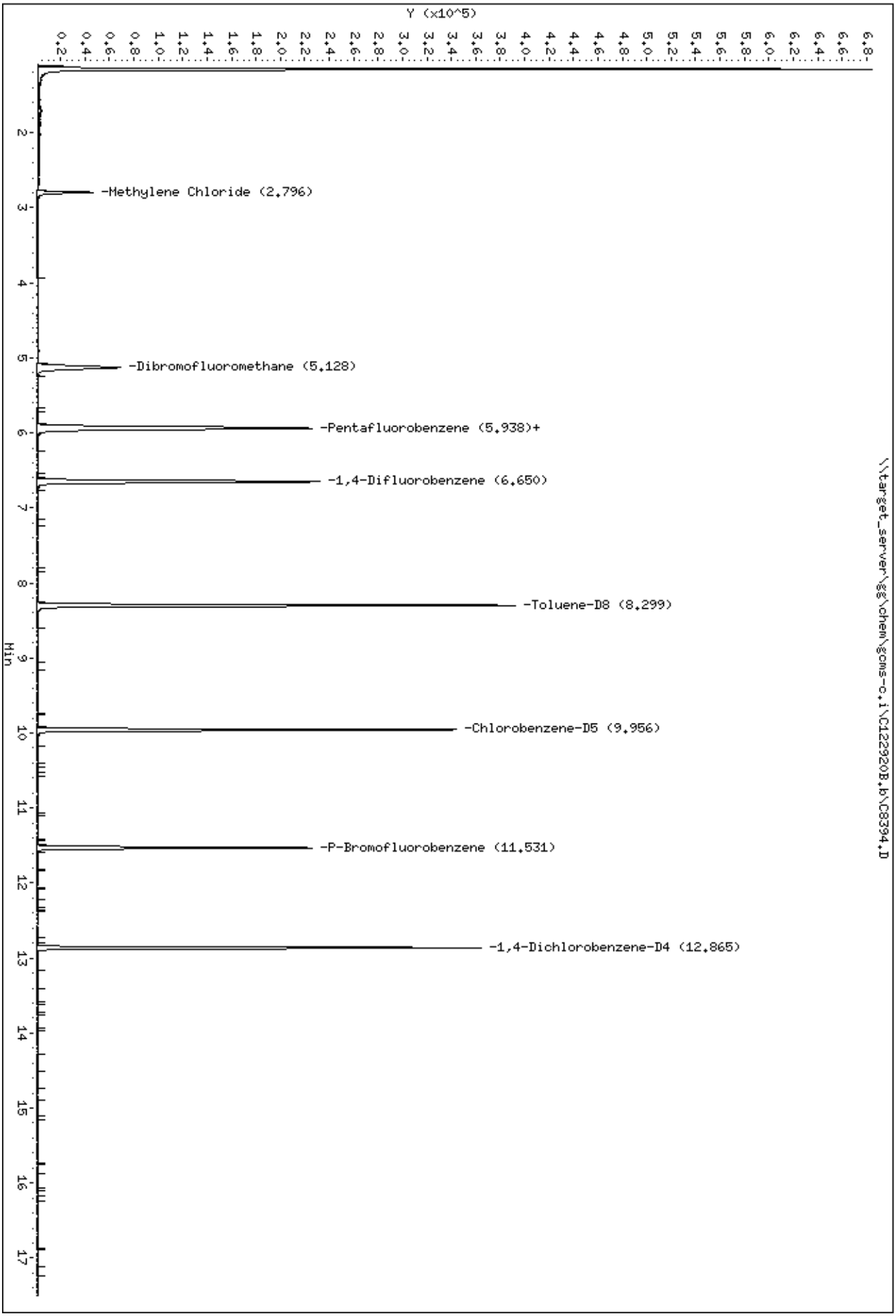
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8394.D
Lab Smp Id: TN0377-12
Inj Date : 29-DEC-2020 23:34
Operator : HG Inst ID: gcms-c.i
Smp Info : TN0377-12
Misc Info : WG292678,WG292597-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 07:21 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
14 Methylene Chloride	84	2.792	2.796	(0.470)	16764	9.36012	9.4	
$ 34 Dibromofluoromethane	113	5.127	5.135	(0.864)	66310	52.4330	52.4	
* 41 Pentafluorobenzene	168	5.937	5.945	(1.000)	117416	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.930	5.934	(0.999)	94246	54.9585	55.0	
* 48 1,4-Difluorobenzene	114	6.646	6.654	(1.000)	195874	50.0000		
$ 58 Toluene-D8	98	8.299	8.303	(1.249)	229007	49.6254	49.6	
* 68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	165666	50.0000		
$ 78 P-Bromofluorobenzene	95	11.526	11.534	(1.734)	76154	44.9388	44.9	
* 94 1,4-Dichlorobenzene-D4	152	12.865	12.869	(1.000)	77746	50.0000		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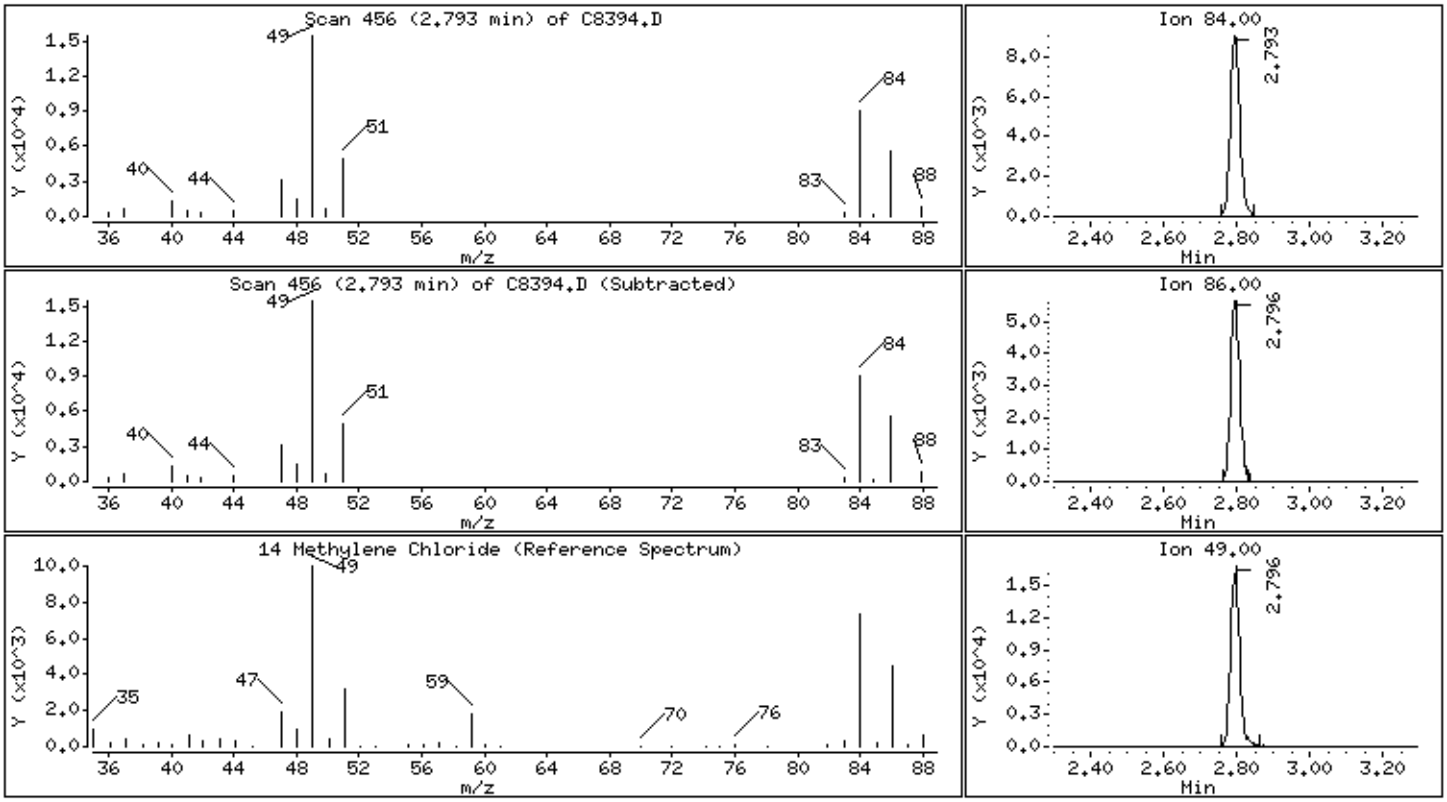
Date : 29-DEC-2020 23:34
Client ID:
Sample Info: TN0377-12
Instrument: gcms-c.i
\\target_server\gg\chem\gcms-c.i\C122920B.b\C8394.D
Y (x10^5)
Min
-Methylene Chloride (2.796)
-Dibromofluoromethane (5.128)
-Pentafluorobenzene (5.938)+
-1,4-Difluorobenzene (6.650)
-Toluene-D8 (8.299)
-Chlorobenzene-D5 (9.956)
-P-Bromofluorobenzene (11.531)
-1,4-Dichlorobenzene-D4 (12.865)

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8394.D
Date : 29-DEC-2020 23:34
Client ID: Instrument: gcms-c.i
Sample Info: TN0377-12

14 Methylene Chloride Concentration: 9.4 ug/l



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-13
Client ID: GW-EB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8367.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	2.8	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-13
Client ID: GW-EB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: C8367.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		92.4	%					
Toluene-d8		98.9	%					
1,2-Dichloroethane-d4	*	122.	%					
Dibromofluoromethane		113.	%					

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Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8367.D
Report Date: 27-Jan-2021 15:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920.b\C8367.D
Lab Smp Id: TN0377-13 Client Smp ID: GW-EB-WINTER2020
Inj Date : 29-DEC-2020 08:38
Operator : CR Inst ID: gcms-c.i
Smp Info : TN0377-13
Misc Info : WG292631,WG292597-4
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920.b\C8A05(37)DN.m
Meth Date : 29-Dec-2020 15:49 tcote Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

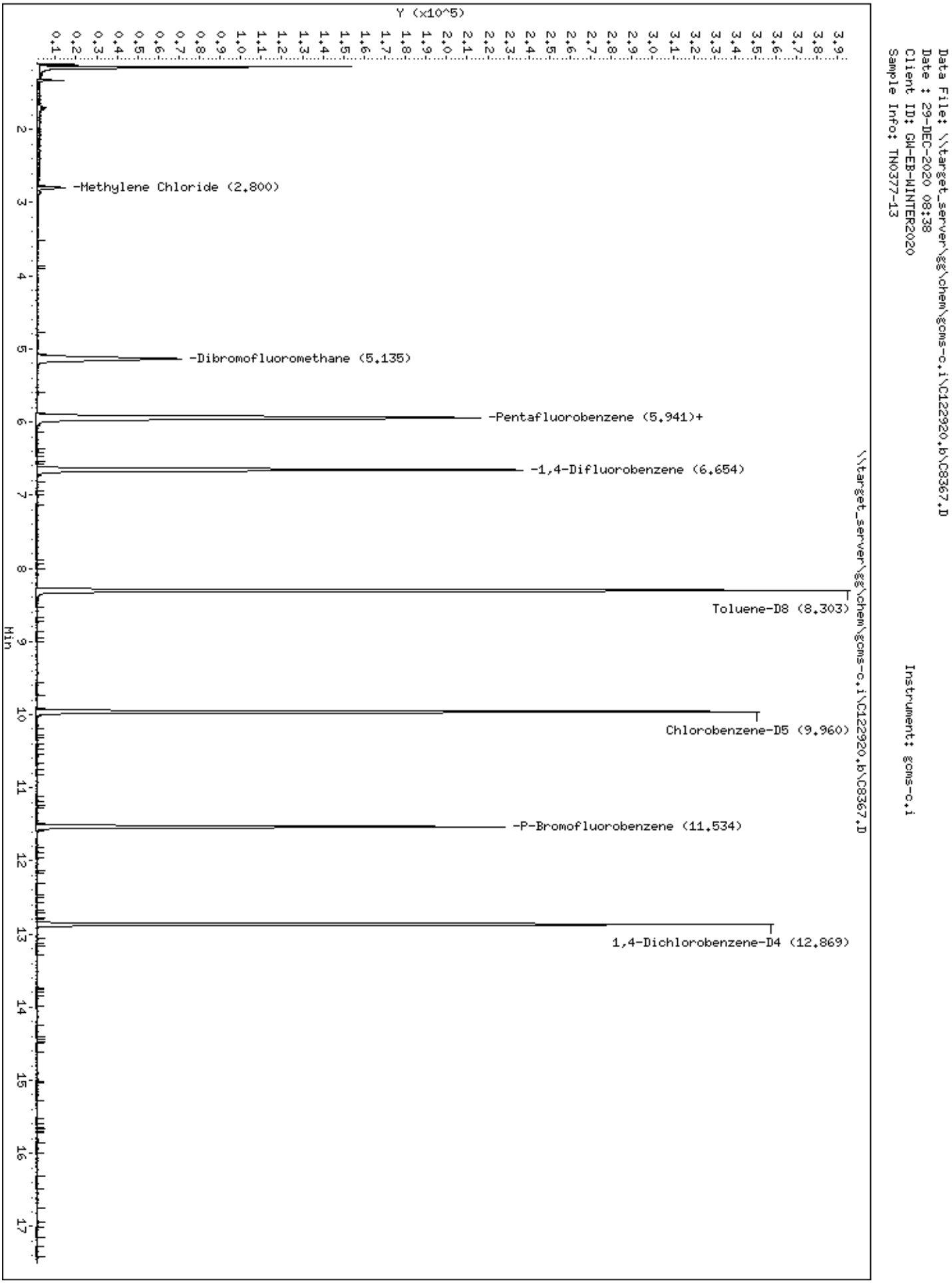
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
14 Methylene Chloride	84	2.799	2.796	(0.471)	4650	2.77933	2.8(a)	
$ 34 Dibromofluoromethane	113	5.135	5.135	(0.864)	66518	56.3052	56.3	
* 41 Pentafluorobenzene	168	5.945	5.945	(1.000)	109684	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.998)	97961	61.1518	61.2	
* 48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	193596	50.0000		
$ 58 Toluene-D8	98	8.302	8.303	(1.248)	225583	49.4587	49.4	
* 68 Chlorobenzene-D5	117	9.963	9.964	(1.000)	167678	50.0000		
$ 78 P-Bromofluorobenzene	95	11.534	11.534	(1.734)	77362	46.1889	46.2	
* 94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	77723	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8367.D
Date : 29-DEC-2020 08:38
Client ID: GW-EB-WINTER2020
Sample Info: TN0377-13
Instrument: gcms-c.i
\\target_server\gg\chem\gcms-c.i\C122920.b\C8367.D
Y (x10^5)
Min
-Methylene Chloride (2.800)
-Dibromofluoromethane (5.135)
-Pentafluorobenzene (5.941)+
-1,4-Difluorobenzene (6.654)
Toluene-D8 (8.303)
Chlorobenzene-D5 (9.960)
-P-Bromofluorobenzene (11.534)
1,4-Dichlorobenzene-D4 (12.869)

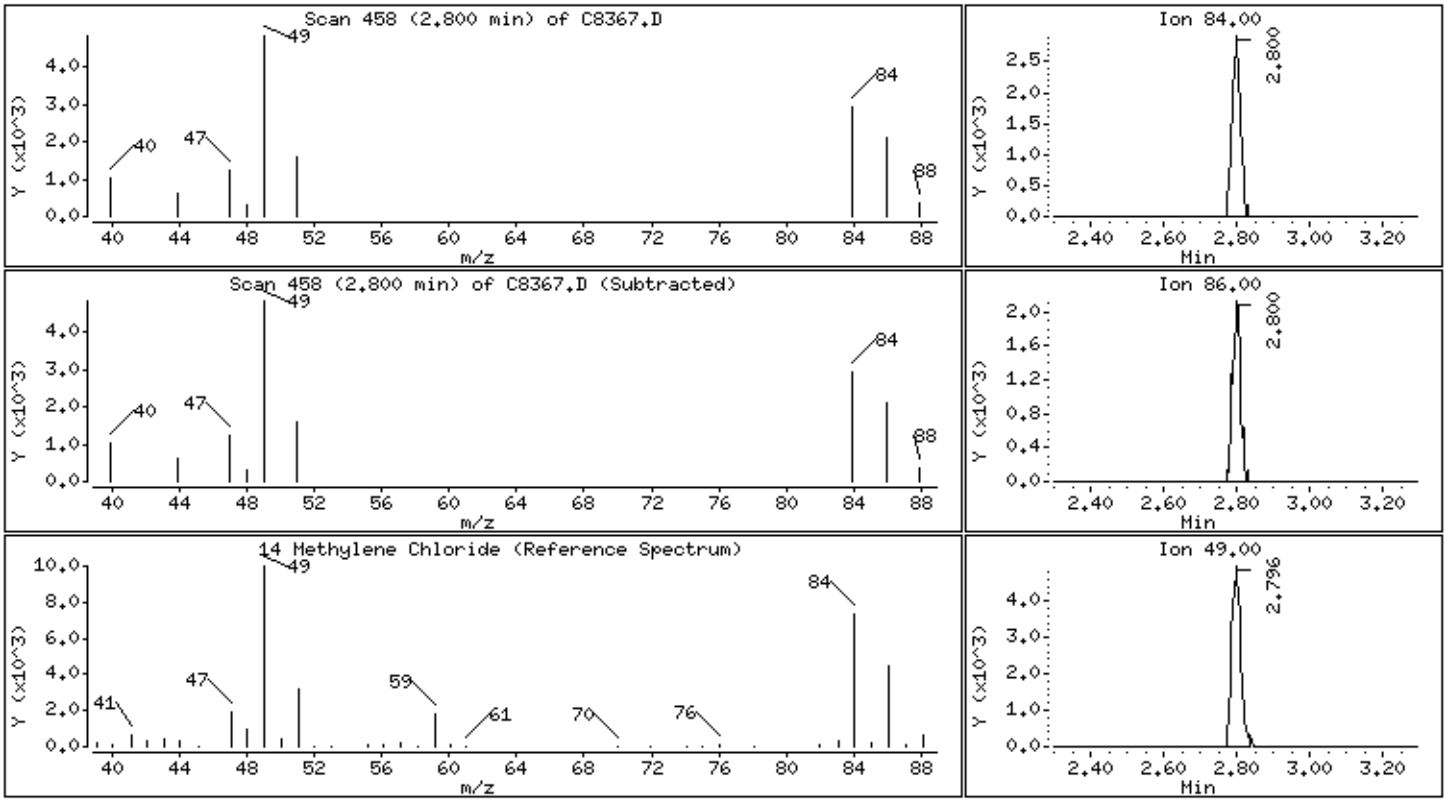
Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8367.D

Date : 29-DEC-2020 08:38

Client ID: GW-EB-WINTER2020 Instrument: gcms-c.i

Sample Info: TN0377-13

14 Methylene Chloride Concentration: 2.8 ug/l



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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-15
Client ID: GW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: T9673.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride		90	ug/L	1	5	5.0	1.1	2.5
Acetone		55	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-15
Client ID: GW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: T9673.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		99.5	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		103.	%					
Dibromofluoromethane		103.	%					

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Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9673.D
Report Date: 27-Jan-2021 16:11

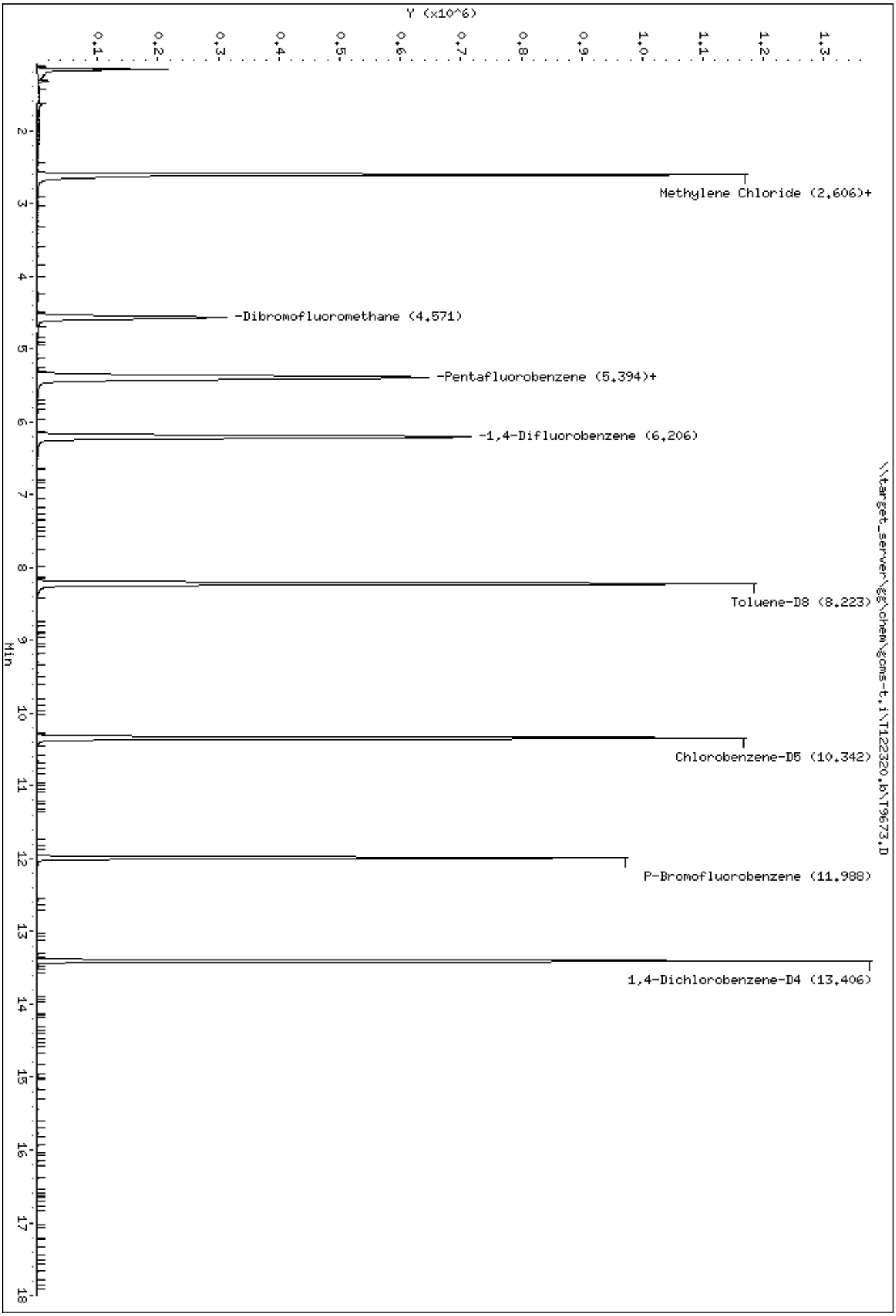
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9673.D
Lab Smp Id: TN0377-15 Client Smp ID: GW-TB-WINTER2020
Inj Date : 23-DEC-2020 17:58
Operator : CR Inst ID: gcms-t.i
Smp Info : TN0377-15
Misc Info : WG292401,WG292401-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
14 Methylene Chloride	84	2.606	2.606	(0.485)	535018	89.7545	89.8	
15 Acetone	43	2.651	2.648	(0.493)	80887	55.0498	55.0	
$ 34 Dibromofluoromethane	113	4.570	4.571	(0.850)	292762	51.3970	51.4	
* 41 Pentafluorobenzene	168	5.379	5.383	(1.000)	520467	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.409	5.406	(1.006)	322680	51.4577	51.4	
* 48 1,4-Difluorobenzene	114	6.206	6.210	(1.000)	876804	50.0000		
$ 56 Toluene-D8	98	8.223	8.220	(1.325)	1018349	50.2268	50.2	
* 68 Chlorobenzene-D5	117	10.341	10.342	(1.000)	792462	50.0000		
$ 77 P-Bromofluorobenzene	95	11.988	11.988	(1.932)	371185	49.7682	49.8	
* 93 1,4-Dichlorobenzene-D4	152	13.402	13.407	(1.000)	377882	50.0000		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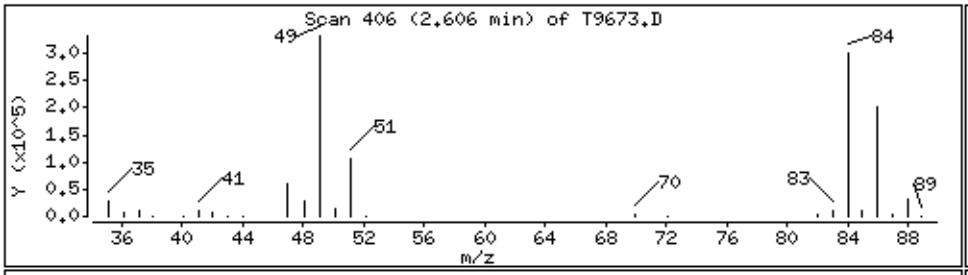
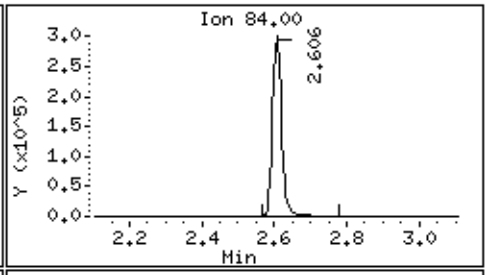
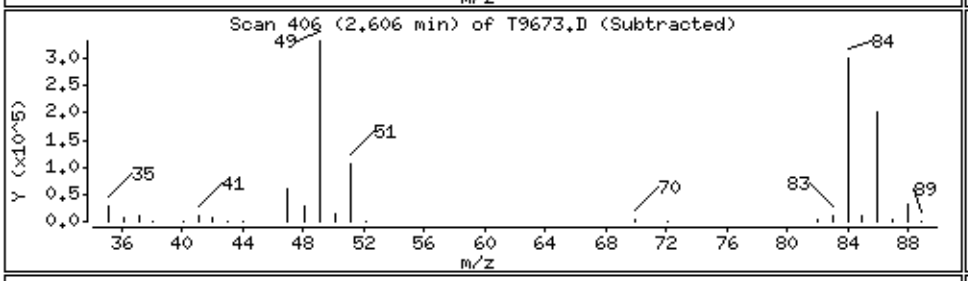
Date : 23-DEC-2020 17:58
Client ID: GW-TB-WINTER2020
Sample Info: TN0377-15
Instrument: gcms-t.i
\\target_server\gg\chem\gcms-t.i\T122320.b\T9673.D
Y (x10^6)
Min
Methylene Chloride (2.606)+
-Dibromofluoromethane (4.571)
-Pentafluorobenzene (5.394)+
-1,4-Difluorobenzene (6.206)
Toluene-D8 (8.223)
Chlorobenzene-D5 (10.342)
P-Bromofluorobenzene (11.988)
1,4-Dichlorobenzene-D4 (13.406)

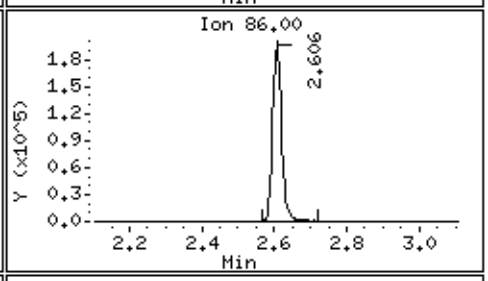
Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9673.D
Date : 23-DEC-2020 17:58
Client ID: GW-TB-WINTER2020 Instrument: gcms-t.i
Sample Info: TN0377-15

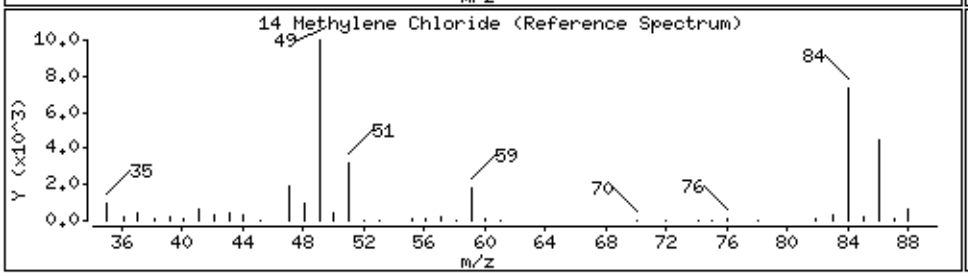
14 Methylene Chloride Concentration: 89.8 ug/l

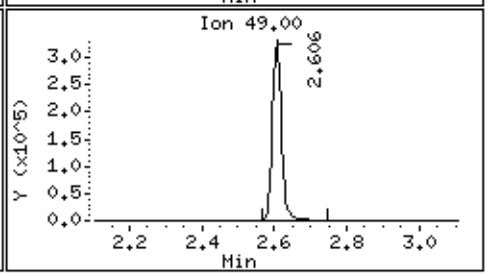




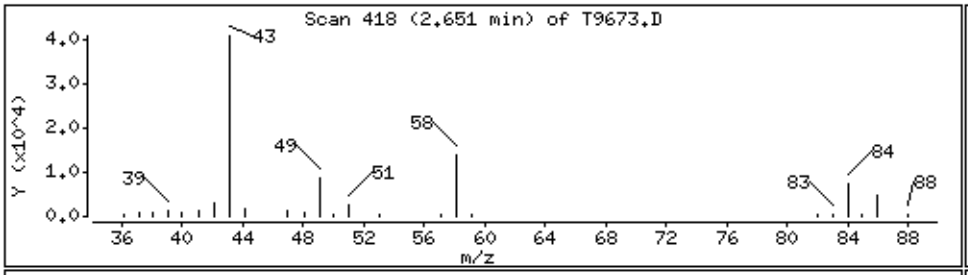


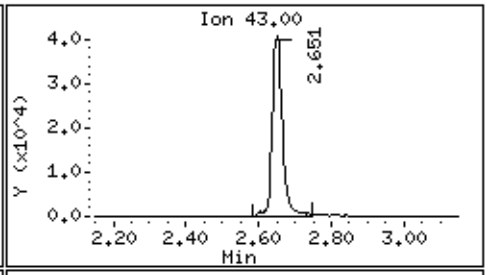


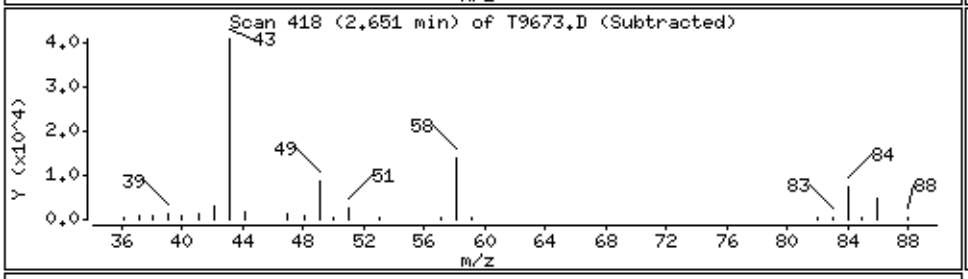


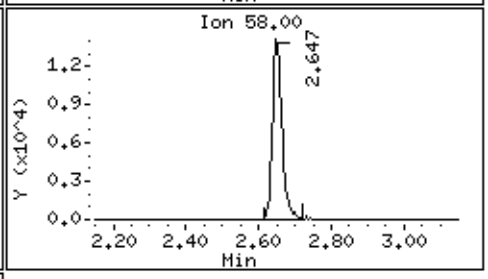


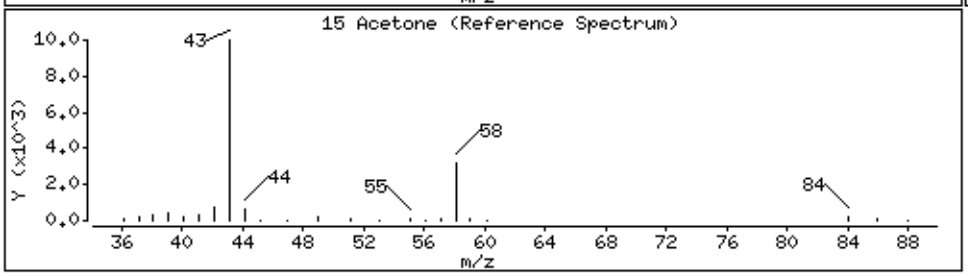
15 Acetone Concentration: 55.0 ug/l











Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** TN0377
Project : LO-58 Nike Missile Battery Launch Site **Instrument ID:** GCMS-C
Lab File IDs : C8341.D C8340.D C8339.D C8338.D C8336.D C8335.D C8337.D **Calibration Date(s):** 28-DEC-20 10:23 28-DEC-20 13:35

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7		Crv				Max	
	1.0000	5.0000	20.0000	50.0000	100.0000	150.0000	75.0000		New	b	m1	%RSD	%RSD	
Chloromethane	1.38192	1.20172	1.23457	1.29073	1.28277	1.40297	1.22379		AVG		1.28835	6.05346	15.00000	O
Vinyl chloride	0.78822	0.77577	0.85156	0.88042	0.89307	0.95380	0.87160		AVG		0.85921	7.16792	15.00000	O
Bromomethane	1831	7156	26982	66192	135322	195937	98575		LNR	0.000e+00	0.44066	0.99818	0.99000	O
Chloroethane	0.42548	0.43206	0.43526	0.40805	+++++	+++++	0.35347		AVG		0.41086	8.21809	15.00000	O
1,1-Dichloroethene	0.49207	0.55602	0.54289	0.55643	0.53790	0.56951	0.54524		AVG		0.54286	4.56053	15.00000	O
Carbon Disulfide	1.61568	1.24465	1.26125	1.37303	1.35478	1.43207	1.33410		AVG		1.37365	9.07261	15.00000	O
Methylene Chloride	3628	13583	47358	118404	229440	339821	172442		LNR	0.000e+00	0.76267	0.99785	0.99000	O
Acetone	0.45807	0.38797	0.35347	0.37795	0.34726	0.38873	0.34831		AVG		0.38025	10.19537	15.00000	O
trans-1,2-Dichloroethene	0.81135	0.71749	0.72031	0.75477	0.71416	0.72541	0.71321		AVG		0.73667	4.87024	15.00000	O
1,1-Dichloroethane	1.61849	1.50390	1.50812	1.53612	1.50258	1.55143	1.51232		AVG		1.53328	2.72525	15.00000	O
cis-1,2-Dichloroethene	0.71427	0.68908	0.73286	0.75634	0.73491	0.76569	0.73887		AVG		0.73314	3.49128	15.00000	O
Chloroform	1.43694	1.36052	1.29661	1.37094	1.35015	1.40383	1.34518		AVG		1.36631	3.27550	15.00000	O
Carbon Tetrachloride	0.50915	0.53323	0.58540	0.62028	0.61943	0.63534	0.61403		AVG		0.58812	8.26373	15.00000	O
1,1,1-Trichloroethane	0.99885	1.12432	1.19533	1.26151	1.23327	1.28842	1.23250		AVG		1.19060	8.35387	15.00000	O
2-Butanone	0.43480	0.47723	0.49204	0.51331	0.50569	0.55094	0.51041		AVG		0.49777	7.20172	15.00000	O
Benzene	1.40506	1.49285	1.51769	1.60309	1.59463	1.56239	1.57362		AVG		1.53562	4.55792	15.00000	O
1,2-Dichloroethane	0.90361	0.73504	0.69277	0.70413	0.69776	0.71270	0.69025		AVG		0.73375	10.41507	15.00000	O
Trichloroethene	0.42339	0.39368	0.40889	0.42229	0.40915	0.40849	0.41322		AVG		0.41130	2.43065	15.00000	O
1,2-Dichloropropane	0.41506	0.40624	0.42344	0.44480	0.44515	0.44433	0.44067		AVG		0.43139	3.76779	15.00000	O
Bromodichloromethane	0.50520	0.50672	0.51309	0.55528	0.56706	0.57808	0.55608		AVG		0.54022	5.71424	15.00000	O
cis-1,3-dichloropropene	2035	13278	61359	167467	347867	511630	259640		LNR	0.000e+00	0.66104	0.99892	0.99000	O
Toluene	1.74664	1.54172	1.57905	1.64338	1.64638	1.63916	1.61686		AVG		1.63046	3.93479	15.00000	O
4-methyl-2-pentanone	0.38509	0.49155	0.56546	0.58124	0.59055	0.62983	0.60368		AVG		0.54963	15.35301	15.00000	W(
Tetrachloroethene	0.35845	0.32027	0.36091	0.37625	0.36734	0.36685	0.36848		AVG		0.35979	5.09678	15.00000	O
trans-1,3-Dichloropropene	0.46169	0.49109	0.51340	0.57460	0.60466	0.62357	0.59171		AVG		0.55153	11.30810	15.00000	O
1,1,2-Trichloroethane	0.33347	0.32442	0.33771	0.34552	0.35148	0.36106	0.35383		AVG		0.34393	3.71542	15.00000	O
Dibromochloromethane	0.40393	0.41045	0.42954	0.46970	0.46553	0.49267	0.46529		AVG		0.44816	7.49233	15.00000	O
2-Hexanone	5813	44102	211701	555441	1126912	1755209	871286		LNR	0.000e+00	0.50898	0.99730	0.99000	O
Chlorobenzene	1.29116	1.21484	1.19551	1.23074	1.19100	1.20814	1.20057		AVG		1.21885	2.83331	15.00000	O
Ethylbenzene	0.55674	0.58858	0.64572	0.70130	0.66172	0.66463	0.66539		AVG		0.64058	7.82819	15.00000	O
Xylenes (total)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		AVG		0.000e+00	0.000e+(	15.00000	M (
m+p-Xylenes	0.59974	0.70667	0.81425	0.84959	0.81367	0.82374	0.82552		AVG		0.77617	11.63154	15.00000	O
o-Xylene	1672	12052	65513	177858	362585	541163	272881		LNR	0.000e+00	0.79540	0.99909	0.99000	O
Styrene	2827	22929	112002	301151	609850	902142	455611		LNR	0.000e+00	1.33052	0.99942	0.99000	O
Bromoform	0.22009	0.24716	0.26397	0.28877	0.29694	0.32644	0.30352		AVG		0.27813	13.10673	15.00000	O
1,1,2,2-Tetrachloroethane	1.04878	1.09640	1.11715	1.14898	1.14260	1.17629	1.16654		AVG		1.12811	3.94152	15.00000	O

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Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: TN0377
Project : LO-58 Nike Missile Battery Launch Site
Instrument ID: GCMS-C
Lab File IDs : C8341.D C8340.D C8339.D C8338.D C8336.D C8335.D C8337.D
Calibration Date(s): 28-DEC-20 10:23 28-DEC-20 13:35

Dibromofluoromethane	0.55444	0.54186	0.54263	0.52441	0.53024	0.54655	0.52965		AVG		0.53854	1.99435	15.00000	
1,2-Dichloroethane-D4	0.76220	0.74931	0.71612	0.67782	0.71624	0.76897	0.72107		AVG		0.73025	4.37097	15.00000	
Toluene-D8	1.18190	1.16933	1.17120	1.16463	1.19322	1.18824	1.17734		AVG		1.17798	0.88509	15.00000	
P-Bromofluorobenzene	0.41300	0.42631	0.42537	0.43326	0.44259	0.45392	0.43360		AVG		0.43258	3.03142	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8342A.D
Report Date: 27-Jan-2021 16:42

Katahdin Analytical Services

RECOVERY REPORT

Client Name:
Client SDG: SDGa02236
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: WG292597-8
Level: LOW
Operator: CR
Data Type: MS DATA
SampleType: LCS
SpikeList File: IND_CHECK.spk
Quant Type: ISTD
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8A05(37)DN.m
Misc Info: WG292597,WG292597-4,TN0377-13

	SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
	1 Dichlorodifluorome	50.0	39.3	78.59*	80-120
	2 Chloromethane	50.0	43.8	87.54	80-120
	3 Vinyl chloride	50.0	48.6	97.17	80-120
	4 Bromomethane	50.0	49.0	98.06	80-120
	5 Chloroethane	50.0	54.3	108.63	80-120
	6 Trichlorofluoromet	50.0	55.1	110.14	80-120
	7 Diethyl Ether	50.0	53.1	106.23	80-120
	19 Tertiary-butyl alc	250	229	91.45	80-120
	8 1,1-Dichloroethene	50.0	49.6	99.27	80-120
	10 Carbon Disulfide	50.0	44.7	89.47	80-120
	9 Freon-113	50.0	55.5	111.06	80-120
	11 Iodomethane	50.0	49.9	99.73	80-120
	12 Acrolein	250	260	103.85	80-120
	14 Methylene Chloride	50.0	50.7	101.35	80-120
	15 Acetone	50.0	44.2	88.31	80-120
	45 Isobutyl Alcohol	1000	903	90.28	80-120
	16 trans-1,2-Dichloro	50.0	49.4	98.83	80-120
	13 Allyl Chloride	50.0	53.7	107.46	80-120
	18 Methyl tert-butyl	50.0	53.5	106.96	80-120
	20 Acetonitrile	500	498	99.67	80-120
	21 Di-isopropyl ether	50.0	54.4	108.71	80-120
	22 Chloroprene	50.0	55.8	111.68	80-120
	39 Propionitrile	500	504	100.83	80-120
	40 Methacrylonitrile	500	524	104.70	80-120
	23 1,1-Dichloroethane	50.0	51.2	102.34	80-120
	24 Acrylonitrile	250	258	103.22	80-120
	25 Ethyl tertiary-but	50.0	54.0	107.95	80-120
	26 Vinyl Acetate	50.0	53.0	105.97	80-120
	27 cis-1,2-Dichloroet	50.0	51.4	102.81	80-120
M	98 1,2-Dichloroethyle	100	101	100.82	80-120
	52 Methyl Methacrylat	50.0	45.9	91.82	80-120
	28 2,2-Dichloropropan	50.0	45.0	90.04	80-120
	29 Bromochloromethane	50.0	55.2	110.49	80-120
	31 Chloroform	50.0	48.6	97.24	80-120
	32 Carbon Tetrachlori	50.0	50.7	101.49	80-120
	33 Tetrahydrofuran	50.0	44.7	89.39	80-120
	35 1,1,1-Trichloroeth	50.0	50.4	100.72	80-120
	37 1,1-Dichloropropen	50.0	53.6	107.19	80-120
	36 2-Butanone	50.0	46.2	92.34	80-120
	38 Benzene	50.0	52.0	103.96	80-120

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8342A.D
Report Date: 27-Jan-2021 16:42

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
30 Cyclohexane	50.0	52.3	104.54	80-120
53 Ethyl Methacrylate	50.0	45.0	90.05	80-120
43 Tertiary-amyl meth	50.0	49.6	99.20	80-120
44 1,2-Dichloroethane	50.0	48.5	97.03	80-120
47 Trichloroethene	50.0	51.1	102.21	80-120
49 Dibromomethane	50.0	46.3	92.59	80-120
50 1,2-Dichloropropan	50.0	50.4	100.82	80-120
51 Bromodichlorometha	50.0	51.3	102.55	80-120
57 cis-1,3-dichloropr	50.0	46.7	93.39	80-120
54 1,4-Dioxane	1000	804	80.42	80-120
56 2-Chloroethylvinyl	50.0	46.6	93.17	80-120
59 Toluene	50.0	51.0	102.07	80-120
61 4-methyl-2-pentano	50.0	49.6	99.18	80-120
60 Tetrachloroethene	50.0	50.0	100.11	80-120
62 trans-1,3-Dichloro	50.0	52.9	105.90	80-120
63 1,1,2-Trichloroeth	50.0	51.1	102.18	80-120
64 Dibromochlorometha	50.0	51.6	103.27	80-120
65 1,3-Dichloropropan	50.0	50.8	101.69	80-120
66 1,2-Dibromoethane	50.0	50.6	101.12	80-120
67 2-Hexanone	50.0	42.4	84.72	80-120
69 Chlorobenzene	50.0	49.9	99.88	80-120
70 1-Chlorohexane	50.0	0.00	0.00*	80-120
71 Ethylbenzene	50.0	52.4	104.92	80-120
72 1,1,1,2-Tetrachlor	50.0	53.0	105.90	80-120
M 106 Xylenes (total)	150	156	103.81	80-120
73 m+p-Xylenes	100	107	107.09	80-120
74 o-Xylene	50.0	48.6	97.26	80-120
75 Styrene	50.0	49.6	99.21	80-120
76 Bromoform	50.0	51.6	103.30	80-120
77 Isopropylbenzene	50.0	48.8	97.51	80-120
79 cis-1,4-Dichloro-2	50.0	46.4	92.92	80-120
86 trans-1,4-Dichloro	50.0	48.6	97.27	80-120
80 Bromobenzene	50.0	51.8	103.52	80-120
81 N-Propylbenzene	50.0	48.8	97.53	80-120
82 1,1,2,2-Tetrachlor	50.0	50.4	100.90	80-120
85 1,3,5-Trimethylben	50.0	49.6	99.20	80-120
83 2-Chlorotoluene	50.0	52.0	103.98	80-120
84 1,2,3-Trichloropro	50.0	47.6	95.28	80-120
87 4-Chlorotoluene	50.0	52.2	104.48	80-120
88 tert-Butylbenzene	50.0	48.6	97.12	80-120
89 Pentachloroethane	50.0	0.00	*	80-120
90 1,2,4-Trimethylben	50.0	48.9	97.79	80-120
92 P-Isopropyltoluene	50.0	49.3	98.55	80-120
93 1,3-Dichlorobenzen	50.0	51.0	101.95	80-120
95 1,4-Dichlorobenzen	50.0	48.5	96.95	80-120
97 N-Butylbenzene	50.0	47.9	95.81	80-120
91 sec-Butylbenzene	50.0	49.1	98.19	80-120
99 1,2-Dichlorobenzen	50.0	50.7	101.46	80-120
100 1,2-Dibromo-3-Chlo	50.0	47.8	95.56	80-120
101 1,3,5-Trichloroben	50.0	52.4	104.76	80-120
102 Hexachlorobutadien	50.0	47.8	95.63	80-120
103 1,2,4-Trichloroben	50.0	45.5	91.05	80-120
96 1,2,3-Trimethylben	50.0	53.7	107.32	80-120
104 Naphthalene	50.0	43.9	87.73	80-120

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8342A.D
Report Date: 27-Jan-2021 16:42

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
105 1,2,3-Trichloroben	50.0	46.7	93.48	80-120
17 Methyl Acetate	50.0	48.5	96.92	80-120
46 Methylcyclohexane	50.0	49.0	98.09	80-120
M 55 Total Alkylbenzene	350	342	97.74	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/l	AMOUNT RECOVERED ug/l	% RECOVERED	LIMITS
$ 34 Dibromofluorometha	50.0	51.1	102.25	68-128
$ 42 1,2-Dichloroethane	50.0	50.5	101.00	67-135
$ 58 Toluene-D8	50.0	49.3	98.62	65-128
$ 78 P-Bromofluorobenze	50.0	48.3	96.63	56-133

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8342A.D
Report Date: 27-Jan-2021 16:42

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8342A.D
Lab Smp Id: WG292597-8
Inj Date : 28-DEC-2020 14:28
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292597-8,TN0377
Misc Info : WG292597,WG292597-4,TN0377-13
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 15:59 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 8 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.252	(0.211)	121966	39.2971	39.3(R)	
2 Chloromethane	50	1.405	1.402	(0.236)	182176	43.7719	43.8	
3 Vinyl chloride	62	1.446	1.447	(0.243)	134849	48.5835	48.6	
4 Bromomethane	94	1.679	1.679	(0.282)	69793	49.0286	49.0	
5 Chloroethane	64	1.769	1.765	(0.298)	72092	54.3161	54.3	
6 Trichlorofluoromethane	101	1.873	1.874	(0.315)	158234	55.0699	55.1	
7 Diethyl Ether	59	2.125	2.125	(0.357)	96065	53.1160	53.1	
8 1,1-Dichloroethene	96	2.275	2.275	(0.383)	87044	49.6348	49.6	
9 Freon-113	151	2.316	2.316	(0.390)	57161	55.5295	55.5	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	198503	44.7331	44.7	
11 Iodomethane	142	2.395	2.395	(0.403)	77020	49.8642	49.9	
12 Acrolein	56	2.574	2.575	(0.433)	151540	259.637	260	
13 Allyl Chloride	41	2.698	2.699	(0.454)	238356	53.7290	53.7	
14 Methylene Chloride	84	2.799	2.796	(0.471)	124854	50.6759	50.7	
15 Acetone	43	2.859	2.856	(0.481)	54239	44.1549	44.2	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	117593	49.4135	49.4	
17 Methyl Acetate	43	2.991	2.991	(0.503)	143502	48.4617	48.5	
18 Methyl tert-butyl ether	73	3.092	3.092	(0.520)	315550	53.4784	53.5	
19 Tertiary-butyl alcohol	59	3.227	3.227	(0.543)	58174	228.621	229	
20 Acetonitrile	41	3.339	3.336	(0.562)	234755	498.359	498	
21 Di-isopropyl ether	45	3.538	3.538	(0.595)	453779	54.3553	54.4	
22 Chloroprene	53	3.617	3.617	(0.608)	254398	55.8390	55.8	
23 1,1-Dichloroethane	63	3.647	3.640	(0.613)	253456	51.1705	51.2	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8342A.D
Report Date: 27-Jan-2021 16:42

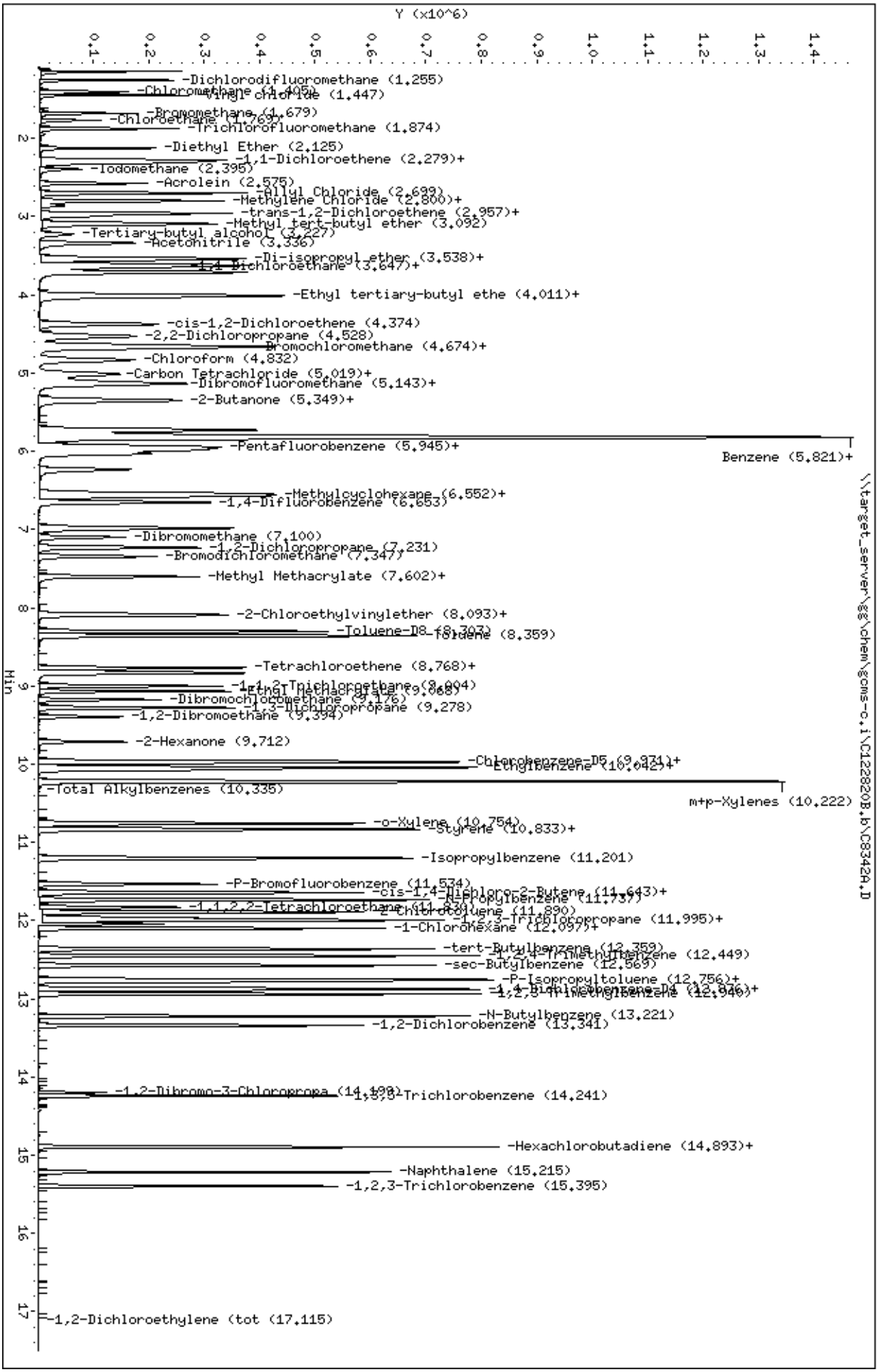
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.710	3.711	(0.624)	291434	258.044	258	
	25 Ethyl tertiary-butyl ether	59	4.010	4.006	(0.675)	355018	53.9760	54.0	
	26 Vinyl Acetate	43	4.014	4.014	(0.603)	351193	52.9825	53.0	
	27 cis-1,2-Dichloroethene	96	4.374	4.378	(0.736)	121746	51.4048	51.4	
	28 2,2-Dichloropropane	77	4.528	4.528	(0.762)	151986	45.0200	45.0	
	29 Bromochloromethane	128	4.674	4.674	(0.786)	55715	55.2464	55.2	
	30 Cyclohexane	56	4.659	4.659	(0.784)	253452	52.2682	52.3	
	31 Chloroform	83	4.831	4.832	(0.813)	214607	48.6220	48.6	
	32 Carbon Tetrachloride	117	5.019	5.012	(0.754)	164788	50.7451	50.7	
	33 Tetrahydrofuran	42	5.082	5.072	(0.855)	47140	44.6966	44.7	
$	34 Dibromofluoromethane	113	5.142	5.135	(0.865)	88941	51.1238	51.1	
	35 1,1,1-Trichloroethane	97	5.139	5.132	(0.864)	193693	50.3601	50.4	
	36 2-Butanone	43	5.367	5.364	(0.903)	74239	46.1677	46.2	
	37 1,1-Dichloropropene	75	5.345	5.349	(0.803)	167933	53.5953	53.6	
	38 Benzene	78	5.727	5.724	(0.861)	440723	51.9779	52.0	
	39 Propionitrile	54	5.783	5.788	(0.973)	249868	504.153	504	
	40 Methacrylonitrile	41	5.821	5.821	(0.979)	1036396	523.519	524	
*	41 Pentafluorobenzene	168	5.944	5.945	(1.000)	161522	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.937	5.934	(0.999)	119132	50.5005	50.5	
	43 Tertiary-amyl methyl ether	73	5.982	5.983	(1.006)	217396	49.6006	49.6	
	44 1,2-Dichloroethane	62	6.031	6.035	(0.906)	196565	48.5171	48.5	
	45 Isobutyl Alcohol	43	5.978	5.986	(1.006)	92302	902.789	903	
	46 Methylcyclohexane	83	6.544	6.541	(1.101)	188622	49.0451	49.0	
	47 Trichloroethene	95	6.574	6.575	(0.988)	116064	51.1063	51.1	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	276079	50.0000		
	49 Dibromomethane	93	7.099	7.096	(1.067)	67189	46.2966	46.3	
	50 1,2-Dichloropropane	63	7.230	7.231	(1.087)	120069	50.4083	50.4	
	51 Bromodichloromethane	83	7.343	7.343	(1.104)	152950	51.2766	51.3	
	52 Methyl Methacrylate	41	7.601	7.602	(1.143)	139993	45.9122	45.9	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.363)	144995	45.0266	45.0	
	54 1,4-Dioxane	88	7.598	7.602	(1.142)	28026	804.203	804	
M	55 Total Alkylbenzenes	100				3096696	342.098	342	
	56 2-Chloroethylvinylether	63	8.074	8.077	(1.214)	64201	46.5860	46.6	
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	170440	46.6962	46.7	
$	58 Toluene-D8	98	8.302	8.303	(1.248)	320735	49.3112	49.3	
	59 Toluene	91	8.359	8.359	(1.256)	459472	51.0372	51.0	
	60 Tetrachloroethene	164	8.771	8.768	(0.881)	84667	50.0563	50.0	
	61 4-methyl-2-pentanone	43	8.816	8.813	(1.325)	150489	49.5875	49.6	
	62 trans-1,3-Dichloropropene	75	8.838	8.839	(1.328)	161244	52.9481	52.9	
	63 1,1,2-Trichloroethane	97	9.003	9.004	(1.353)	97023	51.0911	51.1	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	108786	51.6341	51.6	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	177093	50.8449	50.8	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	98483	50.5596	50.6	
	67 2-Hexanone	43	9.712	9.709	(0.975)	101359	42.3599	42.4	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	235058	50.0000		
	69 Chlorobenzene	112	9.978	9.979	(1.002)	286156	49.9397	49.9	
	70 1-Chlorohexane	91	12.096	12.097	(1.215)	369996			(aR)
	71 Ethylbenzene	106	10.042	10.042	(1.008)	157981	52.4594	52.4	
	72 1,1,1,2-Tetrachloroethane	131	10.068	10.069	(1.011)	98978	52.9523	53.0	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	390743	107.085	107	
	74 o-Xylene	106	10.754	10.755	(1.080)	181847	48.6310	48.6	
	75 Styrene	104	10.833	10.833	(1.088)	310284	49.6057	49.6	
	76 Bromoform	173	10.833	10.833	(1.088)	67536	51.6519	51.6	
	77 Isopropylbenzene	105	11.200	11.204	(0.870)	497982	48.7570	48.8	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8342A.D
Report Date: 27-Jan-2021 16:42

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$	78 P-Bromofluorobenzene	95	11.534	11.534	(1.734)	115401	48.3150	48.3	
	79 cis-1,4-Dichloro-2-Butene	53	11.650	11.647	(0.905)	58560	46.4582	46.4	
	80 Bromobenzene	156	11.642	11.639	(0.905)	108958	51.7594	51.8	
	81 N-Propylbenzene	91	11.736	11.733	(0.912)	591846	48.7627	48.8	
	82 1,1,2,2-Tetrachloroethane	83	11.830	11.834	(0.919)	131683	50.4500	50.4	
	83 2-Chlorotoluene	91	11.890	11.890	(0.924)	350732	51.9892	52.0	
	84 1,2,3-Trichloropropane	75	11.965	11.965	(0.930)	118450	47.6377	47.6	
	85 1,3,5-Trimethylbenzene	105	11.995	11.995	(0.932)	405621	49.6025	49.6	
	86 trans-1,4-Dichloro-2-Butene	53	12.040	12.044	(0.936)	64793	48.6330	48.6	
	87 4-Chlorotoluene	91	12.096	12.097	(0.940)	369996	52.2376	52.2	
	88 tert-Butylbenzene	119	12.362	12.363	(0.961)	347300	48.5582	48.6	
	90 1,2,4-Trimethylbenzene	105	12.448	12.449	(0.967)	414266	48.8961	48.9	
	91 sec-Butylbenzene	105	12.568	12.573	(0.977)	511195	49.0968	49.1	
	92 P-Isopropyltoluene	119	12.752	12.756	(0.991)	428332	49.2753	49.3	
	93 1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	213857	50.9771	51.0	
*	94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	115688	50.0000		
	95 1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	213031	48.4745	48.5	
	96 1,2,3-Trimethylbenzene	105	12.939	12.940	(1.006)	427543	53.6617	53.7	
	97 N-Butylbenzene	91	13.221	13.225	(1.027)	398136	47.9069	47.9	
M	98 1,2-Dichloroethylene (total)	96				239339	100.818	101	
	99 1,2-Dichlorobenzene	146	13.341	13.341	(1.037)	203026	50.7282	50.7	
	100 1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.103)	25846	47.7812	47.8	
	101 1,3,5-Trichlorobenzene	180	14.240	14.241	(1.107)	144152	52.3798	52.4	
	102 Hexachlorobutadiene	225	14.892	14.893	(1.157)	53288	47.8170	47.8	
	103 1,2,4-Trichlorobenzene	180	14.896	14.897	(1.158)	124825	45.5229	45.5	
	104 Naphthalene	128	15.215	15.215	(1.182)	395621	43.8649	43.9	
	105 1,2,3-Trichlorobenzene	180	15.395	15.399	(1.196)	125177	46.7424	46.7	
M	106 Xylenes (total)	106				572590	155.716	156	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8342A.D
Date : 28-DEC-2020 14:28
Client ID:
Sample Info: WG292597-8,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.255)
-Chloromethane (1.405)
-Vinyl chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.769)
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.279)+
-Iodomethane (2.395)
-Acrolein (2.575)
-Allyl Chloride (2.699)
-Methylene Chloride (2.800)+
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.092)
-Tertiary-butyl alcohol (3.227)
-Acetonitrile (3.336)
-Di-isopropyl ether (3.538)+
-1,1-Dichloroethane (3.647)+
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.374)
-2,2-Dichloropropane (4.528)
-Bromochloromethane (4.674)+
-Chloroform (4.832)
-Carbon Tetrachloride (5.019)+
-Dibromofluoromethane (5.143)+
-2-Butanone (5.349)+
-Pentafluorobenzene (5.945)+
Benzene (5.821)+
-Methylcyclohexane (6.552)+
-1,4-Difluorobenzene (6.653)
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.231)
-Bromodichloromethane (7.347)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.093)+
-Toluene-D8 (8.302)
-Toluene (8.359)
-Tetrachloroethene (8.768)+
-1,1,2-Trichloroethane (8.904)
-Ethyl Methacrylate (9.068)
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.278)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.712)
-Chlorobenzene-D5 (9.971)+
-Ethylbenzene (10.042)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.222)
-o-Xylene (10.754)
-Styrene (10.833)+
-Isopropylbenzene (11.201)
-P-Bromofluorobenzene (11.534)
-cis-1,4-Dichloro-2-Butene (11.643)+
-N-Propylbenzene (11.737)
-1,1,2,2-Tetrachloroethane (11.830)
-Chlorotoluene (11.890)
-1,2,3-Trichloropropane (11.995)+
-1-Chlorohexane (12.097)+
-tert-Butylbenzene (12.359)
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.569)
-P-Isopropyltoluene (12.756)+
-1,4-Dichlorobenzene-D4 (12.846)+
-1,2,3-Trimethylbenzene (12.846)
-N-Butylbenzene (13.221)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloropropa (14.198)
-1,3,5-Trichlorobenzene (14.241)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.215)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8335.D
Report Date: 30-Dec-2020 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8335.D
Lab Smp Id: WG292597-6
Inj Date : 28-DEC-2020 10:23
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292597-6
Misc Info :
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 15:59 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 10:23 Cal File: C8335.D
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.252	(0.211)	485684	150.000	163(A)	
2 Chloromethane	50	1.405	1.402	(0.236)	610071	150.000	162(A)	
3 Vinyl chloride	62	1.446	1.447	(0.243)	414754	150.000	159(A)	
4 Bromomethane	94	1.679	1.679	(0.282)	195937	150.000	156(A)	
5 Chloroethane	64	1.757	1.765	(0.295)	82312	150.000	74.6	
6 Trichlorofluoromethane	101	1.866	1.874	(0.314)	403589	150.000	152(A)	
7 Diethyl Ether	59	2.125	2.125	(0.357)	260742	150.000	157(A)	
8 1,1-Dichloroethene	96	2.275	2.275	(0.382)	247647	150.000	155(A)	
9 Freon-113	151	2.308	2.316	(0.388)	151547	150.000	155(A)	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	622728	150.000	156(A)	
11 Iodomethane	142	2.395	2.395	(0.403)	212779	150.000	155(A)	
12 Acrolein	56	2.575	2.575	(0.433)	427589	750.000	801(A)	
13 Allyl Chloride	41	2.694	2.699	(0.453)	636228	150.000	153(A)	
14 Methylene Chloride	84	2.796	2.796	(0.470)	339821	150.000	156(A)	
15 Acetone	43	2.863	2.856	(0.481)	845177	750.000	798(A)	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	315442	150.000	150	
17 Methyl Acetate	43	2.994	2.991	(0.503)	438269	150.000	160(A)	
18 Methyl tert-butyl ether	73	3.092	3.092	(0.520)	879257	150.000	158(A)	
19 Tertiary-butyl alcohol	59	3.234	3.227	(0.544)	198391	750.000	814(A)	
20 Acetonitrile	41	3.343	3.336	(0.562)	704193	1500.00	1610(A)	
21 Di-isopropyl ether	45	3.542	3.538	(0.595)	1258357	150.000	156(A)	
22 Chloroprene	53	3.617	3.617	(0.608)	671994	150.000	152(A)	
23 1,1-Dichloroethane	63	3.643	3.640	(0.612)	674632	150.000	152(A)	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8335.D
Report Date: 30-Dec-2020 16:00

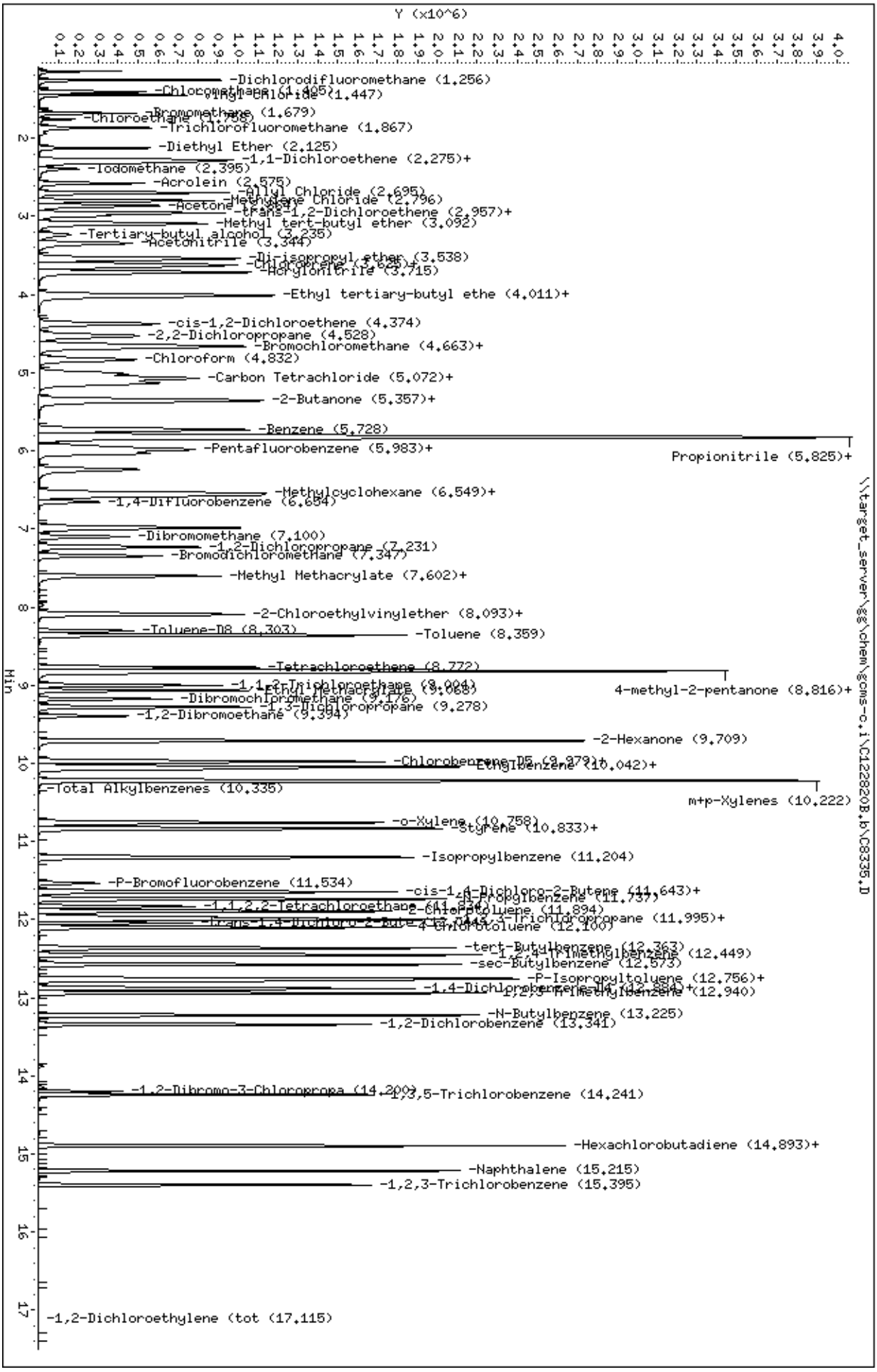
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.714	3.711	(0.624)	837394	750.000	802(A)	
	25 Ethyl tertiary-butyl ether	59	4.010	4.006	(0.674)	1019197	150.000	156(A)	
	26 Vinyl Acetate	43	4.014	4.014	(0.603)	929266	150.000	154(A)	
	27 cis-1,2-Dichloroethene	96	4.374	4.378	(0.735)	332954	150.000	153(A)	
	28 2,2-Dichloropropane	77	4.528	4.528	(0.761)	467519	150.000	158(A)	
	29 Bromochloromethane	128	4.670	4.674	(0.785)	136856	150.000	152(A)	
	30 Cyclohexane	56	4.655	4.659	(0.783)	660768	150.000	152(A)	
	31 Chloroform	83	4.831	4.832	(0.812)	610447	150.000	154(A)	
	32 Carbon Tetrachloride	117	5.015	5.012	(0.754)	485037	150.000	153(A)	
	33 Tetrahydrofuran	42	5.071	5.072	(0.853)	839618	750.000	805(A)	
$	34 Dibromofluoromethane	113	5.135	5.135	(0.863)	79221	50.0000	51.3	
	35 1,1,1-Trichloroethane	97	5.139	5.132	(0.864)	560260	150.000	154(A)	
	36 2-Butanone	43	5.364	5.364	(0.902)	1197856	750.000	794(A)	
	37 1,1-Dichloropropene	75	5.349	5.349	(0.804)	460164	150.000	148	
	38 Benzene	78	5.727	5.724	(0.861)	1192775	150.000	148	
	39 Propionitrile	54	5.795	5.788	(0.974)	735663	1500.00	1590(A)	
	40 Methacrylonitrile	41	5.825	5.821	(0.979)	2863129	1500.00	1550(A)	
*	41 Pentafluorobenzene	168	5.948	5.945	(1.000)	144948	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.937	5.934	(0.998)	111461	50.0000	53.3	
	43 Tertiary-amyl methyl ether	73	5.982	5.983	(1.006)	673305	150.000	158(A)	
	44 1,2-Dichloroethane	62	6.035	6.035	(0.907)	544096	150.000	152(A)	
	45 Isobutyl Alcohol	43	5.986	5.986	(1.006)	283728	3000.00	3180(A)	
	46 Methylcyclohexane	83	6.544	6.541	(1.100)	523883	150.000	153(A)	
	47 Trichloroethene	95	6.574	6.575	(0.988)	311851	150.000	148	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	254476	50.0000		
	49 Dibromomethane	93	7.099	7.096	(1.067)	195027	150.000	150(A)	
	50 1,2-Dichloropropane	63	7.230	7.231	(1.087)	339213	150.000	150(A)	
	51 Bromodichloromethane	83	7.343	7.343	(1.104)	441325	150.000	154(A)	
	52 Methyl Methacrylate	41	7.601	7.602	(1.143)	433724	150.000	158(A)	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.363)	458035	150.000	159(A)	
	54 1,4-Dioxane	88	7.601	7.602	(1.143)	98370	3000.00	3120(A)	
M	55 Total Alkylbenzenes	100				9239866	150.000	1050	
	56 2-Chloroethylvinylether	63	8.074	8.077	(1.214)	163235	150.000	138	
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	511630	150.000	154(A)	
$	58 Toluene-D8	98	8.302	8.303	(1.248)	302379	50.0000	50.3	
	59 Toluene	91	8.359	8.359	(1.256)	1251377	150.000	150(A)	
	60 Tetrachloroethene	164	8.771	8.768	(0.881)	246159	150.000	149	
	61 4-methyl-2-pentanone	43	8.816	8.813	(1.325)	2404132	750.000	786(A)	
	62 trans-1,3-Dichloropropene	75	8.842	8.839	(1.329)	476054	150.000	156(A)	
	63 1,1,2-Trichloroethane	97	9.003	9.004	(1.353)	275643	150.000	153(A)	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	330584	150.000	156(A)	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	523002	150.000	151(A)	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	292395	150.000	156(A)	
	67 2-Hexanone	43	9.708	9.709	(0.975)	1755209	750.000	783(A)	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	223670	50.0000		
	69 Chlorobenzene	112	9.982	9.979	(1.002)	810673	150.000	150(A)	
	71 Ethylbenzene	106	10.046	10.042	(1.009)	445975	150.000	148	
	72 1,1,1,2-Tetrachloroethane	131	10.068	10.069	(1.011)	283607	150.000	153(A)	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	1105478	300.000	298	
	74 o-Xylene	106	10.758	10.755	(1.080)	541163	150.000	153(A)	
	75 Styrene	104	10.833	10.833	(1.088)	902142	150.000	152(A)	
	76 Bromoform	173	10.829	10.833	(1.087)	219042	150.000	161(A)	
	77 Isopropylbenzene	105	11.204	11.204	(0.871)	1479388	150.000	148	
$	78 P-Bromofluorobenzene	95	11.534	11.534	(1.734)	115511	50.0000	51.5	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8335.D
Report Date: 30-Dec-2020 16:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	11.646	11.647	(0.905)	186913	150.000	157(A)	
	80 Bromobenzene	156	11.642	11.639	(0.905)	313569	150.000	148	
	81 N-Propylbenzene	91	11.732	11.733	(0.912)	1760302	150.000	148	
	82 1,1,2,2-Tetrachloroethane	83	11.834	11.834	(0.920)	396635	150.000	152(A)	
	83 2-Chlorotoluene	91	11.894	11.890	(0.924)	1043317	150.000	149	
	84 1,2,3-Trichloropropane	75	11.965	11.965	(0.930)	373108	150.000	152(A)	
	85 1,3,5-Trimethylbenzene	105	11.999	11.995	(0.932)	1191190	150.000	149	
	86 trans-1,4-Dichloro-2-Butene	53	12.044	12.044	(0.936)	196033	150.000	154(A)	
	87 4-Chlorotoluene	91	12.100	12.097	(0.940)	1091877	150.000	149	
	88 tert-Butylbenzene	119	12.362	12.363	(0.961)	1044885	150.000	150(A)	
	90 1,2,4-Trimethylbenzene	105	12.448	12.449	(0.967)	1232966	150.000	149	
	91 sec-Butylbenzene	105	12.572	12.573	(0.977)	1518855	150.000	150	
	92 P-Isopropyltoluene	119	12.752	12.756	(0.991)	1271399	150.000	151(A)	
	93 1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	615483	150.000	149	
*	94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	112397	50.0000		
	95 1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	636423	150.000	151(A)	
	96 1,2,3-Trimethylbenzene	105	12.940	12.940	(1.006)	1252149	150.000	149	
	97 N-Butylbenzene	91	13.224	13.225	(1.028)	1220269	150.000	152(A)	
M	98 1,2-Dichloroethylene (total)	96				648396	150.000	303	
	99 1,2-Dichlorobenzene	146	13.341	13.341	(1.037)	597339	150.000	151(A)	
	100 1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.103)	93468	150.000	165(A)	
	101 1,3,5-Trichlorobenzene	180	14.240	14.241	(1.107)	444789	150.000	153(A)	
	102 Hexachlorobutadiene	225	14.893	14.893	(1.157)	170796	150.000	152(A)	
	103 1,2,4-Trichlorobenzene	180	14.896	14.897	(1.158)	406773	150.000	155(A)	
	104 Naphthalene	128	15.215	15.215	(1.182)	1357089	150.000	160(A)	
	105 1,2,3-Trichlorobenzene	180	15.395	15.399	(1.196)	395836	150.000	154(A)	
M	106 Xylenes (total)	106				1646641	150.000	451	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.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Date : 28-DEC-2020 10:23
Client ID:
Sample Info: WG292597-6
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.256)
-Chloromethane (1.405)
-Vinyl Chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.766)
-Trichlorofluoromethane (1.867)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.275)+
-Iodomethane (2.395)
-Acrolein (2.575)
-Allyl Chloride (2.695)
-Methylene Chloride (2.796)
-Acetone
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.092)
-Tertiary-butyl alcohol (3.235)
-Acetonitrile (3.344)
-Di-isopropyl ether (3.538)
-Chloroprene (3.625)+
-Acrylonitrile (3.715)
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.374)
-2,2-Dichloropropane (4.528)
-Bromochloromethane (4.663)+
-Chloroform (4.832)
-Carbon Tetrachloride (5.072)+
-2-Butanone (5.357)+
-Benzene (5.728)
-Pentafluorobenzene (5.983)+
Propionitrile (5.825)+
-Methylcyclohexane (6.549)+
-1,4-Difluorobenzene (6.654)
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.231)
-Bromodichloromethane (7.347)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.093)+
-Toluene-D8 (8.303)
-Toluene (8.359)
-Tetrachloroethene (8.772)
-1,1,2-Trichloroethane (8.904)
-Ethyl Methacrylate (9.068)
4-methyl-2-pentanone (8.816)+
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.278)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.709)
-Chlorobenzene-D5 (9.979)+
-Ethylbenzene (10.042)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.222)
-o-Xylene (10.758)
-Styrene (10.833)+
-Isopropylbenzene (11.204)
-P-Bromofluorobenzene (11.534)
-cis-1,4-Dichloro-2-Butene (11.643)+
-1,1,2,2-Tetrachloroethane (11.734)
-n-Propylbenzene (11.737)
-2-Chlorotoluene (11.894)
-trans-1,4-Dichloro-2-Butene (11.945)+
-1,2,3-Trichloropropane (11.995)+
-4-Chlorotoluene (12.100)
-tert-Butylbenzene (12.363)
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.573)
-P-Isopropyltoluene (12.756)+
-1,4-Dichlorobenzene-D4 (12.884)+
-1,3,5-Trimethylbenzene (12.940)
-N-Butylbenzene (13.225)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloropropa (14.209)
-1,3,5-Trichlorobenzene (14.241)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.215)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)
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Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8336.D
Report Date: 30-Dec-2020 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8336.D
Lab Smp Id: WG292597-5
Inj Date : 28-DEC-2020 10:55
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292597-5
Misc Info :
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 15:59 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 10:55 Cal File: C8336.D
Als bottle: 2 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

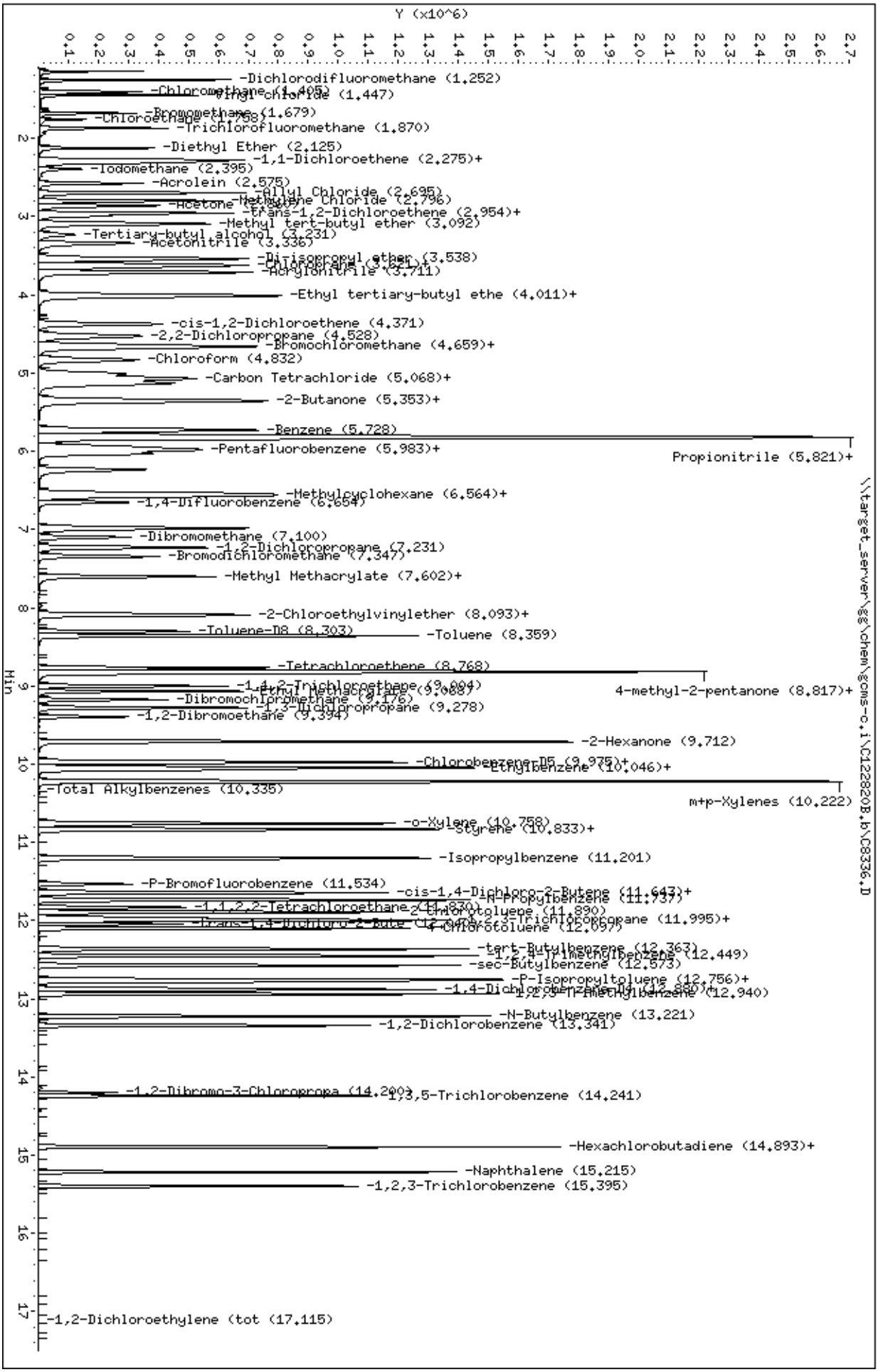
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.211)	316727	100.000	98.8	
2 Chloromethane	50	1.405	1.402	(0.236)	400354	100.000	98.7	
3 Vinyl chloride	62	1.446	1.447	(0.243)	278730	100.000	99.3	
4 Bromomethane	94	1.679	1.679	(0.282)	135322	100.000	100	
5 Chloroethane	64	1.757	1.765	(0.296)	85861	100.000	72.2	
6 Trichlorofluoromethane	101	1.870	1.874	(0.315)	283532	100.000	99.0	
7 Diethyl Ether	59	2.125	2.125	(0.357)	175267	100.000	98.2	
8 1,1-Dichloroethene	96	2.275	2.275	(0.383)	167881	100.000	97.4	
9 Freon-113	151	2.312	2.316	(0.389)	103155	100.000	98.2	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	422828	100.000	98.6	
11 Iodomethane	142	2.395	2.395	(0.403)	144751	100.000	98.1	
12 Acrolein	56	2.571	2.575	(0.433)	279989	500.000	487	
13 Allyl Chloride	41	2.695	2.699	(0.453)	445762	100.000	99.9	
14 Methylene Chloride	84	2.796	2.796	(0.470)	229440	100.000	97.6	
15 Acetone	43	2.859	2.856	(0.481)	541904	500.000	475	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	222892	100.000	98.2	
17 Methyl Acetate	43	2.991	2.991	(0.503)	285594	100.000	97.2	
18 Methyl tert-butyl ether	73	3.088	3.092	(0.520)	594979	100.000	99.0	
19 Tertiary-butyl alcohol	59	3.231	3.227	(0.543)	131391	500.000	501	
20 Acetonitrile	41	3.336	3.336	(0.561)	458931	1000.00	977	
21 Di-isopropyl ether	45	3.538	3.538	(0.595)	862348	100.000	99.0	
22 Chloroprene	53	3.617	3.617	(0.608)	474181	100.000	99.4	
23 1,1-Dichloroethane	63	3.639	3.640	(0.612)	468958	100.000	98.5	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8336.D
Report Date: 30-Dec-2020 16:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.710	3.711	(0.624)	544061	500.000	484	
	25 Ethyl tertiary-butyl ether	59	4.010	4.006	(0.675)	699890	100.000	99.7	
	26 Vinyl Acetate	43	4.014	4.014	(0.603)	627165	100.000	100	
	27 cis-1,2-Dichloroethene	96	4.370	4.378	(0.735)	229367	100.000	98.1	
	28 2,2-Dichloropropane	77	4.528	4.528	(0.762)	317556	100.000	100	
	29 Bromochloromethane	128	4.670	4.674	(0.786)	95628	100.000	98.8	
	30 Cyclohexane	56	4.655	4.659	(0.783)	453731	100.000	96.8	
	31 Chloroform	83	4.835	4.832	(0.813)	421385	100.000	98.7	
	32 Carbon Tetrachloride	117	5.015	5.012	(0.754)	327140	100.000	99.5	
	33 Tetrahydrofuran	42	5.071	5.072	(0.853)	547985	500.000	488	
$	34 Dibromofluoromethane	113	5.131	5.135	(0.863)	82744	50.0000	49.8	
	35 1,1,1-Trichloroethane	97	5.131	5.132	(0.863)	384905	100.000	98.4	
	36 2-Butanone	43	5.360	5.364	(0.902)	789130	500.000	486	
	37 1,1-Dichloropropene	75	5.349	5.349	(0.804)	321332	100.000	99.6	
	38 Benzene	78	5.727	5.724	(0.861)	842176	100.000	101	
	39 Propionitrile	54	5.791	5.788	(0.974)	486836	1000.00	976	
	40 Methacrylonitrile	41	5.821	5.821	(0.979)	1933771	1000.00	975	
*	41 Pentafluorobenzene	168	5.945	5.945	(1.000)	156051	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.998)	111770	50.0000	49.7	
	43 Tertiary-amyl methyl ether	73	5.982	5.983	(1.006)	458437	100.000	99.7	
	44 1,2-Dichloroethane	62	6.031	6.035	(0.906)	368511	100.000	99.5	
	45 Isobutyl Alcohol	43	5.982	5.986	(1.006)	192457	2000.00	2010	
	46 Methylcyclohexane	83	6.541	6.541	(1.100)	365912	100.000	99.4	
	47 Trichloroethene	95	6.574	6.575	(0.988)	216086	100.000	99.0	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	264066	50.0000		
	49 Dibromomethane	93	7.099	7.096	(1.067)	135458	100.000	101	
	50 1,2-Dichloropropane	63	7.230	7.231	(1.087)	235100	100.000	100	
	51 Bromodichloromethane	83	7.343	7.343	(1.104)	299484	100.000	100	
	52 Methyl Methacrylate	41	7.601	7.602	(1.143)	280350	100.000	98.7	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.363)	301750	100.000	101	
	54 1,4-Dioxane	88	7.598	7.602	(1.142)	65916	2000.00	2020	
M	55 Total Alkylbenzenes	100				6127941	100.000	702	
	56 2-Chloroethylvinylether	63	8.074	8.077	(1.214)	122903	100.000	100	
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	347867	100.000	101	
$	58 Toluene-D8	98	8.302	8.303	(1.248)	315088	50.0000	50.5	
	59 Toluene	91	8.359	8.359	(1.256)	869505	100.000	101	
	60 Tetrachloroethene	164	8.767	8.768	(0.880)	170987	100.000	99.4	
	61 4-methyl-2-pentanone	43	8.812	8.813	(1.325)	1559444	500.000	491	
	62 trans-1,3-Dichloropropene	75	8.839	8.839	(1.328)	319338	100.000	101	
	63 1,1,2-Trichloroethane	97	9.003	9.004	(1.353)	185627	100.000	99.6	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	216690	100.000	98.4	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	352625	100.000	98.0	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	193960	100.000	99.6	
	67 2-Hexanone	43	9.712	9.709	(0.975)	1126912	500.000	483	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	232737	50.0000		
	69 Chlorobenzene	112	9.978	9.979	(1.002)	554381	100.000	98.6	
	71 Ethylbenzene	106	10.042	10.042	(1.008)	308012	100.000	98.3	
	72 1,1,1,2-Tetrachloroethane	131	10.072	10.069	(1.011)	191933	100.000	99.4	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	757483	200.000	196	
	74 o-Xylene	106	10.758	10.755	(1.080)	362585	100.000	98.4	
	75 Styrene	104	10.833	10.833	(1.088)	609850	100.000	98.7	
	76 Bromoform	173	10.825	10.833	(1.087)	138217	100.000	97.7	
	77 Isopropylbenzene	105	11.200	11.204	(0.870)	997723	100.000	101	
$	78 P-Bromofluorobenzene	95	11.534	11.534	(1.734)	116873	50.0000	50.2	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8336.D
Report Date: 30-Dec-2020 16:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	11.650	11.647	(0.905)	121067	100.000	102	
	80 Bromobenzene	156	11.643	11.639	(0.905)	211952	100.000	101	
	81 N-Propylbenzene	91	11.736	11.733	(0.912)	1177603	100.000	100	
	82 1,1,2,2-Tetrachloroethane	83	11.834	11.834	(0.920)	254629	100.000	98.6	
	83 2-Chlorotoluene	91	11.890	11.890	(0.924)	694908	100.000	100	
	84 1,2,3-Trichloropropane	75	11.965	11.965	(0.930)	239971	100.000	98.9	
	85 1,3,5-Trimethylbenzene	105	11.995	11.995	(0.932)	789535	100.000	99.9	
	86 trans-1,4-Dichloro-2-Butene	53	12.040	12.044	(0.936)	128560	100.000	102	
	87 4-Chlorotoluene	91	12.096	12.097	(0.940)	730393	100.000	100	
	88 tert-Butylbenzene	119	12.362	12.363	(0.961)	691091	100.000	100	
	90 1,2,4-Trimethylbenzene	105	12.448	12.449	(0.967)	822137	100.000	100	
	91 sec-Butylbenzene	105	12.572	12.573	(0.977)	1006373	100.000	100	
	92 P-Isopropyltoluene	119	12.752	12.756	(0.991)	840222	100.000	100	
	93 1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	410164	100.000	100	
*	94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	111425	50.0000		
	95 1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	417106	100.000	99.7	
	96 1,2,3-Trimethylbenzene	105	12.940	12.940	(1.006)	841249	100.000	101	
	97 N-Butylbenzene	91	13.224	13.225	(1.028)	800980	100.000	101	
M	98 1,2-Dichloroethylene (total)	96				452259	100.000	196	
	99 1,2-Dichlorobenzene	146	13.341	13.341	(1.037)	392063	100.000	100	
	100 1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.103)	55199	100.000	98.2	
	101 1,3,5-Trichlorobenzene	180	14.240	14.241	(1.107)	295415	100.000	102	
	102 Hexachlorobutadiene	225	14.893	14.893	(1.157)	111308	100.000	100	
	103 1,2,4-Trichlorobenzene	180	14.893	14.897	(1.157)	261516	100.000	100	
	104 Naphthalene	128	15.215	15.215	(1.182)	843996	100.000	100	
	105 1,2,3-Trichlorobenzene	180	15.395	15.399	(1.196)	255818	100.000	100	
M	106 Xylenes (total)	106				1120068	100.000	295	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Sample Info: WG292597-5
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.405)
-Vinyl chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.768)
-Trichlorofluoromethane (1.870)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.275)+
-Iodomethane (2.395)
-Acrolein (2.575)
-Allyl Chloride (2.695)
-Methylene Chloride (2.796)
-Acetone (2.866)
-trans-1,2-Dichloroethene (2.954)+
-Methyl tert-butyl ether (3.092)
-Tertiary-butyl alcohol (3.231)
-Acetonitrile (3.336)
-Di-isopropyl ether (3.538)
-Chloroprene (3.621)+
-Acrylonitrile (3.711)
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.371)
-2,2-Dichloropropane (4.528)
-Bromochloromethane (4.659)+
-Chloroform (4.832)
-Carbon Tetrachloride (5.068)+
-2-Butanone (5.353)+
-Benzene (5.728)
-Pentafluorobenzene (5.983)+
Propionitrile (5.821)+
-Methylcyclohexane (6.564)+
-1,4-Difluorobenzene (6.654)
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.231)
-Bromodichloromethane (7.347)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.093)+
-Toluene-D8 (8.303)
-Toluene (8.359)
-Tetrachloroethene (8.768)
-1,4-2-Trichloroethane (9.004)
-Ethyl Methacrylate (9.087)
4-methyl-2-pentanone (8.817)+
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.278)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.712)
-Chlorobenzene-D5 (9.975)+
-Ethylbenzene (10.046)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.222)
-o-Xylene (10.758)
-Styrene (10.833)+
-Isopropylbenzene (11.201)
-P-Bromofluorobenzene (11.534)
-cis-1,4-Dichloro-2-Butene (11.643)+
-N-Propylbenzene (11.737)
-1,1,2,2-Tetrachloroethane (11.830)
-2-Chlorotoluene (11.890)
-trans-1,4-Dichloro-2-Bute (12.040)+
-1,2,3-Trichloropropane (11.995)+
-4-Chlorotoluene (12.097)
-tert-Butylbenzene (12.363)
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.573)
-P-Isopropyltoluene (12.756)+
-1,4-Dichlorobenzene-D4 (12.850)+
-1,2,3-Trimethylbenzene (12.940)
-N-Butylbenzene (13.221)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloropropa (14.200)
-1,3,5-Trichlorobenzene (14.241)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.215)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)
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Report Date: 30-Dec-2020 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8337.D
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Inj Date : 28-DEC-2020 11:27
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292597-7
Misc Info :
Comment : SW846 5030C
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Meth Date : 30-Dec-2020 15:59 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 11:27 Cal File: C8337.D
Als bottle: 3 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

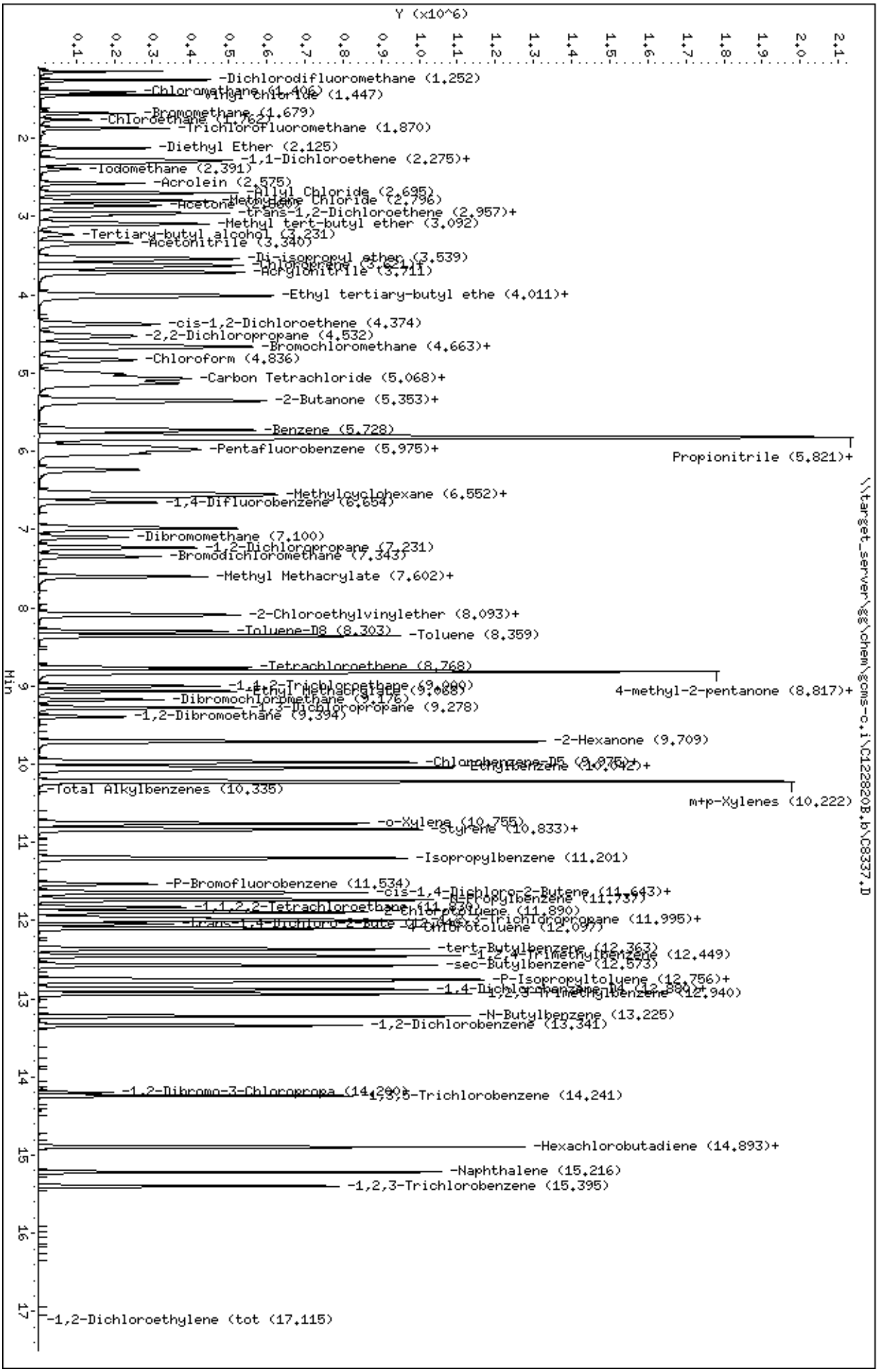
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.210)	233622	75.0000	72.1	
2 Chloromethane	50	1.405	1.402	(0.236)	289553	75.0000	70.6	
3 Vinyl chloride	62	1.446	1.447	(0.243)	206225	75.0000	72.6	
4 Bromomethane	94	1.679	1.679	(0.282)	98575	75.0000	72.2	
5 Chloroethane	64	1.761	1.765	(0.296)	83632	75.0000	69.6	
6 Trichlorofluoromethane	101	1.874	1.874	(0.315)	214634	75.0000	74.1	
7 Diethyl Ether	59	2.125	2.125	(0.357)	134659	75.0000	74.6	
8 1,1-Dichloroethene	96	2.275	2.275	(0.382)	129005	75.0000	74.0	
9 Freon-113	151	2.312	2.316	(0.389)	79324	75.0000	74.7	
10 Carbon Disulfide	76	2.293	2.294	(0.385)	315654	75.0000	72.8	
11 Iodomethane	142	2.395	2.395	(0.402)	109649	75.0000	73.5	
12 Acrolein	56	2.575	2.575	(0.433)	217421	375.000	374	
13 Allyl Chloride	41	2.695	2.699	(0.453)	336054	75.0000	74.5	
14 Methylene Chloride	84	2.800	2.796	(0.470)	172442	75.0000	72.6	
15 Acetone	43	2.860	2.856	(0.480)	412062	375.000	357	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	168749	75.0000	73.6	
17 Methyl Acetate	43	2.991	2.991	(0.503)	219708	75.0000	74.0	
18 Methyl tert-butyl ether	73	3.092	3.092	(0.520)	448047	75.0000	73.8	
19 Tertiary-butyl alcohol	59	3.231	3.227	(0.543)	98660	375.000	372	
20 Acetonitrile	41	3.339	3.336	(0.561)	349456	750.000	736	
21 Di-isopropyl ether	45	3.538	3.538	(0.594)	654907	75.0000	74.4	
22 Chloroprene	53	3.617	3.617	(0.608)	360610	75.0000	74.8	
23 1,1-Dichloroethane	63	3.647	3.640	(0.613)	357821	75.0000	74.3	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8337.D
Report Date: 30-Dec-2020 16:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.710	3.711	(0.623)	422920	375.000	372	
	25 Ethyl tertiary-butyl ether	59	4.007	4.006	(0.673)	529468	75.0000	74.6	
	26 Vinyl Acetate	43	4.014	4.014	(0.603)	479903	75.0000	75.4	
	27 cis-1,2-Dichloroethene	96	4.370	4.378	(0.734)	174819	75.0000	74.0	
	28 2,2-Dichloropropane	77	4.528	4.528	(0.761)	240032	75.0000	74.8	
	29 Bromochloromethane	128	4.674	4.674	(0.785)	71568	75.0000	73.2	
	30 Cyclohexane	56	4.651	4.659	(0.781)	354944	75.0000	74.9	
	31 Chloroform	83	4.835	4.832	(0.812)	318275	75.0000	73.8	
	32 Carbon Tetrachloride	117	5.015	5.012	(0.754)	247636	75.0000	74.0	
	33 Tetrahydrofuran	42	5.071	5.072	(0.852)	422791	375.000	372	
$	34 Dibromofluoromethane	113	5.135	5.135	(0.863)	83545	50.0000	49.7	
	35 1,1,1-Trichloroethane	97	5.139	5.132	(0.863)	291614	75.0000	73.7	
	36 2-Butanone	43	5.364	5.364	(0.901)	603825	375.000	368	
	37 1,1-Dichloropropene	75	5.345	5.349	(0.803)	247533	75.0000	75.4	
	38 Benzene	78	5.727	5.724	(0.861)	634640	75.0000	74.5	
	39 Propionitrile	54	5.787	5.788	(0.972)	373225	750.000	740	
	40 Methacrylonitrile	41	5.821	5.821	(0.978)	1520850	750.000	759	
*	41 Pentafluorobenzene	168	5.952	5.945	(1.000)	157736	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.997)	113739	50.0000	50.0	
	43 Tertiary-amyl methyl ether	73	5.982	5.983	(1.005)	345169	75.0000	74.3	
	44 1,2-Dichloroethane	62	6.031	6.035	(0.906)	278376	75.0000	73.8	
	45 Isobutyl Alcohol	43	5.986	5.986	(1.006)	143113	1500.00	1480	
	46 Methylcyclohexane	83	6.544	6.541	(1.099)	281923	75.0000	75.8	
	47 Trichloroethene	95	6.574	6.575	(0.988)	166650	75.0000	75.0	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	268866	50.0000		
	49 Dibromomethane	93	7.099	7.096	(1.067)	101927	75.0000	74.4	
	50 1,2-Dichloropropane	63	7.234	7.231	(1.087)	177722	75.0000	74.5	
	51 Bromodichloromethane	83	7.343	7.343	(1.104)	224266	75.0000	73.9	
	52 Methyl Methacrylate	41	7.602	7.602	(1.143)	221018	75.0000	76.4	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.363)	226707	75.0000	74.5	
	54 1,4-Dioxane	88	7.598	7.602	(1.142)	49222	1500.00	1480	
M	55 Total Alkylbenzenes	100				4573383	75.0000	519	
	56 2-Chloroethylvinylether	63	8.074	8.077	(1.214)	99452	75.0000	79.4	
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	259640	75.0000	74.0	
$	58 Toluene-D8	98	8.303	8.303	(1.248)	316547	50.0000	49.8	
	59 Toluene	91	8.359	8.359	(1.256)	652080	75.0000	74.1	
	60 Tetrachloroethene	164	8.767	8.768	(0.880)	128022	75.0000	74.7	
	61 4-methyl-2-pentanone	43	8.816	8.813	(1.325)	1217324	375.000	376	
	62 trans-1,3-Dichloropropene	75	8.839	8.839	(1.328)	238637	75.0000	74.1	
	63 1,1,2-Trichloroethane	97	9.000	9.004	(1.353)	142701	75.0000	75.2	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	161658	75.0000	73.7	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	268881	75.0000	75.1	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	147817	75.0000	74.5	
	67 2-Hexanone	43	9.708	9.709	(0.974)	871286	375.000	375	
*	68 Chlorobenzene-D5	117	9.963	9.964	(1.000)	231623	50.0000		
	69 Chlorobenzene	112	9.978	9.979	(1.002)	417121	75.0000	74.6	
	71 Ethylbenzene	106	10.042	10.042	(1.008)	231181	75.0000	74.1	
	72 1,1,1,2-Tetrachloroethane	131	10.072	10.069	(1.011)	140834	75.0000	73.3	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	573629	150.000	150	
	74 o-Xylene	106	10.758	10.755	(1.080)	272881	75.0000	74.4	
	75 Styrene	104	10.833	10.833	(1.087)	455611	75.0000	74.1	
	76 Bromoform	173	10.829	10.833	(1.087)	105453	75.0000	74.9	
	77 Isopropylbenzene	105	11.200	11.204	(0.870)	743364	75.0000	74.5	
$	78 P-Bromofluorobenzene	95	11.530	11.534	(1.733)	116581	50.0000	49.2	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8337.D
Report Date: 30-Dec-2020 16:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	11.650	11.647	(0.905)	90667	75.0000	75.9	
	80 Bromobenzene	156	11.639	11.639	(0.904)	156258	75.0000	73.8	
	81 N-Propylbenzene	91	11.736	11.733	(0.912)	884693	75.0000	74.5	
	82 1,1,2,2-Tetrachloroethane	83	11.830	11.834	(0.919)	196845	75.0000	75.5	
	83 2-Chlorotoluene	91	11.890	11.890	(0.924)	519652	75.0000	74.3	
	84 1,2,3-Trichloropropane	75	11.965	11.965	(0.930)	184346	75.0000	75.2	
	85 1,3,5-Trimethylbenzene	105	11.995	11.995	(0.932)	593034	75.0000	74.3	
	86 trans-1,4-Dichloro-2-Butene	53	12.040	12.044	(0.936)	96279	75.0000	75.5	
	87 4-Chlorotoluene	91	12.096	12.097	(0.940)	544394	75.0000	74.2	
	88 tert-Butylbenzene	119	12.362	12.363	(0.961)	513403	75.0000	73.8	
	90 1,2,4-Trimethylbenzene	105	12.449	12.449	(0.967)	611394	75.0000	74.0	
	91 sec-Butylbenzene	105	12.572	12.573	(0.977)	751117	75.0000	74.0	
	92 P-Isopropyltoluene	119	12.752	12.756	(0.991)	625318	75.0000	74.1	
	93 1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	306041	75.0000	74.1	
*	94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	112495	50.0000		
	95 1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	311270	75.0000	73.7	
	96 1,2,3-Trimethylbenzene	105	12.940	12.940	(1.006)	625149	75.0000	74.6	
	97 N-Butylbenzene	91	13.221	13.225	(1.027)	594424	75.0000	73.9	
M	98 1,2-Dichloroethylene (total)	96				343568	75.0000	148	
	99 1,2-Dichlorobenzene	146	13.341	13.341	(1.037)	292499	75.0000	74.0	
	100 1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.103)	41972	75.0000	74.0	
	101 1,3,5-Trichlorobenzene	180	14.240	14.241	(1.107)	215541	75.0000	73.9	
	102 Hexachlorobutadiene	225	14.893	14.893	(1.157)	82649	75.0000	73.7	
	103 1,2,4-Trichlorobenzene	180	14.896	14.897	(1.158)	192708	75.0000	73.2	
	104 Naphthalene	128	15.215	15.215	(1.182)	631919	75.0000	74.3	
	105 1,2,3-Trichlorobenzene	180	15.395	15.399	(1.196)	189663	75.0000	73.6	
M	106 Xylenes (total)	106				846510	75.0000	224	


Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8337.D
Date : 28-DEC-2020 11:27
Client ID:
Sample Info: WG292597-7
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.406)
-Vinyl Chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.762)
-Trichlorofluoromethane (1.870)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.275)+
-Iodomethane (2.391)
-Acrolein (2.575)
-Allyl Chloride (2.695)
-Methylene Chloride (2.796)
-Acetone (2.864)
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.092)
-Tertiary-butyl alcohol (3.231)
-Acetonitrile (3.340)
-Di-isopropyl ether (3.539)
-Chloroprene (3.621)
-Acrylonitrile (3.711)
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.374)
-2,2-Dichloropropane (4.532)
-Bromochloromethane (4.663)+
-Chloroform (4.836)
-Carbon Tetrachloride (5.068)+
-2-Butanone (5.353)+
-Benzene (5.728)
-Pentafluorobenzene (5.975)+
Propionitrile (5.821)+
-Methylcyclohexane (6.552)+
-1,4-Difluorobenzene (6.654)
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.231)
-Bromodichloromethane (7.343)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.093)+
-Toluene-D8 (8.303)
-Toluene (8.359)
-Tetrachloroethene (8.768)
-1,1,2-Trichloroethane (8.909)
-Ethyl Methacrylate (9.068)
4-methyl-2-pentanone (8.817)+
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.278)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.709)
-Chlorobenzene-D5 (9.975)+
-Ethylbenzene (10.042)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.222)
-o-Xylene (10.755)
-Styrene (10.833)+
-Isopropylbenzene (11.201)
-P-Bromofluorobenzene (11.534)
-cis-1,4-Dichloro-2-Butene (11.643)+
-n-Propylbenzene (11.737)
-1,1,2,2-Tetrachloroethane (11.824)
-2-Chlorotoluene (11.890)
-1,2,3-Trichloropropane (11.995)+
-trans-1,4-Dichloro-2-Bute (12.046)
-4-Chlorotoluene (12.097)
-tert-Butylbenzene (12.363)
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.573)
-P-Isopropyltoluene (12.756)+
-1,4-Dichlorobenzene-D4 (12.880)+
-1,2,3-Trimethylbenzene (12.940)
-N-Butylbenzene (13.225)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloropropa (14.200)
-1,3,5-Trichlorobenzene (14.241)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.216)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)
\\target_server\gg\chem\gcms-c.i\C122820B.b\C8337.D

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8338.D
Report Date: 30-Dec-2020 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8338.D
Lab Smp Id: WG292597-4
Inj Date : 28-DEC-2020 11:59
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292597-4
Misc Info :
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 15:59 croy Quant Type: ISTD
Cal Date : 30-NOV-2020 17:01 Cal File: C7827.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.211)	152258	50.0000	(a)	
2 Chloromethane	50	1.401	1.402	(0.236)	199070	50.0000	(a)	
3 Vinyl chloride	62	1.446	1.447	(0.243)	135787	50.0000	(a)	
4 Bromomethane	94	1.679	1.679	(0.282)	66192	50.0000	(a)	
5 Chloroethane	64	1.765	1.765	(0.297)	62933	50.0000	(a)	
6 Trichlorofluoromethane	101	1.874	1.874	(0.315)	142977	50.0000	(a)	
7 Diethyl Ether	59	2.125	2.125	(0.357)	85881	50.0000	(a)	
8 1,1-Dichloroethene	96	2.275	2.275	(0.383)	85818	50.0000	(a)	
9 Freon-113	151	2.316	2.316	(0.390)	51268	50.0000	(a)	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	211762	50.0000	(a)	
11 Iodomethane	142	2.395	2.395	(0.403)	73139	50.0000	(a)	
12 Acrolein	56	2.575	2.575	(0.433)	136019	250.000	(a)	
13 Allyl Chloride	41	2.698	2.699	(0.454)	217167	50.0000	(a)	
14 Methylene Chloride	84	2.796	2.796	(0.470)	118404	50.0000	(a)	
15 Acetone	43	2.856	2.856	(0.480)	291456	250.000	(a)	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	116408	50.0000	(a)	
17 Methyl Acetate	43	2.991	2.991	(0.503)	141022	50.0000	(a)	
18 Methyl tert-butyl ether	73	3.092	3.092	(0.520)	289909	50.0000	(a)	
19 Tertiary-butyl alcohol	59	3.227	3.227	(0.543)	59705	250.000	(a)	
20 Acetonitrile	41	3.336	3.336	(0.561)	223831	500.000	(a)	
21 Di-isopropyl ether	45	3.538	3.538	(0.595)	422595	50.0000	(a)	
22 Chloroprene	53	3.617	3.617	(0.608)	234938	50.0000	(a)	
23 1,1-Dichloroethane	63	3.639	3.640	(0.612)	236916	50.0000	(a)	
24 Acrylonitrile	52	3.710	3.711	(0.624)	269228	250.000	(a)	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8338.D
Report Date: 30-Dec-2020 16:00

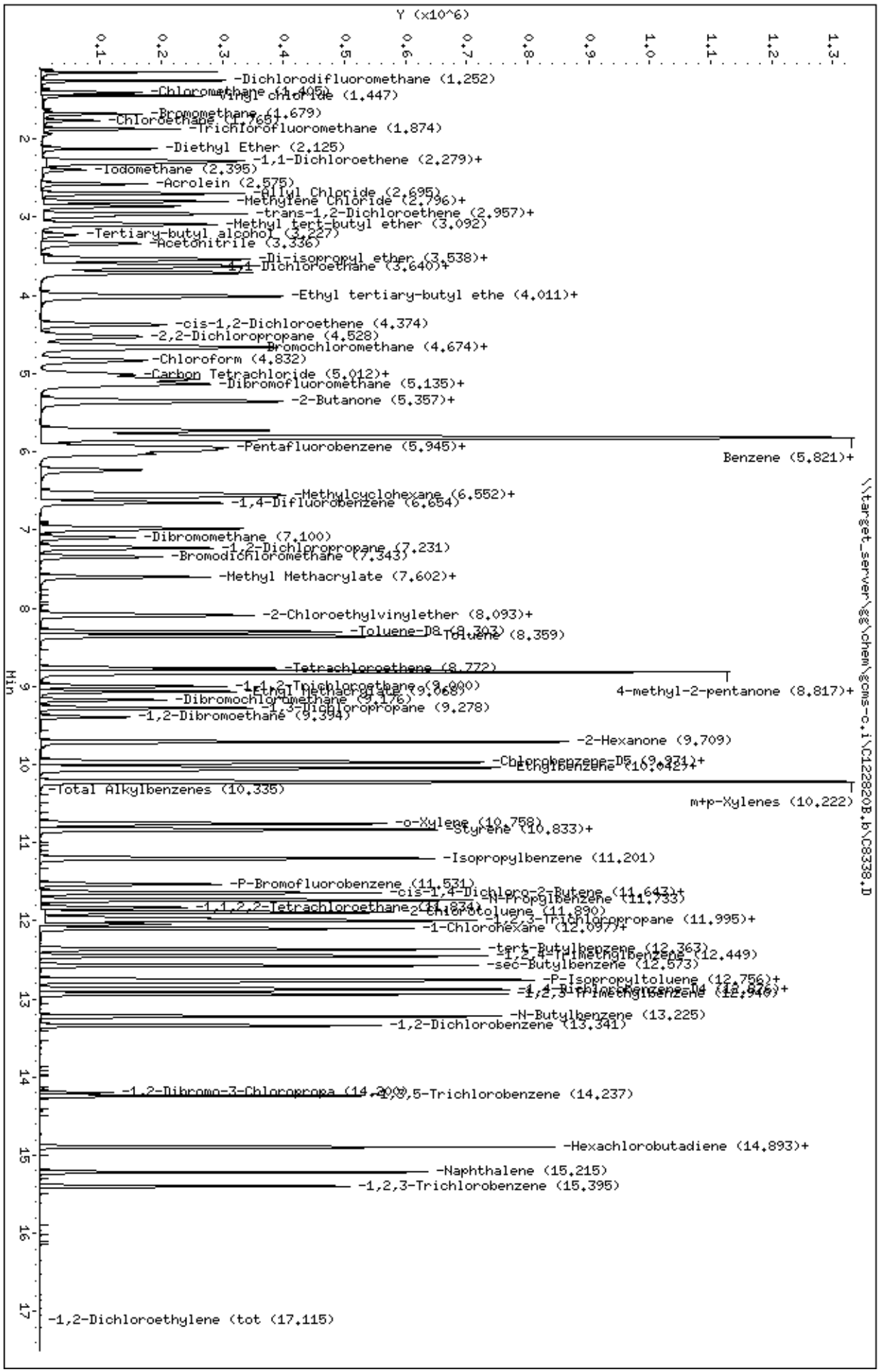
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	25 Ethyl tertiary-butyl ether	59	4.007	4.006	(0.674)	335508	50.0000	(a)	
	26 Vinyl Acetate	43	4.014	4.014	(0.603)	300095	50.0000	(a)	
	27 cis-1,2-Dichloroethene	96	4.378	4.378	(0.736)	116650	50.0000	(a)	
	28 2,2-Dichloropropane	77	4.528	4.528	(0.762)	148125	50.0000	(a)	
	29 Bromochloromethane	128	4.674	4.674	(0.786)	48832	50.0000	(a)	
	30 Cyclohexane	56	4.659	4.659	(0.784)	236820	50.0000	(a)	
	31 Chloroform	83	4.831	4.832	(0.813)	211440	50.0000	(a)	
	32 Carbon Tetrachloride	117	5.011	5.012	(0.753)	163094	50.0000	(a)	
	33 Tetrahydrofuran	42	5.071	5.072	(0.853)	265449	250.000	(a)	
$	34 Dibromofluoromethane	113	5.135	5.135	(0.864)	80880	50.0000	(a)	
	35 1,1,1-Trichloroethane	97	5.131	5.132	(0.863)	194563	50.0000	(a)	
	36 2-Butanone	43	5.364	5.364	(0.902)	395840	250.000	(a)	
	37 1,1-Dichloropropene	75	5.349	5.349	(0.804)	162491	50.0000	(a)	
	38 Benzene	78	5.723	5.724	(0.860)	421509	50.0000	(a)	
	39 Propionitrile	54	5.787	5.788	(0.974)	240716	500.000	(a)	
	40 Methacrylonitrile	41	5.821	5.821	(0.979)	957516	500.000	(a)	
*	41 Pentafluorobenzene	168	5.945	5.945	(1.000)	154230	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.998)	104540	50.0000	(a)	
	43 Tertiary-amyl methyl ether	73	5.982	5.983	(1.006)	218125	50.0000	(a)	
	44 1,2-Dichloroethane	62	6.035	6.035	(0.907)	185140	50.0000	(a)	
	45 Isobutyl Alcohol	43	5.986	5.986	(1.007)	90009	1000.00	(a)	
	46 Methylcyclohexane	83	6.541	6.541	(1.100)	176887	50.0000	(a)	
	47 Trichloroethene	95	6.574	6.575	(0.988)	111036	50.0000	(a)	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	262935	50.0000		
	49 Dibromomethane	93	7.095	7.096	(1.066)	66785	50.0000	(a)	
	50 1,2-Dichloropropane	63	7.230	7.231	(1.087)	116954	50.0000	(a)	
	51 Bromodichloromethane	83	7.343	7.343	(1.104)	146002	50.0000	(a)	
	52 Methyl Methacrylate	41	7.601	7.602	(1.143)	132356	50.0000	(a)	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.363)	139651	50.0000	(a)	
	54 1,4-Dioxane	88	7.601	7.602	(1.143)	31340	1000.00	(a)	
M	55 Total Alkylbenzenes	100				3042625	50.0000	(a)	
	56 2-Chloroethylvinylether	63	8.078	8.077	(1.214)	62612	50.0000	(a)	
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	167467	50.0000	(a)	
$	58 Toluene-D8	98	8.302	8.303	(1.248)	306222	50.0000	(a)	
	59 Toluene	91	8.359	8.359	(1.256)	432102	50.0000	(a)	
	60 Tetrachloroethene	164	8.767	8.768	(0.880)	84300	50.0000	(a)	
	61 4-methyl-2-pentanone	43	8.812	8.813	(1.325)	764145	250.000	(a)	
	62 trans-1,3-Dichloropropene	75	8.839	8.839	(1.328)	151082	50.0000	(a)	
	63 1,1,2-Trichloroethane	97	9.003	9.004	(1.353)	90849	50.0000	(a)	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	105239	50.0000	(a)	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	174985	50.0000	(a)	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	94177	50.0000	(a)	
	67 2-Hexanone	43	9.708	9.709	(0.974)	555441	250.000	(a)	
*	68 Chlorobenzene-D5	117	9.963	9.964	(1.000)	224056	50.0000		
	69 Chlorobenzene	112	9.978	9.979	(1.002)	275755	50.0000	(a)	
	70 1-Chlorohexane	91	12.096	12.097	(1.214)	362910	50.0000	(a)	
	71 Ethylbenzene	106	10.042	10.042	(1.008)	157131	50.0000	(a)	
	72 1,1,1,2-Tetrachloroethane	131	10.068	10.069	(1.011)	93653	50.0000	(a)	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	380710	100.000	(a)	
	74 o-Xylene	106	10.754	10.755	(1.079)	177858	50.0000	(a)	
	75 Styrene	104	10.833	10.833	(1.087)	301151	50.0000	(a)	
	76 Bromoform	173	10.833	10.833	(1.087)	64701	50.0000	(a)	
	77 Isopropylbenzene	105	11.204	11.204	(0.871)	492418	50.0000	(a)	
$	78 P-Bromofluorobenzene	95	11.534	11.534	(1.734)	113919	50.0000	(a)	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8338.D
Report Date: 30-Dec-2020 16:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	11.646	11.647	(0.905)	53712	50.0000	(a)	
	80 Bromobenzene	156	11.639	11.639	(0.904)	105025	50.0000	(a)	
	81 N-Propylbenzene	91	11.732	11.733	(0.912)	589961	50.0000	(a)	
	82 1,1,2,2-Tetrachloroethane	83	11.834	11.834	(0.920)	126317	50.0000	(a)	
	83 2-Chlorotoluene	91	11.890	11.890	(0.924)	345907	50.0000	(a)	
	84 1,2,3-Trichloropropane	75	11.965	11.965	(0.930)	118825	50.0000	(a)	
	85 1,3,5-Trimethylbenzene	105	11.995	11.995	(0.932)	395164	50.0000	(a)	
	86 trans-1,4-Dichloro-2-Butene	53	12.044	12.044	(0.936)	59163	50.0000	(a)	
	87 4-Chlorotoluene	91	12.096	12.097	(0.940)	362910	50.0000	(a)	
	88 tert-Butylbenzene	119	12.362	12.363	(0.961)	344524	50.0000	(a)	
	90 1,2,4-Trimethylbenzene	105	12.448	12.449	(0.967)	408103	50.0000	(a)	
	91 sec-Butylbenzene	105	12.572	12.573	(0.977)	501707	50.0000	(a)	
	92 P-Isopropyltoluene	119	12.756	12.756	(0.991)	412318	50.0000	(a)	
	93 1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	204502	50.0000	(a)	
*	94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	109938	50.0000		
	95 1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	209126	50.0000	(a)	
	96 1,2,3-Trimethylbenzene	105	12.940	12.940	(1.006)	408039	50.0000	(a)	
	97 N-Butylbenzene	91	13.224	13.225	(1.028)	390848	50.0000	(a)	
M	98 1,2-Dichloroethylene (total)	96				233058	50.0000	(a)	
	99 1,2-Dichlorobenzene	146	13.341	13.341	(1.037)	193452	50.0000	(a)	
	100 1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.103)	25869	50.0000	(a)	
	101 1,3,5-Trichlorobenzene	180	14.240	14.241	(1.107)	138690	50.0000	(a)	
	102 Hexachlorobutadiene	225	14.893	14.893	(1.157)	54632	50.0000	(a)	
	103 1,2,4-Trichlorobenzene	180	14.896	14.897	(1.158)	127110	50.0000	(a)	
	104 Naphthalene	128	15.215	15.215	(1.182)	392313	50.0000	(a)	
	105 1,2,3-Trichlorobenzene	180	15.399	15.399	(1.197)	125113	50.0000	(a)	
M	106 Xylenes (total)	106				558568	150.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8338.D
Date : 28-DEC-2020 11:59
Client ID:
Sample Info: WG292597-4
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.405)
Vinyl chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.767)
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.279)+
-Iodomethane (2.395)
-Acrolein (2.575)
-Allyl Chloride (2.695)
-Methylene Chloride (2.796)+
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.092)
-Tertiary-butyl alcohol (3.227)
-Acetonitrile (3.336)
-Di-isopropyl ether (3.538)+
-1,1-Dichloroethane (3.640)+
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.374)
-2,2-Dichloropropane (4.528)
-Bromochloromethane (4.674)+
-Chloroform (4.832)
-Carbon Tetrachloride (5.012)+
-Dibromofluoromethane (5.135)+
-2-Butanone (5.357)+
-Pentafluorobenzene (5.945)+
Benzene (5.821)+
-Methylcyclohexane (6.552)+
-1,4-Difluorobenzene (6.654)
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.231)
-Bromodichloromethane (7.343)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.093)+
-Toluene-D8 (8.303)
Toluene (8.359)
-Tetrachloroethene (8.772)
-1,1,2-Trichloroethane (9.000)
Ethyl Methacrylate (9.068)
4-methyl-2-pentanone (8.817)+
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.278)
-1,2-Dibromoethane (9.334)
-2-Hexanone (9.709)
-Chlorobenzene-D5 (9.971)+
Ethylbenzene (10.042)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.222)
-o-Xylene (10.758)
Styrene (10.833)+
-Isopropylbenzene (11.201)
-P-Bromofluorobenzene (11.531)
-cis-1,4-Dichloro-2-Butene (11.643)+
-N-Propylbenzene (11.733)
-1,1,2,2-Tetrachloroethane (11.834)
2-Chlorotoluene (11.890)
-1,2,3-Trichloropropane (11.995)+
-1-Chlorohexane (12.097)+
-tert-Butylbenzene (12.363)
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.573)
-P-Isopropyltoluene (12.756)+
-1,4-Dichlorobenzene-d4 (12.876)+
-1,2,3-Trimethylbenzene (12.946)
-N-Butylbenzene (13.225)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloropropa (14.209)
-1,3,5-Trichlorobenzene (14.237)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.215)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8339.D
Report Date: 30-Dec-2020 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8339.D
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Inj Date : 28-DEC-2020 12:31
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292597-3
Misc Info :
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 15:59 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 12:31 Cal File: C8339.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

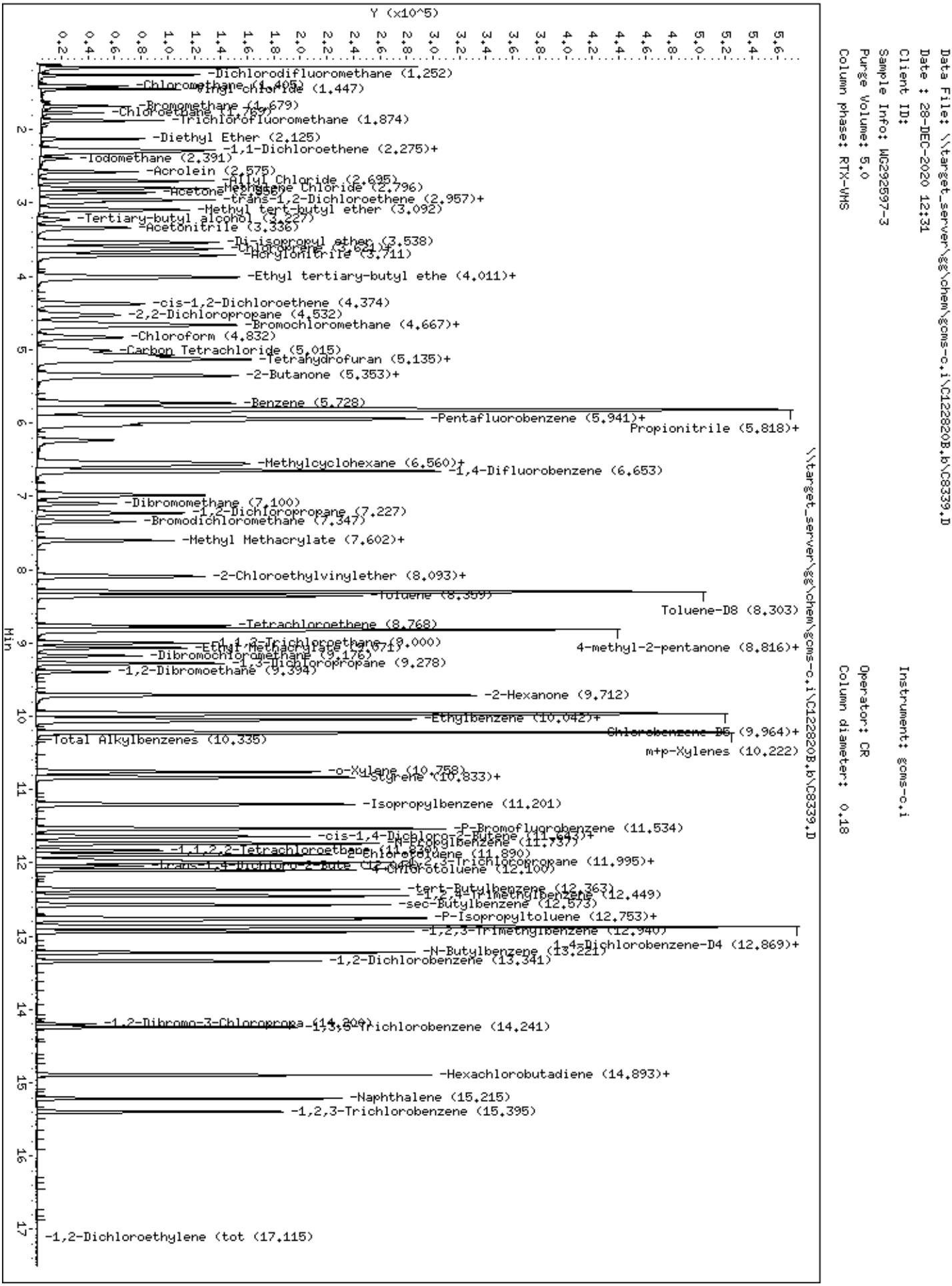
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.210)	58730	20.0000	19.5	
2 Chloromethane	50	1.405	1.402	(0.236)	77328	20.0000	19.2	
3 Vinyl chloride	62	1.446	1.447	(0.243)	53338	20.0000	19.8	
4 Bromomethane	94	1.679	1.679	(0.282)	26982	20.0000	18.5	
5 Chloroethane	64	1.769	1.765	(0.297)	27263	20.0000	21.2	
6 Trichlorofluoromethane	101	1.873	1.874	(0.315)	55969	20.0000	20.1	
7 Diethyl Ether	59	2.125	2.125	(0.357)	36381	20.0000	20.7	
8 1,1-Dichloroethene	96	2.275	2.275	(0.382)	34004	20.0000	20.0	
9 Freon-113	151	2.312	2.316	(0.389)	20676	20.0000	20.7	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	78999	20.0000	18.4	
11 Iodomethane	142	2.391	2.395	(0.402)	25206	20.0000	20.2	
12 Acrolein	56	2.574	2.575	(0.433)	57471	100.000	102	
13 Allyl Chloride	41	2.694	2.699	(0.453)	85819	20.0000	20.0	
14 Methylene Chloride	84	2.796	2.796	(0.470)	47358	20.0000	17.9	
15 Acetone	43	2.856	2.856	(0.480)	110700	100.000	93.0	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	45117	20.0000	19.6	
17 Methyl Acetate	43	2.991	2.991	(0.503)	58311	20.0000	20.3	
18 Methyl tert-butyl ether	73	3.088	3.092	(0.519)	109056	20.0000	19.1	
19 Tertiary-butyl alcohol	59	3.223	3.227	(0.542)	22341	100.000	94.7	
20 Acetonitrile	41	3.335	3.336	(0.561)	92865	200.000	203	
21 Di-isopropyl ether	45	3.542	3.538	(0.595)	161192	20.0000	19.9	
22 Chloroprene	53	3.617	3.617	(0.608)	93524	20.0000	21.2	
23 1,1-Dichloroethane	63	3.643	3.640	(0.612)	94462	20.0000	19.7	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8339.D
Report Date: 30-Dec-2020 16:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.710	3.711	(0.624)	112727	100.000	103	
	25 Ethyl tertiary-butyl ether	59	4.006	4.006	(0.674)	126676	20.0000	19.9	
	26 Vinyl Acetate	43	4.010	4.014	(0.603)	112672	20.0000	19.0	
	27 cis-1,2-Dichloroethene	96	4.370	4.378	(0.735)	45903	20.0000	20.0	
	28 2,2-Dichloropropane	77	4.528	4.528	(0.761)	53692	20.0000	18.0	
	29 Bromochloromethane	128	4.670	4.674	(0.785)	19877	20.0000	20.3	
	30 Cyclohexane	56	4.659	4.659	(0.783)	87369	20.0000	20.9	
	31 Chloroform	83	4.835	4.832	(0.813)	81214	20.0000	19.0	
	32 Carbon Tetrachloride	117	5.015	5.012	(0.754)	62143	20.0000	20.9	
	33 Tetrahydrofuran	42	5.079	5.072	(0.854)	100914	100.000	98.4	
$	34 Dibromofluoromethane	113	5.135	5.135	(0.863)	84970	50.0000	50.4	
	35 1,1,1-Trichloroethane	97	5.139	5.132	(0.864)	74870	20.0000	20.1	
	36 2-Butanone	43	5.363	5.364	(0.902)	154097	100.000	98.8	
	37 1,1-Dichloropropene	75	5.345	5.349	(0.803)	61655	20.0000	20.5	
	38 Benzene	78	5.727	5.724	(0.861)	161109	20.0000	19.8	
	39 Propionitrile	54	5.783	5.788	(0.972)	98002	200.000	204	
	40 Methacrylonitrile	41	5.817	5.821	(0.978)	410615	200.000	214	
*	41 Pentafluorobenzene	168	5.948	5.945	(1.000)	156589	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.937	5.934	(0.998)	112137	50.0000	49.0	
	43 Tertiary-amyl methyl ether	73	5.982	5.983	(1.006)	82902	20.0000	18.9	
	44 1,2-Dichloroethane	62	6.031	6.035	(0.906)	73540	20.0000	18.9	
	45 Isobutyl Alcohol	43	5.978	5.986	(1.005)	35201	400.000	408	
	46 Methylcyclohexane	83	6.544	6.541	(1.100)	67509	20.0000	21.9	
	47 Trichloroethene	95	6.574	6.575	(0.988)	43405	20.0000	19.9	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	265385	50.0000		
	49 Dibromomethane	93	7.099	7.096	(1.067)	26272	20.0000	18.8	
	50 1,2-Dichloropropane	63	7.227	7.231	(1.086)	44950	20.0000	20.7	
	51 Bromodichloromethane	83	7.346	7.343	(1.104)	54467	20.0000	19.0	
	52 Methyl Methacrylate	41	7.601	7.602	(1.143)	51192	20.0000	19.4	
	53 Ethyl Methacrylate	69	9.071	9.068	(1.363)	50275	20.0000	20.0	
	54 1,4-Dioxane	88	7.601	7.602	(1.143)	11459	400.000	403	
M	55 Total Alkylbenzenes	100				1115046	20.0000	148	
	56 2-Chloroethylvinylether	63	8.074	8.077	(1.214)	22286	20.0000	19.4	
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	61359	20.0000	19.7	
$	58 Toluene-D8	98	8.302	8.303	(1.248)	310818	50.0000	49.7	
	59 Toluene	91	8.359	8.359	(1.256)	167623	20.0000	19.4	
	60 Tetrachloroethene	164	8.763	8.768	(0.880)	32902	20.0000	20.1	
	61 4-methyl-2-pentanone	43	8.816	8.813	(1.325)	300127	100.000	103	
	62 trans-1,3-Dichloropropene	75	8.838	8.839	(1.328)	54499	20.0000	18.6	
	63 1,1,2-Trichloroethane	97	9.000	9.004	(1.353)	35849	20.0000	19.6	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	39159	20.0000	19.2	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	66514	20.0000	19.7	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	36168	20.0000	19.3	
	67 2-Hexanone	43	9.708	9.709	(0.975)	211701	100.000	104	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	227911	50.0000		
	69 Chlorobenzene	112	9.978	9.979	(1.002)	108988	20.0000	21.2	
	71 Ethylbenzene	106	10.046	10.042	(1.009)	58867	20.0000	20.2	
	72 1,1,1,2-Tetrachloroethane	131	10.068	10.069	(1.011)	36573	20.0000	20.2	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	148462	40.0000	42.0	
	74 o-Xylene	106	10.754	10.755	(1.080)	65513	20.0000	20.9	
	75 Styrene	104	10.833	10.833	(1.088)	112002	20.0000	21.0	
	76 Bromoform	173	10.825	10.833	(1.087)	24065	20.0000	18.3	
	77 Isopropylbenzene	105	11.200	11.204	(0.870)	178548	20.0000	21.0	
$	78 P-Bromofluorobenzene	95	11.534	11.534	(1.734)	112887	50.0000	49.2	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8339.D
Report Date: 30-Dec-2020 16:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	11.646	11.647	(0.905)	19466	20.0000	19.1	
	80 Bromobenzene	156	11.639	11.639	(0.904)	40463	20.0000	20.3	
	81 N-Propylbenzene	91	11.732	11.733	(0.912)	219128	20.0000	21.9	
	82 1,1,2,2-Tetrachloroethane	83	11.834	11.834	(0.920)	48958	20.0000	19.8	
	83 2-Chlorotoluene	91	11.890	11.890	(0.924)	131754	20.0000	20.6	
	84 1,2,3-Trichloropropane	75	11.961	11.965	(0.929)	47074	20.0000	20.0	
	85 1,3,5-Trimethylbenzene	105	11.995	11.995	(0.932)	146029	20.0000	21.0	
	86 trans-1,4-Dichloro-2-Butene	53	12.044	12.044	(0.936)	23196	20.0000	19.7	
	87 4-Chlorotoluene	91	12.100	12.097	(0.940)	138054	20.0000	20.6	
	88 tert-Butylbenzene	119	12.362	12.363	(0.961)	124364	20.0000	21.0	
	90 1,2,4-Trimethylbenzene	105	12.448	12.449	(0.967)	153895	20.0000	21.4	
	91 sec-Butylbenzene	105	12.572	12.573	(0.977)	182116	20.0000	20.6	
	92 P-Isopropyltoluene	119	12.752	12.756	(0.991)	150117	20.0000	21.7	
	93 1,3-Dichlorobenzene	146	12.775	12.779	(0.993)	79586	20.0000	20.0	
*	94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	109560	50.0000		
	95 1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	80706	20.0000	19.4	
	96 1,2,3-Trimethylbenzene	105	12.939	12.940	(1.006)	156781	20.0000	20.8	
	97 N-Butylbenzene	91	13.221	13.225	(1.027)	139397	20.0000	20.5	
M	98 1,2-Dichloroethylene (total)	96				91020	20.0000	39.5	
	99 1,2-Dichlorobenzene	146	13.341	13.341	(1.037)	76320	20.0000	20.1	
	100 1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.103)	9384	20.0000	18.4	
	101 1,3,5-Trichlorobenzene	180	14.236	14.241	(1.106)	51770	20.0000	19.9	
	102 Hexachlorobutadiene	225	14.893	14.893	(1.157)	19771	20.0000	18.7	
	103 1,2,4-Trichlorobenzene	180	14.896	14.897	(1.158)	43965	20.0000	19.4	
	104 Naphthalene	128	15.215	15.215	(1.182)	134600	20.0000	20.3	
	105 1,2,3-Trichlorobenzene	180	15.395	15.399	(1.196)	44968	20.0000	20.8	
M	106 Xylenes (total)	106				213975	60.0000	62.9	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Client ID:
Sample Info: WG292597-3
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^5)
Min
\\target_server\gg\chem\gcms-c.i\C122820B.b\C8339.D
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.405)
-Vinyl chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.769)
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.275)+
-Iodomethane (2.391)
-Acrolein (2.575)
-Allyl Chloride (2.695)
-Methylene Chloride (2.796)
-Acetone (2.856)
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.092)
-Tertiary-butyl alcohol (3.227)
-Acetonitrile (3.336)
-Di-isopropyl ether (3.538)
-Chloroprene (3.621)+
-Acrylonitrile (3.711)
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.374)
-2,2-Dichloropropane (4.532)
-Bromochloromethane (4.667)+
-Chloroform (4.832)
-Carbon Tetrachloride (5.015)
-Tetrahydrofuran (5.135)+
-2-Butanone (5.353)+
-Benzene (5.728)
-Pentafluorobenzene (5.941)+
Propionitrile (5.818)+
-Methylcyclohexane (6.560)+
-1,4-Difluorobenzene (6.653)
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.227)
-Bromodichloromethane (7.347)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.093)+
-Toluene (8.359)
Toluene-D8 (8.303)
-Tetrachloroethene (8.768)
-1,1,2-Trichloroethane (9.000)
-Ethyl Methacrylate (9.071)
4-methyl-2-pentanone (8.816)+
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.278)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.712)
-Ethylbenzene (10.042)+
Chlorobenzene-D5 (9.964)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.222)
-o-Xylene (10.758)
-Styrene (10.833)+
-Isopropylbenzene (11.201)
-P-Bromofluorobenzene (11.534)
-cis-1,4-Dichloro-2-Butene (11.643)+
-N-Propylbenzene (11.737)
-1,1,2,2-Tetrachloroethane (11.830)
-2-Chlorotoluene (11.890)
-trans-1,4-Dichloro-2-Bute (12.046)
-1,2,3-Trichloropropane (11.995)+
-4-Chlorotoluene (12.100)
-tert-Butylbenzene (12.363)
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.573)
-P-Isopropyltoluene (12.753)+
-1,2,3-Trimethylbenzene (12.940)
1,4-Dichlorobenzene-D4 (12.869)+
-N-Butylbenzene (13.221)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloroprope (14.200)
-1,3,5-Trichlorobenzene (14.241)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.215)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8340.D
Report Date: 30-Dec-2020 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8340.D
Lab Smp Id: WG292597-2
Inj Date : 28-DEC-2020 13:03
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292597-2
Misc Info :
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 15:59 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:03 Cal File: C8340.D
Als bottle: 6 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.252	(0.211)	12767	5.00000	4.2	
2 Chloromethane	50	1.409	1.402	(0.237)	18866	5.00000	4.7	
3 Vinyl chloride	62	1.446	1.447	(0.243)	12179	5.00000	4.5	
4 Bromomethane	94	1.679	1.679	(0.282)	7156	5.00000	4.9	
5 Chloroethane	64	1.772	1.765	(0.298)	6783	5.00000	5.2	
6 Trichlorofluoromethane	101	1.877	1.874	(0.316)	12868	5.00000	4.6	
7 Diethyl Ether	59	2.125	2.125	(0.357)	8874	5.00000	5.0	
8 1,1-Dichloroethene	96	2.278	2.275	(0.383)	8729	5.00000	5.1	
9 Freon-113	151	2.320	2.316	(0.390)	4963	5.00000	5.0	
10 Carbon Disulfide	76	2.297	2.294	(0.386)	19540	5.00000	4.5	
11 Iodomethane	142	2.398	2.395	(0.403)	4376	5.00000	3.5	
12 Acrolein	56	2.574	2.575	(0.433)	13829	25.0000	24.4	
13 Allyl Chloride	41	2.698	2.699	(0.454)	20065	5.00000	4.6	
14 Methylene Chloride	84	2.799	2.796	(0.471)	13583	5.00000	5.1	
15 Acetone	43	2.856	2.856	(0.480)	30454	25.0000	25.5	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	11264	5.00000	4.9	
17 Methyl Acetate	43	2.991	2.991	(0.503)	12724	5.00000	4.4	
18 Methyl tert-butyl ether	73	3.092	3.092	(0.520)	25630	5.00000	4.5	
19 Tertiary-butyl alcohol	59	3.227	3.227	(0.542)	5478	25.0000	23.2	
20 Acetonitrile	41	3.335	3.336	(0.561)	22600	50.0000	49.4	
21 Di-isopropyl ether	45	3.545	3.538	(0.596)	36626	5.00000	4.5	
22 Chloroprene	53	3.620	3.617	(0.609)	19985	5.00000	4.5	
23 1,1-Dichloroethane	63	3.647	3.640	(0.613)	23610	5.00000	4.9	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8340.D
Report Date: 30-Dec-2020 16:00

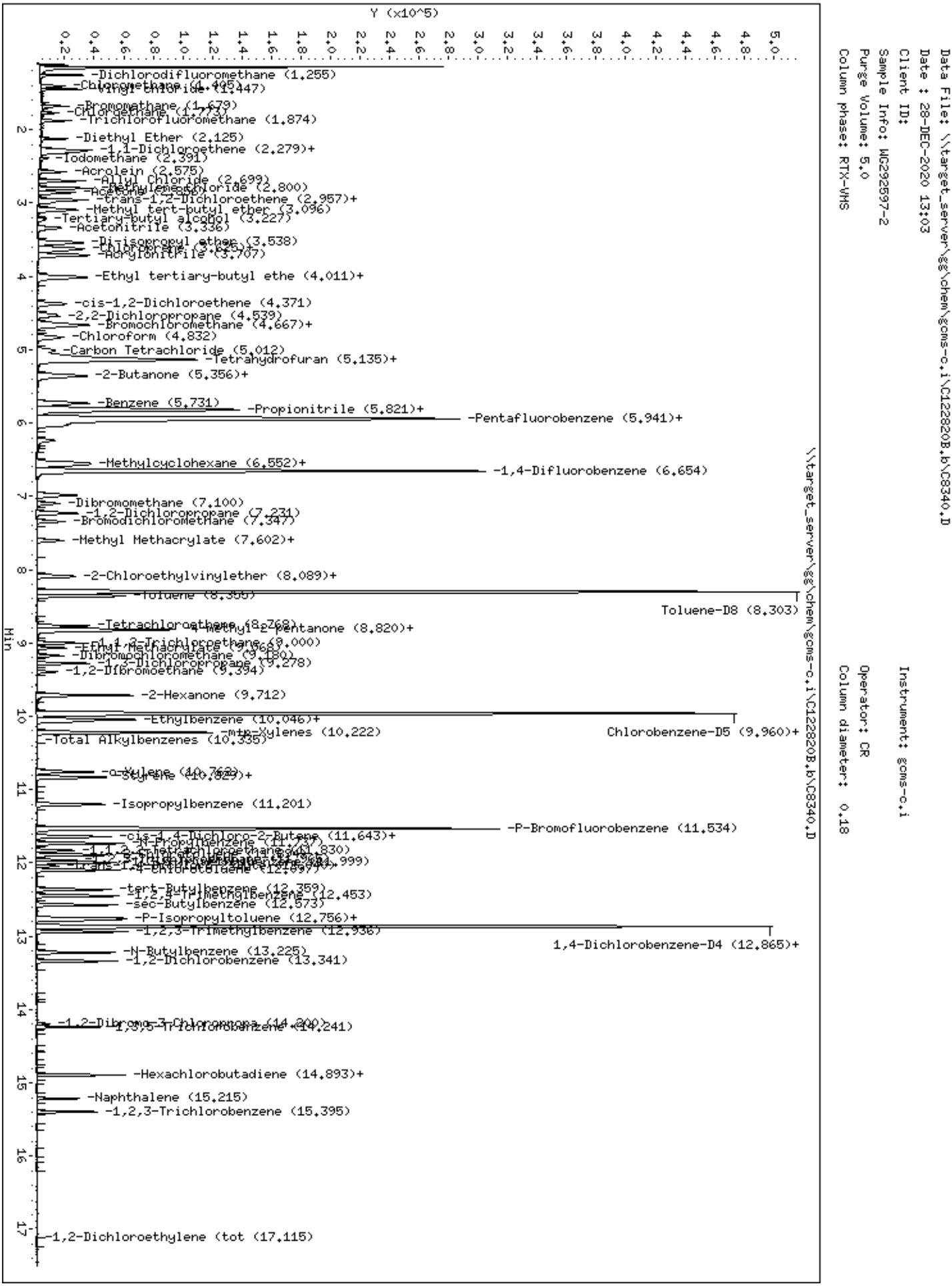
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.707	3.711	(0.623)	26522	25.0000	24.2	
	25 Ethyl tertiary-butyl ether	59	4.003	4.006	(0.673)	27639	5.00000	4.3	
	26 Vinyl Acetate	43	4.006	4.014	(0.602)	24150	5.00000	4.0	
	27 cis-1,2-Dichloroethene	96	4.370	4.378	(0.735)	10818	5.00000	4.7	
	28 2,2-Dichloropropane	77	4.524	4.528	(0.761)	12214	5.00000	4.1	
	29 Bromochloromethane	128	4.666	4.674	(0.784)	4985	5.00000	5.1	
	30 Cyclohexane	56	4.659	4.659	(0.783)	18002	5.00000	4.3	
	31 Chloroform	83	4.831	4.832	(0.812)	21359	5.00000	5.0	
	32 Carbon Tetrachloride	117	5.011	5.012	(0.753)	14260	5.00000	4.8	
	33 Tetrahydrofuran	42	5.082	5.072	(0.854)	23834	25.0000	23.2	
$	34 Dibromofluoromethane	113	5.135	5.135	(0.863)	85068	50.0000	50.3	
	35 1,1,1-Trichloroethane	97	5.135	5.132	(0.863)	17651	5.00000	4.7	
	36 2-Butanone	43	5.360	5.364	(0.901)	37461	25.0000	24.0	
	37 1,1-Dichloropropene	75	5.345	5.349	(0.803)	13961	5.00000	4.6	
	38 Benzene	78	5.727	5.724	(0.861)	39923	5.00000	4.9	
	39 Propionitrile	54	5.787	5.788	(0.973)	23563	50.0000	48.9	
	40 Methacrylonitrile	41	5.817	5.821	(0.978)	96671	50.0000	50.2	
*	41 Pentafluorobenzene	168	5.948	5.945	(1.000)	156992	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.997)	117636	50.0000	51.3	
	43 Tertiary-amyl methyl ether	73	5.986	5.983	(1.006)	18763	5.00000	4.3	
	44 1,2-Dichloroethane	62	6.031	6.035	(0.906)	19657	5.00000	5.0	
	45 Isobutyl Alcohol	43	5.982	5.986	(1.006)	7762	100.000	89.7	
	46 Methylcyclohexane	83	6.541	6.541	(1.100)	13872	5.00000	4.5	
	47 Trichloroethene	95	6.574	6.575	(0.988)	10528	5.00000	4.8	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	267428	50.0000		
	49 Dibromomethane	93	7.099	7.096	(1.067)	7198	5.00000	5.1	
	50 1,2-Dichloropropane	63	7.230	7.231	(1.087)	10864	5.00000	5.0(T)	
	51 Bromodichloromethane	83	7.347	7.343	(1.104)	13551	5.00000	4.7	
	52 Methyl Methacrylate	41	7.605	7.602	(1.143)	9356	5.00000	3.5	
	53 Ethyl Methacrylate	69	9.071	9.068	(1.363)	9484	5.00000	3.7	
	54 1,4-Dioxane	88	7.601	7.602	(1.143)	2582	100.000	90.1	
M	55 Total Alkylbenzenes	100				227292	5.00000	29.2	
	56 2-Chloroethylvinylether	63	8.074	8.077	(1.214)	4212	5.00000	3.6	
	57 cis-1,3-dichloropropene	75	8.100	8.097	(1.217)	13278	5.00000	4.2	
$	58 Toluene-D8	98	8.302	8.303	(1.248)	312712	50.0000	49.6	
	59 Toluene	91	8.359	8.359	(1.256)	41230	5.00000	4.7	
	60 Tetrachloroethene	164	8.771	8.768	(0.881)	7377	5.00000	4.4	
	61 4-methyl-2-pentanone	43	8.816	8.813	(1.325)	65727	25.0000	22.4	
	62 trans-1,3-Dichloropropene	75	8.838	8.839	(1.328)	13133	5.00000	4.4	
	63 1,1,2-Trichloroethane	97	9.000	9.004	(1.353)	8676	5.00000	4.7	
	64 Dibromochloromethane	129	9.180	9.176	(0.922)	9454	5.00000	4.6	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	16116	5.00000	4.7	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	8565	5.00000	4.5(T)	
	67 2-Hexanone	43	9.712	9.709	(0.975)	44102	25.0000	21.4	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	230334	50.0000		
	69 Chlorobenzene	112	9.978	9.979	(1.002)	27982	5.00000	5.4	
	71 Ethylbenzene	106	10.046	10.042	(1.009)	13557	5.00000	4.6	
	72 1,1,1,2-Tetrachloroethane	131	10.068	10.069	(1.011)	8806	5.00000	4.8	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	32554	10.0000	9.1	
	74 o-Xylene	106	10.762	10.755	(1.081)	12052	5.00000	3.8	
	75 Styrene	104	10.836	10.833	(1.088)	22929	5.00000	4.2	
	76 Bromoform	173	10.829	10.833	(1.087)	5693	5.00000	4.3	
	77 Isopropylbenzene	105	11.208	11.204	(0.871)	33945	5.00000	3.9	
$	78 P-Bromofluorobenzene	95	11.530	11.534	(1.733)	114006	50.0000	49.3	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8340.D
Report Date: 30-Dec-2020 16:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	11.646	11.647	(0.905)	4029	5.00000	3.8	
	80 Bromobenzene	156	11.642	11.639	(0.905)	10248	5.00000	5.0	
	81 N-Propylbenzene	91	11.736	11.733	(0.912)	46549	5.00000	4.5	
	82 1,1,2,2-Tetrachloroethane	83	11.830	11.834	(0.920)	12362	5.00000	4.8	
	83 2-Chlorotoluene	91	11.894	11.890	(0.925)	28858	5.00000	4.4	
	84 1,2,3-Trichloropropane	75	11.965	11.965	(0.930)	11517	5.00000	4.8	
	85 1,3,5-Trimethylbenzene	105	11.999	11.995	(0.933)	30235	5.00000	4.2	
	86 trans-1,4-Dichloro-2-Butene	53	12.044	12.044	(0.936)	4867	5.00000	4.0	
	87 4-Chlorotoluene	91	12.096	12.097	(0.940)	31653	5.00000	4.6	
	88 tert-Butylbenzene	119	12.366	12.363	(0.961)	24000	5.00000	3.9	
	90 1,2,4-Trimethylbenzene	105	12.452	12.449	(0.968)	32071	5.00000	4.3	
	91 sec-Butylbenzene	105	12.572	12.573	(0.977)	38900	5.00000	4.3	
	92 P-Isopropyltoluene	119	12.756	12.756	(0.992)	28712	5.00000	4.0	
	93 1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	19932	5.00000	4.9	
*	94 1,4-Dichlorobenzene-D4	152	12.864	12.869	(1.000)	112751	50.0000		
	95 1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	20780	5.00000	4.8	
	96 1,2,3-Trimethylbenzene	105	12.939	12.940	(1.006)	35584	5.00000	4.6	
	97 N-Butylbenzene	91	13.224	13.225	(1.028)	26825	5.00000	3.8	
M	98 1,2-Dichloroethylene (total)	96				22082	5.00000	9.6	
	99 1,2-Dichlorobenzene	146	13.341	13.341	(1.037)	18315	5.00000	4.7	
	100 1,2-Dibromo-3-Chloropropane	157	14.203	14.200	(1.104)	1907	5.00000	3.6	
	101 1,3,5-Trichlorobenzene	180	14.236	14.241	(1.107)	11666	5.00000	4.3	
	102 Hexachlorobutadiene	225	14.896	14.893	(1.158)	4834	5.00000	4.4	
	103 1,2,4-Trichlorobenzene	180	14.893	14.897	(1.158)	9188	5.00000	4.0	
	104 Naphthalene	128	15.215	15.215	(1.183)	18421	5.00000	2.7	
	105 1,2,3-Trichlorobenzene	180	15.395	15.399	(1.197)	10235	5.00000	4.6	
M	106 Xylenes (total)	106				44606	15.0000	12.9	

QC Flag Legend

T - Target compound detected outside RT window.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Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^5)
Min
\\target_server\gg\chem\gcms-c.i\C122820B.b\C8340.D
-Dichlorodifluoromethane (1.255)
-Chloromethane (1.405)
-Vinyl chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.773)
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.279)+
-Iodomethane (2.391)
-Acrolein (2.575)
-Allyl Chloride (2.699)
-Methylene chloride (2.800)
-Acetone (2.856)
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.096)
-Tertiary-butyl alcohol (3.227)
-Acetonitrile (3.336)
-Di-isopropyl ether (3.538)
-Chloroprene (3.625)+
-Acrylonitrile (3.707)
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.371)
-2,2-Dichloropropane (4.539)
-Bromochloromethane (4.667)+
-Chloroform (4.832)
-Carbon Tetrachloride (5.012)
-Tetrahydrofuran (5.135)+
-2-Butanone (5.356)+
-Benzene (5.731)
-Propionitrile (5.821)+
-Pentafluorobenzene (5.941)+
-Methylcyclohexane (6.552)+
-1,4-Difluorobenzene (6.654)
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.231)
-Bromodichloromethane (7.347)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.089)+
-Toluene (8.355)
Toluene-D8 (8.303)
-Tetrachloroethene (8.768)
-4-methyl-2-pentanone (8.820)+
-1,1,2-Trichloroethane (9.000)
-Ethyl Methacrylate (9.068)
-Dibromochloromethane (9.180)
-1,3-Dichloropropane (9.278)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.712)
-Ethylbenzene (10.046)+
-m+p-Xylenes (10.222)
Chlorobenzene-D5 (9.960)+
-Total Alkylbenzenes (10.335)
-o-Xylene (10.762)
-Styrene (10.829)+
-Isopropylbenzene (11.201)
-P-Bromofluorobenzene (11.534)
-cis-1,4-Dichloro-2-Butene (11.643)+
-N-Propylbenzene (11.737)
-1,1,2,2-Tetrachloroethane (11.830)
-1,3-Dichlorobenzene (11.999)
-trans-1,4-Dichloro-2-Butene (11.940)
-4-Chlorotoluene (12.097)
-tert-Butylbenzene (12.359)
-1,2,4-Trimethylbenzene (12.453)
-sec-Butylbenzene (12.573)
-P-Isopropyltoluene (12.756)+
-1,2,3-Trimethylbenzene (12.936)
1,4-Dichlorobenzene-D4 (12.865)+
-N-Butylbenzene (13.225)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloropropa (14.200)
-1,3,5-Trichlorobenzene (14.241)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.215)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8341.D
Report Date: 30-Dec-2020 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8341.D
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Inj Date : 28-DEC-2020 13:35
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292597-1
Misc Info :
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Method : \\target_server\gg\chem\gcms-c.i\C122820B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 15:59 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 7 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.210)	2477	1.00000	0.90(a)	
2 Chloromethane	50	1.409	1.402	(0.237)	3943	1.00000	1.1	
3 Vinyl chloride	62	1.446	1.447	(0.243)	2249	1.00000	0.92(a)	
4 Bromomethane	94	1.678	1.679	(0.282)	1831	1.00000	1.4	
5 Chloroethane	64	1.772	1.765	(0.298)	1214	1.00000	1.0	
6 Trichlorofluoromethane	101	1.881	1.874	(0.316)	2403	1.00000	0.95(a)	
7 Diethyl Ether	59	2.125	2.125	(0.357)	1386	1.00000	0.87(a)	
8 1,1-Dichloroethene	96	2.278	2.275	(0.383)	1404	1.00000	0.91(a)	
9 Freon-113	151	2.320	2.316	(0.390)	678	1.00000	0.74(a)	
10 Carbon Disulfide	76	2.297	2.294	(0.386)	4610	1.00000	1.2	
11 Iodomethane	142	2.398	2.395	(0.403)	605	1.00000	0.53(a)	
12 Acrolein	56	2.574	2.575	(0.433)	2408	5.00000	4.7(a)	
13 Allyl Chloride	41	2.694	2.699	(0.453)	3552	1.00000	0.91(a)	
14 Methylene Chloride	84	2.799	2.796	(0.471)	3628	1.00000	1.5(a)	
15 Acetone	43	2.856	2.856	(0.480)	6535	5.00000	6.0	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	2315	1.00000	1.1	
17 Methyl Acetate	43	2.994	2.991	(0.503)	2594	1.00000	0.99(a)	
18 Methyl tert-butyl ether	73	3.095	3.092	(0.520)	4880	1.00000	0.94(a)	
19 Tertiary-butyl alcohol	59	3.227	3.227	(0.542)	713	5.00000	3.3(a)	
20 Acetonitrile	41	3.335	3.336	(0.561)	3615	10.0000	8.7(a)	
21 Di-isopropyl ether	45	3.542	3.538	(0.595)	5760	1.00000	0.78(a)	
22 Chloroprene	53	3.620	3.617	(0.609)	2836	1.00000	0.70(a)	
23 1,1-Dichloroethane	63	3.647	3.640	(0.613)	4618	1.00000	1.0	

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8341.D
Report Date: 30-Dec-2020 16:00

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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.710	3.711	(0.624)	4409	5.00000	4.4(a)	
	25 Ethyl tertiary-butyl ether	59	4.006	4.006	(0.674)	4194	1.00000	0.72(a)	
	26 Vinyl Acetate	43	4.025	4.014	(0.605)	3253	1.00000	0.64(aM)	M6
	27 cis-1,2-Dichloroethene	96	4.378	4.378	(0.736)	2038	1.00000	0.97(a)	
	28 2,2-Dichloropropane	77	4.520	4.528	(0.760)	1923	1.00000	0.74(aM)	M6
	29 Bromochloromethane	128	4.659	4.674	(0.783)	885	1.00000	0.99(a)	
	30 Cyclohexane	56	4.666	4.659	(0.784)	2230	1.00000	0.59(a)	
	31 Chloroform	83	4.827	4.832	(0.812)	4100	1.00000	1.0	
	32 Carbon Tetrachloride	117	5.004	5.012	(0.752)	2446	1.00000	0.86(aM)	M9
	33 Tetrahydrofuran	42	5.082	5.072	(0.854)	3237	5.00000	3.5(a)	
$	34 Dibromofluoromethane	113	5.138	5.135	(0.864)	79098	50.0000	51.5	
	35 1,1,1-Trichloroethane	97	5.135	5.132	(0.863)	2850	1.00000	0.84(a)	
	36 2-Butanone	43	5.363	5.364	(0.902)	6203	5.00000	4.4(a)	
	37 1,1-Dichloropropene	75	5.348	5.349	(0.804)	2049	1.00000	0.75(a)	
	38 Benzene	78	5.731	5.724	(0.861)	6750	1.00000	0.91(a)	
	39 Propionitrile	54	5.795	5.788	(0.974)	3664	10.0000	8.4(a)	
	40 Methacrylonitrile	41	5.828	5.821	(0.980)	13603	10.0000	7.8(a)	
*	41 Pentafluorobenzene	168	5.948	5.945	(1.000)	142664	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.997)	108739	50.0000	52.2	
	43 Tertiary-amyl methyl ether	73	5.989	5.983	(1.007)	3105	1.00000	0.80(aM)	M6
	44 1,2-Dichloroethane	62	6.038	6.035	(0.908)	4341	1.00000	1.2	
	45 Isobutyl Alcohol	43	6.001	5.986	(1.009)	980	20.0000	12.5(a)	
	46 Methylcyclohexane	83	6.552	6.541	(1.101)	1495	1.00000	0.51(aM)	M9
	47 Trichloroethene	95	6.574	6.575	(0.988)	2034	1.00000	1.0	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	240204	50.0000		
	49 Dibromomethane	93	7.095	7.096	(1.066)	1463	1.00000	1.2	
	50 1,2-Dichloropropane	63	7.234	7.231	(1.087)	1994	1.00000	0.96(TaM)	M9
	51 Bromodichloromethane	83	7.354	7.343	(1.105)	2427	1.00000	0.94(Ta)	
	52 Methyl Methacrylate	41	7.605	7.602	(1.143)	1082	1.00000	0.49(aM)	M9
	53 Ethyl Methacrylate	69	9.067	9.068	(1.363)	1073	1.00000	0.47(a)	
	54 1,4-Dioxane	88	7.598	7.602	(1.142)	245	20.0000	9.5(a)	
M	55 Total Alkylbenzenes	100				29879	1.00000	4.3(a)	
	56 2-Chloroethylvinylether	63	8.077	8.077	(1.214)	546	1.00000	0.56(aM)	M6
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	2035	1.00000	0.72(a)	
$	58 Toluene-D8	98	8.302	8.303	(1.248)	283896	50.0000	50.2	
	59 Toluene	91	8.359	8.359	(1.256)	8391	1.00000	1.1	
	60 Tetrachloroethene	164	8.763	8.768	(0.880)	1513	1.00000	1.00	
	61 4-methyl-2-pentanone	43	8.820	8.813	(1.326)	9250	5.00000	3.5(a)	
	62 trans-1,3-Dichloropropene	75	8.838	8.839	(1.328)	2218	1.00000	0.84(a)	
	63 1,1,2-Trichloroethane	97	9.000	9.004	(1.353)	1602	1.00000	0.97(a)	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	1705	1.00000	0.90(a)	
	65 1,3-Dichloropropane	76	9.281	9.278	(0.932)	2807	1.00000	0.90(a)	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	1602	1.00000	0.94(Ta)	
	67 2-Hexanone	43	9.712	9.709	(0.975)	5813	5.00000	3.1(a)	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	211050	50.0000		
	69 Chlorobenzene	112	9.974	9.979	(1.002)	5450	1.00000	1.0(M)	M9
	71 Ethylbenzene	106	10.042	10.042	(1.008)	2350	1.00000	0.87(a)	
	72 1,1,1,2-Tetrachloroethane	131	10.068	10.069	(1.011)	1441	1.00000	0.86(a)	
	73 m+p-Xylenes	106	10.225	10.222	(1.027)	5063	2.00000	1.5(a)	
	74 o-Xylene	106	10.754	10.755	(1.080)	1672	1.00000	0.58(a)	
	75 Styrene	104	10.836	10.833	(1.088)	2827	1.00000	0.57(a)	
	76 Bromoform	173	10.825	10.833	(1.087)	929	1.00000	0.79(aM)	M6
	77 Isopropylbenzene	105	11.196	11.204	(0.870)	4733	1.00000	0.61(a)	
$	78 P-Bromofluorobenzene	95	11.534	11.534	(1.734)	99204	50.0000	47.7	

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Report Date: 30-Dec-2020 16:00

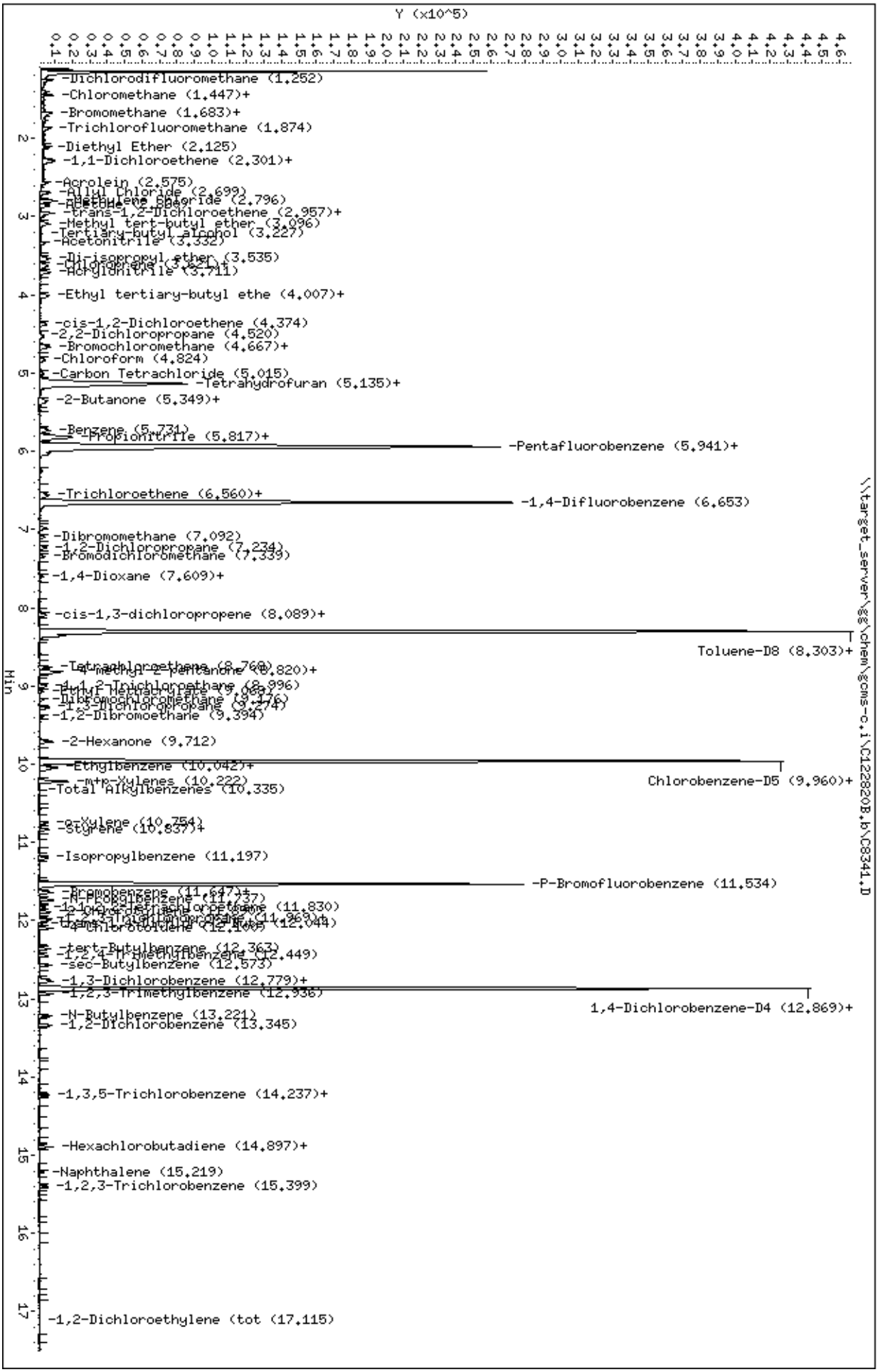
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	11.646	11.647	(0.905)	316	1.00000	0.36(aM)	M6
	80 Bromobenzene	156	11.646	11.639	(0.905)	1550	1.00000	0.85(a)	
	81 N-Propylbenzene	91	11.729	11.733	(0.911)	6223	1.00000	0.65(aM)	M9
	82 1,1,2,2-Tetrachloroethane	83	11.830	11.834	(0.919)	2100	1.00000	0.93(Ta)	
	83 2-Chlorotoluene	91	11.890	11.890	(0.924)	4817	1.00000	0.82(a)	
	84 1,2,3-Trichloropropane	75	11.965	11.965	(0.930)	2143	1.00000	1.00	
	85 1,3,5-Trimethylbenzene	105	11.995	11.995	(0.932)	4112	1.00000	0.65(a)	
	86 trans-1,4-Dichloro-2-Butene	53	12.043	12.044	(0.936)	660	1.00000	0.65(aM)	M6
	87 4-Chlorotoluene	91	12.103	12.097	(0.941)	4862	1.00000	0.79(a)	
	88 tert-Butylbenzene	119	12.362	12.363	(0.961)	3056	1.00000	0.57(a)	
	90 1,2,4-Trimethylbenzene	105	12.448	12.449	(0.967)	3948	1.00000	0.60(a)	
	91 sec-Butylbenzene	105	12.572	12.573	(0.977)	5142	1.00000	0.64(a)	
	92 P-Isopropyltoluene	119	12.756	12.756	(0.991)	3604	1.00000	0.55(aM)	M9
	93 1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	3541	1.00000	0.98(a)	
*	94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	100116	50.0000		
	95 1,4-Dichlorobenzene	146	12.879	12.884	(1.001)	4215	1.00000	1.1	
	96 1,2,3-Trimethylbenzene	105	12.943	12.940	(1.006)	4938	1.00000	0.72(a)	
	97 N-Butylbenzene	91	13.221	13.225	(1.027)	3794	1.00000	0.61(a)	
M	98 1,2-Dichloroethylene (total)	96				4353	1.00000	2.1	
	99 1,2-Dichlorobenzene	146	13.337	13.341	(1.036)	3441	1.00000	0.99(a)	
	100 1,2-Dibromo-3-Chloropropane	157	14.195	14.200	(1.103)	107	1.00000	0.26(aM)	M6
	101 1,3,5-Trichlorobenzene	180	14.240	14.241	(1.107)	1855	1.00000	0.78(a)	
	102 Hexachlorobutadiene	225	14.885	14.893	(1.157)	999	1.00000	1.0	
	103 1,2,4-Trichlorobenzene	180	14.892	14.897	(1.157)	1449	1.00000	0.70(a)	
	104 Naphthalene	128	15.219	15.215	(1.183)	2721	1.00000	0.45(a)	
	105 1,2,3-Trichlorobenzene	180	15.391	15.399	(1.196)	1381	1.00000	0.67(aM)	M9
M	106 Xylenes (total)	106				6735	5.00000	2.1(a)	

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

JLP

4:35 pm, Jan 27, 2021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Client ID:
Sample Info: WG292597-1
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
\\target_server\gg\chem\gcms-c.i\C122820B.b\C8341.D
Y (x10^5)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.447)+
-Bromomethane (1.683)+
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.301)+
-Acrolein (2.575)
-Allyl Chloride (2.699)
-Methylene Chloride (2.796)
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.096)
-Tertiary-butyl alcohol (3.227)
-Acetonitrile (3.332)
-Di-isopropyl ether (3.535)
-Chloroprene (3.621)+
-Acrylonitrile (3.711)
-Ethyl tertiary-butyl ethe (4.007)+
-cis-1,2-Dichloroethene (4.374)
-2,2-Dichloropropane (4.520)
-Bromochloromethane (4.667)+
-Chloroform (4.824)
-Carbon Tetrachloride (5.015)
-Tetrahydrofuran (5.135)+
-2-Butanone (5.349)+
-Benzene (5.731)
-Propionitrile (5.817)+
-Pentafluorobenzene (5.941)+
-Trichloroethene (6.560)+
-1,4-Difluorobenzene (6.653)
-Dibromomethane (7.092)
-1,2-Dichloropropane (7.234)
-Bromodichloromethane (7.339)
-1,4-Dioxane (7.609)+
-cis-1,3-dichloropropene (8.089)+
Toluene-D8 (8.303)+
-Tetrachloroethene (8.768)
-4-Methyl-2-pentanone (8.820)+
-1,1,2-Trichloroethane (8.996)
-Ethyl Methacrylate (9.069)
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.274)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.712)
-Ethylbenzene (10.042)+
-m+p-Xylenes (10.222)
Chlorobenzene-D5 (9.960)+
-Total Alkylbenzenes (10.335)
-o-Xylene (10.754)
-Styrene (10.837)+
-Isopropylbenzene (11.197)
-P-Bromofluorobenzene (11.534)
-Bromobenzene (11.647)+
-N-Propylbenzene (11.737)
-1,1,2,2-Tetrachloroethane (11.830)
-trans-1,4-Dichlorobutene (11.969)+
-4-Chlorotoluene (12.100)
-tert-Butylbenzene (12.363)
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.573)
-1,3-Dichlorobenzene (12.779)+
-1,2,3-Trimethylbenzene (12.936)
1,4-Dichlorobenzene-D4 (12.869)+
-N-Butylbenzene (13.221)
-1,2-Dichlorobenzene (13.345)
-1,3,5-Trichlorobenzene (14.237)+
-Hexachlorobutadiene (14.897)+
-Naphthalene (15.219)
-1,2,3-Trichlorobenzene (15.399)
-1,2-Dichloroethylene (tot (17.115)

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Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

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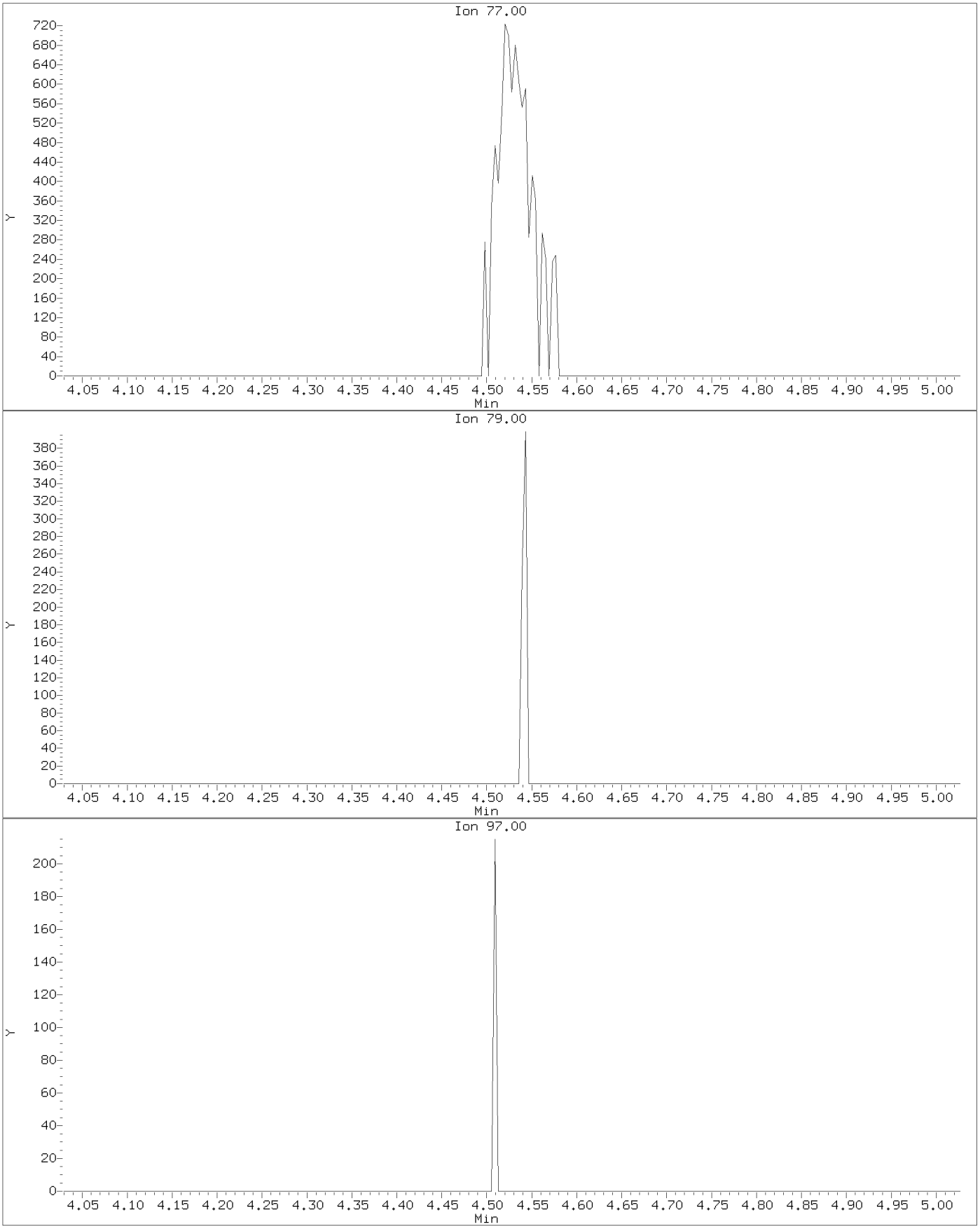

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Compound: 2,2-Dichloropropane
CAS Number: 594-20-7

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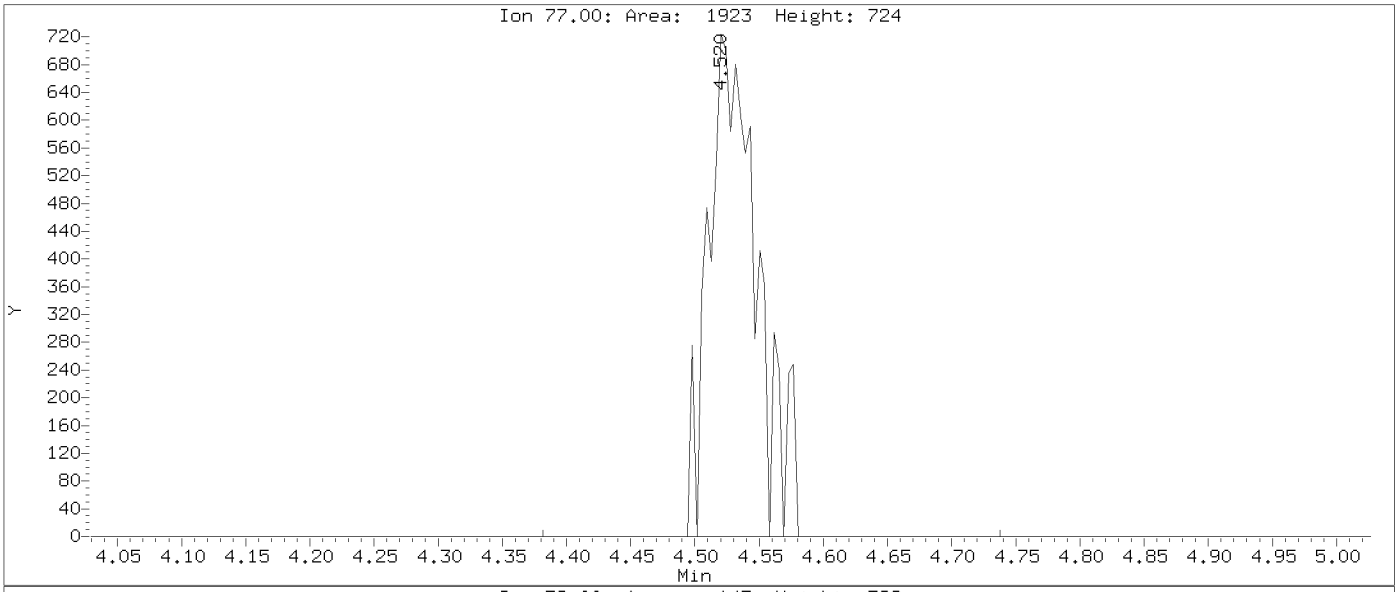

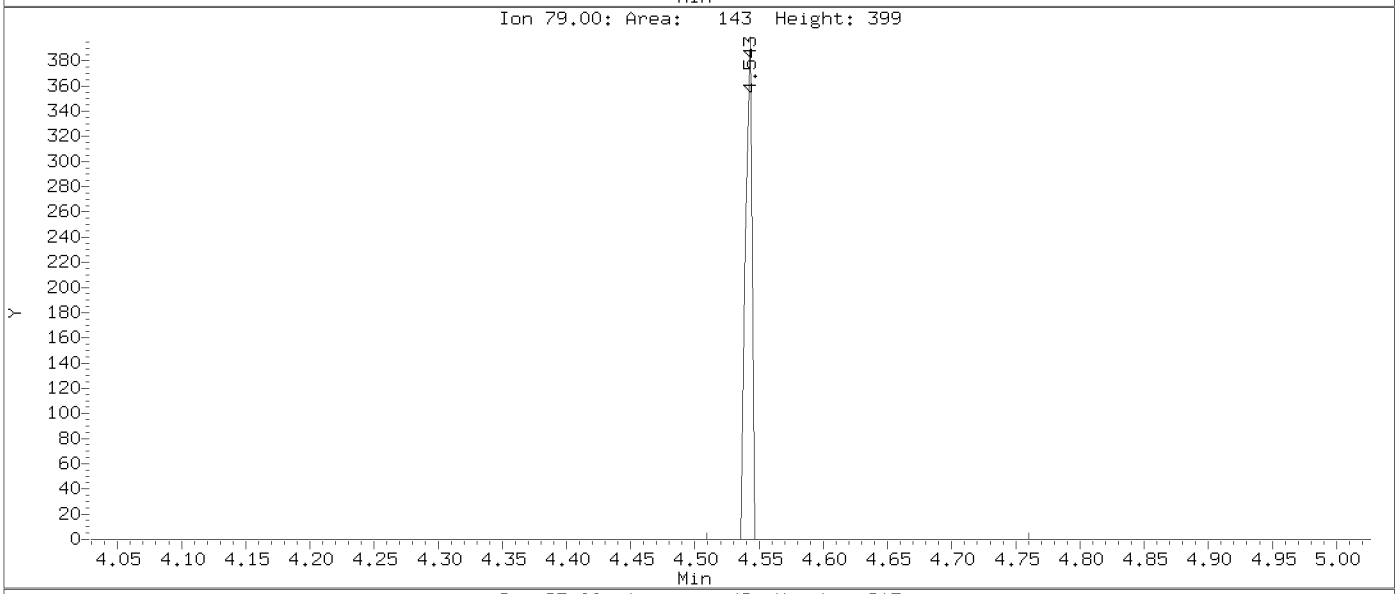

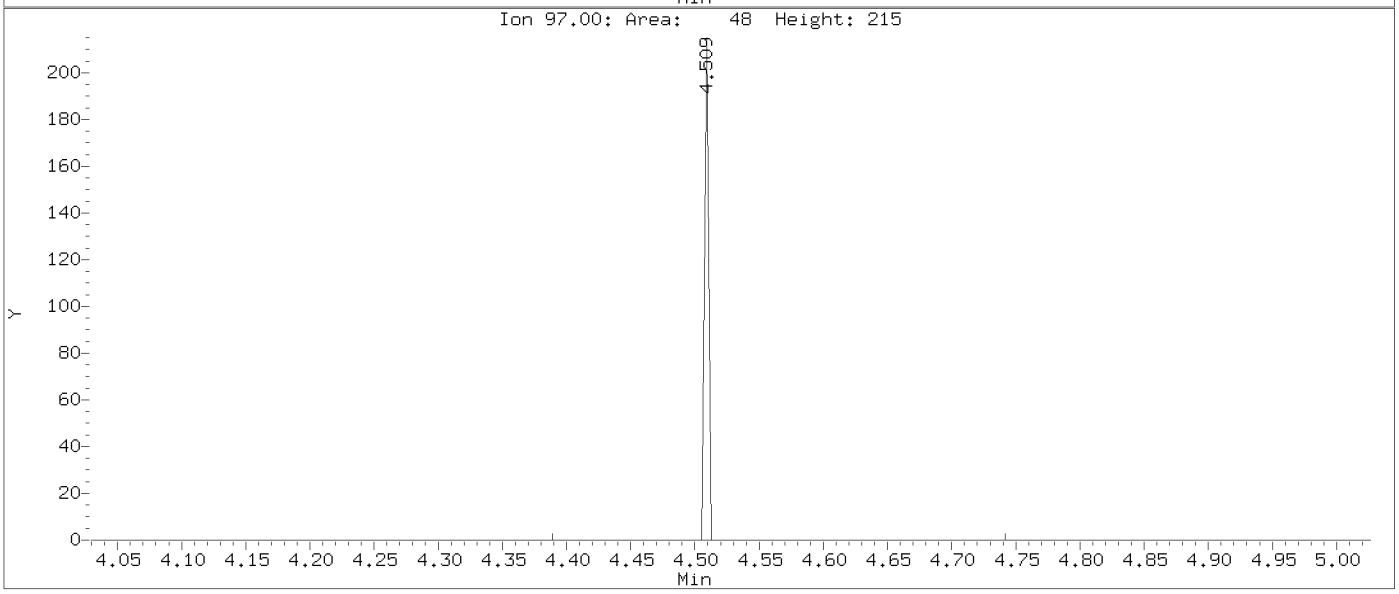

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Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: Carbon Tetrachloride
CAS Number: 56-23-5

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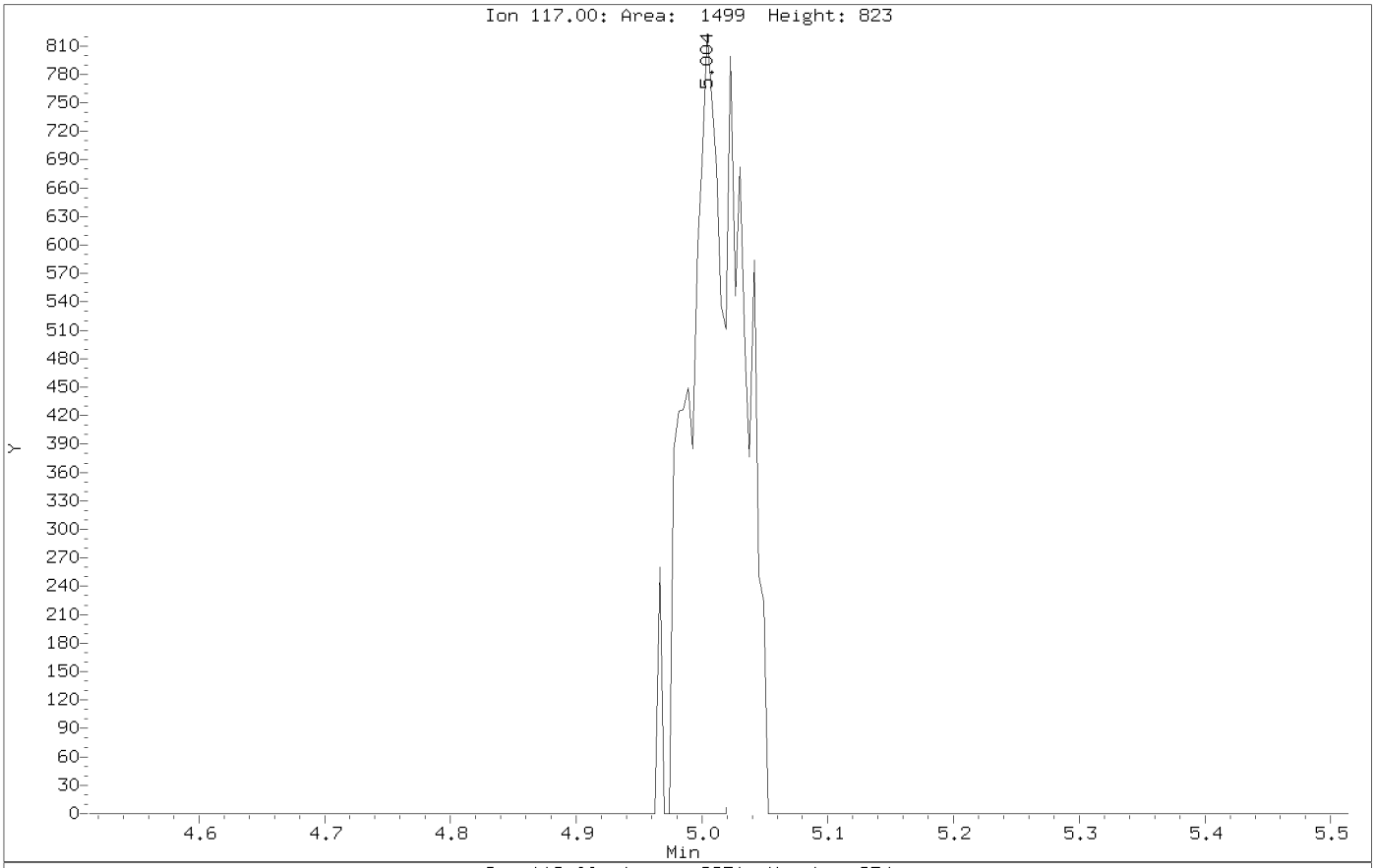

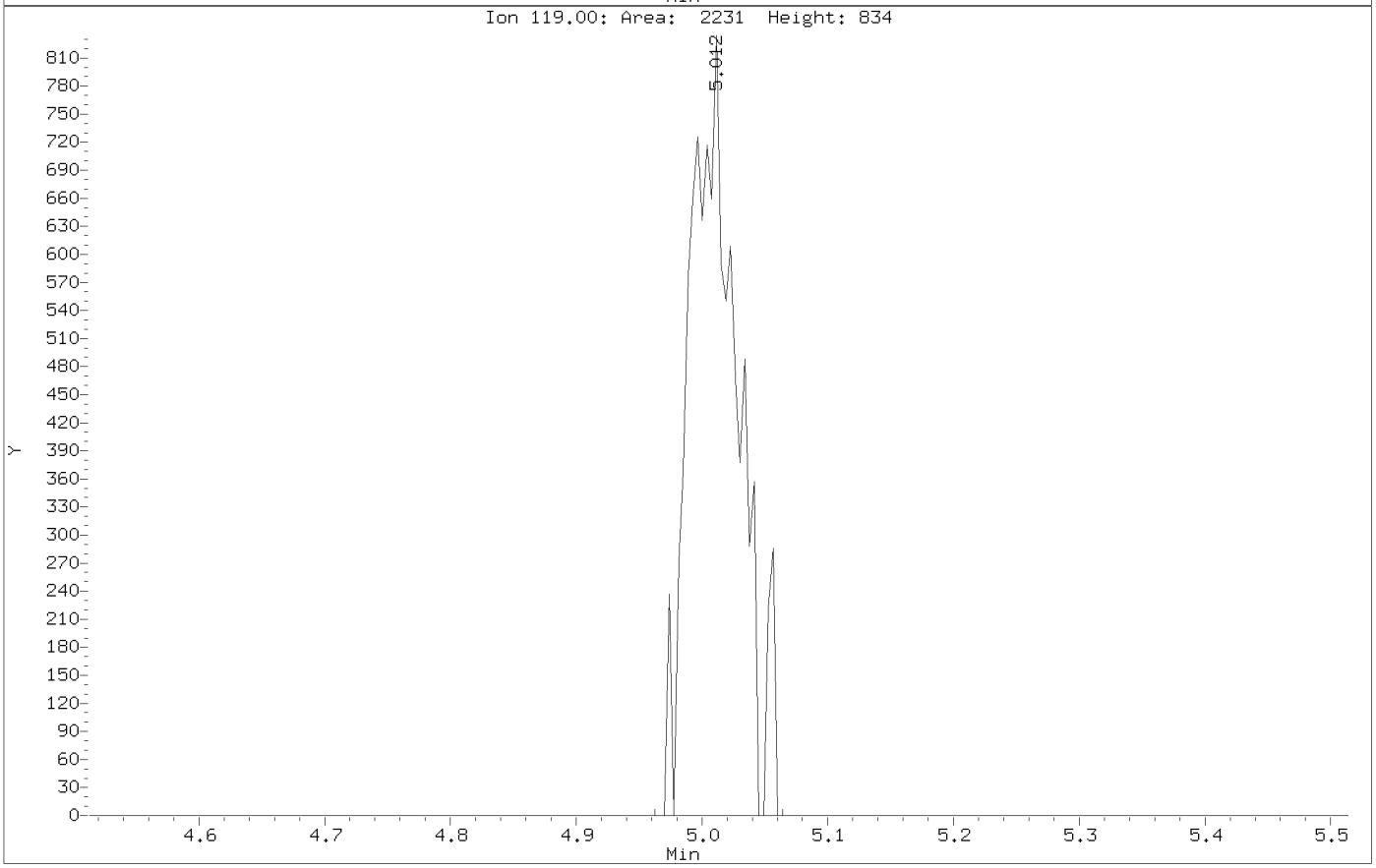

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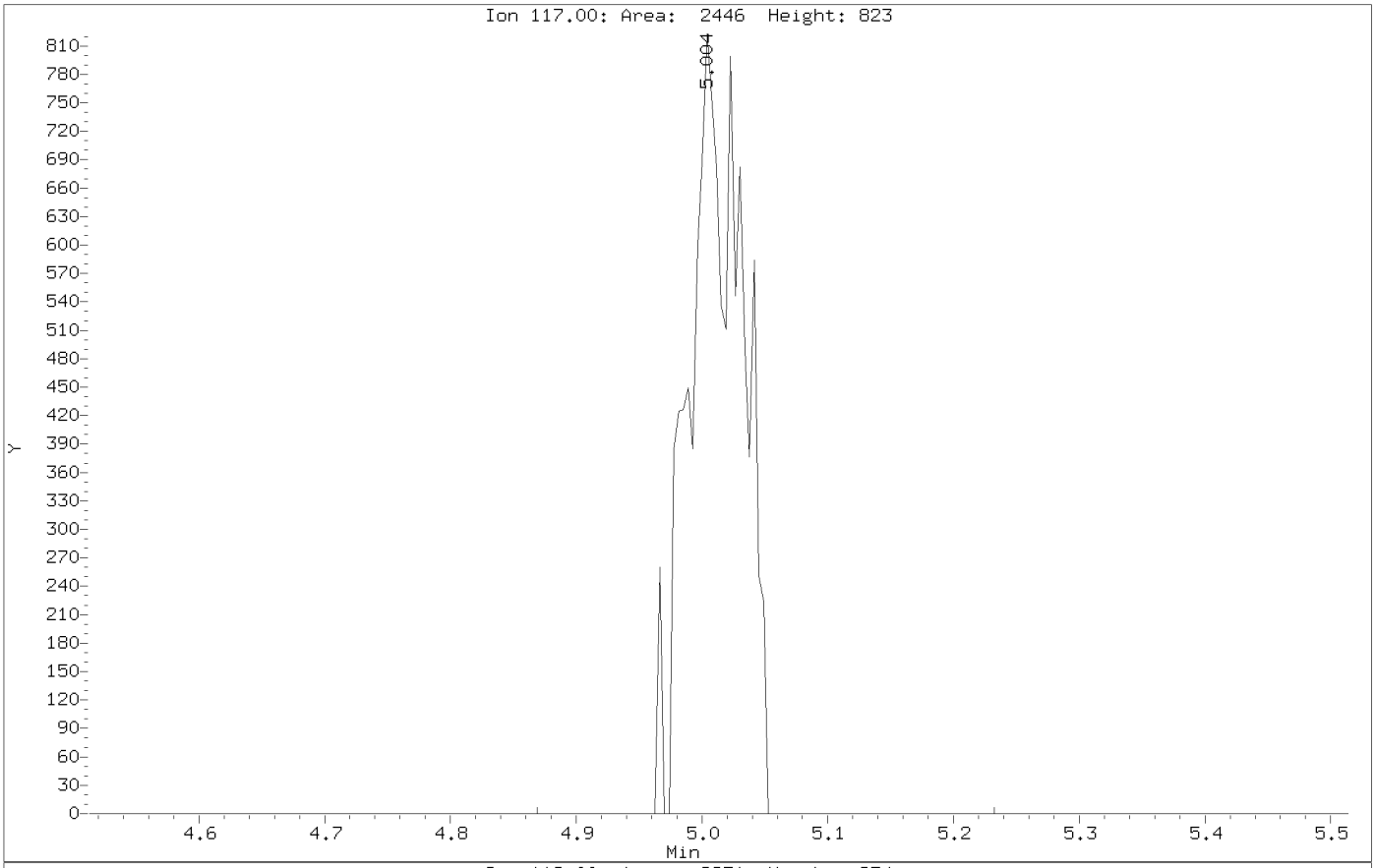
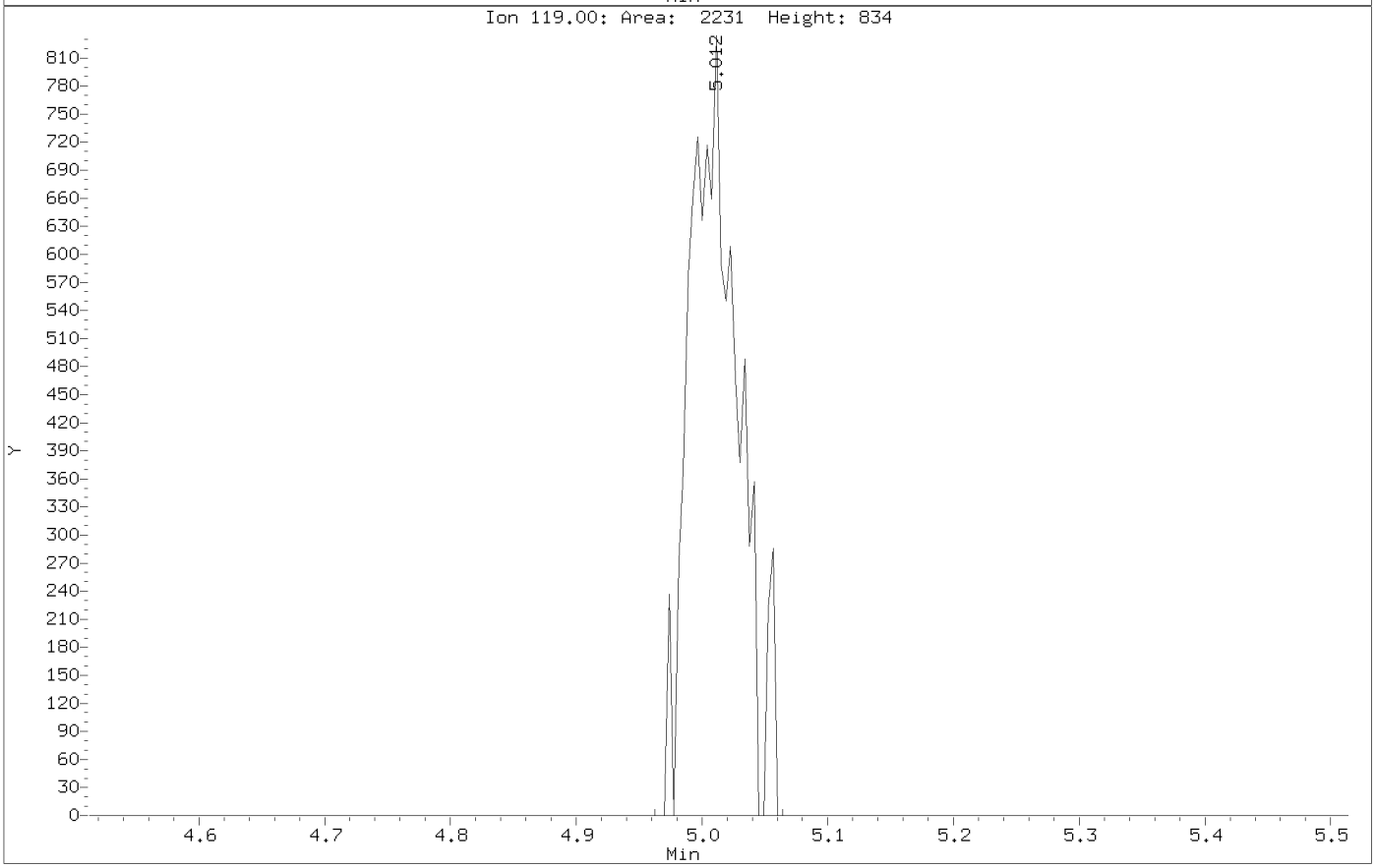
Instrument: gcms-c.i
Client Sample ID:

Compound: Carbon Tetrachloride
CAS Number: 56-23-5

AFTER MANUAL INTEGRATION





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Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

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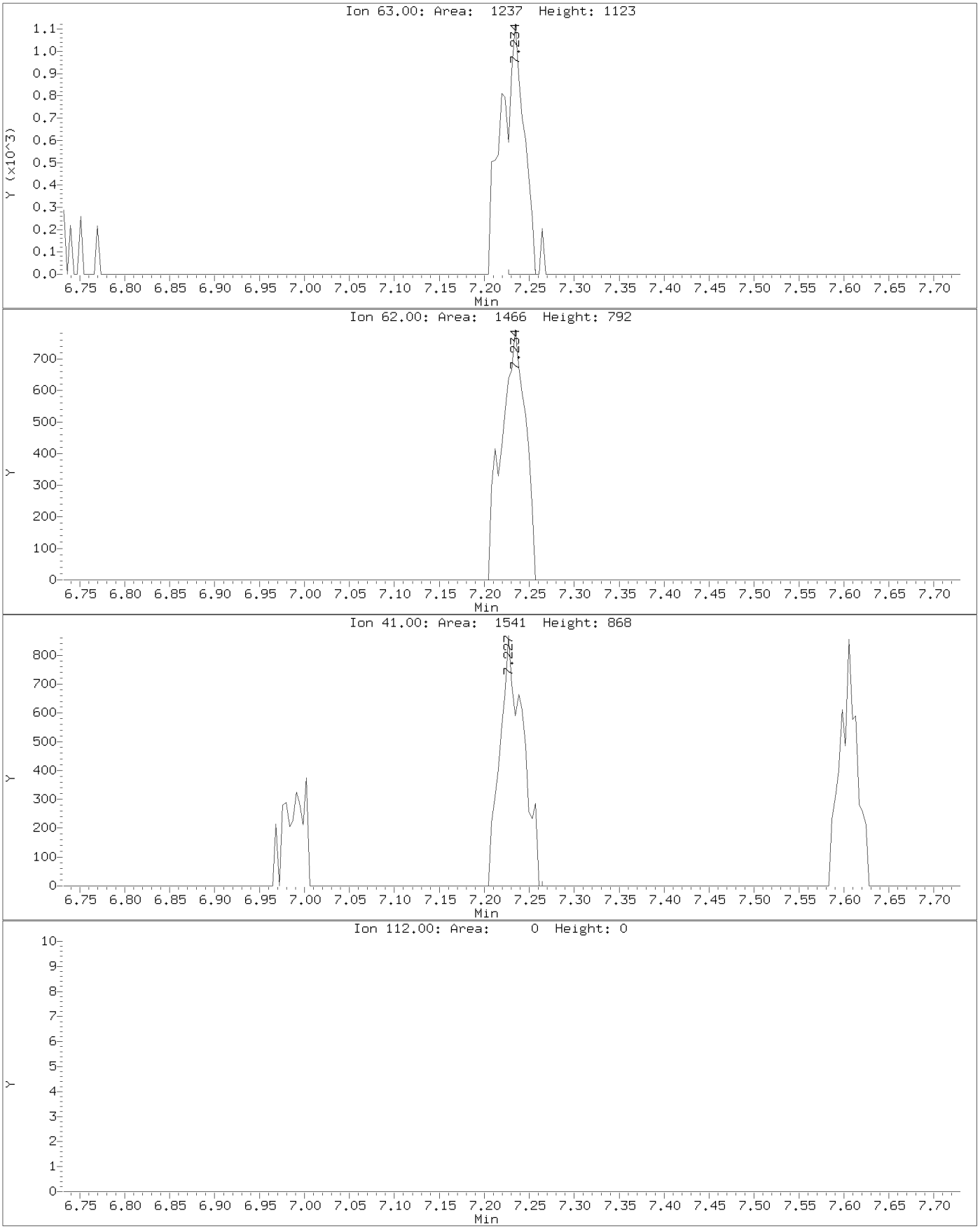

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Instrument: gcms-c.i
Client Sample ID:

Compound: 1,2-Dichloropropane
CAS Number: 78-87-5

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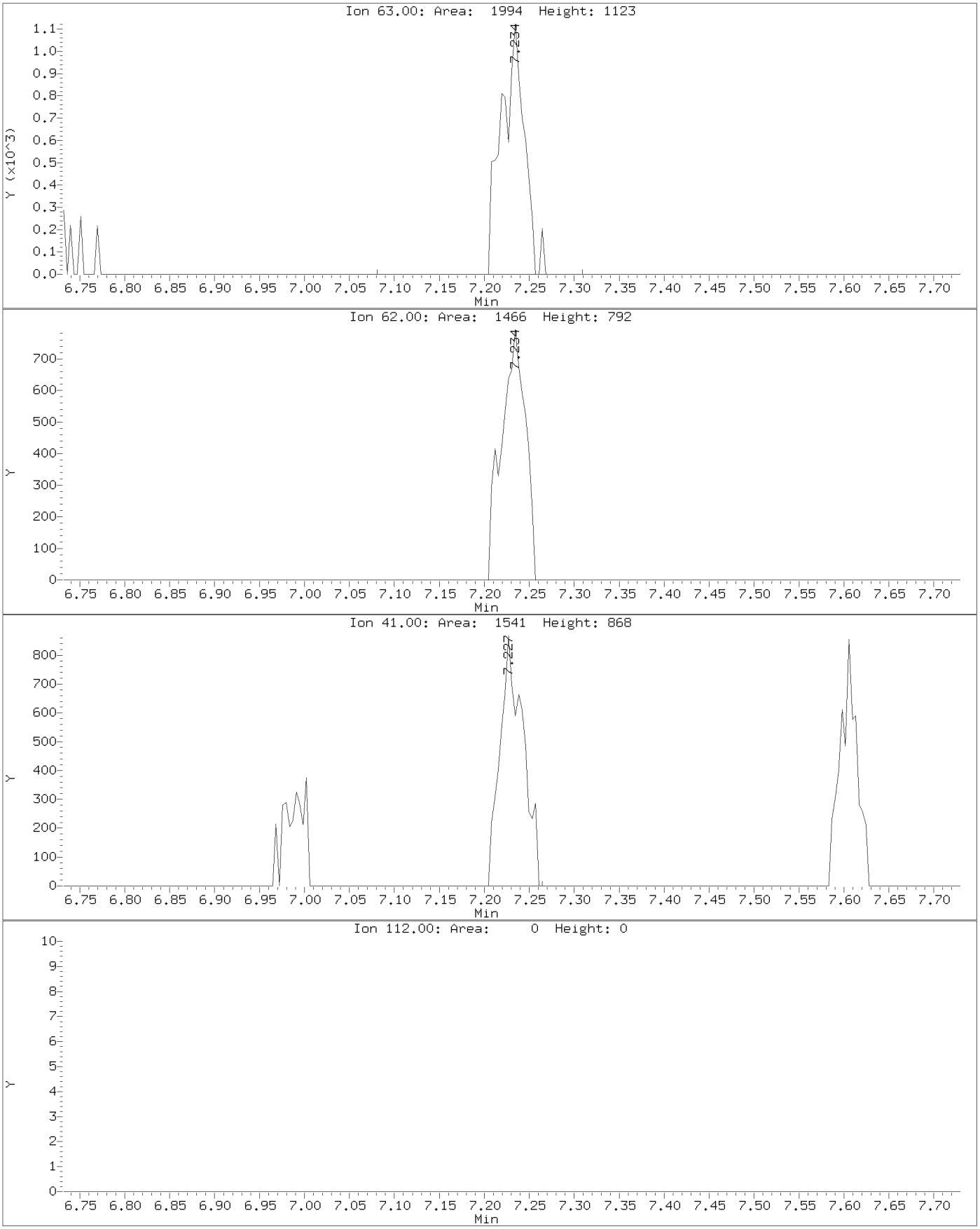

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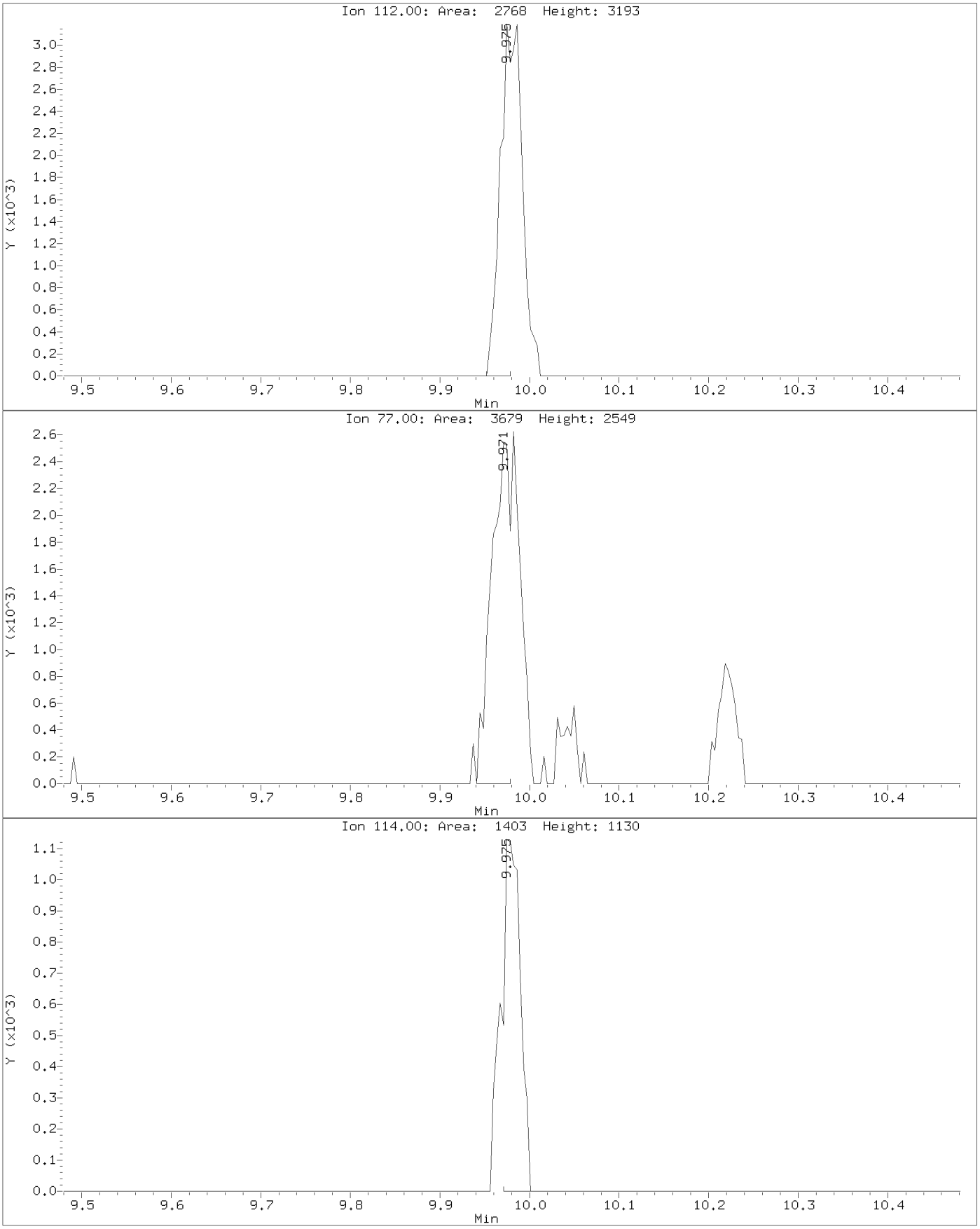
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: Chlorobenzene
CAS Number: 108-90-7

BEFORE MANUAL INTEGRATION



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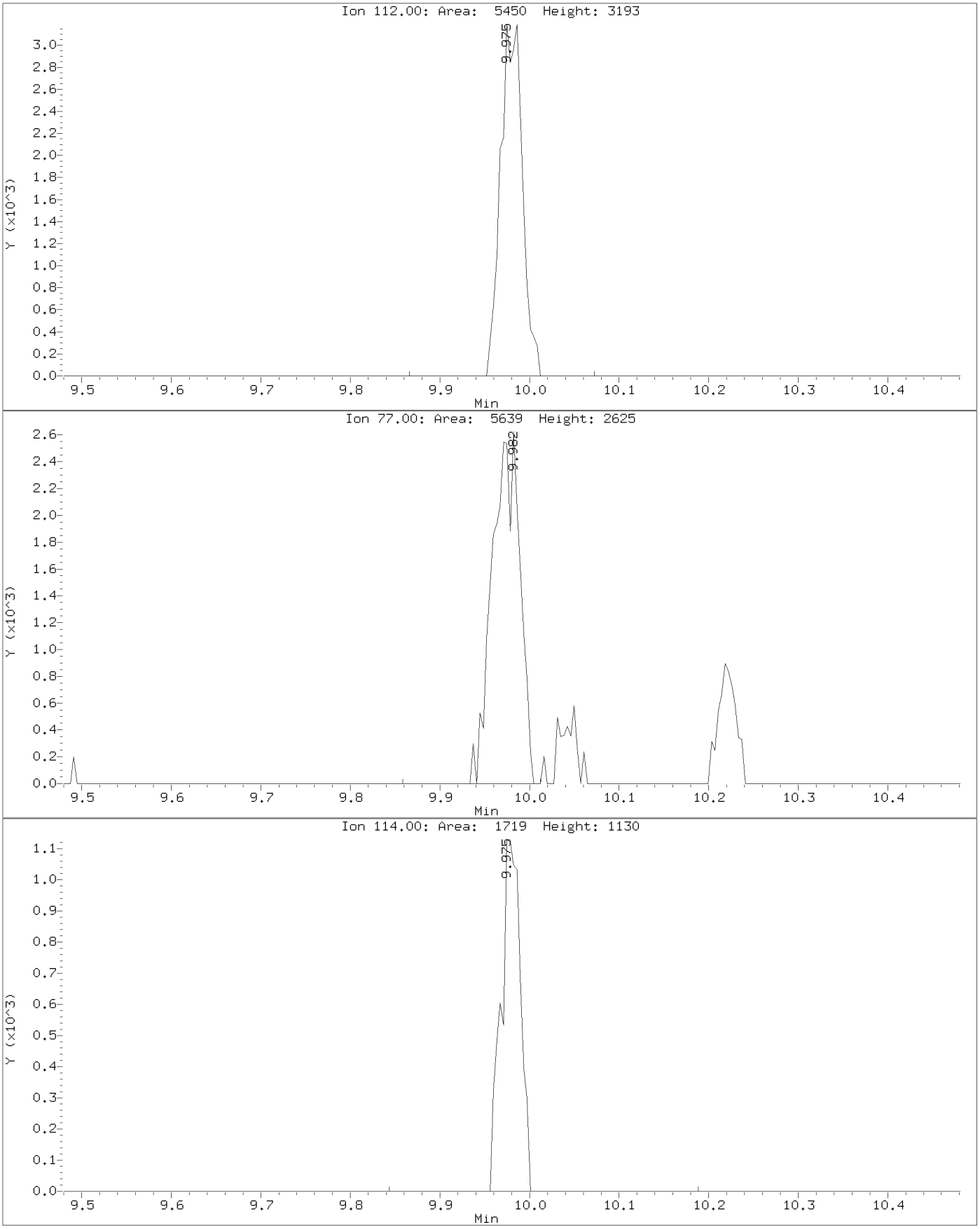
Instrument: gcms-c.i
Client Sample ID:

Compound: Chlorobenzene
CAS Number: 108-90-7

AFTER MANUAL INTEGRATION



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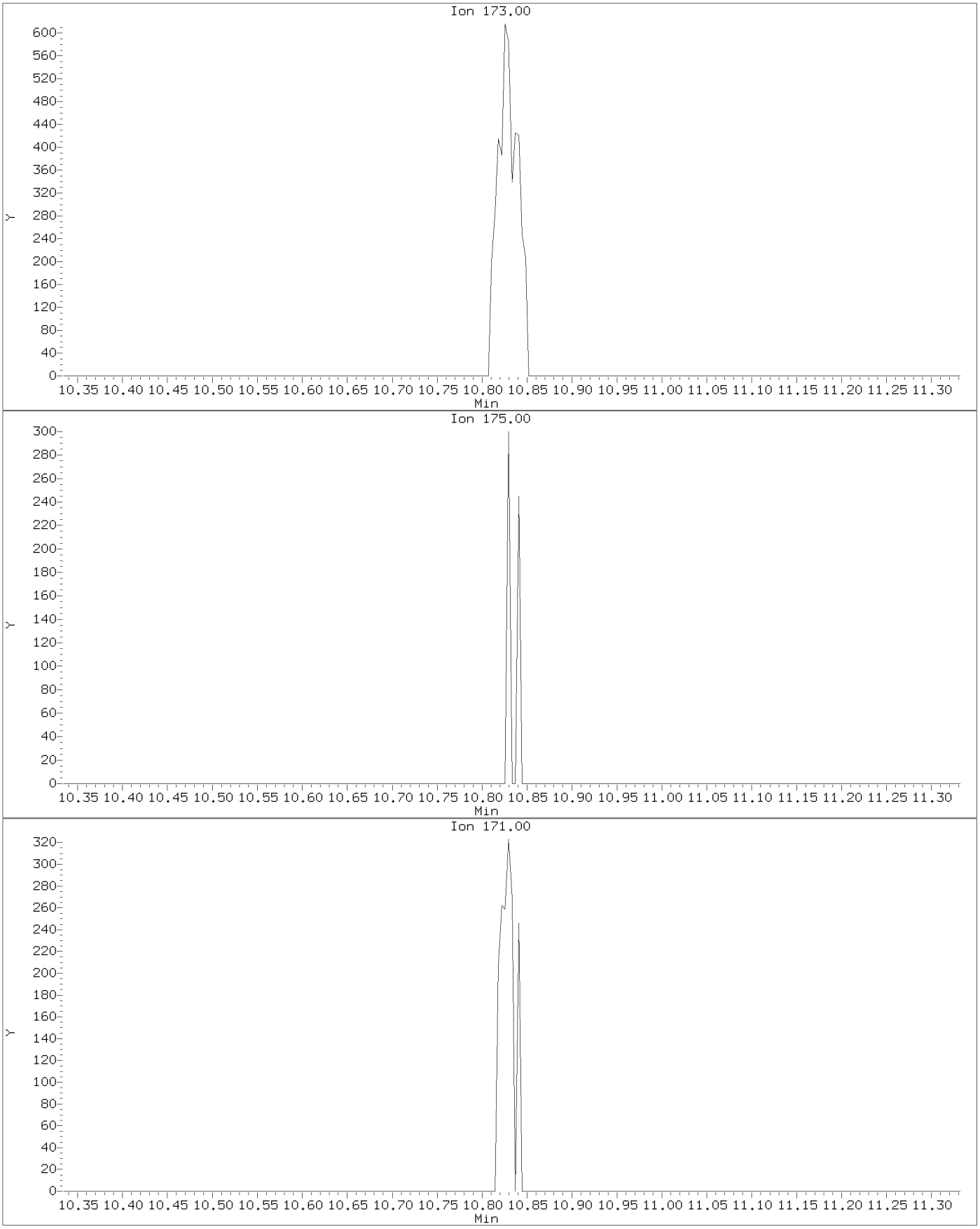
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: Bromoform
CAS Number: 75-25-2

BEFORE MANUAL INTEGRATION



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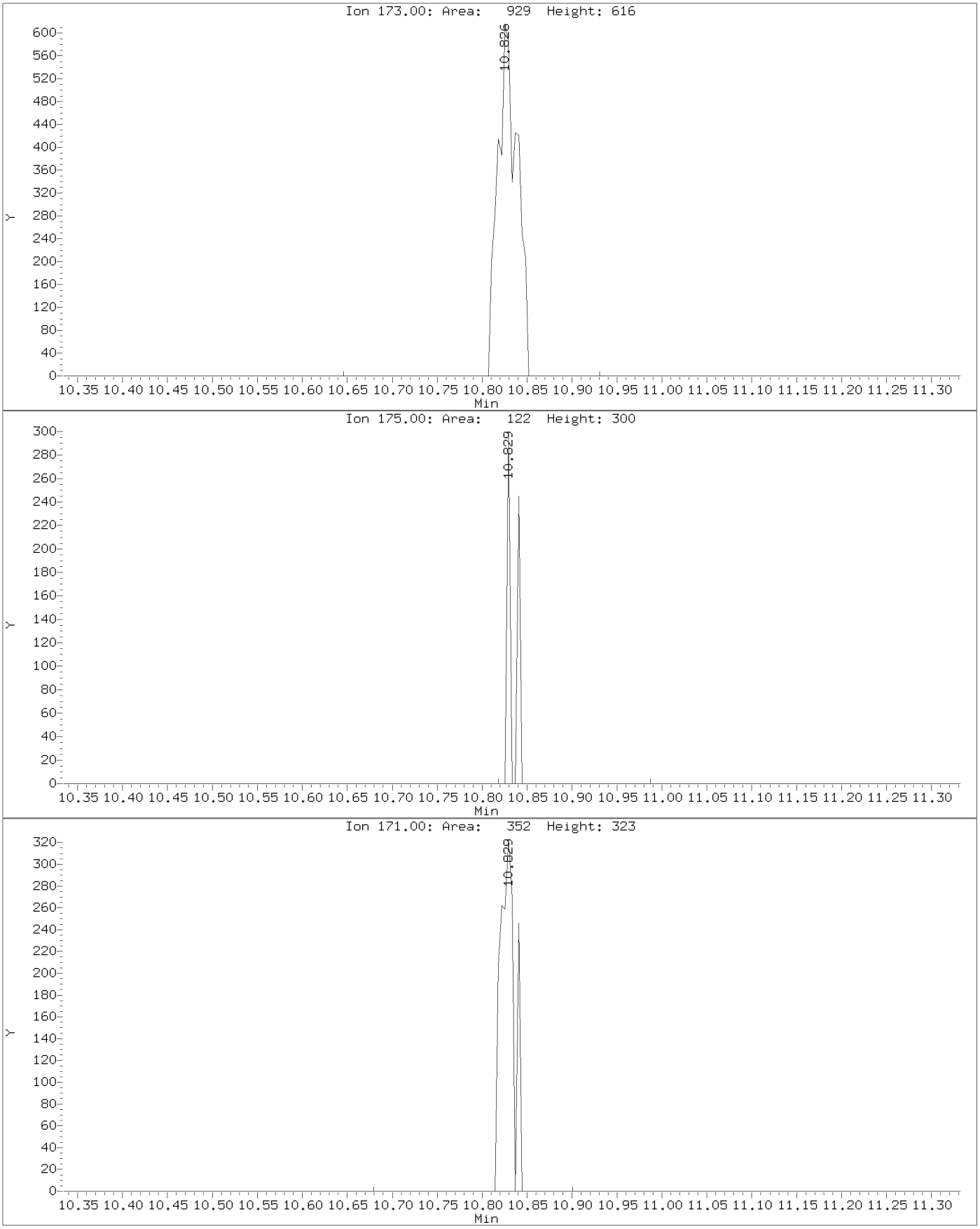
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: Bromoform
CAS Number: 75-25-2

AFTER MANUAL INTEGRATION



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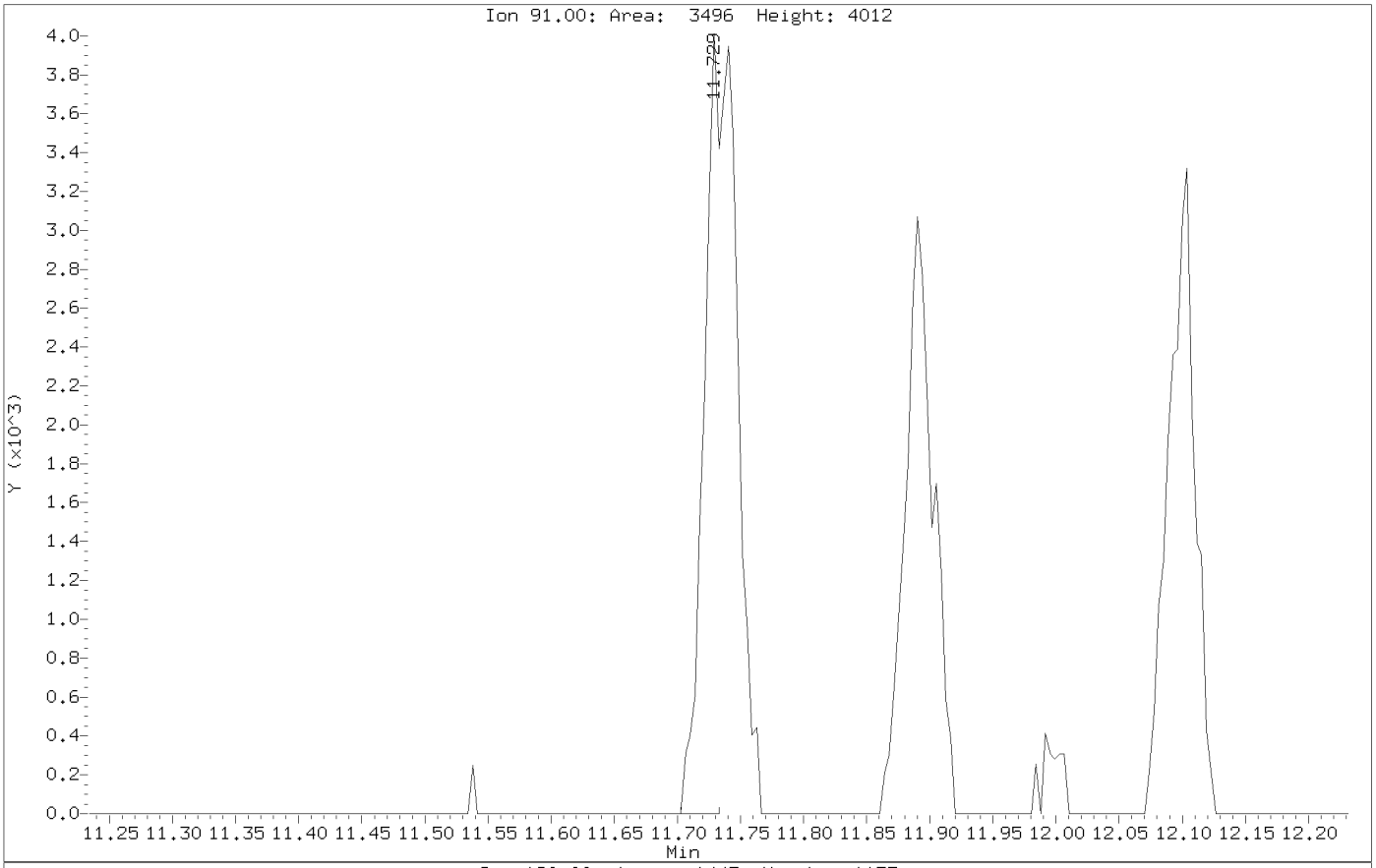
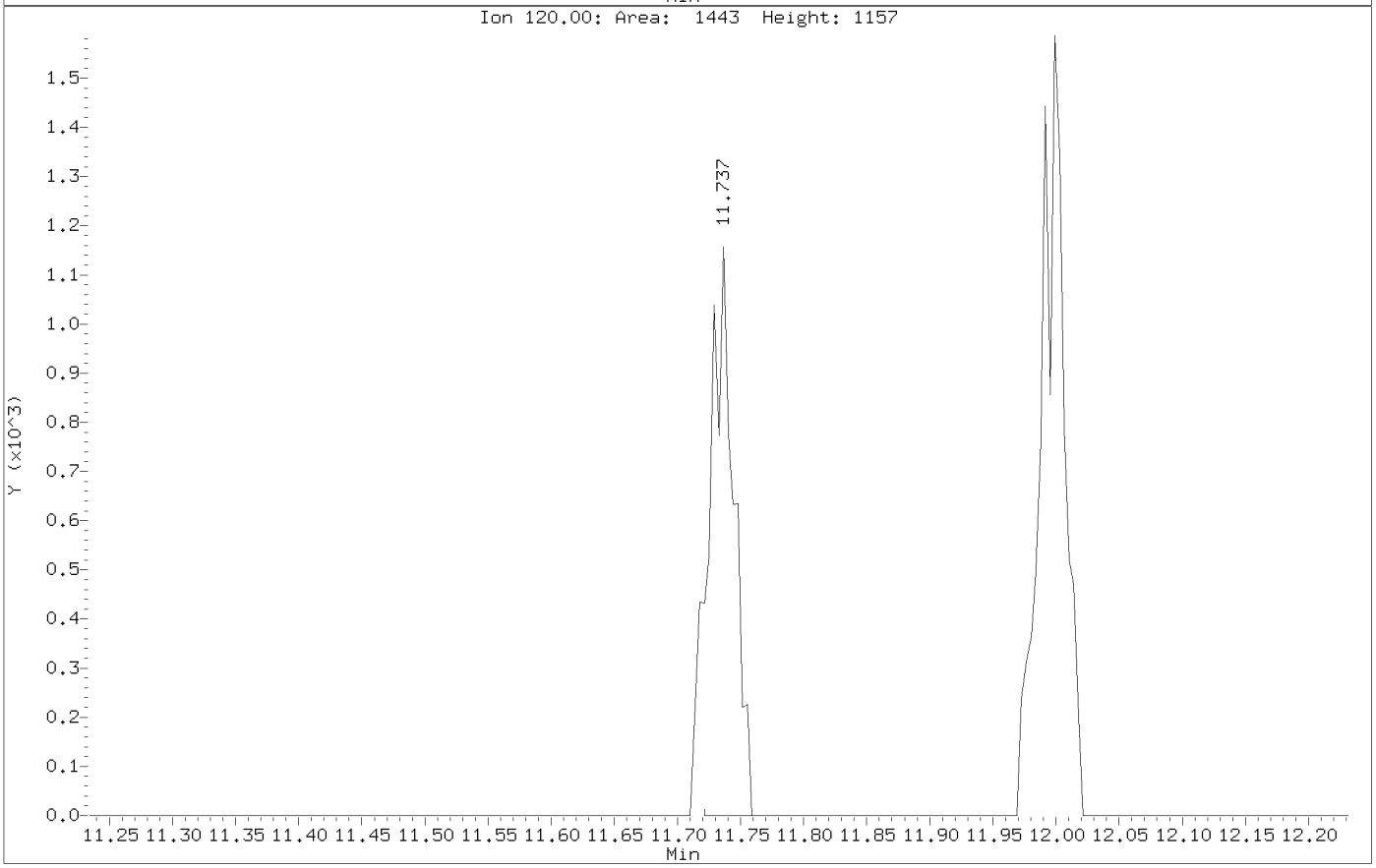
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: N-Propylbenzene
CAS Number: 103-65-1

BEFORE MANUAL INTEGRATION





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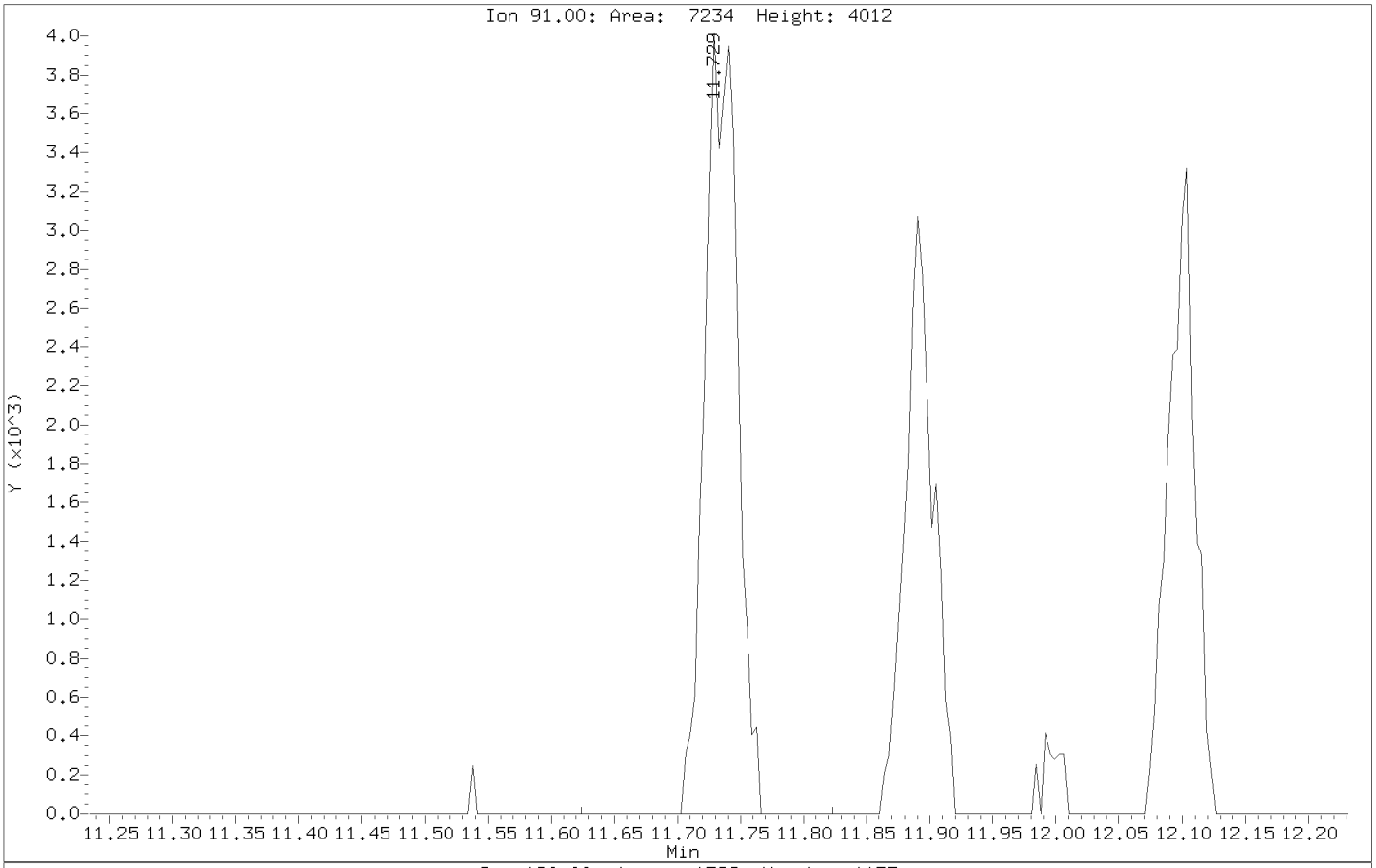
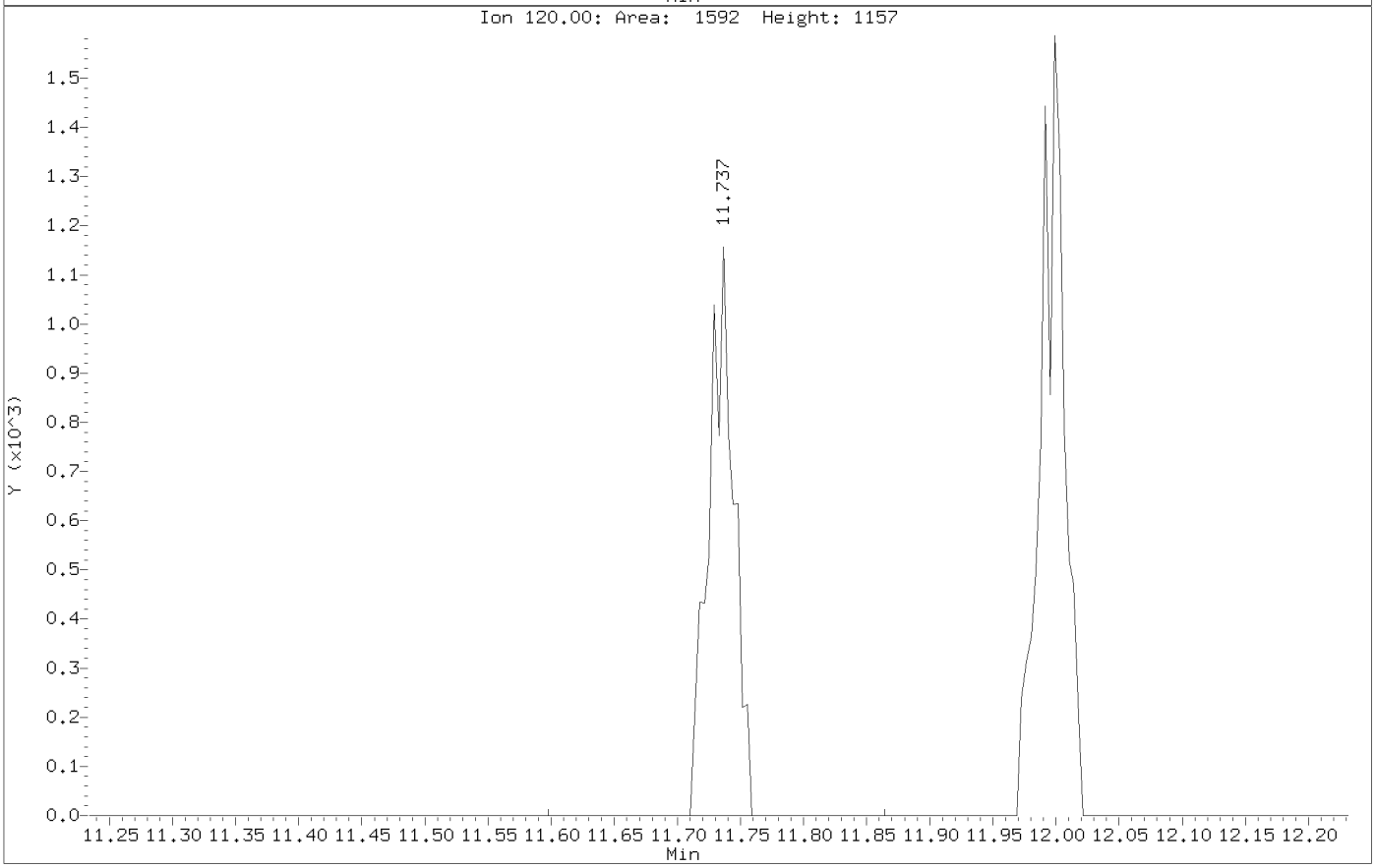
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: N-Propylbenzene
CAS Number: 103-65-1

AFTER MANUAL INTEGRATION

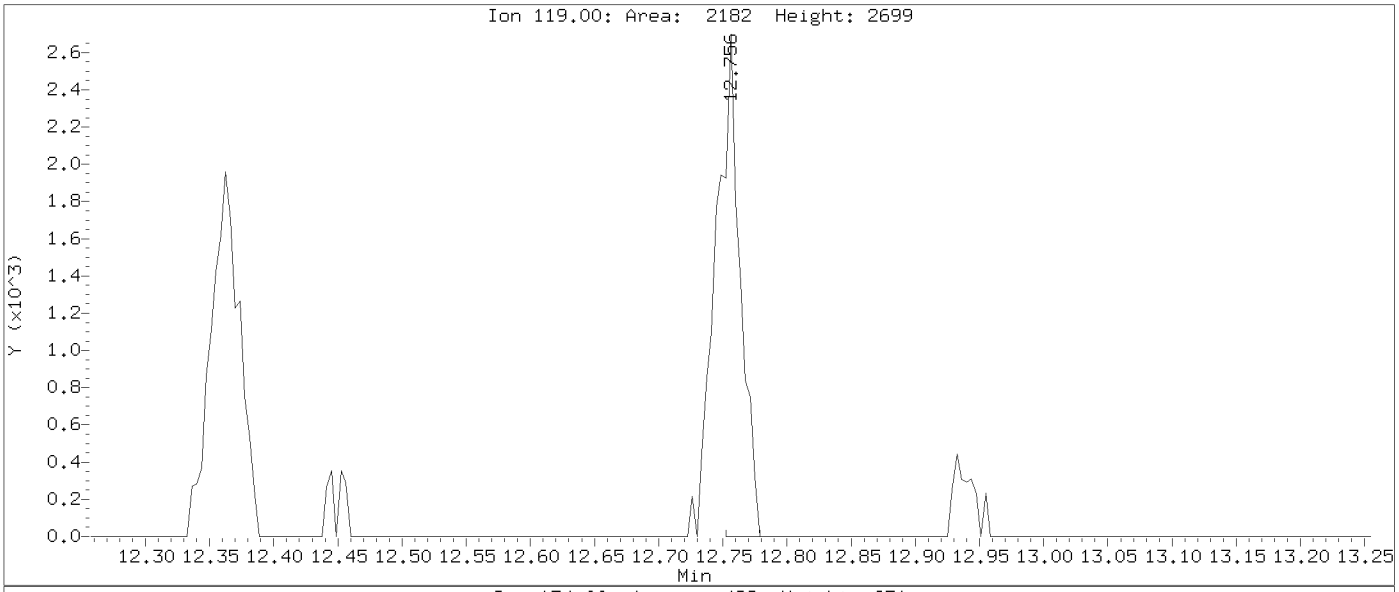


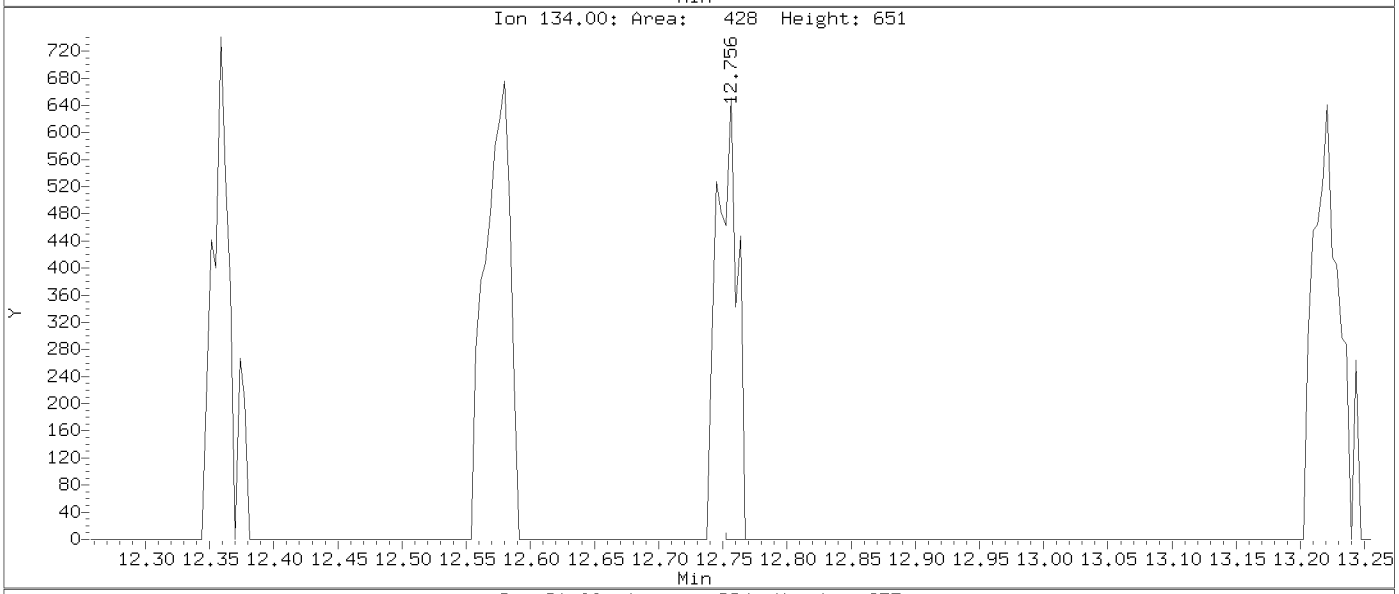


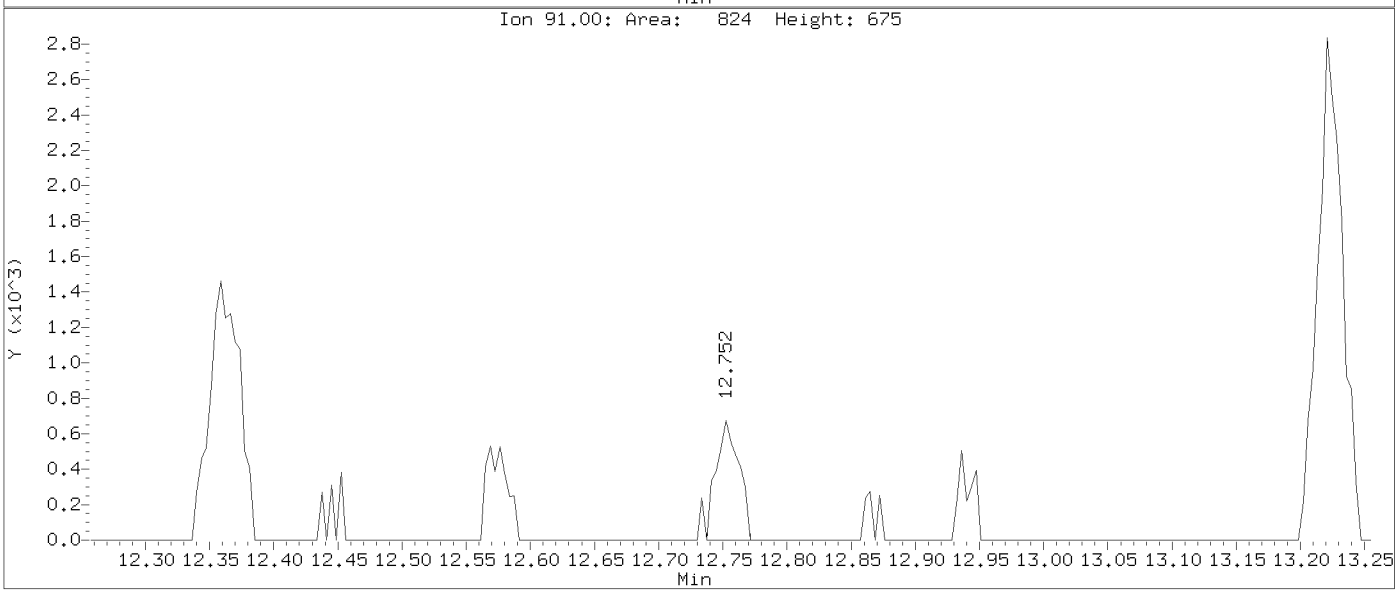
Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8341.D
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: P-Isopropyltoluene
CAS Number: 99-87-6

BEFORE MANUAL INTEGRATION







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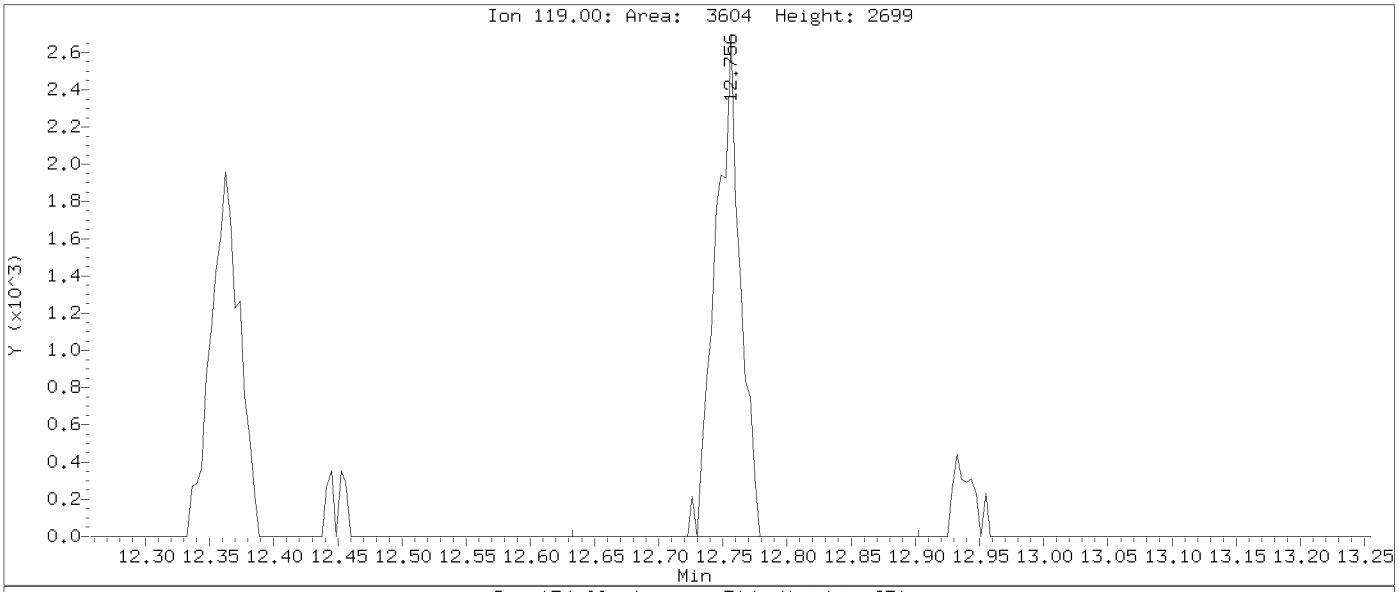
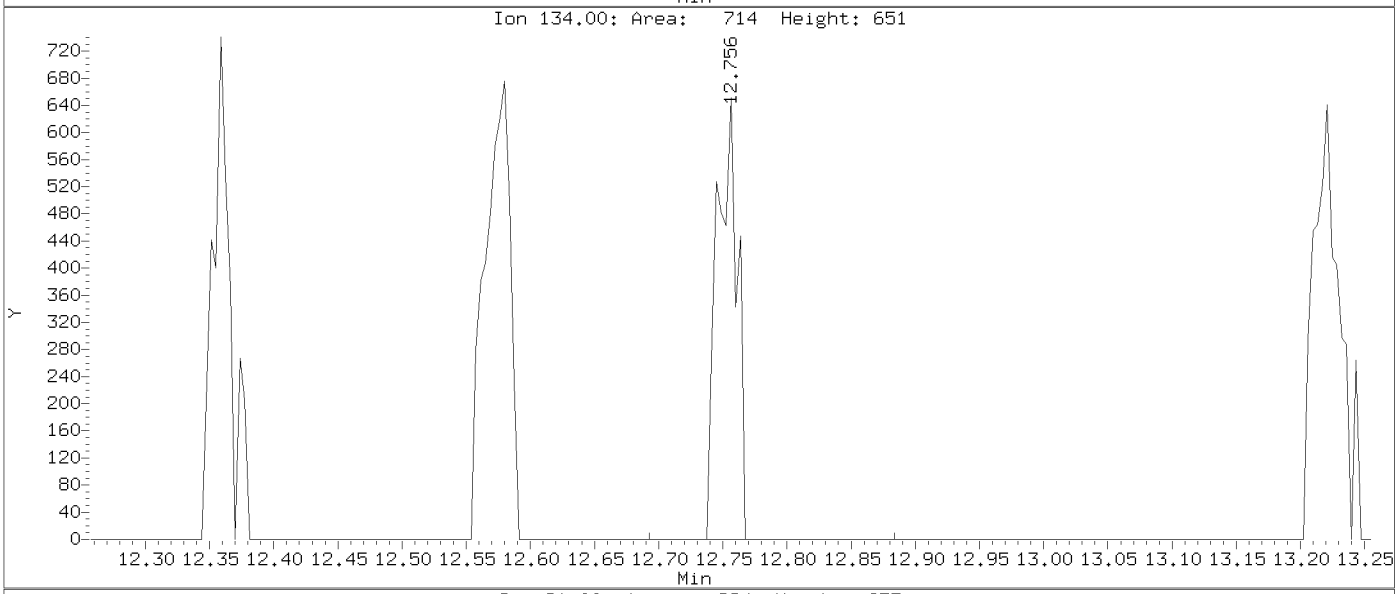
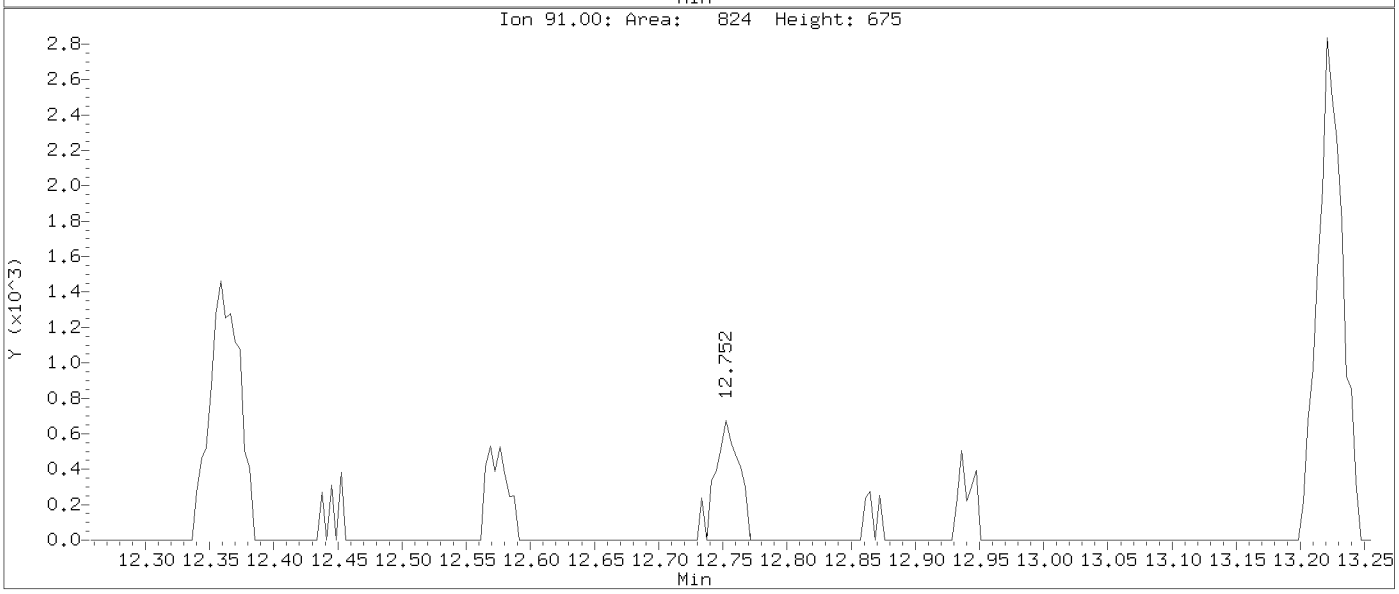
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: P-Isopropyltoluene
CAS Number: 99-87-6

AFTER MANUAL INTEGRATION



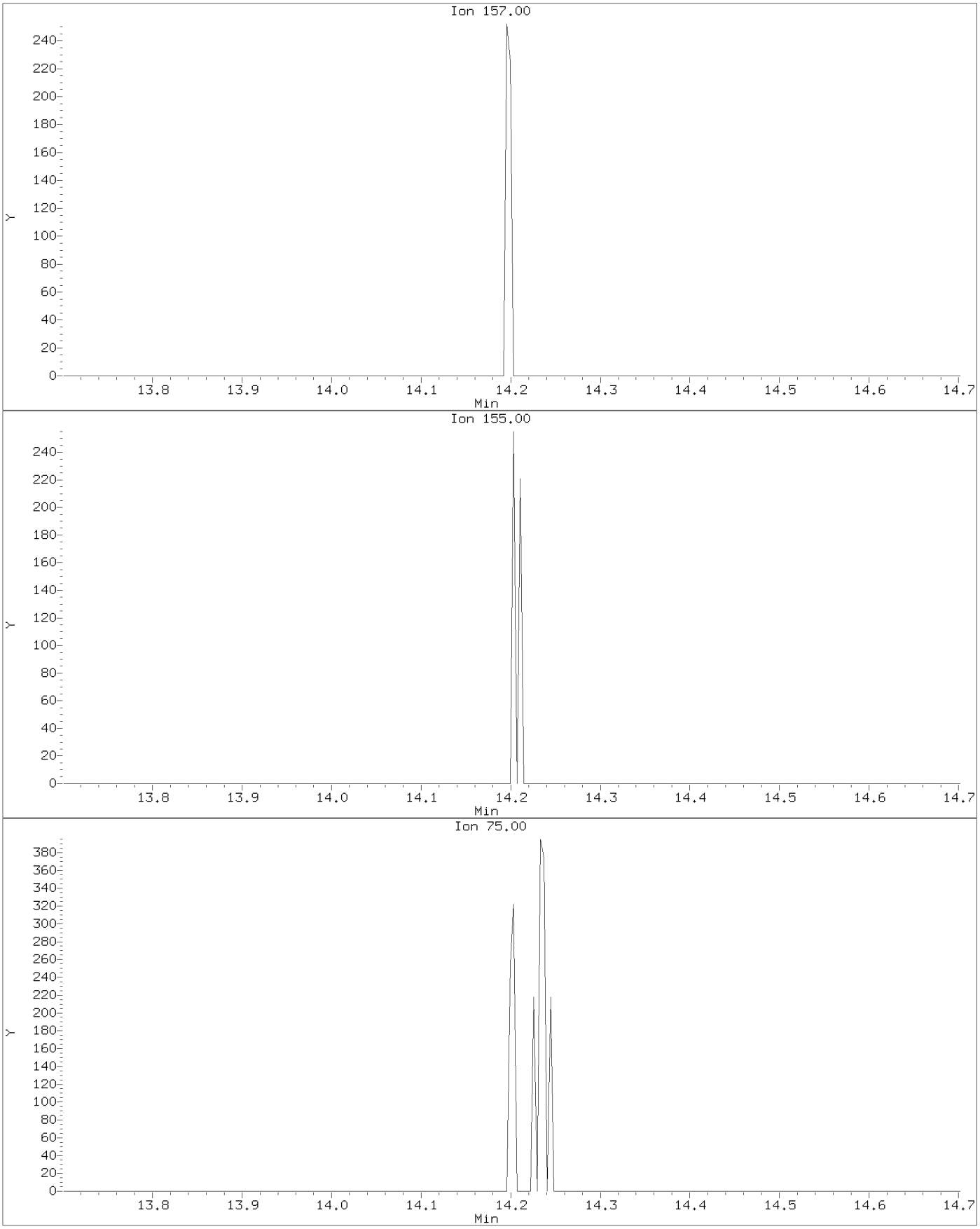




Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8341.D
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

BEFORE MANUAL INTEGRATION



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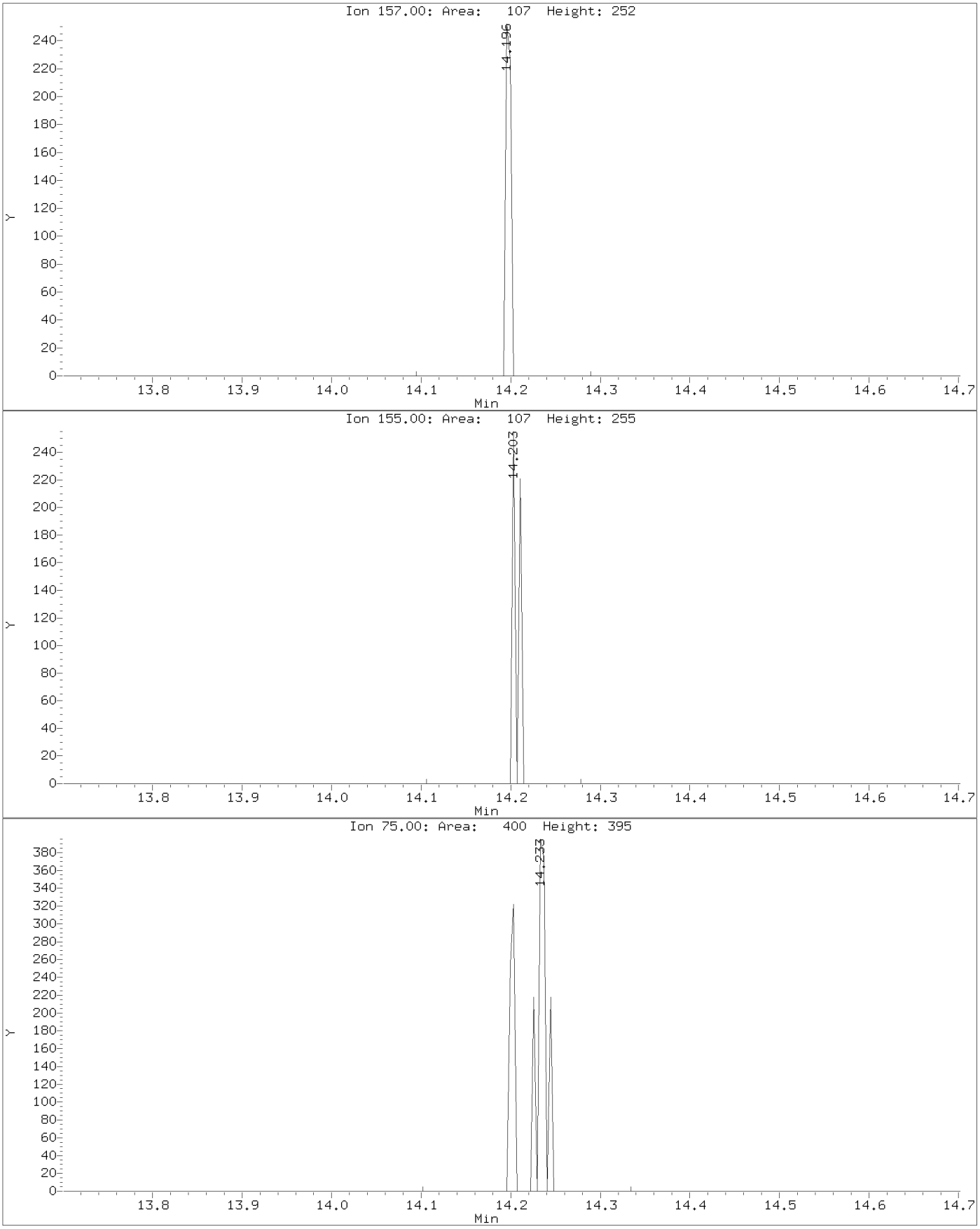
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: 1,2-Dibromo-3-Chloropropane
CAS Number: 96-12-8

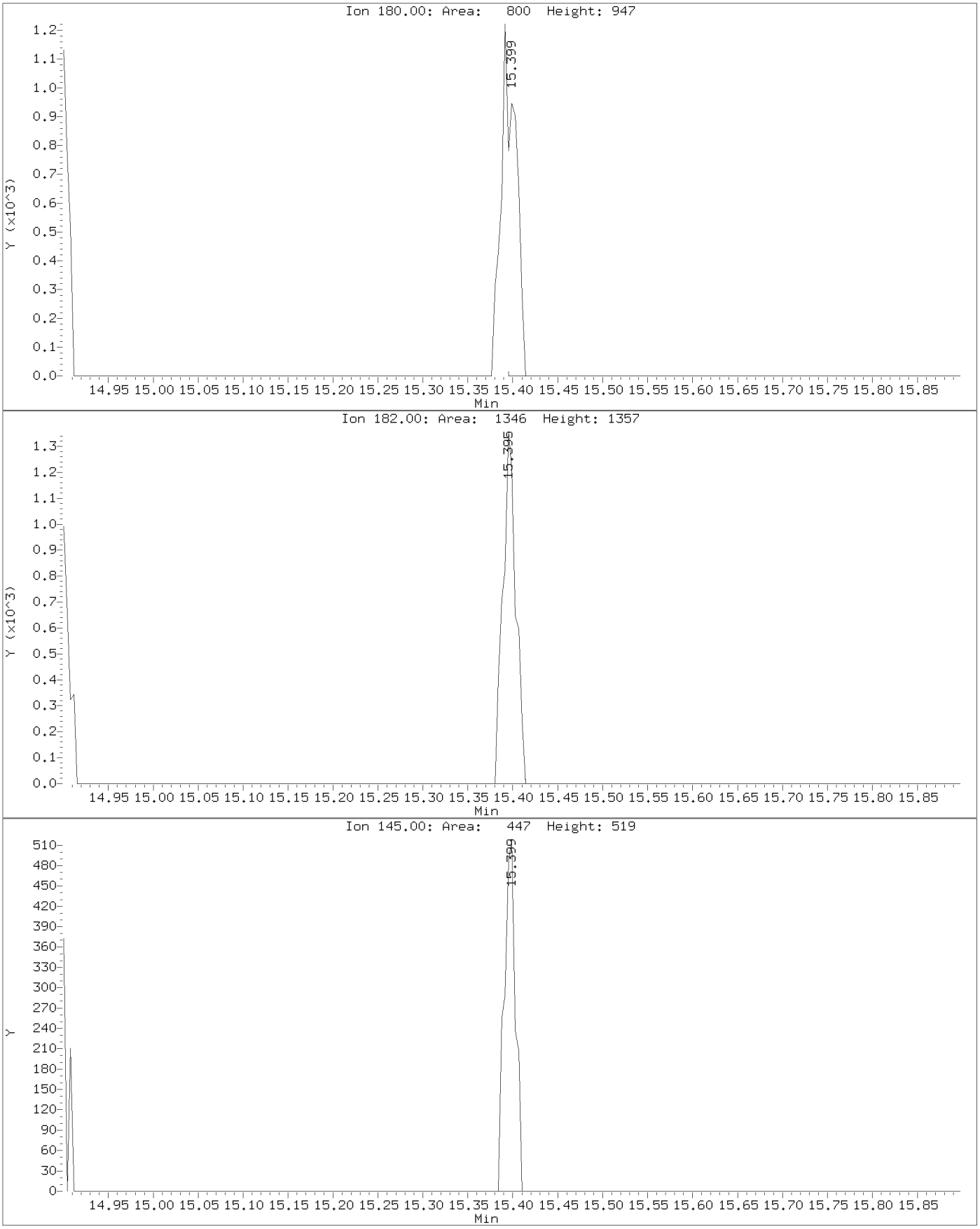
AFTER MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8341.D
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

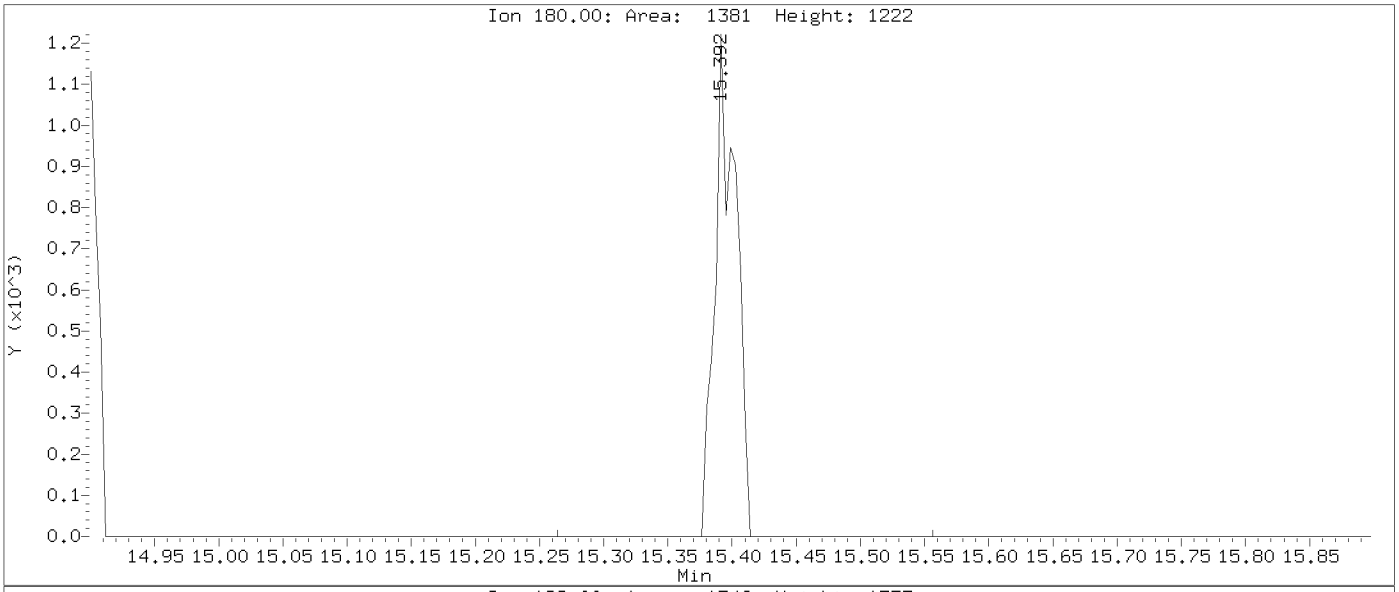
BEFORE MANUAL INTEGRATION

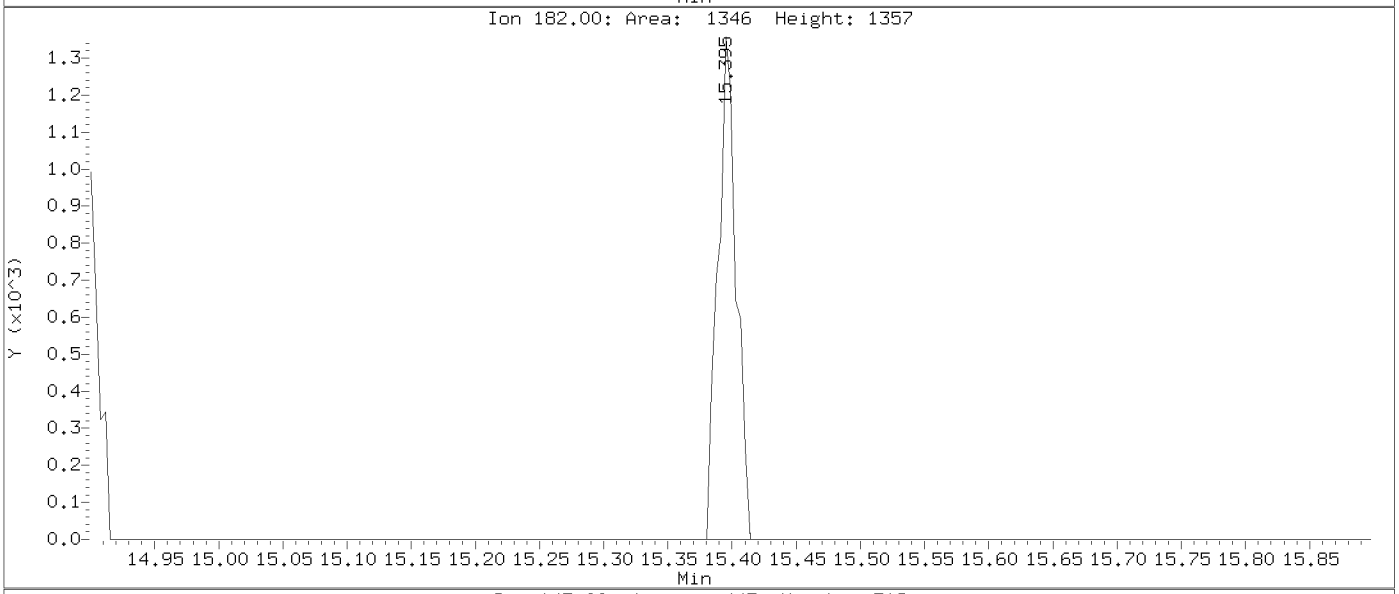


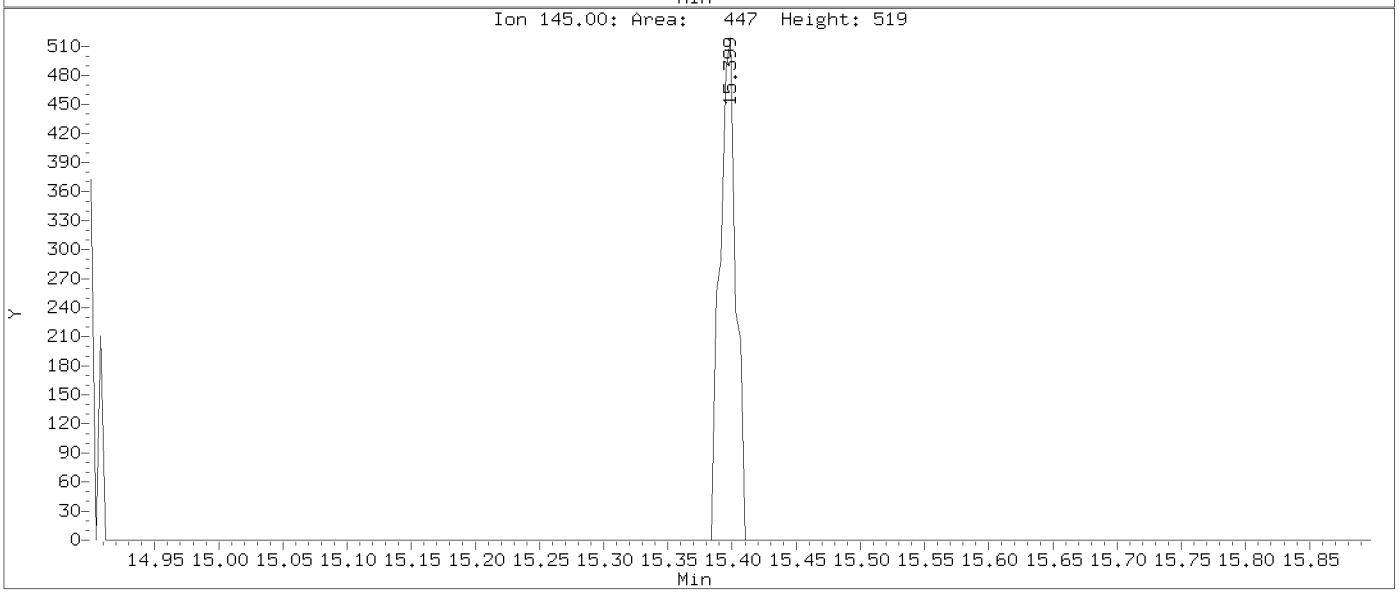
Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\C8341.D
Injection Date: 28-DEC-2020 13:35
Instrument: gcms-c.i
Client Sample ID:

Compound: 1,2,3-Trichlorobenzene
CAS Number: 87-61-6

AFTER MANUAL INTEGRATION







Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** TN0377
Project : LO-58 Nike Missile Battery Launch Site **Instrument ID:** GCMS-T
Lab File IDs : T9666.D T9665.D T9664.D T9663.D T9661.D T9660.D T9667.D **Calibration Date(s):** 23-DEC-20 09:24 23-DEC-20 14:35

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7		Crv				Max	
	1.0000	5.0000	20.0000	50.0000	100.0000	150.0000	75.0000		New	b	m1	%RSD	%RSD	
Chloromethane	0.48997	0.43912	0.46341	0.46000	0.44571	0.44570	0.47821		AVG		0.46030	4.05011	15.00000	O
Vinyl chloride	0.42287	0.38261	0.43196	0.43385	0.44807	0.44367	0.45702		AVG		0.43143	5.63353	15.00000	O
Bromomethane	3127	10998	40072	96256	179000	253324	141854		LNR	0.000e+00	0.15481	0.99661	0.99000	O
Chloroethane	2879	12651	50013	115865	+++++	+++++	186927		LNR	0.000e+00	0.21136	0.99777	0.99000	O
1,1-Dichloroethene	0.50204	0.46207	0.48823	0.49182	0.48294	0.50340	0.52127		AVG		0.49311	3.76776	15.00000	O
Carbon Disulfide	1.69120	1.31979	1.36085	1.31111	1.28378	1.30658	1.37768		AVG		1.37871	10.26735	15.00000	O
Methylene Chloride	27188	48319	139724	325946	639354	960821	528833		LNR	0.000e+00	0.57265	0.99712	0.99000	O
Acetone	0.14939	0.14327	0.13478	0.12358	0.12568	0.14178	0.16962		AVG		0.14116	11.09575	15.00000	O
trans-1,2-Dichloroethene	0.58796	0.50476	0.54671	0.52358	0.52770	0.53310	0.55638		AVG		0.54003	4.97130	15.00000	O
1,1-Dichloroethane	0.96319	0.90588	0.94702	0.90053	0.89453	0.91294	0.96298		AVG		0.92672	3.23831	15.00000	O
cis-1,2-Dichloroethene	0.57238	0.58195	0.59095	0.56834	0.57115	0.57894	0.60278		AVG		0.58093	2.12008	15.00000	O
Chloroform	1.02866	0.95440	1.00032	0.94526	0.95579	0.96869	1.01830		AVG		0.98163	3.43102	15.00000	O
Carbon Tetrachloride	0.35710	0.38397	0.42861	0.42917	0.43417	0.45140	0.46191		AVG		0.42090	8.86323	15.00000	O
1,1,1-Trichloroethane	0.85871	0.80968	0.86629	0.84880	0.85339	0.87057	0.91661		AVG		0.86058	3.69196	15.00000	O
2-Butanone	0.20517	0.20298	0.21398	0.20705	0.20580	0.20790	0.22900		AVG		0.21027	4.25184	15.00000	O
Benzene	1.30005	1.26769	1.29042	1.24728	1.22554	1.21878	1.31945		AVG		1.26703	3.02694	15.00000	O
1,2-Dichloroethane	0.46114	0.38593	0.40138	0.38904	0.38469	0.38989	0.40499		AVG		0.40244	6.71235	15.00000	O
Trichloroethene	0.29401	0.30287	0.30669	0.30392	0.30025	0.30806	0.32043		AVG		0.30518	2.67272	15.00000	O
1,2-Dichloropropane	0.29396	0.29328	0.30725	0.29629	0.29652	0.30055	0.31103		AVG		0.29984	2.28601	15.00000	O
Bromodichloromethane	0.39952	0.39091	0.42963	0.43725	0.44125	0.44846	0.46388		AVG		0.43013	6.09631	15.00000	O
cis-1,3-dichloropropene	0.47779	0.46949	0.52126	0.52162	0.52557	0.53400	0.55349		AVG		0.51475	5.87775	15.00000	O
Toluene	0.75917	0.75174	0.78569	0.75780	0.75816	0.76480	0.81061		AVG		0.76971	2.73614	15.00000	O
4-methyl-2-pentanone	0.20862	0.23741	0.26207	0.25681	0.23994	0.22871	0.25193		AVG		0.24078	7.63293	15.00000	O
Tetrachloroethene	0.30588	0.26087	0.27343	0.27093	0.27348	0.27260	0.29270		AVG		0.27855	5.49360	15.00000	O
trans-1,3-Dichloropropene	0.38135	0.41368	0.45874	0.46383	0.47260	0.48108	0.49093		AVG		0.45174	8.77626	15.00000	O
1,1,2-Trichloroethane	0.22729	0.23057	0.24597	0.23595	0.23477	0.23690	0.24569		AVG		0.23674	2.97287	15.00000	O
Dibromochloromethane	0.28994	0.32618	0.36445	0.36916	0.37507	0.37302	0.39404		AVG		0.35598	9.99644	15.00000	O
2-Hexanone	0.13795	0.17903	0.19899	0.19788	0.18787	0.17813	0.20722		AVG		0.18387	12.46348	15.00000	O
Chlorobenzene	0.96131	0.89513	0.91208	0.88201	0.86252	0.84500	0.92700		AVG		0.89786	4.40376	15.00000	O
Ethylbenzene	1.50656	1.48960	1.57870	1.53674	1.49027	1.43186	1.60756		AVG		1.52018	3.90557	15.00000	O
Xylenes (total)	+++++	+++++	+++++	+++++	+++++	+++++	+++++		AVG		0.000e+00	0.000e+0	15.00000	M (
m+p-Xylenes	1.15850	1.15277	1.19764	1.15165	1.08503	1.00528	1.20262		AVG		1.13621	6.11414	15.00000	O
o-Xylene	1.16587	1.14699	1.22408	1.19834	1.16450	1.14282	1.26725		AVG		1.18712	3.83699	15.00000	O
Styrene	0.80840	0.87000	0.96869	0.95912	0.94993	0.93030	1.01626		AVG		0.92896	7.42693	15.00000	O
Bromoform	0.17622	0.19286	0.22408	0.23652	0.23993	0.24132	0.24887		AVG		0.22283	12.38835	15.00000	O
1,1,2,2-Tetrachloroethane	0.81619	0.79340	0.84280	0.83228	0.81279	0.79072	0.84459		AVG		0.81897	2.68446	15.00000	O

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services
SDG: TN0377
Project : LO-58 Nike Missile Battery Launch Site
Instrument ID: GCMS-T
Lab File IDs : T9666.D T9665.D T9664.D T9663.D T9661.D T9660.D T9667.D
Calibration Date(s): 23-DEC-20 09:24 23-DEC-20 14:35

Dibromofluoromethane	0.53992	0.54461	0.54762	0.54154	0.55240	0.55849	0.54589		AVG		0.54721	1.17478	15.00000	
1,2-Dichloroethane-D4	0.60682	0.59122	0.60254	0.59152	0.60711	0.61742	0.60031		AVG		0.60242	1.53778	15.00000	
Toluene-D8	1.14519	1.15179	1.16179	1.15849	1.16071	1.16648	1.14886		AVG		1.15619	0.66722	15.00000	
P-Bromofluorobenzene	0.42637	0.42861	0.42832	0.42503	0.42156	0.42627	0.42101		AVG		0.42531	0.70946	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9668A.D
Report Date: 25-Jan-2021 11:03

Katahdin Analytical Services

RECOVERY REPORT

Client Name:
Client SDG: SDGa02236
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: WG292401-8
Level: LOW
Operator: CR
Data Type: MS DATA
SampleType: LCS
SpikeList File: IND_CHECK.spk
Quant Type: ISTD
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Misc Info: WG292401,WG292401-4

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
1 Dichlorodifluorome	50.0	65.5	131.01*	80-120
2 Chloromethane	50.0	57.8	115.67	80-120
3 Vinyl chloride	50.0	57.9	115.79	80-120
4 Bromomethane	50.0	54.2	108.42	80-120
5 Chloroethane	50.0	54.8	109.53	80-120
6 Trichlorofluoromet	50.0	59.0	118.07	80-120
7 Diethyl Ether	50.0	51.9	103.81	80-120
19 Tertiary-butyl alc	250	271	108.28	80-120
8 1,1-Dichloroethene	50.0	46.4	92.82	80-120
10 Carbon Disulfide	50.0	44.5	89.07	80-120
9 Freon-113	50.0	51.0	101.97	80-120
11 Iodomethane	50.0	42.8	85.63	80-120
12 Acrolein	250	254	101.72	80-120
14 Methylene Chloride	50.0	48.3	96.66	80-120
15 Acetone	50.0	41.0	82.09	80-120
45 Isobutyl Alcohol	1000	1100	109.61	80-120
16 trans-1,2-Dichloro	50.0	47.1	94.22	80-120
13 Allyl Chloride	50.0	51.2	102.36	80-120
18 Methyl tert-butyl	50.0	54.2	108.35	80-120
20 Acetonitrile	500	504	100.84	80-120
21 Di-isopropyl ether	50.0	52.4	104.86	80-120
22 Chloroprene	50.0	52.3	104.62	80-120
39 Propionitrile	500	518	103.65	80-120
40 Methacrylonitrile	500	526	105.24	80-120
23 1,1-Dichloroethane	50.0	47.6	95.29	80-120
24 Acrylonitrile	250	257	102.99	80-120
25 Ethyl tertiary-but	50.0	53.0	105.97	80-120
26 Vinyl Acetate	50.0	58.4	116.81	80-120
27 cis-1,2-Dichloroet	50.0	47.9	95.86	80-120
M 103 1,2-Dichloroethyle	100	95.0	95.04	80-120
52 Methyl Methacrylat	50.0	56.0	111.98	80-120
28 2,2-Dichloropropan	50.0	44.2	88.30	80-120
30 Bromochloromethane	50.0	52.6	105.12	80-120
31 Chloroform	50.0	46.4	92.80	80-120
32 Carbon Tetrachlori	50.0	48.0	96.10	80-120
33 Tetrahydrofuran	50.0	48.8	97.63	80-120
35 1,1,1-Trichloroeth	50.0	47.4	94.75	80-120
36 1,1-Dichloropropen	50.0	48.3	96.66	80-120
37 2-Butanone	50.0	46.2	92.31	80-120
38 Benzene	50.0	48.6	97.16	80-120

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9668A.D
Report Date: 25-Jan-2021 11:03

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
29 Cyclohexane	50.0	54.4	108.89	80-120
62 Ethyl Methacrylate	50.0	55.7	111.37	80-120
43 Tertiary-amyl meth	50.0	53.2	106.32	80-120
44 1,2-Dichloroethane	50.0	47.0	93.92	80-120
47 Trichloroethene	50.0	48.9	97.86	80-120
49 Dibromomethane	50.0	44.6	89.25	80-120
50 1,2-Dichloropropan	50.0	48.0	96.02	80-120
51 Bromodichlorometha	50.0	48.2	96.40	80-120
55 cis-1,3-dichloropr	50.0	47.5	94.93	80-120
53 1,4-Dioxane	1000	967	96.71	80-120
54 2-Chloroethylvinyl	50.0	80.4	160.75*	80-120
57 Toluene	50.0	49.7	99.33	80-120
59 4-methyl-2-pentano	50.0	52.3	104.58	80-120
58 Tetrachloroethene	50.0	45.4	90.84	80-120
60 trans-1,3-Dichloro	50.0	49.8	99.68	80-120
61 1,1,2-Trichloroeth	50.0	50.0	100.07	80-120
63 Dibromochlorometha	50.0	48.7	97.34	80-120
64 1,3-Dichloropropan	50.0	46.8	93.70	80-120
65 1,2-Dibromoethane	50.0	48.8	97.66	80-120
67 2-Hexanone	50.0	51.3	102.54	80-120
69 Chlorobenzene	50.0	47.6	95.11	80-120
70 Ethylbenzene	50.0	49.1	98.15	80-120
71 1,1,1,2-Tetrachlor	50.0	50.2	100.34	80-120
M 105 Xylenes (total)	150	148	98.71	80-120
72 m+p-Xylenes	100	99.4	99.42	80-120
73 o-Xylene	50.0	48.6	97.30	80-120
74 Styrene	50.0	50.6	101.15	80-120
75 Bromoform	50.0	49.2	98.41	80-120
76 Isopropylbenzene	50.0	49.2	98.39	80-120
79 cis-1,4-Dichloro-2	50.0	52.2	104.38	80-120
85 trans-1,4-Dichloro	50.0	49.7	99.41	80-120
78 Bromobenzene	50.0	47.3	94.58	80-120
80 N-Propylbenzene	50.0	48.9	97.89	80-120
81 1,1,2,2-Tetrachlor	50.0	49.5	99.08	80-120
84 1,3,5-Trimethylben	50.0	49.7	99.40	80-120
82 2-Chlorotoluene	50.0	48.3	96.55	80-120
83 1,2,3-Trichloropro	50.0	47.5	94.98	80-120
86 4-Chlorotoluene	50.0	47.4	94.84	80-120
87 tert-Butylbenzene	50.0	49.1	98.28	80-120
88 Pentachloroethane	50.0	0.00	0.00*	80-120
89 1,2,4-Trimethylben	50.0	49.6	99.15	80-120
91 P-Isopropyltoluene	50.0	51.0	101.96	80-120
92 1,3-Dichlorobenzen	50.0	46.9	93.90	80-120
94 1,4-Dichlorobenzen	50.0	46.4	92.73	80-120
96 N-Butylbenzene	50.0	50.5	101.00	80-120
90 sec-Butylbenzene	50.0	50.0	100.00	80-120
97 1,2-Dichlorobenzen	50.0	47.4	94.75	80-120
98 1,2-Dibromo-3-Chlo	50.0	48.6	97.13	80-120
99 1,3,5-Trichloroben	50.0	49.5	99.00	80-120
100 Hexachlorobutadien	50.0	45.5	91.09	80-120
101 1,2,4-Trichloroben	50.0	48.4	96.77	80-120
95 1,2,3-Trimethylben	50.0	51.2	102.34	80-120
102 Naphthalene	50.0	50.1	100.22	80-120
104 1,2,3-Trichloroben	50.0	49.5	98.95	80-120

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9668A.D
Report Date: 25-Jan-2021 11:03

SPIKE COMPOUND	CONC ADDED ug/l	CONC RECOVERED ug/l	% RECOVERED	LIMITS
17 Methyl Acetate	50.0	50.2	100.31	80-120
46 Methylcyclohexane	50.0	53.0	106.10	80-120
M 66 Total Alkylbenzene	350	349	99.67	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/l	AMOUNT RECOVERED ug/l	% RECOVERED	LIMITS
$ 34 Dibromofluorometha	50.0	50.4	100.85	68-128
$ 42 1,2-Dichloroethane	50.0	50.2	100.51	67-135
$ 56 Toluene-D8	50.0	50.3	100.52	65-128
$ 77 P-Bromofluorobenze	50.0	50.6	101.13	56-133

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9668A.D
Report Date: 25-Jan-2021 11:03

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9668A.D
Lab Smp Id: WG292401-8
Inj Date : 23-DEC-2020 15:14
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-8
Misc Info : WG292401,WG292401-4
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 9 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	298430	65.5028	65.5(R)	
2 Chloromethane	50	1.390	1.390	(0.258)	304167	57.8355	57.8	
3 Vinyl chloride	62	1.431	1.431	(0.266)	285386	57.8955	57.9	
4 Bromomethane	94	1.633	1.633	(0.303)	95879	54.2078	54.2	
5 Chloroethane	64	1.711	1.708	(0.318)	132252	54.7657	54.8	
6 Trichlorofluoromethane	101	1.805	1.802	(0.335)	422668	59.0363	59.0	
7 Diethyl Ether	59	2.011	2.011	(0.374)	160262	51.9065	51.9	
8 1,1-Dichloroethene	96	2.157	2.157	(0.401)	261478	46.4109	46.4	
9 Freon-113	151	2.183	2.184	(0.406)	171729	50.9829	51.0	
10 Carbon Disulfide	76	2.183	2.187	(0.406)	701564	44.5370	44.5	
11 Iodomethane	142	2.269	2.270	(0.422)	207900	42.8147	42.8	
12 Acrolein	56	2.411	2.416	(0.448)	214657	254.304	254	
13 Allyl Chloride	41	2.516	2.517	(0.467)	360378	51.1804	51.2	
14 Methylene Chloride	84	2.606	2.606	(0.484)	316203	48.3286	48.3	
15 Acetone	43	2.651	2.648	(0.493)	66196	41.0449	41.0	
16 trans-1,2-Dichloroethene	96	2.737	2.741	(0.509)	290658	47.1078	47.1	
17 Methyl Acetate	43	2.748	2.752	(0.511)	191549	50.1563	50.2	
18 Methyl tert-butyl ether	73	2.830	2.831	(0.526)	821164	54.1753	54.2	
19 Tertiary-butyl alcohol	59	2.920	2.924	(0.543)	107594	270.711	271	
20 Acetonitrile	41	3.070	3.070	(0.570)	298454	504.212	504	
21 Di-isopropyl ether	45	3.190	3.190	(0.593)	803199	52.4290	52.4	
22 Chloroprene	53	3.294	3.295	(0.612)	372235	52.3107	52.3	
23 1,1-Dichloroethane	63	3.324	3.325	(0.618)	504477	47.6451	47.6	
24 Acrylonitrile	52	3.384	3.385	(0.629)	415874	257.487	257	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9668A.D
Report Date: 25-Jan-2021 11:03

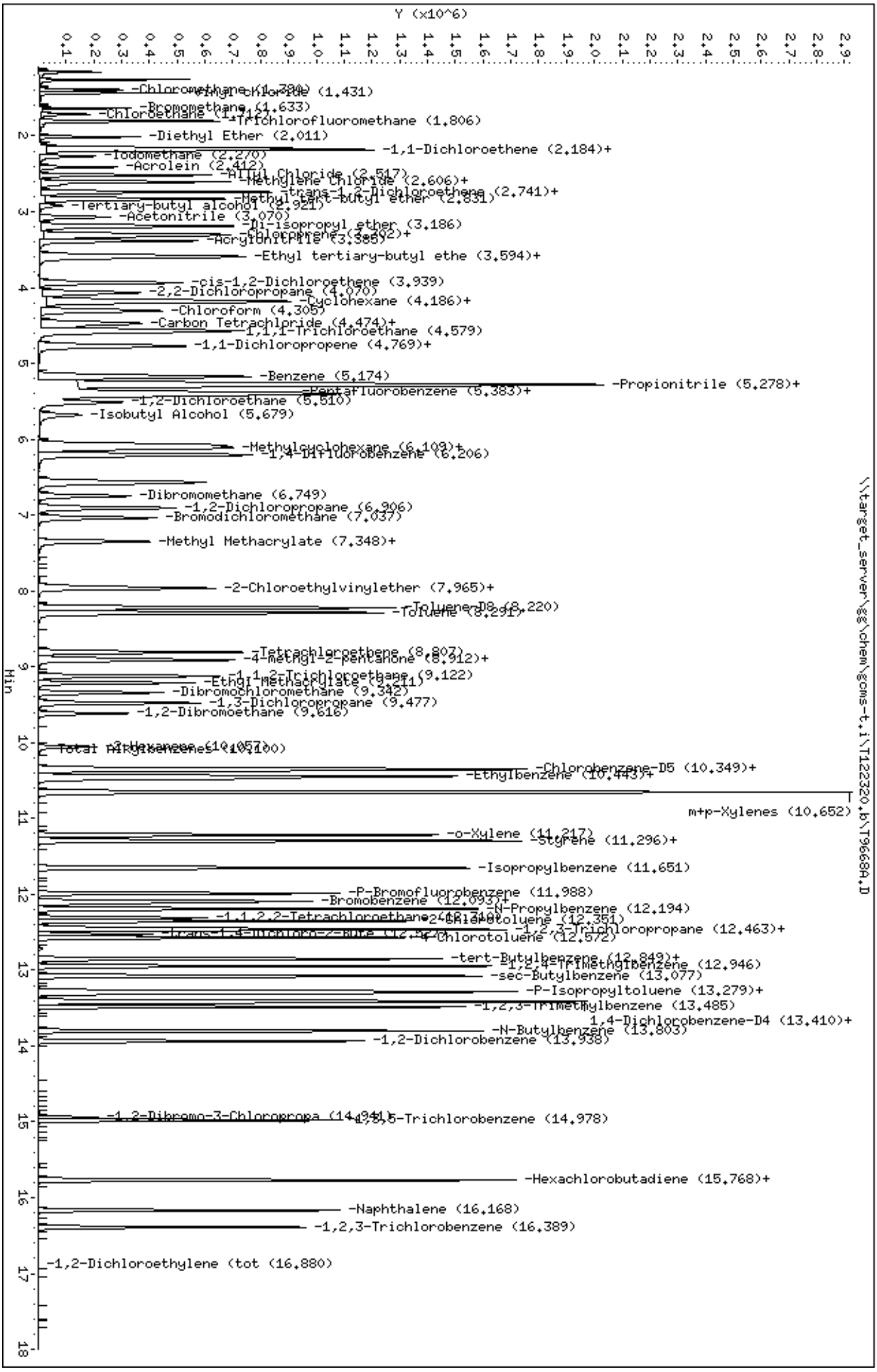
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.666)	774808	52.9839	53.0	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	636832	58.4035	58.4	
	27 cis-1,2-Dichloroethene	96	3.934	3.935	(0.731)	318144	47.9324	47.9	
	28 2,2-Dichloropropane	77	4.069	4.070	(0.756)	379326	44.1524	44.2	
	29 Cyclohexane	56	4.174	4.174	(0.775)	440162	54.4430	54.4	
	30 Bromochloromethane	128	4.189	4.192	(0.778)	148887	52.5588	52.6	
	31 Chloroform	83	4.305	4.304	(0.800)	520402	46.4000	46.4	
	32 Carbon Tetrachloride	117	4.473	4.474	(0.720)	385961	48.0486	48.0	
	33 Tetrahydrofuran	42	4.522	4.519	(0.840)	74034	48.8148	48.8	
$	34 Dibromofluoromethane	113	4.567	4.571	(0.848)	315256	50.4239	50.4	
	35 1,1,1-Trichloroethane	97	4.578	4.582	(0.851)	465817	47.3754	47.4	
	36 1,1-Dichloropropene	75	4.769	4.769	(0.768)	400416	48.3291	48.3	
	37 2-Butanone	43	4.773	4.773	(0.887)	110880	46.1538	46.2	
	38 Benzene	78	5.173	5.174	(0.833)	1174733	48.5815	48.6	
	39 Propionitrile	54	5.252	5.252	(0.976)	351375	518.239	518	
	40 Methacrylonitrile	41	5.282	5.282	(0.981)	1544642	526.182	526	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	571272	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.004)	345908	50.2561	50.2	
	43 Tertiary-amyl methyl ether	73	5.413	5.413	(1.006)	741040	53.1581	53.2	
	44 1,2-Dichloroethane	62	5.510	5.514	(0.887)	360659	46.9587	47.0	
	45 Isobutyl Alcohol	43	5.678	5.686	(1.055)	163376	1096.11	1100	
	46 Methylcyclohexane	83	6.075	6.075	(1.129)	464322	53.0477	53.0	
	47 Trichloroethene	95	6.120	6.117	(0.986)	284964	48.9278	48.9	
*	48 1,4-Difluorobenzene	114	6.210	6.210	(1.000)	954227	50.0000		
	49 Dibromomethane	93	6.745	6.749	(1.086)	183638	44.6274	44.6	
	50 1,2-Dichloropropane	63	6.909	6.910	(1.113)	274722	48.0089	48.0	
	51 Bromodichloromethane	83	7.037	7.033	(1.133)	395680	48.2018	48.2	
	52 Methyl Methacrylate	41	7.347	7.348	(1.183)	224108	55.9876	56.0	
	53 1,4-Dioxane	88	7.355	7.352	(1.184)	58691	967.100	967	
	54 2-Chloroethylvinylether	63	7.939	7.939	(1.278)	114683	80.3751	80.4(R)	
	55 cis-1,3-dichloropropene	75	7.965	7.965	(1.283)	466299	47.4667	47.5	
$	56 Toluene-D8	98	8.219	8.220	(1.324)	1109010	50.2603	50.3	
	57 Toluene	92	8.290	8.291	(1.335)	729588	49.6671	49.7	
	58 Tetrachloroethene	164	8.807	8.807	(0.852)	220343	45.4204	45.4	
	59 4-methyl-2-pentanone	43	8.889	8.886	(1.431)	240278	52.2885	52.3	
	60 trans-1,3-Dichloropropene	75	8.912	8.916	(1.435)	429692	49.8406	49.8	
	61 1,1,2-Trichloroethane	83	9.121	9.122	(1.469)	226054	50.0343	50.0	
	62 Ethyl Methacrylate	69	9.211	9.211	(1.483)	370112	55.6835	55.7	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	301723	48.6680	48.7	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	460341	46.8488	46.8	
	65 1,2-Dibromoethane	107	9.615	9.619	(1.548)	275592	48.8305	48.8	
M	66 Total Alkylbenzenes	100				7504682	348.841	349	
	67 2-Hexanone	43	10.053	10.053	(0.972)	164173	51.2692	51.3	
*	68 Chlorobenzene-D5	117	10.341	10.342	(1.000)	870781	50.0000		
	69 Chlorobenzene	112	10.360	10.364	(1.002)	743643	47.5571	47.6	
	70 Ethylbenzene	91	10.442	10.443	(1.010)	1299201	49.0729	49.1	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	271619	50.1713	50.2	
	72 m+p-Xylenes	91	10.652	10.652	(1.030)	1967231	99.4161	99.4	
	73 o-Xylene	91	11.217	11.217	(1.085)	1005860	48.6524	48.6	
	74 Styrene	104	11.295	11.296	(1.092)	818253	50.5770	50.6	
	75 Bromoform	173	11.288	11.288	(1.092)	190951	49.2055	49.2	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	1229170	49.1967	49.2	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.930)	410417	50.5636	50.6	
	78 Bromobenzene	156	12.092	12.093	(0.902)	296963	47.2893	47.3	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9668A.D
Report Date: 25-Jan-2021 11:03

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.115	12.119	(0.904)	84126	52.1881	52.2	
	80 N-Propylbenzene	91	12.194	12.194	(0.910)	1452727	48.9467	48.9	
	81 1,1,2,2-Tetrachloroethane	83	12.310	12.310	(0.918)	343897	49.5388	49.5	
	82 2-Chlorotoluene	91	12.351	12.355	(0.921)	861865	48.2744	48.3	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	271864	47.4880	47.5	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	975564	49.7014	49.7	
	85 trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	82540	49.7060	49.7	
	86 4-Chlorotoluene	91	12.571	12.572	(0.938)	885919	47.4198	47.4	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	816349	49.1415	49.1	
	88 Pentachloroethane	165	12.863	12.860	(0.960)	636		(aR)	
	89 1,2,4-Trimethylbenzene	105	12.946	12.946	(0.966)	1001091	49.5732	49.6	
	90 sec-Butylbenzene	105	13.077	13.077	(0.975)	1257950	49.9994	50.0	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	1023963	50.9813	51.0	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	539883	46.9494	46.9	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	423824	50.0000		
	94 1,4-Dichlorobenzene	146	13.421	13.425	(1.001)	550619	46.3638	46.4	
	95 1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	950060	51.1676	51.2	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	977038	50.4975	50.5	
	97 1,2-Dichlorobenzene	146	13.937	13.938	(1.040)	512472	47.3744	47.4	
	98 1,2-Dibromo-3-Chloropropane	157	14.940	14.937	(1.114)	67913	48.5637	48.6	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	361815	49.5003	49.5	
	100 Hexachlorobutadiene	225	15.767	15.768	(1.176)	133897	45.5459	45.5	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	337995	48.3875	48.4	
	102 Naphthalene	128	16.168	16.168	(1.206)	856489	50.1079	50.1	
M	103 1,2-Dichloroethylene (total)	96				608802	95.0401	95.0	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	305590	49.4740	49.5	
M	105 Xylenes (total)	91				2973091	148.068	148	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.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Date : 23-DEC-2020 15:14
Client ID:
Sample Info: WG292401-8
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-t.i\T122320.b\T9668A.D
-Chloromethane (1.380)
-Vinyl Chloride (1.431)
-Bromomethane (1.633)
-Chloroethane (1.712)
-Trichlorofluoromethane (1.806)
-Diethyl Ether (2.011)
-1,1-Dichloroethene (2.184)+
-Iodomethane (2.270)
-Acrolein (2.412)
-Allyl Chloride (2.517)
-Methylene Chloride (2.606)+
-trans-1,2-Dichloroethene (2.741)+
-Methyl tert-butyl ether (2.831)
-Tertiary-butyl alcohol (2.921)
-Acetonitrile (3.070)
-Di-isopropyl ether (3.186)
-Chloroprene (3.292)+
-Acrylonitrile (3.385)
-Ethyl tertiary-butyl ethe (3.594)+
-cis-1,2-Dichloroethene (3.939)
-2,2-Dichloropropane (4.070)
-Cyclohexane (4.186)+
-Chloroform (4.305)
-Carbon Tetrachloride (4.474)+
-1,1,1-Trichloroethane (4.579)
-1,1-Dichloropropene (4.769)+
-Benzene (5.174)
-Propionitrile (5.278)+
-Pentafluorobenzene (5.383)+
-1,2-Dichloroethane (5.510)
-Isobutyl Alcohol (5.679)
-Methylcyclohexane (6.109)+
-1,4-Difluorobenzene (6.206)
-Dibromomethane (6.749)
-1,2-Dichloropropane (6.906)
-Bromodichloromethane (7.037)
-Methyl Methacrylate (7.348)+
-2-Chloroethylvinylether (7.965)+
-Toluene-D8 (8.220)
-Toluene (8.291)
-Tetrachloroethene (8.807)
-4-methyl-2-pentanone (8.912)+
-1,1,2-Trichloroethane (9.122)
-Ethyl Methacrylate (9.211)
-Dibromochloromethane (9.342)
-1,3-Dichloropropane (9.477)
-1,2-Dibromoethane (9.616)
-2-Hexanone (10.057)
Total Xylenes (10.100)
-Chlorobenzene-D5 (10.349)+
-Ethylbenzene (10.443)+
m+p-Xylenes (10.652)
-o-Xylene (11.217)
-Styrene (11.296)+
-Isopropylbenzene (11.651)
-P-Bromofluorobenzene (11.988)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.194)
-1,1,2,2-Tetrachloroethane (12.271)
-Chlorotoluene (12.351)
-1,2,3-Trichloropropane (12.463)+
-trans-1,4-Dichloro-2-Bute (12.527)
-4-Chlorotoluene (12.572)
-tert-Butylbenzene (12.849)+
-1,2,4-Trimethylbenzene (12.946)
-sec-Butylbenzene (13.077)
-P-Isopropyltoluene (13.279)+
-1,2,3-Trimethylbenzene (13.485)
1,4-Dichlorobenzene-D4 (13.410)+
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropa (14.941)
-1,3,5-Trichlorobenzene (14.978)
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.168)
-1,2,3-Trichlorobenzene (16.389)
-1,2-Dichloroethylene (tot (16.880)

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9660.D
Report Date: 25-Jan-2021 10:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9660.D
Lab Smp Id: WG292401-6
Inj Date : 23-DEC-2020 09:24
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-6
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 09:24 Cal File: T9660.D
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	695370	150.000	157(A)	
2 Chloromethane	50	1.386	1.390	(0.258)	750059	150.000	147	
3 Vinyl chloride	62	1.431	1.431	(0.266)	746648	150.000	155(A)	
4 Bromomethane	94	1.633	1.633	(0.303)	253324	150.000	123	
5 Chloroethane	64	1.704	1.708	(0.317)	108807	150.000	54.4	
6 Trichlorofluoromethane	101	1.794	1.802	(0.333)	1007444	150.000	146	
7 Diethyl Ether	59	2.011	2.011	(0.374)	450427	150.000	148	
8 1,1-Dichloroethene	96	2.153	2.157	(0.400)	847168	150.000	154(A)	
9 Freon-113	151	2.176	2.184	(0.404)	502095	150.000	153(A)	
10 Carbon Disulfide	76	2.183	2.187	(0.406)	2198815	150.000	144	
11 Iodomethane	142	2.265	2.270	(0.421)	816230	150.000	215(A)	
12 Acrolein	56	2.411	2.416	(0.448)	629195	750.000	751(A)	
13 Allyl Chloride	41	2.516	2.517	(0.468)	1032435	150.000	150(A)	
14 Methylene Chloride	84	2.602	2.606	(0.483)	960821	150.000	97.4	
15 Acetone	43	2.651	2.648	(0.493)	1192969	750.000	756(A)	
16 trans-1,2-Dichloroethene	96	2.737	2.741	(0.509)	897151	150.000	149	
17 Methyl Acetate	43	2.748	2.752	(0.511)	534193	150.000	141	
18 Methyl tert-butyl ether	73	2.831	2.831	(0.526)	2238481	150.000	151(A)	
19 Tertiary-butyl alcohol	59	2.932	2.924	(0.545)	313530	750.000	773(A)	
20 Acetonitrile	41	3.074	3.070	(0.571)	850096	1500.00	1440	
21 Di-isopropyl ether	45	3.190	3.190	(0.593)	2240315	150.000	149	
22 Chloroprene	53	3.295	3.295	(0.612)	1050364	150.000	151(A)	
23 1,1-Dichloroethane	63	3.321	3.325	(0.617)	1536375	150.000	149	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9660.D
Report Date: 25-Jan-2021 10:43

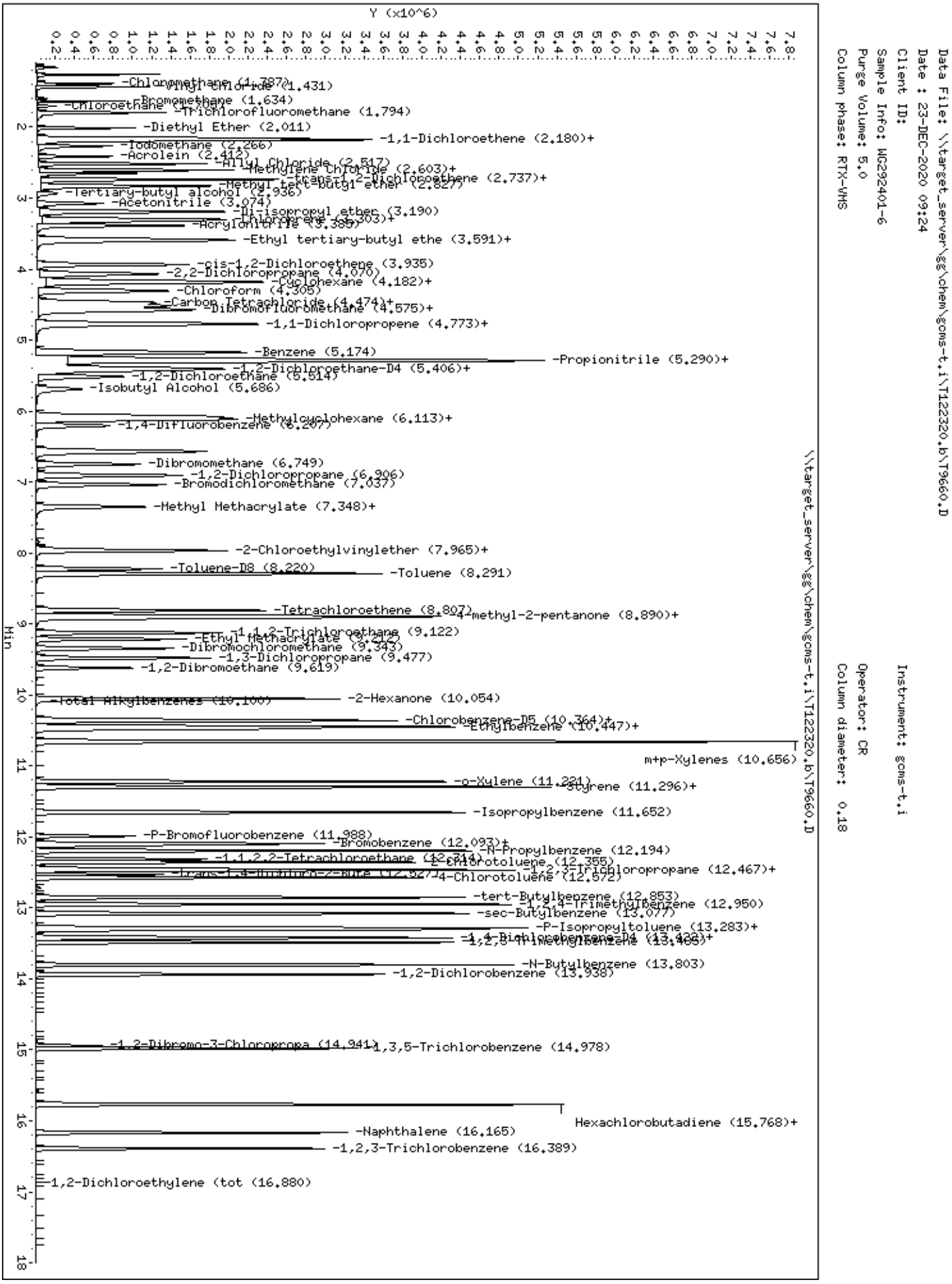
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.388	3.385	(0.629)	1155049	750.000	721	
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.666)	2187601	150.000	152(A)	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	1619822	150.000	154(A)	
	27 cis-1,2-Dichloroethene	96	3.934	3.935	(0.731)	974280	150.000	151(A)	
	28 2,2-Dichloropropane	77	4.069	4.070	(0.756)	1353870	150.000	163(A)	
	29 Cyclohexane	56	4.174	4.174	(0.775)	1206950	150.000	153(A)	
	30 Bromochloromethane	128	4.189	4.192	(0.778)	401212	150.000	146	
	31 Chloroform	83	4.305	4.304	(0.800)	1630192	150.000	149	
	32 Carbon Tetrachloride	117	4.473	4.474	(0.721)	1258915	150.000	162(A)	
	33 Tetrahydrofuran	42	4.518	4.519	(0.839)	1108498	750.000	739	
$	34 Dibromofluoromethane	113	4.567	4.571	(0.848)	313288	50.0000	51.1	
	35 1,1,1-Trichloroethane	97	4.574	4.582	(0.850)	1465059	150.000	153(A)	
	36 1,1-Dichloropropene	75	4.769	4.769	(0.768)	1220174	150.000	152(A)	
	37 2-Butanone	43	4.777	4.773	(0.887)	1749328	750.000	800(A)	
	38 Benzene	78	5.173	5.174	(0.834)	3399092	150.000	145	
	39 Propionitrile	54	5.259	5.252	(0.977)	946874	1500.00	1400	
	40 Methacrylonitrile	41	5.289	5.282	(0.983)	3928615	1500.00	1350	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	560960	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.004)	346346	50.0000	51.3	
	43 Tertiary-amyl methyl ether	73	5.413	5.413	(1.006)	2133375	150.000	155(A)	
	44 1,2-Dichloroethane	62	5.514	5.514	(0.888)	1087365	150.000	146	
	45 Isobutyl Alcohol	43	5.690	5.686	(1.057)	509701	3000.00	3680(A)	
	46 Methylcyclohexane	83	6.079	6.075	(1.129)	1327329	150.000	155(A)	
	47 Trichloroethene	95	6.120	6.117	(0.986)	859151	150.000	152(A)	
*	48 1,4-Difluorobenzene	114	6.206	6.210	(1.000)	929645	50.0000		
	49 Dibromomethane	93	6.749	6.749	(1.087)	593536	150.000	148	
	50 1,2-Dichloropropane	63	6.902	6.910	(1.112)	838226	150.000	151(A)	
	51 Bromodichloromethane	83	7.037	7.033	(1.134)	1250735	150.000	158(A)	
	52 Methyl Methacrylate	41	7.344	7.348	(1.183)	637738	150.000	162(A)	
	53 1,4-Dioxane	88	7.355	7.352	(1.185)	146334	3000.00	2320	
	54 2-Chloroethylvinylether	63	7.939	7.939	(1.279)	179923	150.000	106	
	55 cis-1,3-dichloropropene	75	7.965	7.965	(1.283)	1489297	150.000	157(A)	
$	56 Toluene-D8	98	8.219	8.220	(1.324)	1084414	50.0000	50.3	
	57 Toluene	92	8.290	8.291	(1.336)	2132974	150.000	150(A)	
	58 Tetrachloroethene	164	8.807	8.807	(0.851)	706197	150.000	148	
	59 4-methyl-2-pentanone	43	8.889	8.886	(1.432)	3189296	750.000	708	
	60 trans-1,3-Dichloropropene	75	8.915	8.916	(1.437)	1341703	150.000	161(A)	
	61 1,1,2-Trichloroethane	83	9.121	9.122	(1.470)	660696	150.000	151(A)	
	62 Ethyl Methacrylate	69	9.211	9.211	(1.484)	1056312	150.000	162(A)	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	966334	150.000	158(A)	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	1396871	150.000	144	
	65 1,2-Dibromoethane	107	9.619	9.619	(1.550)	825582	150.000	150(A)	
M	66 Total Alkylbenzenes	100				21672010	150.000	1020	
	67 2-Hexanone	43	10.053	10.053	(0.972)	2307229	750.000	725	
*	68 Chlorobenzene-D5	117	10.345	10.342	(1.000)	863523	50.0000		
	69 Chlorobenzene	112	10.367	10.364	(1.002)	2189024	150.000	142	
	70 Ethylbenzene	91	10.446	10.443	(1.010)	3709327	150.000	142	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	825568	150.000	155(A)	
	72 m+p-Xylenes	91	10.656	10.652	(1.030)	5208495	300.000	268	
	73 o-Xylene	91	11.221	11.217	(1.085)	2960547	150.000	146	
	74 Styrene	104	11.295	11.296	(1.092)	2410008	150.000	152(A)	
	75 Bromoform	173	11.288	11.288	(1.091)	625144	150.000	163(A)	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	3500111	150.000	141	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.932)	396277	50.0000	50.0	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9660.D
Report Date: 25-Jan-2021 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.093	12.093	(0.902)	903041	150.000	145	
	79 cis-1,4-Dichloro-2-Butene	53	12.119	12.119	(0.904)	258176	150.000	158(A)	
	80 N-Propylbenzene	91	12.194	12.194	(0.910)	4058048	150.000	138	
	81 1,1,2,2-Tetrachloroethane	83	12.313	12.310	(0.918)	1007861	150.000	145	
	82 2-Chlorotoluene	91	12.355	12.355	(0.922)	2541772	150.000	143	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	814331	150.000	142	
	84 1,3,5-Trimethylbenzene	105	12.471	12.467	(0.930)	2850792	150.000	146	
	85 trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	265404	150.000	159(A)	
	86 4-Chlorotoluene	91	12.572	12.572	(0.938)	2632685	150.000	142	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	2430935	150.000	147	
	89 1,2,4-Trimethylbenzene	105	12.950	12.946	(0.966)	2927424	150.000	146	
	90 sec-Butylbenzene	105	13.081	13.077	(0.976)	3566753	150.000	143	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	2953113	150.000	148	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	1648631	150.000	144	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	424873	50.0000		
	94 1,4-Dichlorobenzene	146	13.425	13.425	(1.001)	1693737	150.000	143	
	95 1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	2668031	150.000	144	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	2884945	150.000	150(A)	
	97 1,2-Dichlorobenzene	146	13.938	13.938	(1.040)	1568603	150.000	146	
	98 1,2-Dibromo-3-Chloropropane	157	14.940	14.937	(1.114)	211027	150.000	168(A)	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	1093863	150.000	150	
	100 Hexachlorobutadiene	225	15.764	15.768	(1.176)	460002	150.000	158(A)	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	1071281	150.000	154(A)	
	102 Naphthalene	128	16.164	16.168	(1.206)	2506045	150.000	158(A)	
M	103 1,2-Dichloroethylene (total)	96				1871431	150.000	300	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	921229	150.000	150	
M	105 Xylenes (total)	91				8169042	150.000	414	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9660.D
Date : 23-DEC-2020 09:24
Client ID:
Sample Info: WG292401-6
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Chloromethane (1.787)
-Vinyl Chloride (1.431)
-Bromomethane (1.634)
-Chloroethane (1.706)
-Trichlorofluoromethane (1.794)
-Diethyl Ether (2.011)
-1,1-Dichloroethene (2.180)+
-Iodomethane (2.266)
-Acrolein (2.412)
-Allyl Chloride (2.517)
-Methylene Chloride (2.603)+
-trans-1,2-Dichloroethene (2.737)+
-Methyl tert-butyl ether (2.827)
-Tertiary-butyl alcohol (2.936)
-Acetonitrile (3.074)
-Di-isopropyl ether (3.190)
-Chloroprene (3.303)+
-Acrylonitrile (3.389)
-Ethyl tertiary-butyl ethe (3.591)+
-cis-1,2-Dichloroethene (3.935)
-2,2-Dichloropropane (4.070)
-Cyclohexane (4.182)+
-Chloroform (4.305)
-Carbon Tetrachloride (4.474)+
-Dibromofluoromethane (4.575)+
-1,1-Dichloropropene (4.773)+
-Benzene (5.174)
-Propionitrile (5.290)+
-1,2-Dichloroethane-D4 (5.406)+
-1,2-Dichloroethane (5.514)
-Isobutyl Alcohol (5.686)
-Methylcyclohexane (6.113)+
-1,4-Difluorobenzene (6.207)
-Dibromomethane (6.749)
-1,2-Dichloropropane (6.906)
-Bromodichloromethane (7.037)
-Methyl Methacrylate (7.348)+
-2-Chloroethylvinylether (7.965)+
-Toluene-D8 (8.220)
-Toluene (8.291)
-Tetrachloroethene (8.807)
-4-methyl-2-pentanone (8.890)+
-1,1,2-Trichloroethane (9.122)
-Ethyl Methacrylate (9.212)
-Dibromochloromethane (9.343)
-1,3-Dichloropropane (9.477)
-1,2-Dibromoethane (9.619)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.054)
-Chlorobenzene-D5 (10.364)+
-Ethylbenzene (10.447)+
m+p-Xylenes (10.656)
-o-Xylene (11.221)
-Styrene (11.296)+
-Isopropylbenzene (11.652)
-P-Bromofluorobenzene (11.988)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.194)
-1,1,2,2-Tetrachloroethane (12.314)
-2-Chlorotoluene (12.355)
-1,2,3-Trichloropropane (12.467)+
-trans-1,4-Dichloro-2-Bute (12.527)
-4-Chlorotoluene (12.572)
-tert-Butylbenzene (12.853)
-1,2,4-Trimethylbenzene (12.950)
-sec-Butylbenzene (13.077)
-P-Isopropyltoluene (13.283)+
-1,4-Dichlorobenzene-D4 (13.428)+
-1,2,3-Trimethylbenzene (13.465)
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropa (14.941)
-1,3,5-Trichlorobenzene (14.978)
Hexachlorobutadiene (15.768)+
-Naphthalene (16.165)
-1,2,3-Trichlorobenzene (16.389)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T122320.b\T9660.D

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9661.D
Report Date: 25-Jan-2021 10:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9661.D
Lab Smp Id: WG292401-5
Inj Date : 23-DEC-2020 09:55
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-5
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 09:55 Cal File: T9661.D
Als bottle: 2 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

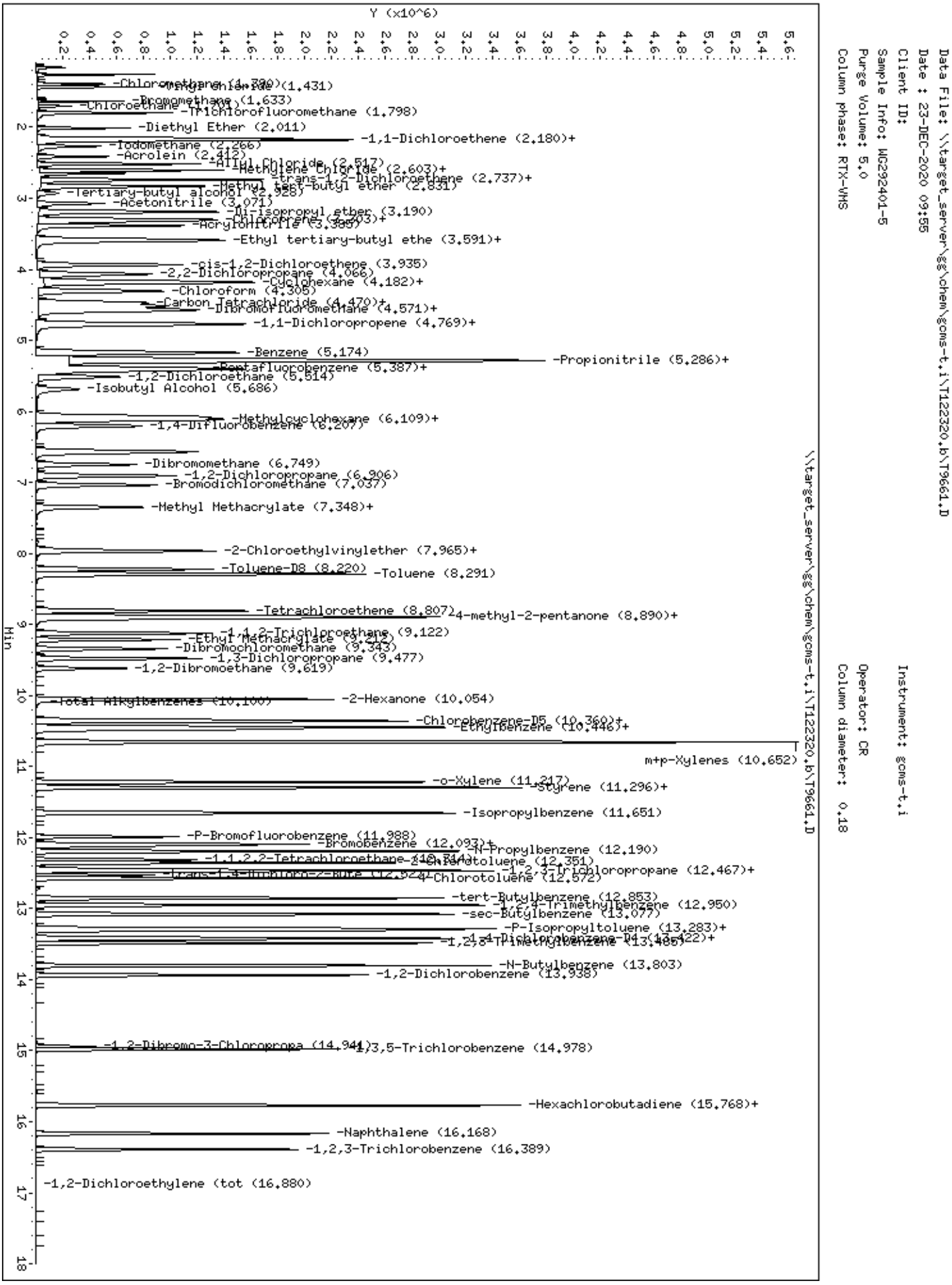
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	469600	100.000	103	
2 Chloromethane	50	1.390	1.390	(0.258)	515476	100.000	98.0	
3 Vinyl chloride	62	1.431	1.431	(0.266)	518196	100.000	104	
4 Bromomethane	94	1.633	1.633	(0.303)	179000	100.000	84.6	
5 Chloroethane	64	1.700	1.708	(0.316)	138432	100.000	67.2	
6 Trichlorofluoromethane	101	1.798	1.802	(0.334)	715913	100.000	100	
7 Diethyl Ether	59	2.011	2.011	(0.373)	304306	100.000	97.3	
8 1,1-Dichloroethene	96	2.153	2.157	(0.400)	558524	100.000	98.8	
9 Freon-113	151	2.179	2.184	(0.405)	333838	100.000	98.6	
10 Carbon Disulfide	76	2.183	2.187	(0.405)	1484711	100.000	94.0	
11 Iodomethane	142	2.265	2.270	(0.421)	515959	100.000	132	
12 Acrolein	56	2.411	2.416	(0.448)	432905	500.000	501	
13 Allyl Chloride	41	2.516	2.517	(0.467)	710101	100.000	100	
14 Methylene Chloride	84	2.602	2.606	(0.483)	639354	100.000	62.9	
15 Acetone	43	2.647	2.648	(0.491)	726767	500.000	447	
16 trans-1,2-Dichloroethene	96	2.737	2.741	(0.508)	610298	100.000	98.5	
17 Methyl Acetate	43	2.748	2.752	(0.510)	402755	100.000	103	
18 Methyl tert-butyl ether	73	2.831	2.831	(0.526)	1565855	100.000	102	
19 Tertiary-butyl alcohol	59	2.928	2.924	(0.544)	230354	500.000	551	
20 Acetonitrile	41	3.070	3.070	(0.570)	597172	1000.00	979	
21 Di-isopropyl ether	45	3.190	3.190	(0.592)	1537459	100.000	99.3	
22 Chloroprene	53	3.295	3.295	(0.612)	720109	100.000	100	
23 1,1-Dichloroethane	63	3.321	3.325	(0.617)	1034535	100.000	97.5	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9661.D
Report Date: 25-Jan-2021 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.384	3.385	(0.628)	809734	500.000	490	
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.665)	1507320	100.000	102	
	26 Vinyl Acetate	43	3.601	3.606	(0.580)	1116982	100.000	102	
	27 cis-1,2-Dichloroethene	96	3.934	3.935	(0.730)	660546	100.000	99.3	
	28 2,2-Dichloropropane	77	4.065	4.070	(0.755)	920618	100.000	107	
	29 Cyclohexane	56	4.174	4.174	(0.775)	813515	100.000	100	
	30 Bromochloromethane	128	4.189	4.192	(0.778)	275232	100.000	97.2	
	31 Chloroform	83	4.305	4.304	(0.799)	1105386	100.000	98.3	
	32 Carbon Tetrachloride	117	4.470	4.474	(0.720)	836055	100.000	104	
	33 Tetrahydrofuran	42	4.518	4.519	(0.839)	784283	500.000	508	
$	34 Dibromofluoromethane	113	4.567	4.571	(0.848)	319429	50.0000	50.5	
	35 1,1,1-Trichloroethane	97	4.574	4.582	(0.849)	986956	100.000	100	
	36 1,1-Dichloropropene	75	4.769	4.769	(0.768)	819452	100.000	98.8	
	37 2-Butanone	43	4.773	4.773	(0.886)	1190033	500.000	528	
	38 Benzene	78	5.169	5.174	(0.833)	2359937	100.000	97.5	
	39 Propionitrile	54	5.259	5.252	(0.976)	673354	1000.00	965	
	40 Methacrylonitrile	41	5.285	5.282	(0.981)	2856605	1000.00	954	
*	41 Pentafluorobenzene	168	5.386	5.383	(1.000)	578259	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.003)	351066	50.0000	50.4	
	43 Tertiary-amyl methyl ether	73	5.409	5.413	(1.004)	1472327	100.000	104	
	44 1,2-Dichloroethane	62	5.514	5.514	(0.888)	740770	100.000	96.0	
	45 Isobutyl Alcohol	43	5.686	5.686	(1.056)	349310	2000.00	2440	
	46 Methylcyclohexane	83	6.079	6.075	(1.129)	904295	100.000	102	
	47 Trichloroethene	95	6.120	6.117	(0.986)	578179	100.000	99.0	
*	48 1,4-Difluorobenzene	114	6.206	6.210	(1.000)	962817	50.0000		
	49 Dibromomethane	93	6.749	6.749	(1.087)	402997	100.000	97.3	
	50 1,2-Dichloropropane	63	6.906	6.910	(1.113)	570988	100.000	99.3	
	51 Bromodichloromethane	83	7.037	7.033	(1.134)	849695	100.000	103	
	52 Methyl Methacrylate	41	7.344	7.348	(1.183)	433910	100.000	106	
	53 1,4-Dioxane	88	7.355	7.352	(1.185)	120332	2000.00	1840	
	54 2-Chloroethylvinylether	63	7.942	7.939	(1.280)	131390	100.000	74.9	
	55 cis-1,3-dichloropropene	75	7.965	7.965	(1.283)	1012053	100.000	103	
$	56 Toluene-D8	98	8.219	8.220	(1.324)	1117556	50.0000	50.1	
	57 Toluene	92	8.290	8.291	(1.336)	1459948	100.000	99.2	
	58 Tetrachloroethene	164	8.807	8.807	(0.852)	478721	100.000	99.0	
	59 4-methyl-2-pentanone	43	8.885	8.886	(1.432)	2310189	500.000	495	
	60 trans-1,3-Dichloropropene	75	8.915	8.916	(1.437)	910058	100.000	105	
	61 1,1,2-Trichloroethane	83	9.121	9.122	(1.470)	452087	100.000	99.6	
	62 Ethyl Methacrylate	69	9.211	9.211	(1.484)	723039	100.000	107	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	656551	100.000	106	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	963924	100.000	98.0	
	65 1,2-Dibromoethane	107	9.619	9.619	(1.550)	562736	100.000	98.9	
M	66 Total Alkylbenzenes	100				15065088	100.000	705	
	67 2-Hexanone	43	10.053	10.053	(0.972)	1644328	500.000	510	
*	68 Chlorobenzene-D5	117	10.341	10.342	(1.000)	875249	50.0000		
	69 Chlorobenzene	112	10.364	10.364	(1.002)	1509833	100.000	97.0	
	70 Ethylbenzene	91	10.442	10.443	(1.010)	2608717	100.000	98.8	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	561699	100.000	104	
	72 m+p-Xylenes	91	10.652	10.652	(1.030)	3798677	200.000	193	
	73 o-Xylene	91	11.217	11.217	(1.085)	2038459	100.000	99.1	
	74 Styrene	104	11.295	11.296	(1.092)	1662859	100.000	103	
	75 Bromoform	173	11.288	11.288	(1.092)	420001	100.000	108	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	2464198	100.000	99.1	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.932)	405888	50.0000	49.5	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9661.D
Report Date: 25-Jan-2021 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.093	12.093	(0.902)	613625	100.000	98.1	
	79 cis-1,4-Dichloro-2-Butene	53	12.119	12.119	(0.904)	176415	100.000	108	
	80 N-Propylbenzene	91	12.190	12.194	(0.909)	2903447	100.000	98.3	
	81 1,1,2,2-Tetrachloroethane	83	12.313	12.310	(0.918)	692083	100.000	99.4	
	82 2-Chlorotoluene	91	12.355	12.355	(0.922)	1752566	100.000	98.7	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	556483	100.000	96.9	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	1975556	100.000	101	
	85 trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	181150	100.000	108	
	86 4-Chlorotoluene	91	12.572	12.572	(0.938)	1820583	100.000	98.0	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	1657269	100.000	100	
	89 1,2,4-Trimethylbenzene	105	12.950	12.946	(0.966)	2040715	100.000	102	
	90 sec-Butylbenzene	105	13.077	13.077	(0.975)	2472963	100.000	98.8	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	2039946	100.000	102	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	1112133	100.000	97.3	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	425744	50.0000		
	94 1,4-Dichlorobenzene	146	13.425	13.425	(1.001)	1144031	100.000	96.7	
	95 1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	1820802	100.000	97.8	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	1975192	100.000	103	
	97 1,2-Dichlorobenzene	146	13.937	13.938	(1.040)	1059317	100.000	98.2	
	98 1,2-Dibromo-3-Chloropropane	157	14.940	14.937	(1.114)	138971	100.000	111	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	727317	100.000	99.3	
	100 Hexachlorobutadiene	225	15.767	15.768	(1.176)	295542	100.000	101	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	710678	100.000	102	
	102 Naphthalene	128	16.168	16.168	(1.206)	1745865	100.000	110	
M	103 1,2-Dichloroethylene (total)	96				1270844	100.000	198	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	618194	100.000	100	
M	105 Xylenes (total)	91				5837136	100.000	292	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Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-t.i\T122320.b\T9661.D
-Chloromethane (1.390)
-Vinyl Chloride (1.431)
-Bromomethane (1.633)
-Chloroethane (1.701)
-Trichlorofluoromethane (1.798)
-Diethyl Ether (2.011)
-1,1-Dichloroethene (2.180)+
-Iodomethane (2.266)
-Acrolein (2.412)
-Allyl Chloride (2.517)
-Methylene Chloride (2.603)+
-trans-1,2-Dichloroethene (2.737)+
-Methyl tert-butyl ether (2.831)
-tertiary-butyl alcohol (2.928)
-Acetonitrile (3.071)
-Di-isopropyl ether (3.190)
-Chloroprene (3.303)+
-Acrylonitrile (3.389)
-Ethyl tertiary-butyl ethe (3.591)+
-cis-1,2-Dichloroethene (3.935)
-2,2-Dichloropropane (4.066)
-Cyclohexane (4.182)+
-Chloroform (4.305)
-Carbon Tetrachloride (4.470)+
-Dibromofluoromethane (4.571)+
-1,1-Dichloropropene (4.769)+
-Benzene (5.174)
-Propionitrile (5.286)+
-Pentafluorobenzene (5.387)+
-1,2-Dichloroethane (5.514)
-Isobutyl Alcohol (5.686)
-Methylcyclohexane (6.109)+
-1,4-Difluorobenzene (6.207)
-Dibromomethane (6.749)
-1,2-Dichloropropane (6.906)
-Bromodichloromethane (7.037)
-Methyl Methacrylate (7.348)+
-2-Chloroethylvinylether (7.965)+
-Toluene-D8 (8.220)
-Toluene (8.291)
-Tetrachloroethene (8.807)
4-methyl-2-pentanone (8.890)+
-1,1,2-Trichloroethane (9.122)
-Ethyl Methacrylate (9.212)
-Dibromochloromethane (9.343)
-1,3-Dichloropropane (9.477)
-1,2-Dibromoethane (9.619)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.054)
-Chlorobenzene-D5 (10.360)+
-Ethylbenzene (10.446)+
m+p-Xylenes (10.652)
-o-Xylene (11.217)
-Styrene (11.296)+
-Isopropylbenzene (11.651)
-P-Bromofluorobenzene (11.988)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.190)
-1,1,2,2-Tetrachloroethane (12.214)
-2-Chlorotoluene (12.351)
-1,2,3-Trichloropropane (12.467)+
-trans-1,4-Dichloro-2-Bute (12.524)
-4-Chlorotoluene (12.572)
-tert-Butylbenzene (12.853)
-1,2,4-Trimethylbenzene (12.950)
-sec-Butylbenzene (13.077)
-P-Isopropyltoluene (13.283)+
-1,4-Dichlorobenzene-D4 (13.422)+
-1,2,3-Trimethylbenzene (13.485)
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropa (14.941)
-1,3,5-Trichlorobenzene (14.978)
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.168)
-1,2,3-Trichlorobenzene (16.389)
-1,2-Dichloroethylene (tot (16.880)

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9663.D
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Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9663.D
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Inj Date : 23-DEC-2020 10:58
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-4
Misc Info :
Comment : SW846 5030
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Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 21-DEC-2020 14:14 Cal File: T9618.D
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	237185	50.0000	(a)	
2 Chloromethane	50	1.390	1.390	(0.258)	264811	50.0000	(a)	
3 Vinyl chloride	62	1.431	1.431	(0.266)	249752	50.0000	(a)	
4 Bromomethane	94	1.633	1.633	(0.303)	96256	50.0000	(a)	
5 Chloroethane	64	1.708	1.708	(0.317)	115865	50.0000	(a)	
6 Trichlorofluoromethane	101	1.801	1.802	(0.335)	364547	50.0000	(a)	
7 Diethyl Ether	59	2.011	2.011	(0.374)	158898	50.0000	(a)	
8 1,1-Dichloroethene	96	2.157	2.157	(0.401)	283127	50.0000	(a)	
9 Freon-113	151	2.183	2.184	(0.406)	169221	50.0000	(a)	
10 Carbon Disulfide	76	2.187	2.187	(0.406)	754764	50.0000	(a)	
11 Iodomethane	142	2.269	2.270	(0.422)	227252	50.0000	(a)	
12 Acrolein	56	2.415	2.416	(0.449)	216347	250.000	(a)	
13 Allyl Chloride	41	2.516	2.517	(0.467)	350543	50.0000	(a)	
14 Methylene Chloride	84	2.606	2.606	(0.484)	325946	50.0000	(a)	
15 Acetone	43	2.647	2.648	(0.492)	355707	250.000	(a)	
16 trans-1,2-Dichloroethene	96	2.741	2.741	(0.509)	301409	50.0000	(a)	
17 Methyl Acetate	43	2.752	2.752	(0.511)	188218	50.0000	(a)	
18 Methyl tert-butyl ether	73	2.830	2.831	(0.526)	773076	50.0000	(a)	
19 Tertiary-butyl alcohol	59	2.924	2.924	(0.543)	110573	250.000	(a)	
20 Acetonitrile	41	3.070	3.070	(0.570)	305769	500.000	(a)	
21 Di-isopropyl ether	45	3.190	3.190	(0.593)	788996	50.0000	(a)	
22 Chloroprene	53	3.294	3.295	(0.612)	362120	50.0000	(a)	
23 1,1-Dichloroethane	63	3.324	3.325	(0.618)	518406	50.0000	(a)	
24 Acrylonitrile	52	3.384	3.385	(0.629)	404039	250.000	(a)	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9663.D
Report Date: 25-Jan-2021 10:43

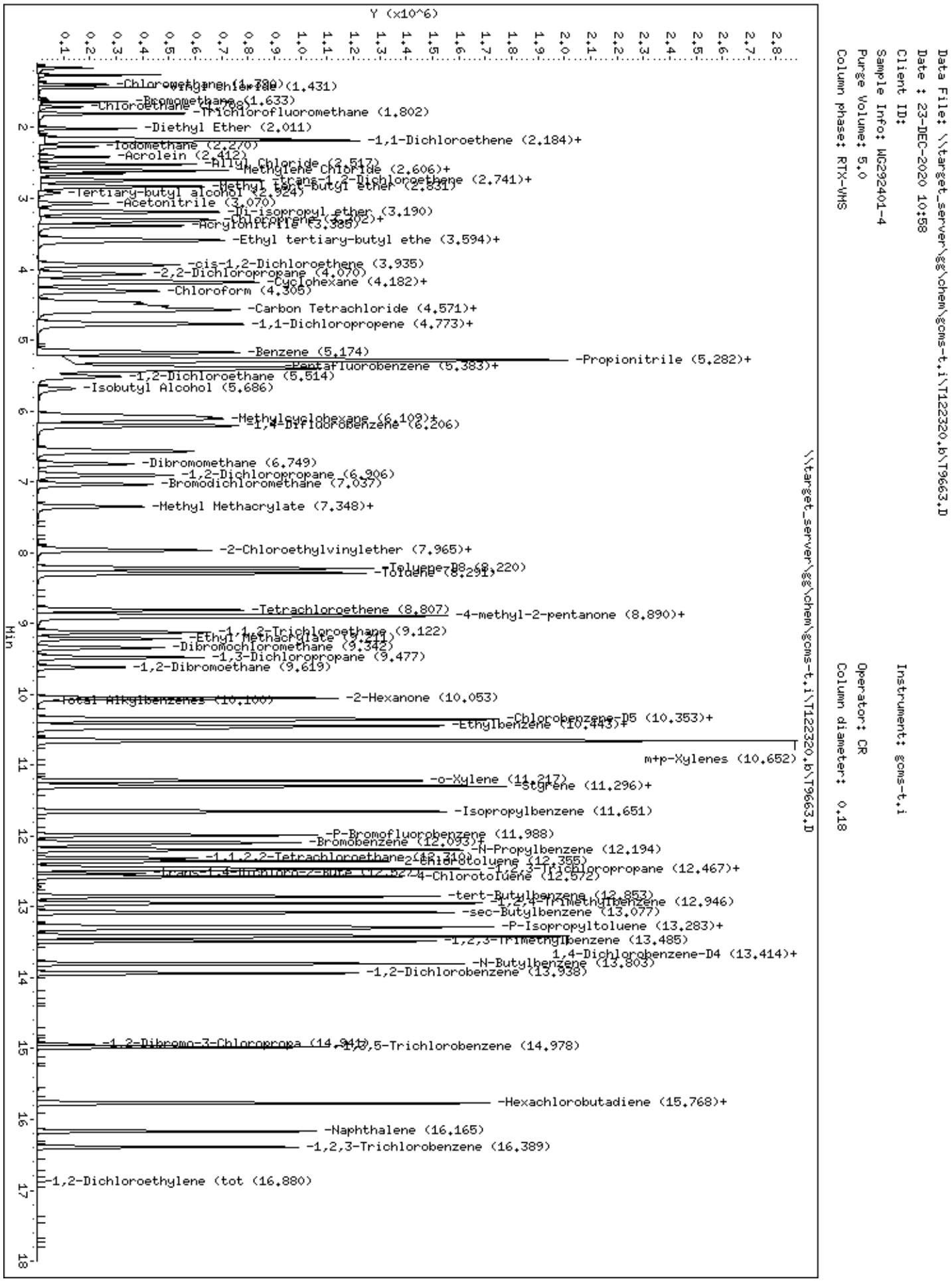
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.666)	763920	50.0000	(a)	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	562205	50.0000	(a)	
	27 cis-1,2-Dichloroethene	96	3.934	3.935	(0.731)	327178	50.0000	(a)	
	28 2,2-Dichloropropane	77	4.069	4.070	(0.756)	416594	50.0000	(a)	
	29 Cyclohexane	56	4.174	4.174	(0.775)	406025	50.0000	(a)	
	30 Bromochloromethane	128	4.193	4.192	(0.779)	141727	50.0000	(a)	
	31 Chloroform	83	4.305	4.304	(0.800)	544156	50.0000	(a)	
	32 Carbon Tetrachloride	117	4.473	4.474	(0.720)	408508	50.0000	(a)	
	33 Tetrahydrofuran	42	4.518	4.519	(0.839)	395283	250.000	(a)	
$	34 Dibromofluoromethane	113	4.571	4.571	(0.849)	311748	50.0000	(a)	
	35 1,1,1-Trichloroethane	97	4.582	4.582	(0.851)	488631	50.0000	(a)	
	36 1,1-Dichloropropene	75	4.769	4.769	(0.768)	406481	50.0000	(a)	
	37 2-Butanone	43	4.773	4.773	(0.887)	595970	250.000	(a)	
	38 Benzene	78	5.173	5.174	(0.833)	1187222	50.0000	(a)	
	39 Propionitrile	54	5.252	5.252	(0.976)	346404	500.000	(a)	
	40 Methacrylonitrile	41	5.282	5.282	(0.981)	1522242	500.000	(a)	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	575670	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.004)	340523	50.0000	(a)	
	43 Tertiary-amyl methyl ether	73	5.413	5.413	(1.006)	730719	50.0000	(a)	
	44 1,2-Dichloroethane	62	5.514	5.514	(0.888)	370311	50.0000	(a)	
	45 Isobutyl Alcohol	43	5.686	5.686	(1.056)	154705	1000.00	(a)	
	46 Methylcyclohexane	83	6.075	6.075	(1.129)	452292	50.0000	(a)	
	47 Trichloroethene	95	6.116	6.117	(0.985)	289291	50.0000	(a)	
*	48 1,4-Difluorobenzene	114	6.210	6.210	(1.000)	951851	50.0000		
	49 Dibromomethane	93	6.749	6.749	(1.087)	201006	50.0000	(a)	
	50 1,2-Dichloropropane	63	6.909	6.910	(1.113)	282025	50.0000	(a)	
	51 Bromodichloromethane	83	7.033	7.033	(1.133)	416200	50.0000	(a)	
	52 Methyl Methacrylate	41	7.347	7.348	(1.183)	217682	50.0000	(a)	
	53 1,4-Dioxane	88	7.351	7.352	(1.184)	59117	1000.00	(a)	
	54 2-Chloroethylvinylether	63	7.939	7.939	(1.278)	79215	50.0000	(a)	
	55 cis-1,3-dichloropropene	75	7.965	7.965	(1.283)	496506	50.0000	(a)	
$	56 Toluene-D8	98	8.219	8.220	(1.324)	1102709	50.0000	(a)	
	57 Toluene	92	8.290	8.291	(1.335)	721310	50.0000	(a)	
	58 Tetrachloroethene	164	8.807	8.807	(0.852)	233587	50.0000	(a)	
	59 4-methyl-2-pentanone	43	8.885	8.886	(1.431)	1222241	250.000	(a)	
	60 trans-1,3-Dichloropropene	75	8.915	8.916	(1.436)	441497	50.0000	(a)	
	61 1,1,2-Trichloroethane	83	9.121	9.122	(1.469)	224593	50.0000	(a)	
	62 Ethyl Methacrylate	69	9.211	9.211	(1.483)	363223	50.0000	(a)	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	318278	50.0000	(a)	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	485054	50.0000	(a)	
	65 1,2-Dibromoethane	107	9.619	9.619	(1.549)	281734	50.0000	(a)	
M	66 Total Alkylbenzenes	100				7599569	50.0000	(a)	
	67 2-Hexanone	43	10.053	10.053	(0.972)	853029	250.000	(a)	
*	68 Chlorobenzene-D5	117	10.341	10.342	(1.000)	862176	50.0000		
	69 Chlorobenzene	112	10.364	10.364	(1.002)	760444	50.0000	(a)	
	70 Ethylbenzene	91	10.442	10.443	(1.010)	1324941	50.0000	(a)	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	273221	50.0000	(a)	
	72 m+p-Xylenes	91	10.652	10.652	(1.030)	1985852	100.000	(a)	
	73 o-Xylene	91	11.217	11.217	(1.085)	1033176	50.0000	(a)	
	74 Styrene	104	11.295	11.296	(1.092)	826930	50.0000	(a)	
	75 Bromoform	173	11.288	11.288	(1.092)	203926	50.0000	(a)	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	1244145	50.0000	(a)	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.930)	404565	50.0000	(a)	
	78 Bromobenzene	156	12.093	12.093	(0.902)	305136	50.0000	(a)	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9663.D
Report Date: 25-Jan-2021 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.119	12.119	(0.904)	86233	50.0000	(a)	
	80 N-Propylbenzene	91	12.194	12.194	(0.910)	1495545	50.0000	(a)	
	81 1,1,2,2-Tetrachloroethane	83	12.310	12.310	(0.918)	348460	50.0000	(a)	
	82 2-Chlorotoluene	91	12.354	12.355	(0.922)	884117	50.0000	(a)	
	83 1,2,3-Trichloropropane	75	12.441	12.441	(0.928)	281520	50.0000	(a)	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	985073	50.0000	(a)	
	85 trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	86530	50.0000	(a)	
	86 4-Chlorotoluene	91	12.572	12.572	(0.938)	911889	50.0000	(a)	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	831854	50.0000	(a)	
	89 1,2,4-Trimethylbenzene	105	12.946	12.946	(0.966)	1025134	50.0000	(a)	
	90 sec-Butylbenzene	105	13.077	13.077	(0.975)	1258234	50.0000	(a)	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	1019533	50.0000	(a)	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	556110	50.0000	(a)	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	418679	50.0000		
	94 1,4-Dichlorobenzene	146	13.425	13.425	(1.001)	566113	50.0000	(a)	
	95 1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	927877	50.0000	(a)	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	984196	50.0000	(a)	
	97 1,2-Dichlorobenzene	146	13.937	13.938	(1.040)	524393	50.0000	(a)	
	98 1,2-Dibromo-3-Chloropropane	157	14.937	14.937	(1.114)	67949	50.0000	(a)	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	363621	50.0000	(a)	
	100 Hexachlorobutadiene	225	15.767	15.768	(1.176)	145567	50.0000	(a)	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	343816	50.0000	(a)	
	102 Naphthalene	128	16.168	16.168	(1.206)	854991	50.0000	(a)	
M	103 1,2-Dichloroethylene (total)	96				628587	50.0000	(a)	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	307831	50.0000	(a)	
M	105 Xylenes (total)	91				3019028	150.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).



Katahdin Analytical Services 2000134

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9664.D
Report Date: 25-Jan-2021 10:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9664.D
Lab Smp Id: WG292401-3
Inj Date : 23-DEC-2020 11:30
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-3
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 11:30 Cal File: T9664.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	92239	20.0000	21.2	
2 Chloromethane	50	1.390	1.390	(0.258)	102503	20.0000	20.4	
3 Vinyl chloride	62	1.431	1.431	(0.266)	95548	20.0000	20.1	
4 Bromomethane	94	1.633	1.633	(0.303)	40072	20.0000	19.8	
5 Chloroethane	64	1.715	1.708	(0.319)	50013	20.0000	25.4	
6 Trichlorofluoromethane	101	1.805	1.802	(0.335)	149299	20.0000	21.9	
7 Diethyl Ether	59	2.011	2.011	(0.374)	65000	20.0000	21.7	
8 1,1-Dichloroethene	96	2.157	2.157	(0.401)	107993	20.0000	20.0	
9 Freon-113	151	2.179	2.184	(0.405)	67300	20.0000	20.8	
10 Carbon Disulfide	76	2.183	2.187	(0.406)	301012	20.0000	19.9	
11 Iodomethane	142	2.269	2.270	(0.422)	67301	20.0000	18.0	
12 Acrolein	56	2.411	2.416	(0.448)	87306	100.000	106	
13 Allyl Chloride	41	2.516	2.517	(0.467)	142235	20.0000	21.0	
14 Methylene Chloride	84	2.602	2.606	(0.483)	139724	20.0000	14.4	
15 Acetone	43	2.647	2.648	(0.492)	149059	100.000	95.8	
16 trans-1,2-Dichloroethene	96	2.737	2.741	(0.509)	120930	20.0000	20.4	
17 Methyl Acetate	43	2.752	2.752	(0.511)	71839	20.0000	19.2	
18 Methyl tert-butyl ether	73	2.830	2.831	(0.526)	303649	20.0000	20.8	
19 Tertiary-butyl alcohol	59	2.916	2.924	(0.542)	40784	100.000	102	
20 Acetonitrile	41	3.070	3.070	(0.570)	120090	200.000	206	
21 Di-isopropyl ether	45	3.190	3.190	(0.593)	314268	20.0000	21.2	
22 Chloroprene	53	3.294	3.295	(0.612)	144098	20.0000	21.0	
23 1,1-Dichloroethane	63	3.324	3.325	(0.618)	209476	20.0000	20.6	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9664.D
Report Date: 25-Jan-2021 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.384	3.385	(0.629)	163979	100.000	104	
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.666)	300455	20.0000	21.2	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	221719	20.0000	21.1	
	27 cis-1,2-Dichloroethene	96	3.934	3.935	(0.731)	130715	20.0000	20.6	
	28 2,2-Dichloropropane	77	4.073	4.070	(0.757)	165759	20.0000	20.2	
	29 Cyclohexane	56	4.170	4.174	(0.775)	162013	20.0000	20.9	
	30 Bromochloromethane	128	4.189	4.192	(0.778)	56800	20.0000	21.0	
	31 Chloroform	83	4.305	4.304	(0.800)	221265	20.0000	20.6	
	32 Carbon Tetrachloride	117	4.466	4.474	(0.720)	158713	20.0000	20.5	
	33 Tetrahydrofuran	42	4.526	4.519	(0.841)	155733	100.000	105	
$	34 Dibromofluoromethane	113	4.563	4.571	(0.848)	302827	50.0000	50.1	
	35 1,1,1-Trichloroethane	97	4.578	4.582	(0.851)	191618	20.0000	20.4	
	36 1,1-Dichloropropene	75	4.765	4.769	(0.768)	164670	20.0000	20.7	
	37 2-Butanone	43	4.773	4.773	(0.887)	236659	100.000	110	
	38 Benzene	78	5.173	5.174	(0.834)	477842	20.0000	20.5	
	39 Propionitrile	54	5.248	5.252	(0.975)	144557	200.000	217	
	40 Methacrylonitrile	41	5.282	5.282	(0.981)	618454	200.000	216	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	552987	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.004)	333198	50.0000	50.0	
	43 Tertiary-amyl methyl ether	73	5.413	5.413	(1.006)	284111	20.0000	21.0	
	44 1,2-Dichloroethane	62	5.514	5.514	(0.889)	148632	20.0000	20.0	
	45 Isobutyl Alcohol	43	5.686	5.686	(1.056)	48753	400.000	357	
	46 Methylcyclohexane	83	6.079	6.075	(1.129)	177892	20.0000	21.0	
	47 Trichloroethene	95	6.116	6.117	(0.986)	113569	20.0000	20.2	
*	48 1,4-Difluorobenzene	114	6.202	6.210	(1.000)	925750	50.0000		
	49 Dibromomethane	93	6.749	6.749	(1.088)	79929	20.0000	20.1	
	50 1,2-Dichloropropane	63	6.906	6.910	(1.113)	113776	20.0000	20.6	
	51 Bromodichloromethane	83	7.037	7.033	(1.135)	159093	20.0000	20.1	
	52 Methyl Methacrylate	41	7.347	7.348	(1.185)	81961	20.0000	20.9	
	53 1,4-Dioxane	88	7.355	7.352	(1.186)	28309	400.000	450	
	54 2-Chloroethylvinylether	63	7.942	7.939	(1.281)	42775	20.0000	25.4	
	55 cis-1,3-dichloropropene	75	7.968	7.965	(1.285)	193024	20.0000	20.4	
$	56 Toluene-D8	98	8.219	8.220	(1.325)	1075529	50.0000	50.1	
	57 Toluene	92	8.290	8.291	(1.337)	290940	20.0000	20.6	
	58 Tetrachloroethene	164	8.810	8.807	(0.852)	91791	20.0000	19.8	
	59 4-methyl-2-pentanone	43	8.885	8.886	(1.433)	485220	100.000	108	
	60 trans-1,3-Dichloropropene	75	8.912	8.916	(1.437)	169870	20.0000	20.4	
	61 1,1,2-Trichloroethane	83	9.121	9.122	(1.471)	91083	20.0000	20.9	
	62 Ethyl Methacrylate	69	9.211	9.211	(1.485)	139756	20.0000	21.5	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	122348	20.0000	20.6	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	194678	20.0000	20.6	
	65 1,2-Dibromoethane	107	9.615	9.619	(1.550)	110797	20.0000	20.2	
M	66 Total Alkylbenzenes	100				3040148	20.0000	148	
	67 2-Hexanone	43	10.053	10.053	(0.972)	334011	100.000	108	
*	68 Chlorobenzene-D5	117	10.341	10.342	(1.000)	839258	50.0000		
	69 Chlorobenzene	112	10.364	10.364	(1.002)	306189	20.0000	20.5	
	70 Ethylbenzene	91	10.442	10.443	(1.010)	529973	20.0000	20.9	
	71 1,1,1,2-Tetrachloroethane	131	10.480	10.476	(1.013)	105060	20.0000	20.3	
	72 m+p-Xylenes	91	10.652	10.652	(1.030)	804104	40.0000	42.6	
	73 o-Xylene	91	11.217	11.217	(1.085)	410928	20.0000	20.8	
	74 Styrene	104	11.295	11.296	(1.092)	325191	20.0000	21.0	
	75 Bromoform	173	11.288	11.288	(1.092)	75223	20.0000	20.2	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	505694	20.0000	21.2	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.933)	396516	50.0000	50.3	

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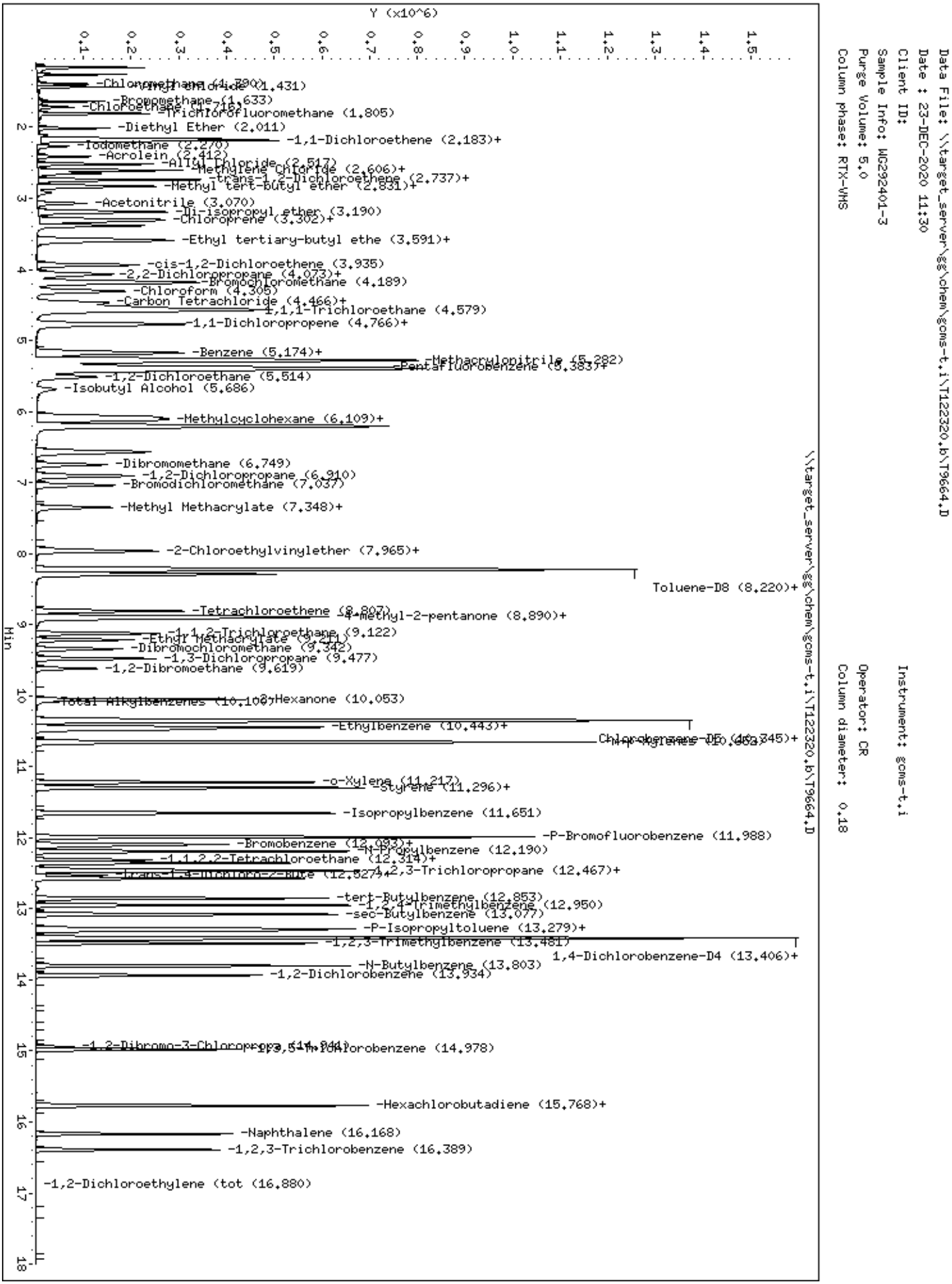
Report Date: 25-Jan-2021 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.092	12.093	(0.902)	121386	20.0000	20.2	
	79 cis-1,4-Dichloro-2-Butene	53	12.115	12.119	(0.904)	31114	20.0000	19.9	
	80 N-Propylbenzene	91	12.190	12.194	(0.909)	598264	20.0000	21.1	
	81 1,1,2,2-Tetrachloroethane	83	12.309	12.310	(0.918)	137537	20.0000	20.6	
	82 2-Chlorotoluene	91	12.354	12.355	(0.922)	353564	20.0000	20.8	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	112214	20.0000	20.4	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	393204	20.0000	21.0	
	85 trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	33868	20.0000	21.1	
	86 4-Chlorotoluene	91	12.571	12.572	(0.938)	364948	20.0000	20.5	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	330866	20.0000	20.9	
	89 1,2,4-Trimethylbenzene	105	12.949	12.946	(0.966)	405397	20.0000	21.1	
	90 sec-Butylbenzene	105	13.077	13.077	(0.975)	511416	20.0000	21.3	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	405508	20.0000	21.2	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	223366	20.0000	20.4	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	407974	50.0000		
	94 1,4-Dichlorobenzene	146	13.421	13.425	(1.001)	227693	20.0000	20.1	
	95 1,2,3-Trimethylbenzene	105	13.481	13.485	(1.006)	374064	20.0000	21.0	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	395493	20.0000	21.4	
	97 1,2-Dichlorobenzene	146	13.937	13.938	(1.040)	212744	20.0000	20.6	
	98 1,2-Dibromo-3-Chloropropane	157	14.940	14.937	(1.114)	23891	20.0000	19.8	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	143783	20.0000	20.5	
	100 Hexachlorobutadiene	225	15.767	15.768	(1.176)	56664	20.0000	20.2	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	132711	20.0000	19.8	
	102 Naphthalene	128	16.168	16.168	(1.206)	320815	20.0000	21.0	
M	103 1,2-Dichloroethylene (total)	96				251645	20.0000	41.0	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	119759	20.0000	20.2	
M	105 Xylenes (total)	91				1215032	60.0000	63.4	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Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
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Y (x10^6)
Min
-Chloromethane (1.390)
-Vinyl Chloride (1.431)
-Bromomethane (1.633)
-Chloroethane (1.716)
-Trichlorofluoromethane (1.805)
-Diethyl Ether (2.011)
-1,1-Dichloroethene (2.183)+
-Iodomethane (2.270)
-Acrolein (2.412)
-Allyl Chloride (2.517)
-Methylene Chloride (2.606)+
-trans-1,2-Dichloroethene (2.737)+
-Methyl tert-butyl ether (2.831)+
-Acetonitrile (3.070)
-Di-isopropyl ether (3.190)
-Chloroprene (3.302)+
-Ethyl tertiary-butyl ethe (3.591)+
-cis-1,2-Dichloroethene (3.935)
-2,2-Dichloropropane (4.073)+
-Bromochloromethane (4.189)
-Chloroform (4.305)
-Carbon Tetrachloride (4.466)+
-1,1,1-Trichloroethane (4.579)
-1,1-Dichloropropene (4.766)+
-Benzene (5.174)+
-Methacrylonitrile (5.282)
-Pentafluorobenzene (5.383)+
-1,2-Dichloroethane (5.514)
-Isobutyl Alcohol (5.686)
-Methylcyclohexane (6.109)+
-Dibromomethane (6.749)
-1,2-Dichloropropane (6.910)
-Bromodichloromethane (7.037)
-Methyl Methacrylate (7.348)+
-2-Chloroethylvinylether (7.965)+
Toluene-D8 (8.220)+
-Tetrachloroethene (8.807)
-4-methyl-2-pentanone (8.890)+
-1,1,2-Trichloroethane (9.122)
-Ethyl Methacrylate (9.211)
-Dibromochloromethane (9.342)
-1,3-Dichloropropane (9.477)
-1,2-Dibromoethane (9.619)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.053)
-Ethylbenzene (10.443)+
Chlorobenzene-D5 (10.345)+
-m+p-Xylenes (10.663)
-o-Xylene (11.217)
-Styrene (11.296)+
-Isopropylbenzene (11.651)
-P-Bromofluorobenzene (11.988)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.190)
-1,1,2,2-Tetrachloroethane (12.314)+
-1,2,3-Trichloropropane (12.467)+
-trans-1,4-Dichloro-2-Bute (12.527)+
-tert-Butylbenzene (12.853)
-1,2,4-Trimethylbenzene (12.950)
-sec-Butylbenzene (13.077)
-P-Isopropyltoluene (13.279)+
-1,2,3-Trimethylbenzene (13.481)
1,4-Dichlorobenzene-D4 (13.406)+
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.934)
-1,2-Dibromo-3-Chloropropa (14.941)
-1,3,5-Trichlorobenzene (14.978)
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.168)
-1,2,3-Trichlorobenzene (16.389)
-1,2-Dichloroethylene (tot (16.880)

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Report Date: 25-Jan-2021 10:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9665.D
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Inj Date : 23-DEC-2020 12:01
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-2
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 12:01 Cal File: T9665.D
Als bottle: 6 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	19549	5.00000	4.2	
2 Chloromethane	50	1.393	1.390	(0.259)	25758	5.00000	4.8	
3 Vinyl chloride	62	1.431	1.431	(0.266)	22443	5.00000	4.5	
4 Bromomethane	94	1.637	1.633	(0.304)	10998	5.00000	5.1	
5 Chloroethane	64	1.719	1.708	(0.319)	12651	5.00000	6.0	
6 Trichlorofluoromethane	101	1.809	1.802	(0.336)	33277	5.00000	4.6	
7 Diethyl Ether	59	2.011	2.011	(0.374)	15383	5.00000	4.8	
8 1,1-Dichloroethene	96	2.161	2.157	(0.401)	27104	5.00000	4.7	
9 Freon-113	151	2.187	2.184	(0.406)	16274	5.00000	4.7	
10 Carbon Disulfide	76	2.187	2.187	(0.406)	77416	5.00000	4.8	
11 Iodomethane	142	2.269	2.270	(0.422)	11350	5.00000	2.9	
12 Acrolein	56	2.411	2.416	(0.448)	20631	25.0000	23.5	
13 Allyl Chloride	41	2.516	2.517	(0.467)	35281	5.00000	4.9	
14 Methylene Chloride	84	2.606	2.606	(0.484)	48319	5.00000	4.7(a)	
15 Acetone	43	2.651	2.648	(0.493)	42020	25.0000	25.5	
16 trans-1,2-Dichloroethene	96	2.741	2.741	(0.509)	29608	5.00000	4.7	
17 Methyl Acetate	43	2.752	2.752	(0.511)	19566	5.00000	4.9	
18 Methyl tert-butyl ether	73	2.834	2.831	(0.527)	74327	5.00000	4.8	
19 Tertiary-butyl alcohol	59	2.916	2.924	(0.542)	9536	25.0000	22.5	
20 Acetonitrile	41	3.074	3.070	(0.571)	29979	50.0000	48.5	
21 Di-isopropyl ether	45	3.190	3.190	(0.593)	76747	5.00000	4.9	
22 Chloroprene	53	3.294	3.295	(0.612)	36446	5.00000	5.0	
23 1,1-Dichloroethane	63	3.324	3.325	(0.618)	53137	5.00000	4.9	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9665.D
Report Date: 25-Jan-2021 10:43

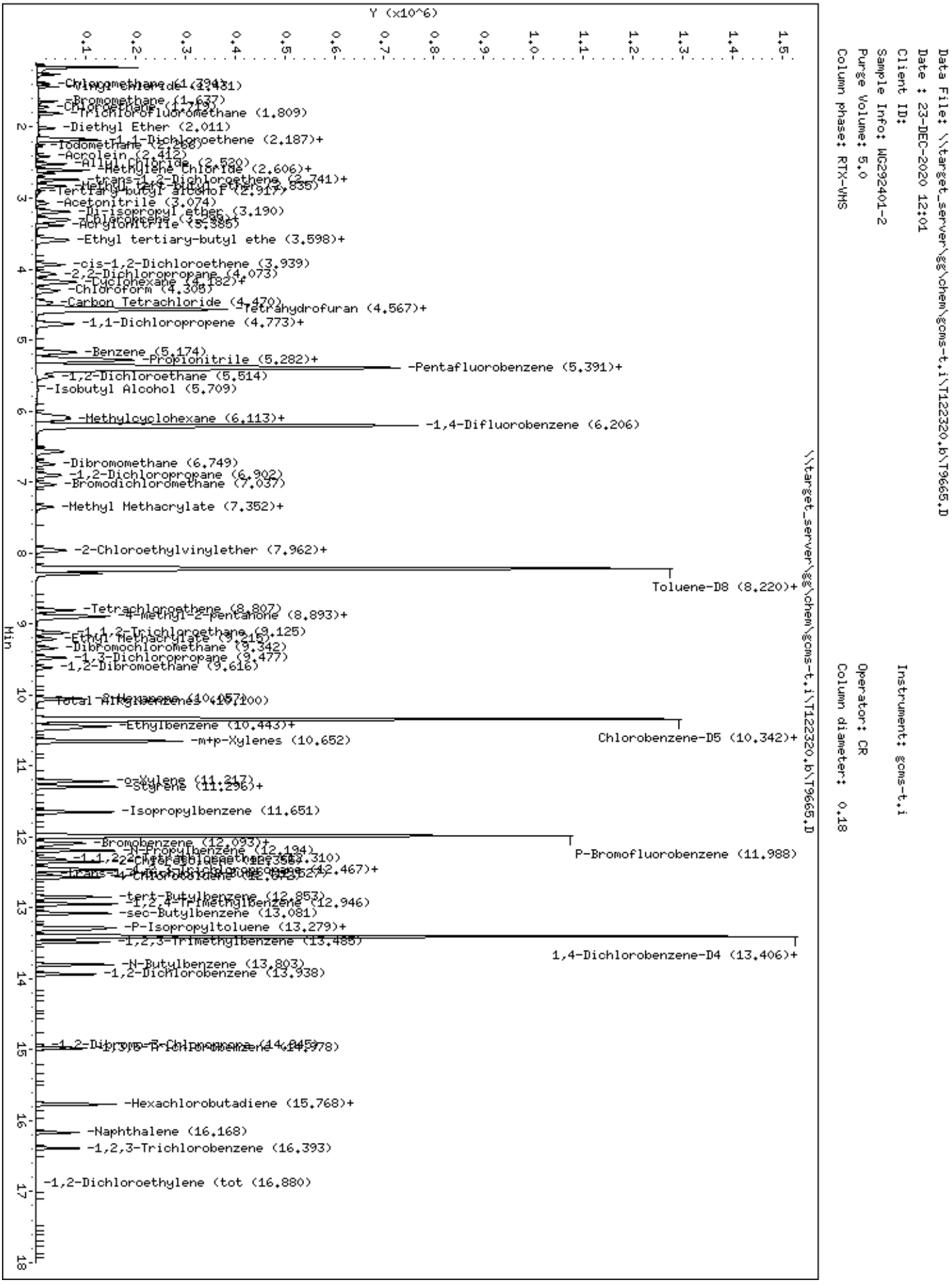
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.384	3.385	(0.629)	41458	25.0000	24.7	
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.666)	70973	5.00000	4.7	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	51598	5.00000	4.7	
	27 cis-1,2-Dichloroethene	96	3.938	3.935	(0.732)	34136	5.00000	5.0	
	28 2,2-Dichloropropane	77	4.069	4.070	(0.756)	40031	5.00000	4.6	
	29 Cyclohexane	56	4.174	4.174	(0.775)	38945	5.00000	4.7	
	30 Bromochloromethane	128	4.185	4.192	(0.778)	14204	5.00000	4.9	
	31 Chloroform	83	4.305	4.304	(0.800)	55983	5.00000	4.9	
	32 Carbon Tetrachloride	117	4.477	4.474	(0.721)	37124	5.00000	4.6	
	33 Tetrahydrofuran	42	4.533	4.519	(0.842)	36184	25.0000	23.1	
$	34 Dibromofluoromethane	113	4.567	4.571	(0.848)	319458	50.0000	49.8	
	35 1,1,1-Trichloroethane	97	4.582	4.582	(0.851)	47494	5.00000	4.8	
	36 1,1-Dichloropropene	75	4.776	4.769	(0.770)	39669	5.00000	4.8	
	37 2-Butanone	43	4.780	4.773	(0.888)	59531	25.0000	26.0	
	38 Benzene	78	5.169	5.174	(0.833)	122568	5.00000	5.0	
	39 Propionitrile	54	5.252	5.252	(0.976)	34600	50.0000	48.9	
	40 Methacrylonitrile	41	5.285	5.282	(0.982)	153611	50.0000	50.6	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	586580	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.004)	346796	50.0000	49.1	
	43 Tertiary-amyl methyl ether	73	5.413	5.413	(1.006)	66559	5.00000	4.6	
	44 1,2-Dichloroethane	62	5.514	5.514	(0.888)	37314	5.00000	4.8	
	45 Isobutyl Alcohol	43	5.708	5.686	(1.060)	4216	100.000	29.1(T)	
	46 Methylcyclohexane	83	6.075	6.075	(1.129)	42921	5.00000	4.8	
	47 Trichloroethene	95	6.120	6.117	(0.986)	29283	5.00000	5.0	
*	48 1,4-Difluorobenzene	114	6.206	6.210	(1.000)	966858	50.0000		
	49 Dibromomethane	93	6.749	6.749	(1.087)	20164	5.00000	4.8	
	50 1,2-Dichloropropane	63	6.902	6.910	(1.112)	28356	5.00000	4.9	
	51 Bromodichloromethane	83	7.037	7.033	(1.134)	37795	5.00000	4.6	
	52 Methyl Methacrylate	41	7.351	7.348	(1.185)	18091	5.00000	4.4	
	53 1,4-Dioxane	88	7.355	7.352	(1.185)	8348	100.000	127	
	54 2-Chloroethylvinylether	63	7.939	7.939	(1.279)	12355	5.00000	7.0	
	55 cis-1,3-dichloropropene	75	7.965	7.965	(1.283)	45393	5.00000	4.6	
$	56 Toluene-D8	98	8.223	8.220	(1.325)	1113615	50.0000	49.7	
	57 Toluene	92	8.290	8.291	(1.336)	72683	5.00000	4.9	
	58 Tetrachloroethene	164	8.807	8.807	(0.852)	23077	5.00000	4.7	
	59 4-methyl-2-pentanone	43	8.893	8.886	(1.433)	114769	25.0000	24.5	
	60 trans-1,3-Dichloropropene	75	8.912	8.916	(1.436)	39997	5.00000	4.6	
	61 1,1,2-Trichloroethane	83	9.125	9.122	(1.470)	22293	5.00000	4.9	
	62 Ethyl Methacrylate	69	9.215	9.211	(1.485)	29816	5.00000	4.4	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	28855	5.00000	4.6	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	48290	5.00000	4.8	
	65 1,2-Dibromoethane	107	9.619	9.619	(1.550)	27683	5.00000	4.8	
M	66 Total Alkylbenzenes	100				734335	5.00000	34.3	
	67 2-Hexanone	43	10.057	10.053	(0.972)	79189	25.0000	24.3	
*	68 Chlorobenzene-D5	117	10.341	10.342	(1.000)	884623	50.0000		
	69 Chlorobenzene	112	10.364	10.364	(1.002)	79185	5.00000	5.0	
	70 Ethylbenzene	91	10.442	10.443	(1.010)	131773	5.00000	4.9	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	25041	5.00000	4.6	
	72 m+p-Xylenes	91	10.652	10.652	(1.030)	203953	10.0000	10.2	
	73 o-Xylene	91	11.217	11.217	(1.085)	101465	5.00000	4.9	
	74 Styrene	104	11.295	11.296	(1.092)	76962	5.00000	4.7	
	75 Bromoform	173	11.288	11.288	(1.092)	17061	5.00000	4.3	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	124376	5.00000	5.0	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.932)	414406	50.0000	50.3	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9665.D
Report Date: 25-Jan-2021 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.089	12.093	(0.902)	30602	5.00000	4.9	
	79 cis-1,4-Dichloro-2-Butene	53	12.119	12.119	(0.904)	7118	5.00000	4.4	
	80 N-Propylbenzene	91	12.193	12.194	(0.910)	147118	5.00000	5.0	
	81 1,1,2,2-Tetrachloroethane	83	12.310	12.310	(0.918)	33742	5.00000	4.8	
	82 2-Chlorotoluene	91	12.354	12.355	(0.922)	89559	5.00000	5.0	
	83 1,2,3-Trichloropropane	75	12.440	12.441	(0.928)	28318	5.00000	4.9	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	95867	5.00000	4.9	
	85 trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	7277	5.00000	4.3	
	86 4-Chlorotoluene	91	12.571	12.572	(0.938)	93717	5.00000	5.0	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	80325	5.00000	4.9	
	89 1,2,4-Trimethylbenzene	105	12.946	12.946	(0.966)	98685	5.00000	4.9	
	90 sec-Butylbenzene	105	13.080	13.077	(0.976)	123661	5.00000	4.9	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	96740	5.00000	4.8	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	57018	5.00000	5.0	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	425284	50.0000		
	94 1,4-Dichlorobenzene	146	13.425	13.425	(1.001)	57638	5.00000	4.9	
	95 1,2,3-Trimethylbenzene	105	13.481	13.485	(1.006)	94795	5.00000	5.1	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	91939	5.00000	4.8	
	97 1,2-Dichlorobenzene	146	13.937	13.938	(1.040)	54071	5.00000	5.0	
	98 1,2-Dibromo-3-Chloropropane	157	14.944	14.937	(1.115)	4990	5.00000	4.0	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	34902	5.00000	4.8	
	100 Hexachlorobutadiene	225	15.767	15.768	(1.176)	13345	5.00000	4.6	
	101 1,2,4-Trichlorobenzene	180	15.775	15.772	(1.177)	31667	5.00000	4.5	
	102 Naphthalene	128	16.168	16.168	(1.206)	66831	5.00000	4.2	
M	103 1,2-Dichloroethylene (total)	96				63744	5.00000	9.8	
	104 1,2,3-Trichlorobenzene	180	16.392	16.389	(1.223)	29090	5.00000	4.7	
M	105 Xylenes (total)	91				305418	15.0000	15.1	

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9665.D
Date : 23-DEC-2020 12:01
Client ID:
Sample Info: WG292401-2
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Chloromethane (1.394)
-Vinyl Chloride (1.431)
-Bromomethane (1.637)
-Chloroethane (1.719)
-Trichlorofluoromethane (1.809)
-Diethyl Ether (2.011)
-1,1-Dichloroethene (2.187)+
-Iodomethane (2.268)
-Acrolein (2.412)
-Allyl Chloride (2.520)
-Methylene Chloride (2.606)+
-trans-1,2-Dichloroethene (2.741)+
-Methyl tert-butyl ether (2.835)
-Tertiary-butyl alcohol (2.917)
-Acetonitrile (3.074)
-Di-isopropyl ether (3.190)
-Chloroprene (3.290)+
-Acrylonitrile (3.385)
-Ethyl tertiary-butyl ethe (3.598)+
-cis-1,2-Dichloroethene (3.939)
-2,2-Dichloropropane (4.073)
-Cyclohexane (4.182)+
-Chloroform (4.305)
-Carbon Tetrachloride (4.470)
-Tetrahydrofuran (4.567)+
-1,1-Dichloropropene (4.773)+
-Benzene (5.174)
-Propionitrile (5.282)+
-Pentafluorobenzene (5.391)+
-1,2-Dichloroethane (5.514)
-Isobutyl Alcohol (5.709)
-Methylcyclohexane (6.113)+
-1,4-Difluorobenzene (6.206)
-Dibromomethane (6.749)
-1,2-Dichloropropane (6.902)
-Bromodichloromethane (7.037)
-Methyl Methacrylate (7.352)+
-2-Chloroethylvinylether (7.962)+
Toluene-D8 (8.220)+
-Tetrachloroethene (8.807)
-4-Methyl-2-pentanone (8.893)+
-1,1,2-Trichloroethane (9.125)
-Ethyl Methacrylate (9.215)
-Dibromochloromethane (9.342)
-1,3-Dichloropropane (9.477)
-1,2-Dibromoethane (9.616)
-Chlorobenzene (10.057)
Total Alkylbenzenes (10.100)
-Ethylbenzene (10.443)+
-m+p-Xylenes (10.652)
Chlorobenzene-D5 (10.342)+
-o-Xylene (11.217)
-Styrene (11.236)+
-Isopropylbenzene (11.651)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.194)
-1,1,2,2-Tetrachloroethane (12.310)
-1,2,3-Trichloropropane (12.467)+
-trans-1-Chlorotoluene (12.513)
P-Bromofluorobenzene (11.988)
-tert-Butylbenzene (12.853)
-1,2,4-Trimethylbenzene (12.946)
-sec-Butylbenzene (13.081)
-P-Isopropyltoluene (13.279)+
-1,2,3-Trimethylbenzene (13.488)
1,4-Dichlorobenzene-D4 (13.406)+
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropane (14.845)
-1,2,4-Trichlorobenzene (14.978)
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.168)
-1,2,3-Trichlorobenzene (16.393)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T122320.b\T9665.D

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9666.D
Report Date: 25-Jan-2021 10:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9666.D
Lab Smp Id: WG292401-1
Inj Date : 23-DEC-2020 12:33
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-1
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 12:33 Cal File: T9666.D
Als bottle: 7 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	4211	1.00000	0.96(a)	
2 Chloromethane	50	1.390	1.390	(0.258)	5440	1.00000	1.1	
3 Vinyl chloride	62	1.431	1.431	(0.266)	4695	1.00000	0.99(a)	
4 Bromomethane	94	1.637	1.633	(0.304)	3127	1.00000	1.5	
5 Chloroethane	64	1.723	1.708	(0.320)	2879	1.00000	1.4	
6 Trichlorofluoromethane	101	1.813	1.802	(0.337)	6897	1.00000	1.0	
7 Diethyl Ether	59	2.015	2.011	(0.374)	2912	1.00000	0.97(a)	
8 1,1-Dichloroethene	96	2.157	2.157	(0.401)	5574	1.00000	1.0	
9 Freon-113	151	2.191	2.184	(0.407)	3272	1.00000	1.0	
10 Carbon Disulfide	76	2.187	2.187	(0.406)	18777	1.00000	1.2	
11 Iodomethane	142	2.273	2.270	(0.422)	1614	1.00000	0.43(a)	
12 Acrolein	56	2.415	2.416	(0.449)	3927	5.00000	4.7(a)	
13 Allyl Chloride	41	2.524	2.517	(0.469)	6592	1.00000	0.97(a)	
14 Methylene Chloride	84	2.606	2.606	(0.484)	27188	1.00000	2.8(a)	
15 Acetone	43	2.651	2.648	(0.493)	8293	5.00000	5.3	
16 trans-1,2-Dichloroethene	96	2.737	2.741	(0.509)	6528	1.00000	1.1	
17 Methyl Acetate	43	2.752	2.752	(0.511)	4185	1.00000	1.1	
18 Methyl tert-butyl ether	73	2.834	2.831	(0.527)	13663	1.00000	0.93(a)	
19 Tertiary-butyl alcohol	59	2.935	2.924	(0.545)	1495	5.00000	3.7(a)	
20 Acetonitrile	41	3.074	3.070	(0.571)	6037	10.0000	10.3(a)	
21 Di-isopropyl ether	45	3.194	3.190	(0.593)	13857	1.00000	0.93(a)	
22 Chloroprene	53	3.302	3.295	(0.613)	6280	1.00000	0.91(a)	
23 1,1-Dichloroethane	63	3.328	3.325	(0.618)	10694	1.00000	1.0	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9666.D
Report Date: 25-Jan-2021 10:43

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4:37 pm, Jan 27, 2021

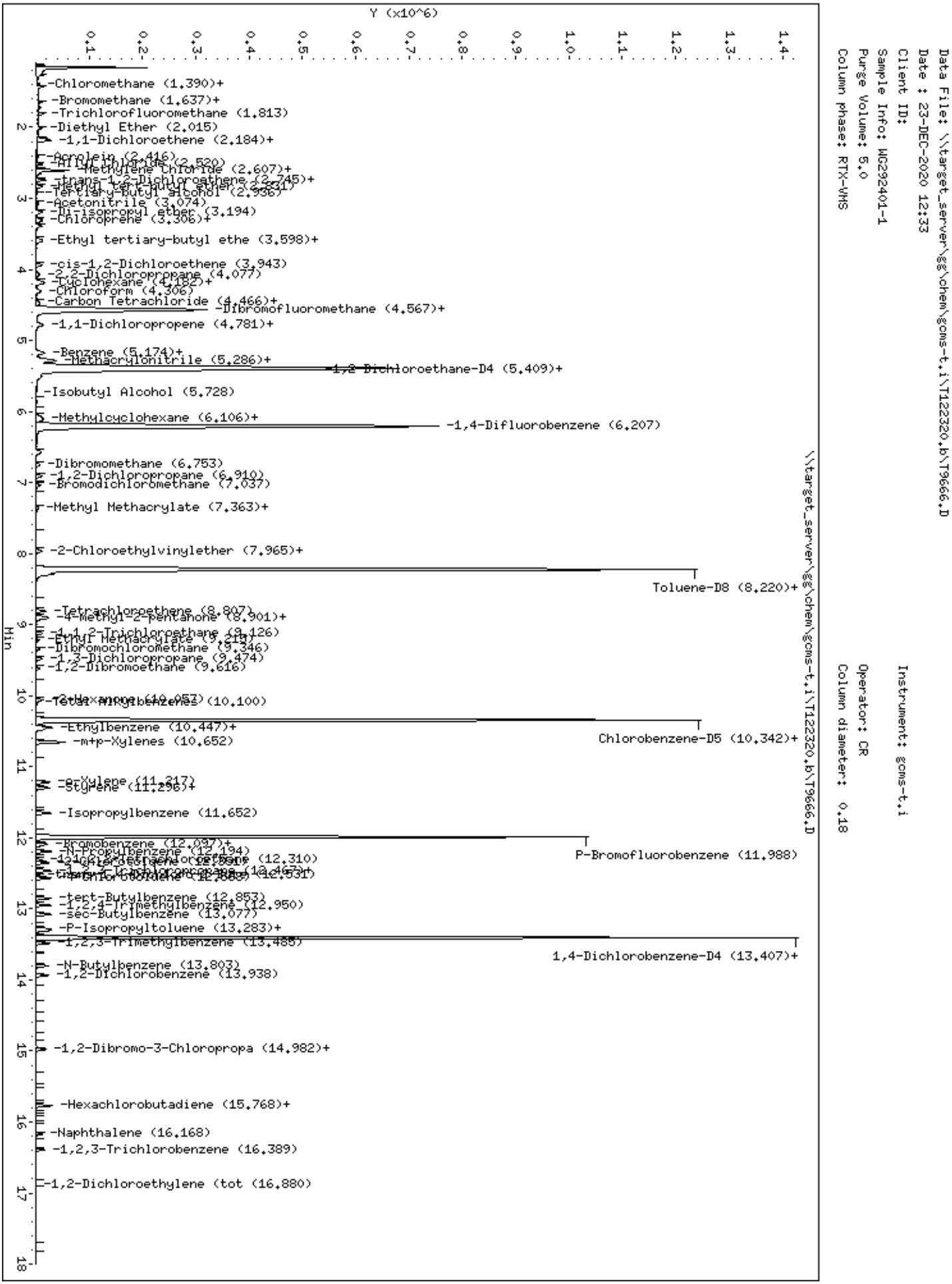
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.388	3.385	(0.629)	8061	5.00000	5.1	
	25 Ethyl tertiary-butyl ether	59	3.586	3.583	(0.666)	12686	1.00000	0.89(a)	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	9427	1.00000	0.90(a)	
	27 cis-1,2-Dichloroethene	96	3.942	3.935	(0.732)	6355	1.00000	1.00	
	28 2,2-Dichloropropane	77	4.077	4.070	(0.757)	7386	1.00000	0.90(a)	
	29 Cyclohexane	56	4.182	4.174	(0.777)	7526	1.00000	0.97(a)	
	30 Bromochloromethane	128	4.178	4.192	(0.776)	2821	1.00000	1.0	
	31 Chloroform	83	4.305	4.304	(0.800)	11421	1.00000	1.0	
	32 Carbon Tetrachloride	117	4.477	4.474	(0.721)	6583	1.00000	0.85(a)	
	33 Tetrahydrofuran	42	4.545	4.519	(0.844)	6863	5.00000	4.6(a)	
$	34 Dibromofluoromethane	113	4.567	4.571	(0.848)	299732	50.0000	49.4	
	35 1,1,1-Trichloroethane	97	4.574	4.582	(0.850)	9534	1.00000	1.0	
	36 1,1-Dichloropropene	75	4.780	4.769	(0.770)	8034	1.00000	1.0	
	37 2-Butanone	43	4.791	4.773	(0.890)	11390	5.00000	4.9(aM)	M9
	38 Benzene	78	5.173	5.174	(0.834)	23966	1.00000	1.0	
	39 Propionitrile	54	5.259	5.252	(0.977)	6733	10.0000	10.0	
	40 Methacrylonitrile	41	5.285	5.282	(0.982)	29107	10.0000	10.1	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	555137	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.409	5.406	(1.005)	336867	50.0000	50.4	
	43 Tertiary-amyl methyl ether	73	5.424	5.413	(1.008)	11698	1.00000	0.86(a)	
	44 1,2-Dichloroethane	62	5.506	5.514	(0.887)	8501	1.00000	1.2	
	45 Isobutyl Alcohol	43	5.727	5.686	(1.064)	379	20.0000	3.2(TaM)	M6
	46 Methylcyclohexane	83	6.064	6.075	(1.127)	7488	1.00000	0.88(a)	
	47 Trichloroethene	95	6.124	6.117	(0.987)	5420	1.00000	0.97(a)	
*	48 1,4-Difluorobenzene	114	6.206	6.210	(1.000)	921735	50.0000		
	49 Dibromomethane	93	6.749	6.749	(1.087)	4360	1.00000	1.1	
	50 1,2-Dichloropropane	63	6.910	6.910	(1.113)	5419	1.00000	0.98(Ta)	
	51 Bromodichloromethane	83	7.033	7.033	(1.133)	7365	1.00000	0.94(a)	
	52 Methyl Methacrylate	41	7.351	7.348	(1.185)	2788	1.00000	0.72(a)	
	53 1,4-Dioxane	88	7.362	7.352	(1.186)	1258	20.0000	20.1	
	54 2-Chloroethylvinylether	63	7.939	7.939	(1.279)	2035	1.00000	1.2	
	55 cis-1,3-dichloropropene	75	7.969	7.965	(1.284)	8808	1.00000	0.93(a)	
$	56 Toluene-D8	98	8.219	8.220	(1.324)	1055566	50.0000	49.4	
	57 Toluene	92	8.294	8.291	(1.336)	13995	1.00000	0.99(a)	
	58 Tetrachloroethene	164	8.807	8.807	(0.852)	5105	1.00000	1.1	
	59 4-methyl-2-pentanone	43	8.897	8.886	(1.434)	19229	5.00000	4.3(a)	
	60 trans-1,3-Dichloropropene	75	8.915	8.916	(1.437)	7030	1.00000	0.85(a)	
	61 1,1,2-Trichloroethane	83	9.125	9.122	(1.470)	4190	1.00000	0.96(a)	
	62 Ethyl Methacrylate	69	9.215	9.211	(1.485)	4554	1.00000	0.70(a)	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	4839	1.00000	0.82(a)	
	64 1,3-Dichloropropane	76	9.473	9.477	(0.916)	9911	1.00000	1.0	
	65 1,2-Dibromoethane	107	9.615	9.619	(1.549)	5469	1.00000	1.0(T)	
M	66 Total Alkylbenzenes	100				130745	1.00000	6.5(a)	
	67 2-Hexanone	43	10.057	10.053	(0.972)	11512	5.00000	3.7(a)	
*	68 Chlorobenzene-D5	117	10.341	10.342	(1.000)	834483	50.0000		
	69 Chlorobenzene	112	10.360	10.364	(1.002)	16044	1.00000	1.1	
	70 Ethylbenzene	91	10.446	10.443	(1.010)	25144	1.00000	1.00	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	4780	1.00000	0.93(a)	
	72 m+p-Xylenes	91	10.652	10.652	(1.030)	38670	2.00000	2.0	
	73 o-Xylene	91	11.217	11.217	(1.085)	19458	1.00000	0.99(a)	
	74 Styrene	104	11.299	11.296	(1.093)	13492	1.00000	0.88(a)	
	75 Bromoform	173	11.288	11.288	(1.092)	2941	1.00000	0.79(a)	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	22536	1.00000	0.97(a)	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.932)	393004	50.0000	50.1	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9666.D
Report Date: 25-Jan-2021 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.089	12.093	(0.902)	6310	1.00000	1.1	
	79 cis-1,4-Dichloro-2-Butene	53	12.123	12.119	(0.904)	1210	1.00000	0.80(a)	
	80 N-Propylbenzene	91	12.190	12.194	(0.909)	27576	1.00000	1.0	
	81 1,1,2,2-Tetrachloroethane	83	12.310	12.310	(0.918)	6475	1.00000	1.00	
	82 2-Chlorotoluene	91	12.355	12.355	(0.922)	16584	1.00000	1.0	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	5719	1.00000	1.1	
	84 1,3,5-Trimethylbenzene	105	12.471	12.467	(0.930)	16943	1.00000	0.93(a)	
	85 trans-1,4-Dichloro-2-Butene	53	12.523	12.527	(0.934)	1219	1.00000	0.78(a)	
	86 4-Chlorotoluene	91	12.568	12.572	(0.937)	18159	1.00000	1.0	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	14732	1.00000	0.96(a)	
	89 1,2,4-Trimethylbenzene	105	12.950	12.946	(0.966)	17050	1.00000	0.91(a)	
	90 sec-Butylbenzene	105	13.077	13.077	(0.975)	22616	1.00000	0.97(a)	
	91 P-Isopropyltoluene	119	13.283	13.279	(0.991)	16545	1.00000	0.89(a)	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	11499	1.00000	1.1	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	396661	50.0000		
	94 1,4-Dichlorobenzene	146	13.421	13.425	(1.001)	12607	1.00000	1.1	
	95 1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	16848	1.00000	0.97(a)	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	15283	1.00000	0.85(a)	
	97 1,2-Dichlorobenzene	146	13.941	13.938	(1.040)	10277	1.00000	1.0	
	98 1,2-Dibromo-3-Chloropropane	157	14.940	14.937	(1.114)	822	1.00000	0.70(a)	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	6997	1.00000	1.0	
	100 Hexachlorobutadiene	225	15.768	15.768	(1.176)	2663	1.00000	0.98(a)	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	6585	1.00000	1.0	
	102 Naphthalene	128	16.164	16.168	(1.206)	10702	1.00000	0.72(a)	
M	103 1,2-Dichloroethylene (total)	96				12883	1.00000	2.1	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	5777	1.00000	1.0	
M	105 Xylenes (total)	91				58128	5.00000	3.0	

QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.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Client ID:
Sample Info: WG292401-1
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Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T122320.b\T9666.D
Y (x10^6)
Min
-Chloromethane (1.390)+
-Bromomethane (1.637)+
-Trichlorofluoromethane (1.813)
-Diethyl Ether (2.015)
-1,1-Dichloroethene (2.184)+
-Acrolein (2.416)
-Allyl Chloride (2.520)
-Methylene Chloride (2.607)+
-trans-1,2-Dichloroethene (2.745)+
-Methyl tert-butyl ether (2.831)
-Tertiary-butyl alcohol (2.936)
-Acetonitrile (3.074)
-Di-isopropyl ether (3.194)
-Chloroprene (3.306)+
-Ethyl tertiary-butyl ethe (3.598)+
-cis-1,2-Dichloroethene (3.943)
-2,2-Dichloropropane (4.077)
-Cyclohexane (4.182)+
-Chloroform (4.306)
-Carbon Tetrachloride (4.466)+
-Dibromofluoromethane (4.567)+
-1,1-Dichloropropene (4.781)+
-Benzene (5.174)+
-Methacrylonitrile (5.286)+
-1,2-Dichloroethane-D4 (5.409)+
-Isobutyl Alcohol (5.728)
-Methylcyclohexane (6.106)+
-1,4-Difluorobenzene (6.207)
-Dibromomethane (6.753)
-1,2-Dichloropropane (6.910)
-Bromodichloromethane (7.037)
-Methyl Methacrylate (7.363)+
-2-Chloroethylvinylether (7.965)+
Toluene-D8 (8.220)+
-Tetrachloroethene (8.807)
-4-Methyl-2-pentanone (8.901)+
-1,1,2-Trichloroethane (9.126)
-Ethyl Methacrylate (9.215)
-Dibromochloromethane (9.346)
-1,3-Dichloropropane (9.474)
-1,2-Dibromoethane (9.616)
-2-Hexanone (10.057)
-Total Alkylbenzenes (10.100)
-Ethylbenzene (10.447)+
-m+p-Xylenes (10.652)
Chlorobenzene-D5 (10.342)+
-o-Xylene (11.217)
-Styrene (11.296)+
-Isopropylbenzene (11.652)
-Bromobenzene (12.097)+
-N-Propylbenzene (12.194)
-1,1,2,2-Tetrachloroethane (12.310)
-1,3,5-Trichloropropane (12.467)+
-4-Chlorotoluene (12.531)
P-Bromofluorobenzene (11.988)
-tert-Butylbenzene (12.853)
-1,2,4-Trimethylbenzene (12.950)
-sec-Butylbenzene (13.077)
-P-Isopropyltoluene (13.283)+
-1,2,3-Trimethylbenzene (13.485)
1,4-Dichlorobenzene-D4 (13.407)+
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropa (14.982)+
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.168)
-1,2,3-Trichlorobenzene (16.389)
-1,2-Dichloroethylene (tot (16.880)

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9667.D
Report Date: 25-Jan-2021 10:43

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9667.D
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Inj Date : 23-DEC-2020 14:35
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-7
Misc Info :
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 8 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	375273	75.0000	81.0	
2 Chloromethane	50	1.386	1.390	(0.258)	416872	75.0000	77.9	
3 Vinyl chloride	62	1.431	1.431	(0.266)	398395	75.0000	79.4	
4 Bromomethane	94	1.633	1.633	(0.303)	141854	75.0000	78.8	
5 Chloroethane	64	1.708	1.708	(0.317)	186927	75.0000	71.3	
6 Trichlorofluoromethane	101	1.801	1.802	(0.335)	585778	75.0000	80.4	
7 Diethyl Ether	59	2.011	2.011	(0.374)	232261	75.0000	73.9	
8 1,1-Dichloroethene	96	2.157	2.157	(0.401)	454403	75.0000	79.3	
9 Freon-113	151	2.183	2.184	(0.406)	267030	75.0000	77.9	
10 Carbon Disulfide	76	2.183	2.187	(0.406)	1200964	75.0000	74.9	
11 Iodomethane	142	2.265	2.270	(0.421)	418137	75.0000	81.1	
12 Acrolein	56	2.411	2.416	(0.448)	315236	375.000	367	
13 Allyl Chloride	41	2.516	2.517	(0.467)	557333	75.0000	77.8	
14 Methylene Chloride	84	2.602	2.606	(0.483)	528833	75.0000	79.4	
15 Acetone	43	2.647	2.648	(0.492)	739312	375.000	451	
16 trans-1,2-Dichloroethene	96	2.737	2.741	(0.509)	485014	75.0000	77.3	
17 Methyl Acetate	43	2.748	2.752	(0.511)	271894	75.0000	70.0	
18 Methyl tert-butyl ether	73	2.830	2.831	(0.526)	1210870	75.0000	78.5	
19 Tertiary-butyl alcohol	59	2.924	2.924	(0.543)	138049	375.000	341	
20 Acetonitrile	41	3.070	3.070	(0.570)	415052	750.000	689	
21 Di-isopropyl ether	45	3.190	3.190	(0.593)	1200805	75.0000	77.0	
22 Chloroprene	53	3.294	3.295	(0.612)	562612	75.0000	77.7	
23 1,1-Dichloroethane	63	3.321	3.325	(0.617)	839460	75.0000	77.9	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9667.D
Report Date: 25-Jan-2021 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.384	3.385	(0.629)	597292	375.000	364	
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.666)	1149104	75.0000	77.2	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	874006	75.0000	79.3	
	27 cis-1,2-Dichloroethene	96	3.934	3.935	(0.731)	525463	75.0000	77.8	
	28 2,2-Dichloropropane	77	4.065	4.070	(0.755)	734294	75.0000	84.0	
	29 Cyclohexane	56	4.178	4.174	(0.776)	656555	75.0000	79.8	
	30 Bromochloromethane	128	4.185	4.192	(0.778)	226599	75.0000	78.6	
	31 Chloroform	83	4.309	4.304	(0.800)	887680	75.0000	77.8	
	32 Carbon Tetrachloride	117	4.470	4.474	(0.720)	668201	75.0000	82.3	
	33 Tetrahydrofuran	42	4.518	4.519	(0.839)	595754	375.000	386	
$	34 Dibromofluoromethane	113	4.567	4.571	(0.848)	317244	50.0000	49.9	
	35 1,1,1-Trichloroethane	97	4.578	4.582	(0.851)	799035	75.0000	79.9	
	36 1,1-Dichloropropene	75	4.769	4.769	(0.768)	662599	75.0000	79.1	
	37 2-Butanone	43	4.773	4.773	(0.887)	998107	375.000	408	
	38 Benzene	78	5.173	5.174	(0.834)	1908739	75.0000	78.1	
	39 Propionitrile	54	5.255	5.252	(0.976)	486040	750.000	705	
	40 Methacrylonitrile	41	5.282	5.282	(0.981)	2179474	750.000	730	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	581152	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.004)	348870	50.0000	49.8	
	43 Tertiary-amyl methyl ether	73	5.413	5.413	(1.006)	1096579	75.0000	77.3	
	44 1,2-Dichloroethane	62	5.517	5.514	(0.889)	585869	75.0000	75.5	
	45 Isobutyl Alcohol	43	5.678	5.686	(1.055)	210323	1500.00	1760	
	46 Methylcyclohexane	83	6.071	6.075	(1.128)	693844	75.0000	77.9	
	47 Trichloroethene	95	6.116	6.117	(0.986)	463545	75.0000	78.7	
*	48 1,4-Difluorobenzene	114	6.206	6.210	(1.000)	964413	50.0000		
	49 Dibromomethane	93	6.749	6.749	(1.087)	311198	75.0000	74.8	
	50 1,2-Dichloropropane	63	6.906	6.910	(1.113)	449938	75.0000	77.8	
	51 Bromodichloromethane	83	7.037	7.033	(1.134)	671058	75.0000	80.9	
	52 Methyl Methacrylate	41	7.347	7.348	(1.184)	326662	75.0000	80.7	
	53 1,4-Dioxane	88	7.351	7.352	(1.185)	53660	1500.00	875	
	54 2-Chloroethylvinylether	63	7.939	7.939	(1.279)	109074	75.0000	61.4	
	55 cis-1,3-dichloropropene	75	7.965	7.965	(1.283)	800691	75.0000	80.6	
$	56 Toluene-D8	98	8.219	8.220	(1.324)	1107976	50.0000	49.7	
	57 Toluene	92	8.290	8.291	(1.336)	1172642	75.0000	79.0	
	58 Tetrachloroethene	164	8.807	8.807	(0.852)	381553	75.0000	78.8	
	59 4-methyl-2-pentanone	43	8.885	8.886	(1.432)	1822201	375.000	392	
	60 trans-1,3-Dichloropropene	75	8.915	8.916	(1.437)	710189	75.0000	81.5	
	61 1,1,2-Trichloroethane	83	9.121	9.122	(1.470)	355419	75.0000	77.8	
	62 Ethyl Methacrylate	69	9.211	9.211	(1.484)	534214	75.0000	79.5	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	513666	75.0000	83.0	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	752666	75.0000	76.8	
	65 1,2-Dibromoethane	107	9.615	9.619	(1.549)	439289	75.0000	77.0	
M	66 Total Alkylbenzenes	100				12172837	75.0000	568	
	67 2-Hexanone	43	10.053	10.053	(0.972)	1350657	375.000	423	
*	68 Chlorobenzene-D5	117	10.341	10.342	(1.000)	869052	50.0000		
	69 Chlorobenzene	112	10.364	10.364	(1.002)	1208419	75.0000	77.4	
	70 Ethylbenzene	91	10.442	10.443	(1.010)	2095582	75.0000	79.3	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	439485	75.0000	81.3	
	72 m+p-Xylenes	91	10.652	10.652	(1.030)	3135424	150.000	159	
	73 o-Xylene	91	11.217	11.217	(1.085)	1651954	75.0000	80.1	
	74 Styrene	104	11.295	11.296	(1.092)	1324769	75.0000	82.0	
	75 Bromoform	173	11.288	11.288	(1.092)	324418	75.0000	83.8	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	1998282	75.0000	80.3	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.932)	406025	50.0000	49.5	

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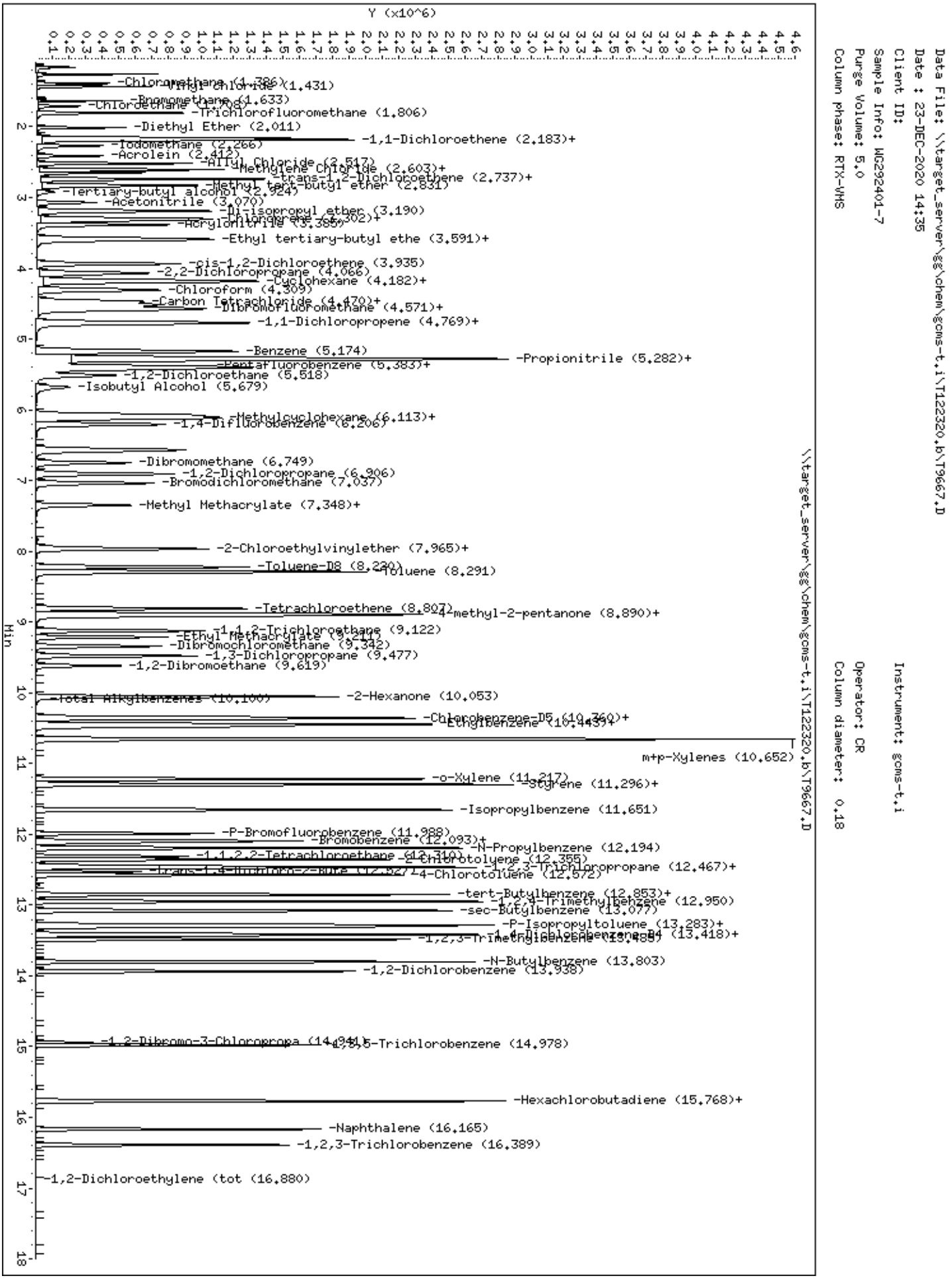
Report Date: 25-Jan-2021 10:43

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.092	12.093	(0.902)	486820	75.0000	77.9	
	79 cis-1,4-Dichloro-2-Butene	53	12.115	12.119	(0.904)	129712	75.0000	80.8	
	80 N-Propylbenzene	91	12.194	12.194	(0.910)	2369053	75.0000	80.2	
	81 1,1,2,2-Tetrachloroethane	83	12.310	12.310	(0.918)	534573	75.0000	77.3	
	82 2-Chlorotoluene	91	12.354	12.355	(0.922)	1403010	75.0000	78.9	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	435775	75.0000	76.4	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	1582721	75.0000	81.0	
	85 trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	133785	75.0000	80.9	
	86 4-Chlorotoluene	91	12.571	12.572	(0.938)	1466954	75.0000	78.9	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	1332330	75.0000	80.6	
	88 Pentachloroethane	165	12.860	12.860	(0.959)	5359	75.0000	(a)	
	89 1,2,4-Trimethylbenzene	105	12.949	12.946	(0.966)	1633582	75.0000	81.2	
	90 sec-Butylbenzene	105	13.077	13.077	(0.975)	2010642	75.0000	80.3	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	1641625	75.0000	82.1	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	892143	75.0000	77.9	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	421957	50.0000		
	94 1,4-Dichlorobenzene	146	13.425	13.425	(1.001)	913452	75.0000	77.2	
	95 1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	1418226	75.0000	76.7	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	1602884	75.0000	83.2	
	97 1,2-Dichlorobenzene	146	13.937	13.938	(1.040)	845288	75.0000	78.5	
	98 1,2-Dibromo-3-Chloropropane	157	14.940	14.937	(1.114)	106453	75.0000	86.0	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	551647	75.0000	75.8	
	100 Hexachlorobutadiene	225	15.764	15.768	(1.176)	237598	75.0000	81.2	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	559687	75.0000	80.5	
	102 Naphthalene	128	16.164	16.168	(1.206)	1353296	75.0000	85.8	
M	103 1,2-Dichloroethylene (total)	96				1010477	75.0000	155	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	487860	75.0000	79.3	
M	105 Xylenes (total)	91				4787378	75.0000	239	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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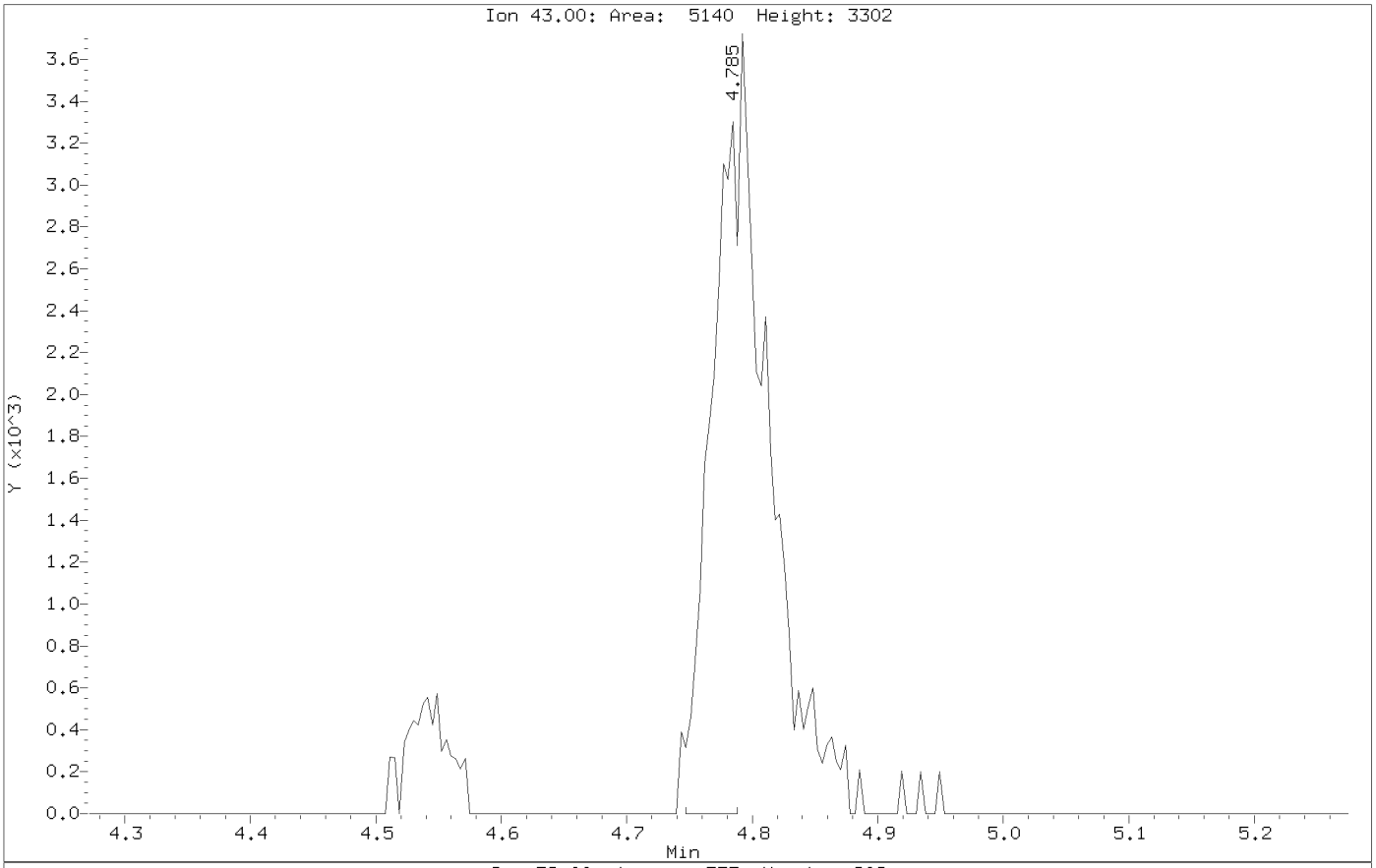
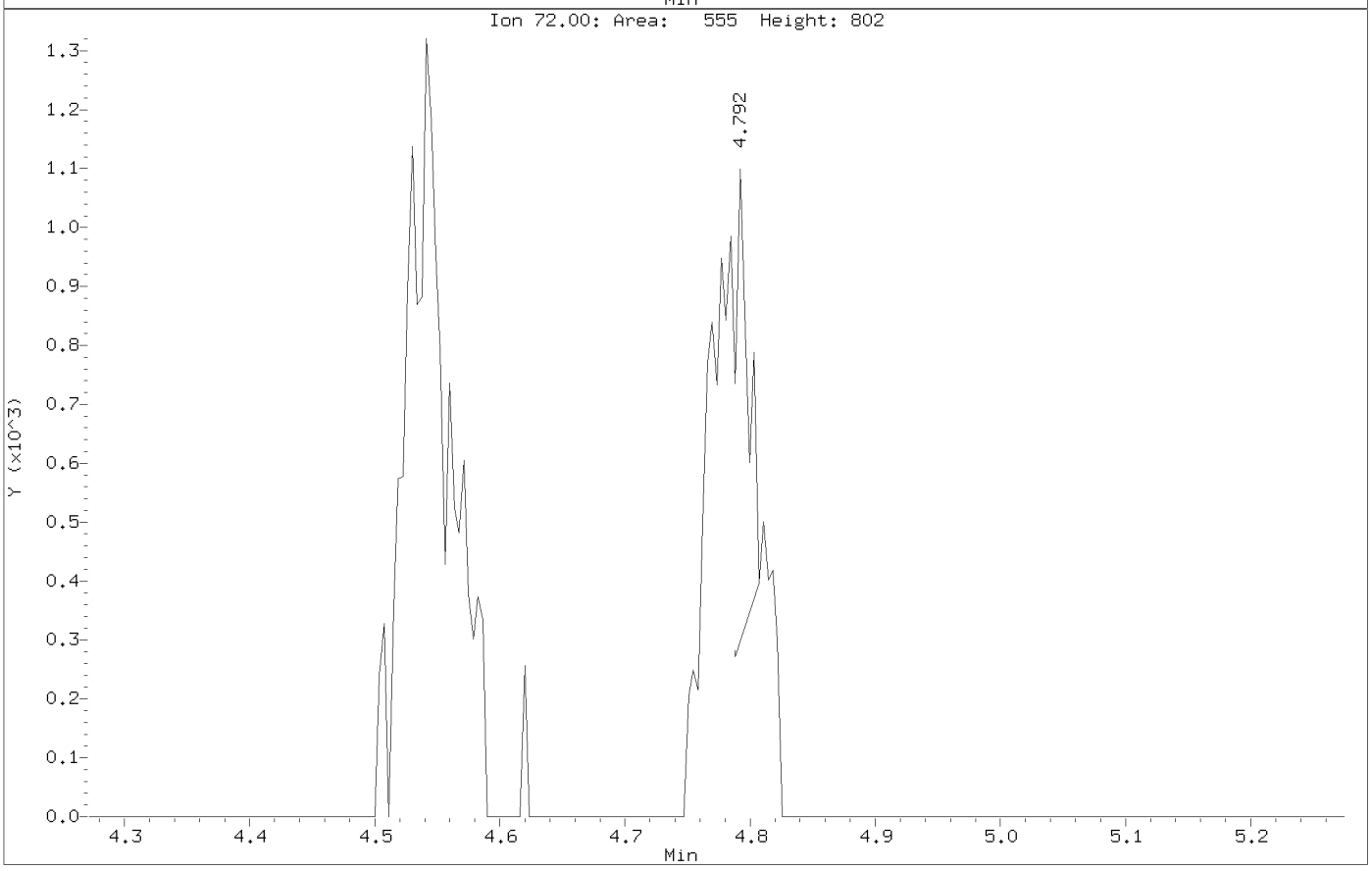
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Chloromethane (1.386)
-Vinyl Chloride (1.431)
-Bromomethane (1.633)
-Chloroethane (1.708)
-Trichlorofluoromethane (1.806)
-Diethyl Ether (2.011)
-1,1-Dichloroethene (2.183)+
-Iodomethane (2.266)
-Acrolein (2.412)
-Allyl Chloride (2.517)
-Methylene Chloride (2.603)+
-trans-1,2-Dichloroethene (2.737)+
-Methyl tert-butyl ether (2.831)
-Tertiary-butyl alcohol (2.924)
-Acetonitrile (3.070)
-Di-isopropyl ether (3.190)
-Chloroprene (3.302)+
-Acrylonitrile (3.385)
-Ethyl tertiary-butyl ethe (3.591)+
-cis-1,2-Dichloroethene (3.935)
-2,2-Dichloropropane (4.066)
-Cyclohexane (4.182)+
-Chloroform (4.309)
-Carbon Tetrachloride (4.470)+
-Dibromofluoromethane (4.571)+
-1,1-Dichloropropene (4.769)+
-Benzene (5.174)
-Propionitrile (5.282)+
-Pentafluorobenzene (5.383)+
-1,2-Dichloroethane (5.518)
-Isobutyl Alcohol (5.679)
-Methylcyclohexane (6.113)+
-1,4-Difluorobenzene (6.206)
-Dibromomethane (6.749)
-1,2-Dichloropropane (6.906)
-Bromodichloromethane (7.037)
-Methyl Methacrylate (7.348)+
-2-Chloroethylvinylether (7.965)+
-Toluene-D8 (8.230)
-Toluene (8.291)
-Tetrachloroethene (8.807)
-4-methyl-2-pentanone (8.890)+
-1,1,2-Trichloroethane (9.122)
-Ethyl Methacrylate (9.211)
-Dibromochloromethane (9.342)
-1,3-Dichloropropane (9.477)
-1,2-Dibromoethane (9.619)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.053)
-Chlorobenzene-D5 (10.360)+
-Ethylbenzene (10.443)+
m+p-Xylenes (10.652)
-o-Xylene (11.217)
-Styrene (11.296)+
-Isopropylbenzene (11.651)
-P-Bromofluorobenzene (11.988)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.194)
-1,1,2,2-Tetrachloroethane (12.310)
-2-Chlorotoluene (12.355)
-1,2,3-Trichloropropane (12.467)+
-trans-1,4-Dichloro-2-Bute (12.527)
-4-Chlorotoluene (12.572)
-tert-Butylbenzene (12.853)+
-1,2,4-Trimethylbenzene (12.950)
-sec-Butylbenzene (13.077)
-P-Isopropyltoluene (13.283)+
-1,4-Dichlorobenzene-D4 (13.418)+
-1,2,3-Trimethylbenzene (13.488)
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropa (14.941)
-1,3,5-Trichlorobenzene (14.978)
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.165)
-1,2,3-Trichlorobenzene (16.389)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T122320.b\T9667.D

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9666.D
Injection Date: 23-DEC-2020 12:33
Instrument: gcms-t.i
Client Sample ID:

Compound: 2-Butanone
CAS Number: 78-93-3

BEFORE MANUAL INTEGRATION





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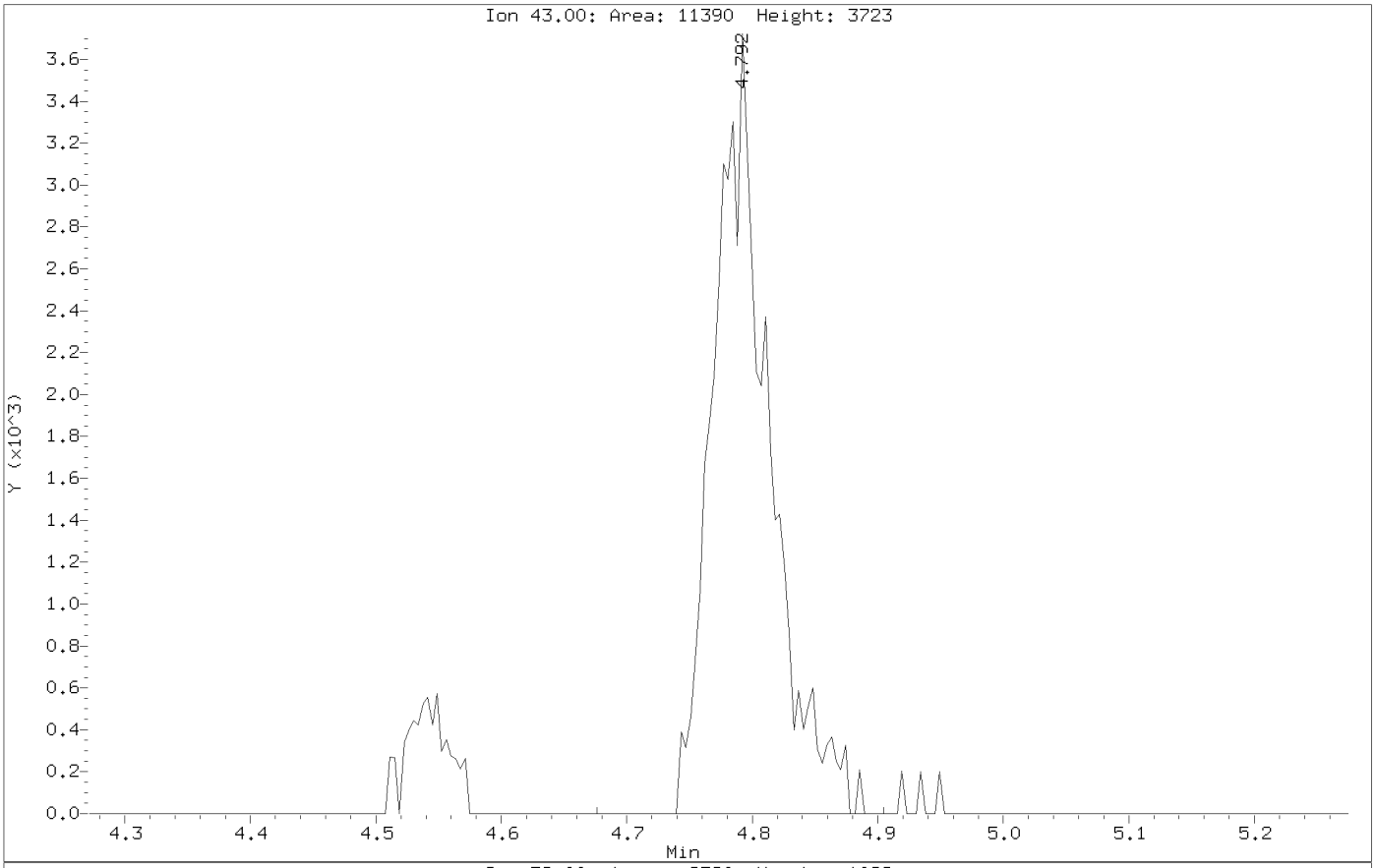
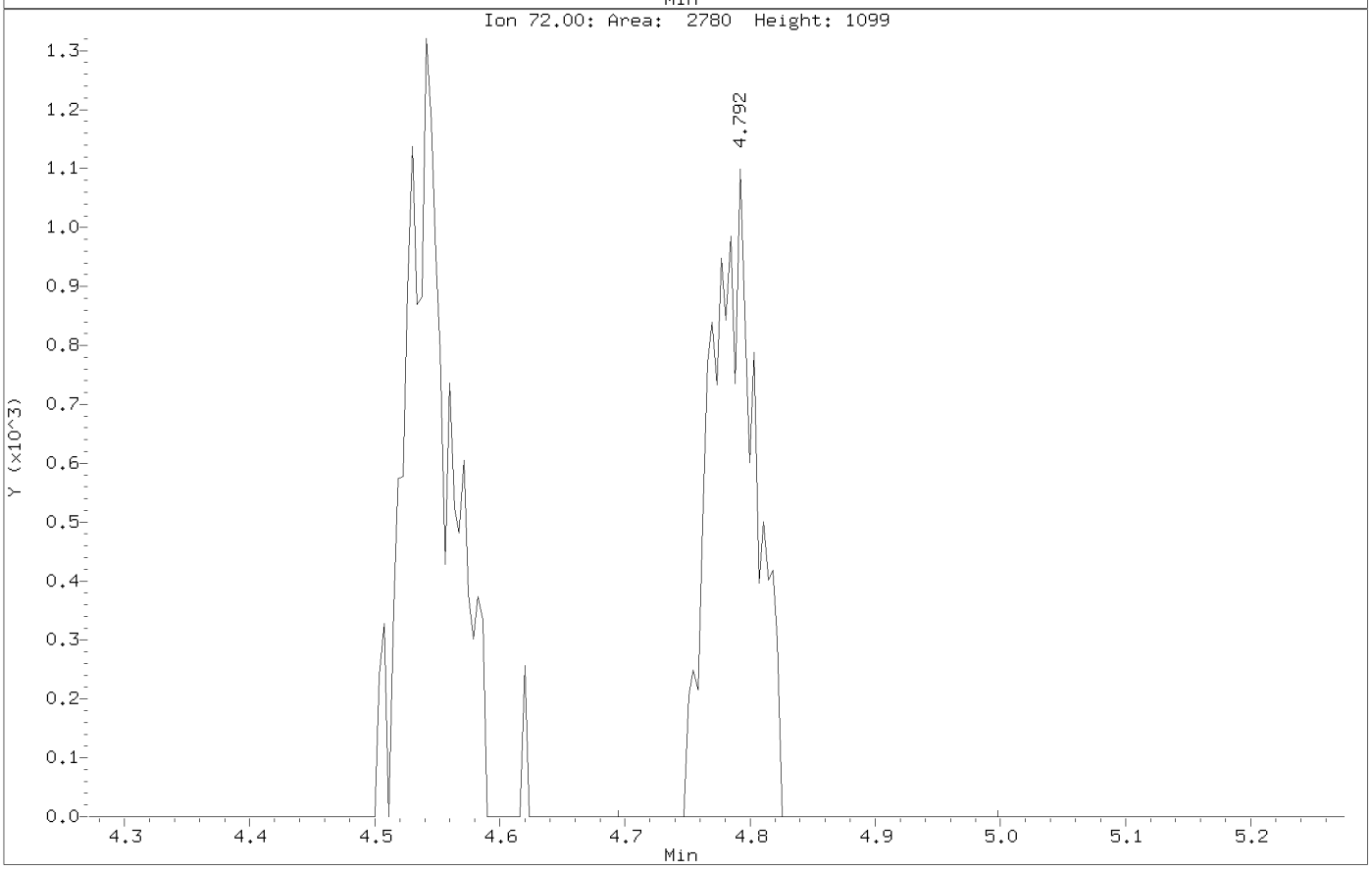
Injection Date: 23-DEC-2020 12:33
Instrument: gcms-t.i
Client Sample ID:

Compound: 2-Butanone
CAS Number: 78-93-3

AFTER MANUAL INTEGRATION





Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292631-4
Analytical Date: 12/29/20 04:18
Lab File ID : C8359.D
Instrument ID: GCMS-C
Initial Calibration Date(s): 12/28/20 10:23 12/28/20 13:35
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2	Chloromethane	1.28835	1.25048	1.25048	0.100	-2.93932	20.00000	Averaged	
3	Vinyl chloride	0.85921	0.87502	0.87502	0.010	1.84084	20.00000	Averaged	
4	Bromomethane	50.00000	50.96264	0.44914	0.010	1.92529	20.00000	Linear	
5	Chloroethane	0.41086	0.44071	0.44071	0.010	7.26440	20.00000	Averaged	
8	1,1-Dichloroethene	0.54286	0.58054	0.58054	0.100	6.93955	20.00000	Averaged	
10	Carbon Disulfide	1.37365	1.37102	1.37102	0.010	-0.19142	20.00000	Averaged	
14	Methylene Chloride	50.00000	50.66280	0.77278	0.010	1.32560	20.00000	Linear	
15	Acetone	0.38025	0.41311	0.41311	0.010	8.64208	20.00000	Averaged	
16	trans-1,2-Dichloroethene	0.73667	0.73574	0.73574	0.010	-0.12665	20.00000	Averaged	
23	1,1-Dichloroethane	1.53328	1.54848	1.54848	0.100	0.99118	20.00000	Averaged	
27	cis-1,2-Dichloroethene	0.73314	0.73845	0.73845	0.010	0.72394	20.00000	Averaged	
31	Chloroform	1.36631	1.39805	1.39805	0.010	2.32306	20.00000	Averaged	
32	Carbon Tetrachloride	0.58812	0.64514	0.64514	0.010	9.69505	20.00000	Averaged	
35	1,1,1-Trichloroethane	1.19060	1.25363	1.25363	0.010	5.29414	20.00000	Averaged	
36	2-Butanone	0.49777	0.50690	0.50690	0.010	1.83256	20.00000	Averaged	
38	Benzene	1.53562	1.56031	1.56031	0.010	1.60813	20.00000	Averaged	
44	1,2-Dichloroethane	0.73375	0.74222	0.74222	0.010	1.15366	20.00000	Averaged	
47	Trichloroethene	0.41130	0.42184	0.42184	0.010	2.56137	20.00000	Averaged	
50	1,2-Dichloropropane	0.43139	0.43426	0.43426	0.010	0.66568	20.00000	Averaged	
51	Bromodichloromethane	0.54022	0.56917	0.56917	0.010	5.35909	20.00000	Averaged	
57	cis-1,3-dichloropropene	50.00000	47.12363	0.62301	0.010	-5.75274	20.00000	Linear	
59	Toluene	1.63046	1.61772	1.61772	0.010	-0.78119	20.00000	Averaged	
60	Tetrachloroethene	0.35979	0.36189	0.36189	0.010	0.58326	20.00000	Averaged	
61	4-methyl-2-pentanone	0.54963	0.57349	0.57349	0.010	4.34078	20.00000	Averaged	
62	trans-1,3-Dichloropropene	0.55153	0.58266	0.58266	0.010	5.64338	20.00000	Averaged	
63	1,1,2-Trichloroethane	0.34393	0.34519	0.34519	0.010	0.36609	20.00000	Averaged	
64	Dibromochloromethane	0.44816	0.47094	0.47094	0.010	5.08339	20.00000	Averaged	
67	2-Hexanone	250	238	0.48507	0.010	-4.69855	20.00000	Linear	
69	Chlorobenzene	1.21885	1.21098	1.21098	0.300	-0.64608	20.00000	Averaged	
71	Ethylbenzene	0.64058	0.66148	0.66148	0.010	3.26127	20.00000	Averaged	
73	m+p-Xylenes	0.77617	0.82173	0.82173	0.010	5.86955	20.00000	Averaged	
74	o-Xylene	50.00000	47.48929	0.75546	0.010	-5.02141	20.00000	Linear	
75	Styrene	50.00000	48.54091	1.29170	0.010	-2.91819	20.00000	Linear	
76	Bromoform	0.27813	0.29602	0.29602	0.100	6.43347	20.00000	Averaged	
82	1,1,2,2-Tetrachloroethane	1.12811	1.10044	1.10044	0.300	-2.45267	20.00000	Averaged	
106	Xylenes (total)	++++	0.79964	0.79964	0.010	++++	20.00000	Averaged	*
34	Dibromofluoromethane	0.53854	0.55094	0.55094	0.010	2.30324	20.00000	Averaged	
42	1,2-Dichloroethane-D4	0.73025	0.74846	0.74846	0.010	2.49395	20.00000	Averaged	
58	Toluene-D8	1.17798	1.15511	1.15511	0.010	-1.94129	20.00000	Averaged	
78	P-Bromofluorobenzene	0.43258	0.43084	0.43084	0.010	-0.40119	20.00000	Averaged	

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sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292631-4
Analytical Date: 12/29/20 04:18
Lab File ID : C8359.D
Instrument ID: GCMS-C
Initial Calibration Date(s): 12/28/20 10:23 12/28/20 13:35
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type

*** = Compound out of QC criteria**

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http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8359.D
Report Date: 27-Jan-2021 15:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920.b\C8359.D
Lab Smp Id: WG292631-4
Inj Date : 29-DEC-2020 04:18
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292631-4,TN0377
Misc Info : WG292631,WG292597-4,TN0377-13
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920.b\C8A05(37)DN.m
Meth Date : 29-Dec-2020 15:49 tcote Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.211)	149041	50.0000	54.6	
2 Chloromethane	50	1.401	1.402	(0.236)	177521	50.0000	48.5	
3 Vinyl chloride	62	1.442	1.447	(0.243)	124220	50.0000	50.9	
4 Bromomethane	94	1.675	1.679	(0.282)	63761	50.0000	51.0	
5 Chloroethane	64	1.761	1.765	(0.296)	62564	50.0000	53.6	
6 Trichlorofluoromethane	101	1.870	1.874	(0.315)	141736	50.0000	56.1	
7 Diethyl Ether	59	2.121	2.125	(0.357)	82106	50.0000	51.6	
8 1,1-Dichloroethene	96	2.271	2.275	(0.382)	82414	50.0000	53.5	
9 Freon-113	151	2.308	2.316	(0.388)	51145	50.0000	56.5	
10 Carbon Disulfide	76	2.290	2.294	(0.385)	194633	50.0000	49.9	
11 Iodomethane	142	2.391	2.395	(0.402)	76938	50.0000	56.7	
12 Acrolein	56	2.571	2.575	(0.433)	128238	250.000	250	
13 Allyl Chloride	41	2.694	2.699	(0.453)	208154	50.0000	53.4	
14 Methylene Chloride	84	2.792	2.796	(0.470)	109706	50.0000	50.7	
15 Acetone	43	2.856	2.856	(0.480)	293232	250.000	272	
16 trans-1,2-Dichloroethene	96	2.953	2.957	(0.497)	104447	50.0000	49.9	
17 Methyl Acetate	43	2.987	2.991	(0.502)	129956	50.0000	49.9	
18 Methyl tert-butyl ether	73	3.088	3.092	(0.520)	242661	50.0000	46.8	
19 Tertiary-butyl alcohol	59	3.223	3.227	(0.542)	46404	250.000	208	
20 Acetonitrile	41	3.335	3.336	(0.561)	205488	500.000	496	
21 Di-isopropyl ether	45	3.534	3.538	(0.595)	380518	50.0000	51.8	
22 Chloroprene	53	3.613	3.617	(0.608)	222127	50.0000	55.5	
23 1,1-Dichloroethane	63	3.639	3.640	(0.612)	219825	50.0000	50.5	

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8359.D
Report Date: 27-Jan-2021 15:52

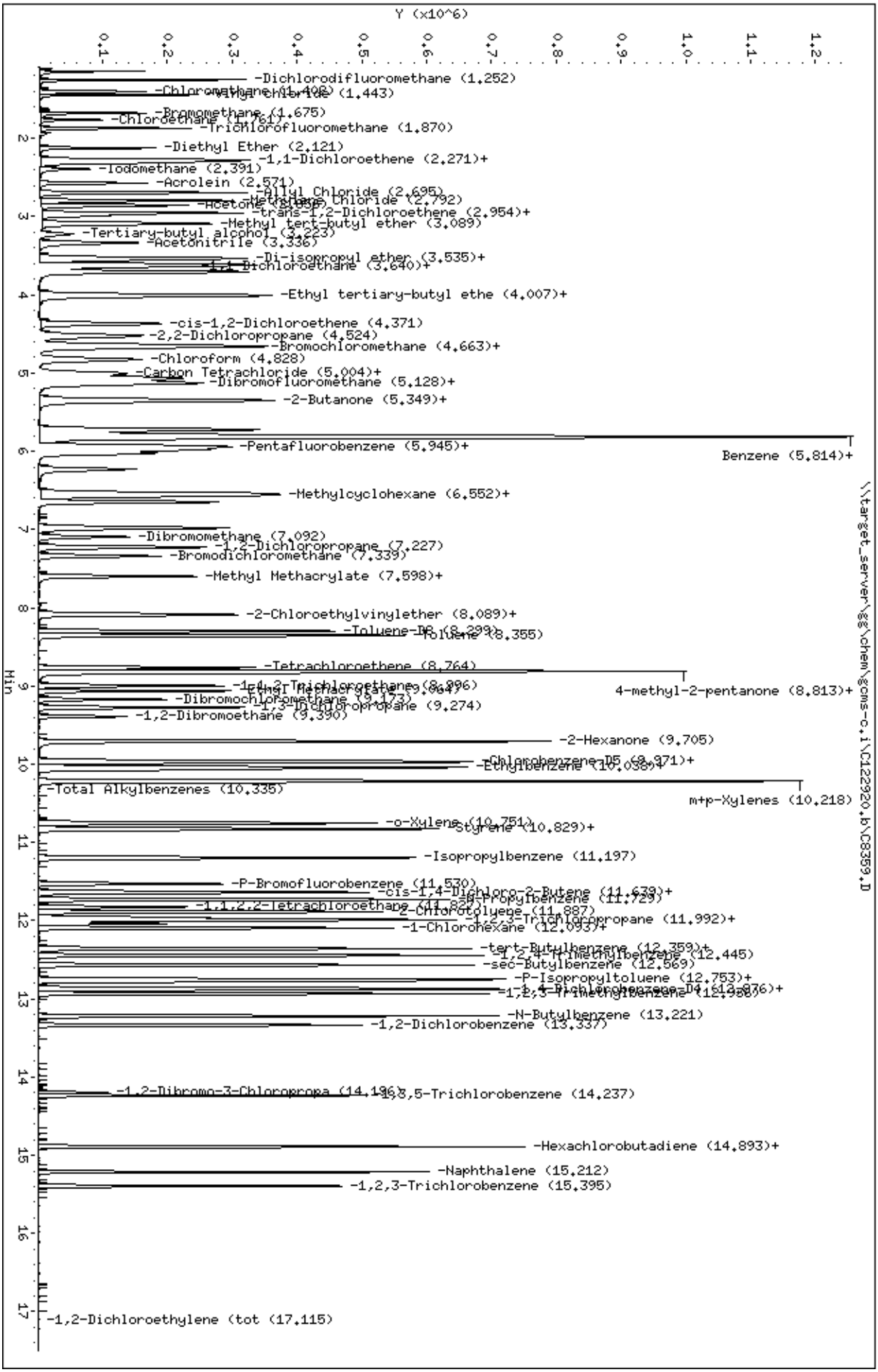
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.703	3.711	(0.623)	251956	250.000	254	
	25 Ethyl tertiary-butyl ether	59	4.003	4.006	(0.673)	285074	50.0000	49.3	
	26 Vinyl Acetate	43	4.006	4.014	(0.603)	269264	50.0000	46.9	
	27 cis-1,2-Dichloroethene	96	4.370	4.378	(0.735)	104832	50.0000	50.4	
	28 2,2-Dichloropropane	77	4.524	4.528	(0.761)	134259	50.0000	45.2	
	29 Bromochloromethane	128	4.662	4.674	(0.784)	46503	50.0000	52.5	
	30 Cyclohexane	56	4.651	4.659	(0.782)	207207	50.0000	48.6	
	31 Chloroform	83	4.827	4.832	(0.812)	198470	50.0000	51.2	
	32 Carbon Tetrachloride	117	5.004	5.012	(0.753)	154145	50.0000	54.8	
	33 Tetrahydrofuran	42	5.064	5.072	(0.852)	227764	250.000	237	
$	34 Dibromofluoromethane	113	5.127	5.135	(0.863)	78213	50.0000	51.2	
	35 1,1,1-Trichloroethane	97	5.124	5.132	(0.862)	177968	50.0000	52.6	
	36 2-Butanone	43	5.352	5.364	(0.900)	359800	250.000	254	
	37 1,1-Dichloropropene	75	5.341	5.349	(0.804)	145464	50.0000	53.6	
	38 Benzene	78	5.720	5.724	(0.861)	372809	50.0000	50.8	
	39 Propionitrile	54	5.780	5.788	(0.972)	213730	500.000	491	
	40 Methacrylonitrile	41	5.817	5.821	(0.979)	902976	500.000	519	
*	41 Pentafluorobenzene	168	5.944	5.945	(1.000)	141962	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.929	5.934	(0.997)	106253	50.0000	51.2	
	43 Tertiary-amyl methyl ether	73	5.978	5.983	(1.006)	174244	50.0000	45.2	
	44 1,2-Dichloroethane	62	6.027	6.035	(0.907)	177339	50.0000	50.6	
	45 Isobutyl Alcohol	43	5.978	5.986	(1.006)	75374	1000.00	839	
	46 Methylcyclohexane	83	6.533	6.541	(1.099)	161589	50.0000	47.8	
	47 Trichloroethene	95	6.571	6.575	(0.989)	100790	50.0000	51.3	
*	48 1,4-Difluorobenzene	114	6.645	6.654	(1.000)	238932	50.0000		
	49 Dibromomethane	93	7.095	7.096	(1.068)	61837	50.0000	49.2	
	50 1,2-Dichloropropane	63	7.227	7.231	(1.087)	103758	50.0000	50.3	
	51 Bromodichloromethane	83	7.339	7.343	(1.104)	135992	50.0000	52.7	
	52 Methyl Methacrylate	41	7.598	7.602	(1.143)	121468	50.0000	46.0	
	53 Ethyl Methacrylate	69	9.063	9.068	(1.364)	124617	50.0000	44.7	
	54 1,4-Dioxane	88	7.594	7.602	(1.143)	23941	1000.00	794	
M	55 Total Alkylbenzenes	100				2748642	50.0000	340	
	56 2-Chloroethylvinylether	63	8.070	8.077	(1.214)	47677	50.0000	39.5	
	57 cis-1,3-dichloropropene	75	8.089	8.097	(1.217)	148857	50.0000	47.1	
$	58 Toluene-D8	98	8.299	8.303	(1.249)	275993	50.0000	49.0	
	59 Toluene	91	8.355	8.359	(1.257)	386525	50.0000	49.6	
	60 Tetrachloroethene	164	8.767	8.768	(0.881)	74917	50.0000	50.3	
	61 4-methyl-2-pentanone	43	8.812	8.813	(1.326)	685121	250.000	261	
	62 trans-1,3-Dichloropropene	75	8.835	8.839	(1.329)	139215	50.0000	52.8	
	63 1,1,2-Trichloroethane	97	9.000	9.004	(1.354)	82476	50.0000	50.2	
	64 Dibromochloromethane	129	9.172	9.176	(0.921)	97492	50.0000	52.5	
	65 1,3-Dichloropropane	76	9.273	9.278	(0.931)	156471	50.0000	51.0	
	66 1,2-Dibromoethane	107	9.389	9.394	(1.413)	85529	50.0000	50.7	
	67 2-Hexanone	43	9.704	9.709	(0.975)	502083	250.000	238	
*	68 Chlorobenzene-D5	117	9.956	9.964	(1.000)	207016	50.0000		
	69 Chlorobenzene	112	9.974	9.979	(1.002)	250692	50.0000	49.7	
	70 1-Chlorohexane	91	12.092	12.097	(1.215)	330455	50.0000		(a)
	71 Ethylbenzene	106	10.038	10.042	(1.008)	136936	50.0000	51.6	
	72 1,1,1,2-Tetrachloroethane	131	10.064	10.069	(1.011)	85851	50.0000	52.2	
	73 m+p-Xylenes	106	10.218	10.222	(1.026)	340221	100.000	106	
	74 o-Xylene	106	10.754	10.755	(1.080)	156393	50.0000	47.5	
	75 Styrene	104	10.829	10.833	(1.088)	267402	50.0000	48.5	
	76 Bromoform	173	10.825	10.833	(1.087)	61281	50.0000	53.2	
	77 Isopropylbenzene	105	11.196	11.204	(0.870)	438767	50.0000	48.1	

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8359.D
Report Date: 27-Jan-2021 15:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
$ 78	P-Bromofluorobenzene	95	11.526	11.534	(1.734)	102942	50.0000	49.8	
79	cis-1,4-Dichloro-2-Butene	53	11.642	11.647	(0.905)	54203	50.0000	48.2	
80	Bromobenzene	156	11.635	11.639	(0.904)	95107	50.0000	50.6	
81	N-Propylbenzene	91	11.729	11.733	(0.912)	528578	50.0000	48.8	
82	1,1,2,2-Tetrachloroethane	83	11.826	11.834	(0.919)	113672	50.0000	48.8	
83	2-Chlorotoluene	91	11.886	11.890	(0.924)	312651	50.0000	51.9	
84	1,2,3-Trichloropropane	75	11.961	11.965	(0.930)	108223	50.0000	48.7	
85	1,3,5-Trimethylbenzene	105	11.991	11.995	(0.932)	360747	50.0000	49.4	
86	trans-1,4-Dichloro-2-Butene	53	12.036	12.044	(0.936)	57552	50.0000	48.4	
87	4-Chlorotoluene	91	12.092	12.097	(0.940)	330455	50.0000	52.2	
88	tert-Butylbenzene	119	12.358	12.363	(0.961)	308680	50.0000	48.3	
89	Pentachloroethane	165	12.358	12.359	(0.961)	951	50.0000	(a)	
90	1,2,4-Trimethylbenzene	105	12.445	12.449	(0.967)	373099	50.0000	49.3	
91	sec-Butylbenzene	105	12.568	12.573	(0.977)	449787	50.0000	48.4	
92	P-Isopropyltoluene	119	12.748	12.756	(0.991)	372552	50.0000	48.0	
93	1,3-Dichlorobenzene	146	12.774	12.779	(0.993)	188590	50.0000	50.3	
* 94	1,4-Dichlorobenzene-D4	152	12.864	12.869	(1.000)	103297	50.0000		
95	1,4-Dichlorobenzene	146	12.879	12.884	(1.001)	191783	50.0000	48.9	
96	1,2,3-Trimethylbenzene	105	12.932	12.940	(1.005)	381307	50.0000	53.6	
97	N-Butylbenzene	91	13.221	13.225	(1.028)	355199	50.0000	47.9	
M 98	1,2-Dichloroethylene (total)	96				209279	50.0000	100	
99	1,2-Dichlorobenzene	146	13.337	13.341	(1.037)	176888	50.0000	49.5	
100	1,2-Dibromo-3-Chloropropane	157	14.195	14.200	(1.103)	21806	50.0000	45.3	
101	1,3,5-Trichlorobenzene	180	14.236	14.241	(1.107)	131063	50.0000	53.3	
102	Hexachlorobutadiene	225	14.889	14.893	(1.157)	49094	50.0000	49.3	
103	1,2,4-Trichlorobenzene	180	14.892	14.897	(1.158)	113480	50.0000	46.3	
104	Naphthalene	128	15.211	15.215	(1.182)	348784	50.0000	43.3	
105	1,2,3-Trichlorobenzene	180	15.395	15.399	(1.197)	113027	50.0000	47.3	
M 106	Xylenes (total)	106				496614	150.000	153	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8359.D
Date : 29-DEC-2020 04:18
Client ID:
Sample Info: WG292631-4,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.408)
-Vinyl Chloride (1.443)
-Bromomethane (1.675)
-Chloroethane (1.761)
-Trichlorofluoromethane (1.870)
-Diethyl Ether (2.121)
-1,1-Dichloroethene (2.271)+
-Iodomethane (2.391)
-Acrolein (2.571)
-Allyl Chloride (2.695)
-Methylene Chloride (2.792)
-Acetone (2.842)
-trans-1,2-Dichloroethene (2.954)+
-Methyl tert-butyl ether (3.089)
-Tertiary-butyl alcohol (3.223)
-Acetonitrile (3.336)
-Di-isopropyl ether (3.535)+
-1,1-Dichloroethane (3.640)+
-Ethyl tertiary-butyl ethe (4.007)+
-cis-1,2-Dichloroethene (4.371)
-2,2-Dichloropropane (4.524)
-Bromochloromethane (4.663)+
-Chloroform (4.828)
-Carbon Tetrachloride (5.004)+
-Dibromofluoromethane (5.128)+
-2-Butanone (5.349)+
-Pentafluorobenzene (5.945)+
Benzene (5.814)+
-Methylcyclohexane (6.552)+
-Dibromomethane (7.092)
-1,2-Dichloropropane (7.227)
-Bromodichloromethane (7.339)
-Methyl Methacrylate (7.598)+
-2-Chloroethylvinylether (8.089)+
-Toluene-D8 (8.299)
Toluene (8.355)
-Tetrachloroethene (8.764)
-1,1,2-Trichloroethane (8.996)
Ethyl Methacrylate (9.064)
4-methyl-2-pentanone (8.813)+
-Dibromochloromethane (9.173)
-1,3-Dichloropropane (9.274)
-1,2-Dibromoethane (9.390)
-2-Hexanone (9.705)
-Chlorobenzene-D5 (9.971)+
-Ethylbenzene (10.036)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.218)
-o-Xylene (10.751)
-Styrene (10.829)+
-Isopropylbenzene (11.197)
-P-Bromofluorobenzene (11.530)
-cis-1,4-Dichloro-2-Butene (11.639)+
-n-Propylbenzene (11.729)
-1,1,2,2-Tetrachloroethane (11.829)
-2-Chlorotoluene (11.887)
-1,2,3-Trichloropropane (11.992)+
-1-Chlorohexane (12.093)+
-tert-Butylbenzene (12.359)+
-1,2,4-Trimethylbenzene (12.445)
-sec-Butylbenzene (12.569)
-P-Isopropyltoluene (12.753)+
-1,4-Dichlorobenzene-D4 (13.076)+
-1,2,3-Trimethylbenzene (12.988)
-N-Butylbenzene (13.221)
-1,2-Dichlorobenzene (13.337)
-1,2-Dibromo-3-Chloropropa (14.196)
-1,3,5-Trichlorobenzene (14.237)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.212)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)
\\target_server\gg\chem\gcms-c.i\C122920.b\C8359.D

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292631-5
Analytical Date: 12/29/20 15:34
Lab File ID : C8380.D
Instrument ID: GCMS-C
Initial Calibration Date(s): 12/28/20 10:23 12/28/20 13:35
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2	Chloromethane	1.28835	1.16621	1.16621	0.100	-9.48019	20.00000	Averaged	
3	Vinyl chloride	0.85921	0.82723	0.82723	0.010	-3.72130	20.00000	Averaged	
4	Bromomethane	50.00000	46.66396	0.41126	0.010	-6.67209	20.00000	Linear	
5	Chloroethane	0.41086	0.42589	0.42589	0.010	3.65652	20.00000	Averaged	
8	1,1-Dichloroethene	0.54286	0.55321	0.55321	0.100	1.90656	20.00000	Averaged	
10	Carbon Disulfide	1.37365	1.31223	1.31223	0.010	-4.47110	20.00000	Averaged	
14	Methylene Chloride	50.00000	49.13964	0.74955	0.010	-1.72072	20.00000	Linear	
15	Acetone	0.38025	0.35108	0.35108	0.010	-7.67108	20.00000	Averaged	
16	trans-1,2-Dichloroethene	0.73667	0.69374	0.69374	0.010	-5.82801	20.00000	Averaged	
23	1,1-Dichloroethane	1.53328	1.48419	1.48419	0.100	-3.20175	20.00000	Averaged	
27	cis-1,2-Dichloroethene	0.73314	0.70011	0.70011	0.010	-4.50519	20.00000	Averaged	
31	Chloroform	1.36631	1.35403	1.35403	0.010	-0.89894	20.00000	Averaged	
32	Carbon Tetrachloride	0.58812	0.63015	0.63015	0.010	7.14615	20.00000	Averaged	
35	1,1,1-Trichloroethane	1.19060	1.18248	1.18248	0.010	-0.68231	20.00000	Averaged	
36	2-Butanone	0.49777	0.49628	0.49628	0.010	-0.29989	20.00000	Averaged	
38	Benzene	1.53562	1.57747	1.57747	0.010	2.72539	20.00000	Averaged	
44	1,2-Dichloroethane	0.73375	0.76255	0.76255	0.010	3.92442	20.00000	Averaged	
47	Trichloroethene	0.41130	0.42472	0.42472	0.010	3.26277	20.00000	Averaged	
50	1,2-Dichloropropane	0.43139	0.44828	0.44828	0.010	3.91603	20.00000	Averaged	
51	Bromodichloromethane	0.54022	0.58130	0.58130	0.010	7.60568	20.00000	Averaged	
57	cis-1,3-dichloropropene	50.00000	45.73296	0.60462	0.010	-8.53407	20.00000	Linear	
59	Toluene	1.63046	1.66714	1.66714	0.010	2.24963	20.00000	Averaged	
60	Tetrachloroethene	0.35979	0.34826	0.34826	0.010	-3.20534	20.00000	Averaged	
61	4-methyl-2-pentanone	0.54963	0.62077	0.62077	0.010	12.94340	20.00000	Averaged	
62	trans-1,3-Dichloropropene	0.55153	0.56060	0.56060	0.010	1.64371	20.00000	Averaged	
63	1,1,2-Trichloroethane	0.34393	0.36169	0.36169	0.010	5.16457	20.00000	Averaged	
64	Dibromochloromethane	0.44816	0.47096	0.47096	0.010	5.08721	20.00000	Averaged	
67	2-Hexanone	250	246	0.50036	0.010	-1.69391	20.00000	Linear	
69	Chlorobenzene	1.21885	1.22136	1.22136	0.300	0.20601	20.00000	Averaged	
71	Ethylbenzene	0.64058	0.67493	0.67493	0.010	5.36124	20.00000	Averaged	
73	m+p-Xylenes	0.77617	0.83404	0.83404	0.010	7.45663	20.00000	Averaged	
74	o-Xylene	50.00000	49.51300	0.78766	0.010	-0.97400	20.00000	Linear	
75	Styrene	50.00000	49.90019	1.32787	0.010	-0.19963	20.00000	Linear	
76	Bromoform	0.27813	0.30526	0.30526	0.100	9.75688	20.00000	Averaged	
82	1,1,2,2-Tetrachloroethane	1.12811	1.14068	1.14068	0.300	1.11456	20.00000	Averaged	
106	Xylenes (total)	++++	0.81858	0.81858	0.010	++++	20.00000	Averaged	*
34	Dibromofluoromethane	0.53854	0.52017	0.52017	0.010	-3.41029	20.00000	Averaged	
42	1,2-Dichloroethane-D4	0.73025	0.72221	0.72221	0.010	-1.10115	20.00000	Averaged	
58	Toluene-D8	1.17798	1.16513	1.16513	0.010	-1.09046	20.00000	Averaged	
78	P-Bromofluorobenzene	0.43258	0.43889	0.43889	0.010	1.45906	20.00000	Averaged	

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Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292631-5
Analytical Date: 12/29/20 15:34
Lab File ID : C8380.D
Instrument ID: GCMS-C
Initial Calibration Date(s): 12/28/20 10:23 12/28/20 13:35
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8380.D
Report Date: 27-Jan-2021 15:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920.b\C8380.D
Lab Smp Id: WG292631-5
Inj Date : 29-DEC-2020 15:34
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292631-5,TN0377
Misc Info : WG292631,WG292597-4,TN0377-13
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920.b\C8A05(37)DN.m
Meth Date : 29-Dec-2020 15:49 tcote Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.211)	121240	50.0000	47.0	
2 Chloromethane	50	1.405	1.402	(0.236)	156402	50.0000	45.2	
3 Vinyl chloride	62	1.446	1.447	(0.243)	110941	50.0000	48.1	
4 Bromomethane	94	1.679	1.679	(0.282)	55154	50.0000	46.7	
5 Chloroethane	64	1.765	1.765	(0.297)	57116	50.0000	51.8	
6 Trichlorofluoromethane	101	1.874	1.874	(0.315)	128114	50.0000	53.7	
7 Diethyl Ether	59	2.125	2.125	(0.357)	76408	50.0000	50.9	
8 1,1-Dichloroethene	96	2.275	2.275	(0.383)	74192	50.0000	51.0	
9 Freon-113	151	2.316	2.316	(0.390)	45546	50.0000	53.3	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	175985	50.0000	47.8	
11 Iodomethane	142	2.395	2.395	(0.403)	70767	50.0000	55.2	
12 Acrolein	56	2.575	2.575	(0.433)	118665	250.000	245	
13 Allyl Chloride	41	2.695	2.699	(0.453)	177010	50.0000	48.0	
14 Methylene Chloride	84	2.796	2.796	(0.470)	100523	50.0000	49.1	
15 Acetone	43	2.859	2.856	(0.481)	235420	250.000	231	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	93038	50.0000	47.1	
17 Methyl Acetate	43	2.991	2.991	(0.503)	124637	50.0000	50.7	
18 Methyl tert-butyl ether	73	3.092	3.092	(0.520)	210503	50.0000	43.0	
19 Tertiary-butyl alcohol	59	3.231	3.227	(0.543)	39948	250.000	191	
20 Acetonitrile	41	3.339	3.336	(0.562)	199907	500.000	511	
21 Di-isopropyl ether	45	3.538	3.538	(0.595)	339879	50.0000	49.0	
22 Chloroprene	53	3.613	3.617	(0.608)	196052	50.0000	51.8	
23 1,1-Dichloroethane	63	3.643	3.640	(0.613)	199046	50.0000	48.4	

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8380.D
Report Date: 27-Jan-2021 15:52

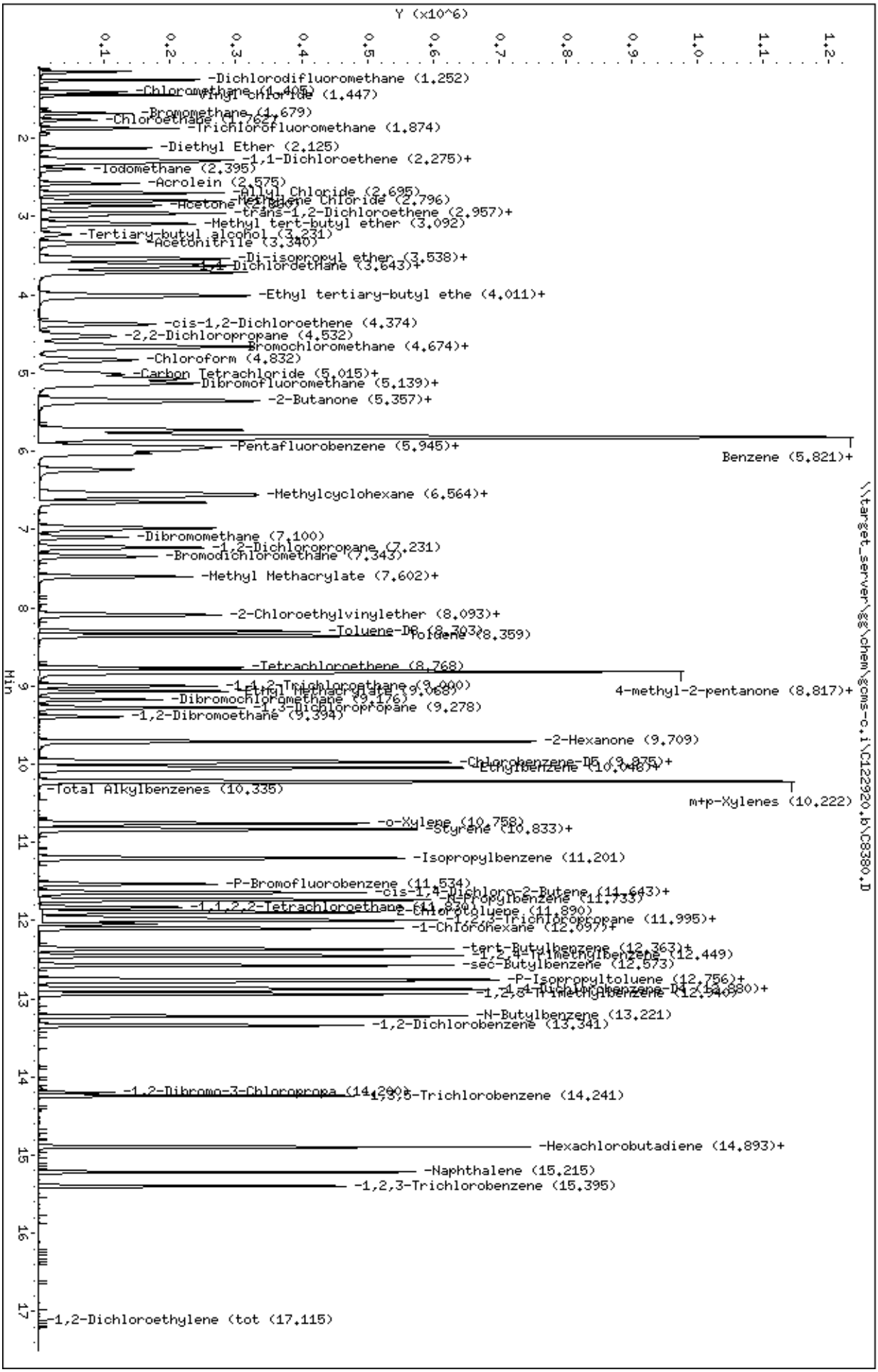
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.710	3.711	(0.624)	240866	250.000	257	
	25 Ethyl tertiary-butyl ether	59	4.010	4.006	(0.675)	238449	50.0000	43.7	
	26 Vinyl Acetate	43	4.010	4.014	(0.603)	242925	50.0000	46.1	
	27 cis-1,2-Dichloroethene	96	4.374	4.378	(0.736)	93893	50.0000	47.7	
	28 2,2-Dichloropropane	77	4.531	4.528	(0.762)	90713	50.0000	32.4	
	29 Bromochloromethane	128	4.674	4.674	(0.786)	42600	50.0000	50.9	
	30 Cyclohexane	56	4.659	4.659	(0.784)	184565	50.0000	45.8	
	31 Chloroform	83	4.831	4.832	(0.813)	181590	50.0000	49.6	
	32 Carbon Tetrachloride	117	5.015	5.012	(0.754)	138315	50.0000	53.6	
	33 Tetrahydrofuran	42	5.067	5.072	(0.852)	226236	250.000	248	
$	34 Dibromofluoromethane	113	5.139	5.135	(0.864)	69761	50.0000	48.3	
	35 1,1,1-Trichloroethane	97	5.131	5.132	(0.863)	158583	50.0000	49.6	
	36 2-Butanone	43	5.360	5.364	(0.902)	332784	250.000	249	
	37 1,1-Dichloropropene	75	5.349	5.349	(0.804)	133498	50.0000	53.6	
	38 Benzene	78	5.727	5.724	(0.861)	346247	50.0000	51.4	
	39 Propionitrile	54	5.783	5.788	(0.973)	213596	500.000	519	
	40 Methacrylonitrile	41	5.821	5.821	(0.979)	872826	500.000	531	
*	41 Pentafluorobenzene	168	5.945	5.945	(1.000)	134111	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.998)	96856	50.0000	49.4	
	43 Tertiary-amyl methyl ether	73	5.982	5.983	(1.006)	143309	50.0000	39.4	
	44 1,2-Dichloroethane	62	6.035	6.035	(0.907)	167375	50.0000	52.0	
	45 Isobutyl Alcohol	43	5.986	5.986	(1.007)	61771	1000.00	728	
	46 Methylcyclohexane	83	6.544	6.541	(1.101)	140408	50.0000	44.0	
	47 Trichloroethene	95	6.571	6.575	(0.988)	93224	50.0000	51.6	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	219495	50.0000		
	49 Dibromomethane	93	7.099	7.096	(1.067)	58715	50.0000	50.9	
	50 1,2-Dichloropropane	63	7.230	7.231	(1.087)	98395	50.0000	52.0	
	51 Bromodichloromethane	83	7.343	7.343	(1.104)	127593	50.0000	53.8	
	52 Methyl Methacrylate	41	7.601	7.602	(1.143)	116776	50.0000	48.2	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.363)	114116	50.0000	44.6	
	54 1,4-Dioxane	88	7.598	7.602	(1.142)	23819	1000.00	860	
M	55 Total Alkylbenzenes	100				2603604	50.0000	340	
	56 2-Chloroethylvinylether	63	8.074	8.077	(1.214)	39625	50.0000	35.4	
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	132712	50.0000	45.7	
$	58 Toluene-D8	98	8.302	8.303	(1.248)	255741	50.0000	49.4	
	59 Toluene	91	8.359	8.359	(1.256)	365928	50.0000	51.1	
	60 Tetrachloroethene	164	8.767	8.768	(0.880)	67635	50.0000	48.4	
	61 4-methyl-2-pentanone	43	8.812	8.813	(1.325)	681278	250.000	282	
	62 trans-1,3-Dichloropropene	75	8.839	8.839	(1.328)	123048	50.0000	50.8	
	63 1,1,2-Trichloroethane	97	9.003	9.004	(1.353)	79389	50.0000	52.6	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	91464	50.0000	52.5	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	150160	50.0000	52.2	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	81399	50.0000	52.6	
	67 2-Hexanone	43	9.708	9.709	(0.975)	485872	250.000	246	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	194209	50.0000		
	69 Chlorobenzene	112	9.982	9.979	(1.002)	237200	50.0000	50.1	
	70 1-Chlorohexane	91	12.096	12.097	(1.215)	320686	50.0000	(a)	
	71 Ethylbenzene	106	10.042	10.042	(1.008)	131077	50.0000	52.7	
	72 1,1,1,2-Tetrachloroethane	131	10.068	10.069	(1.011)	81634	50.0000	52.8	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	323958	100.000	107	
	74 o-Xylene	106	10.758	10.755	(1.080)	152970	50.0000	49.5	
	75 Styrene	104	10.833	10.833	(1.088)	257884	50.0000	49.9	
	76 Bromoform	173	10.829	10.833	(1.087)	59285	50.0000	54.9	
	77 Isopropylbenzene	105	11.200	11.204	(0.870)	416782	50.0000	48.3	

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8380.D
Report Date: 27-Jan-2021 15:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
$ 78	P-Bromofluorobenzene	95	11.530	11.534	(1.733)	96334	50.0000	50.7	
79	cis-1,4-Dichloro-2-Butene	53	11.646	11.647	(0.905)	47455	50.0000	44.5	
80	Bromobenzene	156	11.643	11.639	(0.905)	93812	50.0000	52.7	
81	N-Propylbenzene	91	11.736	11.733	(0.912)	504286	50.0000	49.1	
82	1,1,2,2-Tetrachloroethane	83	11.830	11.834	(0.919)	111562	50.0000	50.6	
83	2-Chlorotoluene	91	11.890	11.890	(0.924)	302659	50.0000	53.1	
84	1,2,3-Trichloropropane	75	11.965	11.965	(0.930)	107088	50.0000	50.9	
85	1,3,5-Trimethylbenzene	105	11.995	11.995	(0.932)	340656	50.0000	49.3	
86	trans-1,4-Dichloro-2-Butene	53	12.040	12.044	(0.936)	54338	50.0000	48.2	
87	4-Chlorotoluene	91	12.096	12.097	(0.940)	320686	50.0000	53.6	
88	tert-Butylbenzene	119	12.362	12.363	(0.961)	294022	50.0000	48.6	
89	Pentachloroethane	165	12.362	12.359	(0.961)	979	50.0000	(a)	
90	1,2,4-Trimethylbenzene	105	12.448	12.449	(0.967)	354384	50.0000	49.5	
91	sec-Butylbenzene	105	12.572	12.573	(0.977)	425431	50.0000	48.3	
92	P-Isopropyltoluene	119	12.752	12.756	(0.991)	351667	50.0000	47.8	
93	1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	184226	50.0000	51.9	
* 94	1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	97803	50.0000		
95	1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	186905	50.0000	50.3	
96	1,2,3-Trimethylbenzene	105	12.940	12.940	(1.006)	363012	50.0000	53.9	
97	N-Butylbenzene	91	13.221	13.225	(1.027)	333158	50.0000	47.4	
M 98	1,2-Dichloroethylene (total)	96				186931	50.0000	94.8	
99	1,2-Dichlorobenzene	146	13.341	13.341	(1.037)	174229	50.0000	51.5	
100	1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.103)	22756	50.0000	49.6	
101	1,3,5-Trichlorobenzene	180	14.240	14.241	(1.107)	123109	50.0000	52.9	
102	Hexachlorobutadiene	225	14.893	14.893	(1.157)	45084	50.0000	47.8	
103	1,2,4-Trichlorobenzene	180	14.896	14.897	(1.158)	107948	50.0000	46.6	
104	Naphthalene	128	15.215	15.215	(1.182)	348683	50.0000	45.7	
105	1,2,3-Trichlorobenzene	180	15.395	15.399	(1.196)	110126	50.0000	48.6	
M 106	Xylenes (total)	106				476928	150.000	157	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8380.D
Date : 29-DEC-2020 15:34
Client ID:
Sample Info: WG292631-5,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.405)
Vinyl Chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.762)
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.275)+
-Iodomethane (2.395)
-Acrolein (2.575)
-Allyl Chloride (2.695)
-Acetone (2.696)
Methylene Chloride (2.796)
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.092)
-Tertiary-butyl alcohol (3.231)
-Acetonitrile (3.340)
-Di-isopropyl ether (3.538)+
-1,1-Dichlordethane (3.643)+
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.374)
-2,2-Dichloropropane (4.532)
Bromochloromethane (4.674)+
-Chloroform (4.832)
-Carbon Tetrachloride (5.015)+
Dibromofluoromethane (5.139)+
-2-Butanone (5.357)+
-Pentafluorobenzene (5.945)+
Benzene (5.821)+
-Methylcyclohexane (6.564)+
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.231)
-Bromodichloromethane (7.343)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.093)+
-Toluene-D8 (8.303)
Toluene (8.359)
-Tetrachloroethene (8.768)
4-methyl-2-pentanone (8.817)+
-1,1,2-Trichloroethane (9.000)
Ethyl Methacrylate (9.068)
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.278)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.709)
-Chlorobenzene-D5 (9.875)+
Ethylbenzene (10.046)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.222)
-o-Xylene (10.758)
Styrene (10.833)+
-Isopropylbenzene (11.201)
-P-Bromofluorobenzene (11.534)
-cis-1,4-Dichloro-2-Butene (11.643)+
-N-Propylbenzene (11.733)
-1,1,2,2-Tetrachloroethane (11.830)
2-Chlorotoluene (11.890)
-1,2,3-Trichloropropane (11.995)+
-1-Chlorohexane (12.097)+
-tert-Butylbenzene (12.367)+
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.573)
-P-Isopropyltoluene (12.756)+
-1,4-Dichlorobenzene-D4 (12.880)+
-1,2,3-Trimethylbenzene (12.940)
-N-Butylbenzene (13.221)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloropropa (14.200)+
1,3,5-Trichlorobenzene (14.241)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.215)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)
\\target_server\gg\chem\gcms-c.i\C122920.b\C8380.D

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292678-4
Analytical Date: 12/29/20 16:22
Lab File ID : C8381.D
Instrument ID: GCMS-C
Initial Calibration Date(s): 12/28/20 10:23 12/28/20 13:35
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2	Chloromethane	1.28835	1.09873	1.09873	0.100	-14.71801	20.00000	Averaged	
3	Vinyl chloride	0.85921	0.80946	0.80946	0.010	-5.79001	20.00000	Averaged	
4	Bromomethane	50.00000	47.67547	0.42017	0.010	-4.64906	20.00000	Linear	
5	Chloroethane	0.41086	0.41621	0.41621	0.010	1.30076	20.00000	Averaged	
8	1,1-Dichloroethene	0.54286	0.55104	0.55104	0.100	1.50638	20.00000	Averaged	
10	Carbon Disulfide	1.37365	1.32339	1.32339	0.010	-3.65893	20.00000	Averaged	
14	Methylene Chloride	50.00000	50.99133	0.77780	0.010	1.98265	20.00000	Linear	
15	Acetone	0.38025	0.31823	0.31823	0.010	-16.31078	20.00000	Averaged	
16	trans-1,2-Dichloroethene	0.73667	0.70314	0.70314	0.010	-4.55229	20.00000	Averaged	
23	1,1-Dichloroethane	1.53328	1.46734	1.46734	0.100	-4.30030	20.00000	Averaged	
27	cis-1,2-Dichloroethene	0.73314	0.69792	0.69792	0.010	-4.80472	20.00000	Averaged	
31	Chloroform	1.36631	1.31706	1.31706	0.010	-3.60496	20.00000	Averaged	
32	Carbon Tetrachloride	0.58812	0.61354	0.61354	0.010	4.32215	20.00000	Averaged	
35	1,1,1-Trichloroethane	1.19060	1.17569	1.17569	0.010	-1.25259	20.00000	Averaged	
36	2-Butanone	0.49777	0.45863	0.45863	0.010	-7.86311	20.00000	Averaged	
38	Benzene	1.53562	1.51831	1.51831	0.010	-1.12719	20.00000	Averaged	
44	1,2-Dichloroethane	0.73375	0.69428	0.69428	0.010	-5.37989	20.00000	Averaged	
47	Trichloroethene	0.41130	0.41016	0.41016	0.010	-0.27712	20.00000	Averaged	
50	1,2-Dichloropropane	0.43139	0.42118	0.42118	0.010	-2.36494	20.00000	Averaged	
51	Bromodichloromethane	0.54022	0.54746	0.54746	0.010	1.34151	20.00000	Averaged	
57	cis-1,3-dichloropropene	50.00000	44.48616	0.58814	0.010	-11.02769	20.00000	Linear	
59	Toluene	1.63046	1.58822	1.58822	0.010	-2.59052	20.00000	Averaged	
60	Tetrachloroethene	0.35979	0.35482	0.35482	0.010	-1.38246	20.00000	Averaged	
61	4-methyl-2-pentanone	0.54963	0.55672	0.55672	0.010	1.29099	20.00000	Averaged	
62	trans-1,3-Dichloropropene	0.55153	0.53838	0.53838	0.010	-2.38375	20.00000	Averaged	
63	1,1,2-Trichloroethane	0.34393	0.33098	0.33098	0.010	-3.76412	20.00000	Averaged	
64	Dibromochloromethane	0.44816	0.45555	0.45555	0.010	1.64944	20.00000	Averaged	
67	2-Hexanone	250	232	0.47321	0.010	-7.02735	20.00000	Linear	
69	Chlorobenzene	1.21885	1.21428	1.21428	0.300	-0.37544	20.00000	Averaged	
71	Ethylbenzene	0.64058	0.67199	0.67199	0.010	4.90191	20.00000	Averaged	
73	m+p-Xylenes	0.77617	0.83269	0.83269	0.010	7.28268	20.00000	Averaged	
74	o-Xylene	50.00000	48.24630	0.76751	0.010	-3.50740	20.00000	Linear	
75	Styrene	50.00000	48.86589	1.30035	0.010	-2.26822	20.00000	Linear	
76	Bromoform	0.27813	0.28693	0.28693	0.100	3.16381	20.00000	Averaged	
82	1,1,2,2-Tetrachloroethane	1.12811	1.11816	1.11816	0.300	-0.88201	20.00000	Averaged	
106	Xylenes (total)	++++	0.81097	0.81097	0.010	++++	20.00000	Averaged	*
34	Dibromofluoromethane	0.53854	0.51304	0.51304	0.010	-4.73437	20.00000	Averaged	
42	1,2-Dichloroethane-D4	0.73025	0.70518	0.70518	0.010	-3.43236	20.00000	Averaged	
58	Toluene-D8	1.17798	1.14043	1.14043	0.010	-3.18765	20.00000	Averaged	
78	P-Bromofluorobenzene	0.43258	0.42181	0.42181	0.010	-2.48898	20.00000	Averaged	

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Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292678-4
Analytical Date: 12/29/20 16:22
Lab File ID : C8381.D
Instrument ID: GCMS-C
Initial Calibration Date(s): 12/28/20 10:23 12/28/20 13:35
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8381.D
Report Date: 27-Jan-2021 15:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8381.D
Lab Smp Id: WG292678-4
Inj Date : 29-DEC-2020 16:22
Operator : HG Inst ID: gcms-c.i
Smp Info : WG292678-4,TN0377
Misc Info : WG292678,WG292597-4,TN0377-10
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 07:21 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.210)	115468	50.0000	41.4	
2 Chloromethane	50	1.405	1.402	(0.236)	159382	50.0000	42.6	
3 Vinyl chloride	62	1.446	1.447	(0.243)	117420	50.0000	47.1	
4 Bromomethane	94	1.679	1.679	(0.282)	60950	50.0000	47.7	
5 Chloroethane	64	1.765	1.765	(0.297)	60375	50.0000	50.6	
6 Trichlorofluoromethane	101	1.873	1.874	(0.315)	137422	50.0000	53.2	
7 Diethyl Ether	59	2.125	2.125	(0.357)	82575	50.0000	50.8	
8 1,1-Dichloroethene	96	2.275	2.275	(0.382)	79934	50.0000	50.8	
9 Freon-113	151	2.316	2.316	(0.389)	49709	50.0000	53.8	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	191971	50.0000	48.2	
11 Iodomethane	142	2.395	2.395	(0.403)	80483	50.0000	58.0	
12 Acrolein	56	2.571	2.575	(0.432)	127796	250.000	244	
13 Allyl Chloride	41	2.698	2.699	(0.454)	200084	50.0000	50.2	
14 Methylene Chloride	84	2.799	2.796	(0.471)	112827	50.0000	51.0	
15 Acetone	43	2.856	2.856	(0.480)	230812	250.000	209	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	101997	50.0000	47.7	
17 Methyl Acetate	43	2.991	2.991	(0.503)	128202	50.0000	48.2	
18 Methyl tert-butyl ether	73	3.088	3.092	(0.519)	231579	50.0000	43.7	
19 Tertiary-butyl alcohol	59	3.227	3.227	(0.542)	44811	250.000	197	
20 Acetonitrile	41	3.339	3.336	(0.561)	207569	500.000	491	
21 Di-isopropyl ether	45	3.534	3.538	(0.594)	371285	50.0000	49.5	
22 Chloroprene	53	3.613	3.617	(0.607)	214961	50.0000	52.5	
23 1,1-Dichloroethane	63	3.643	3.640	(0.612)	212853	50.0000	47.8	

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8381.D
Report Date: 27-Jan-2021 15:59

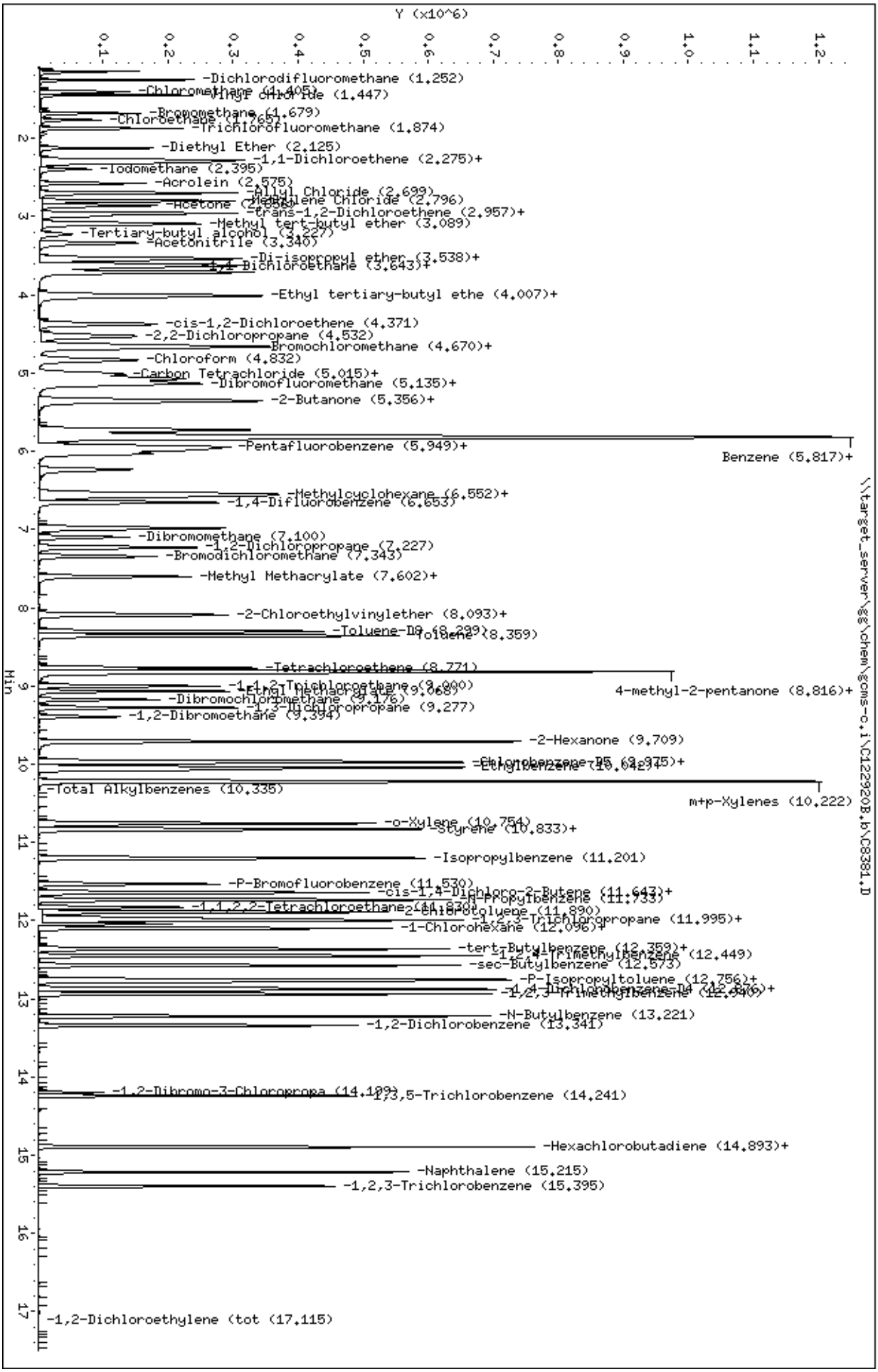
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.710	3.711	(0.624)	249267	250.000	246	
	25 Ethyl tertiary-butyl ether	59	4.006	4.006	(0.674)	266945	50.0000	45.2	
	26 Vinyl Acetate	43	4.014	4.014	(0.603)	261328	50.0000	45.2	
	27 cis-1,2-Dichloroethene	96	4.370	4.378	(0.735)	101240	50.0000	47.6	
	28 2,2-Dichloropropane	77	4.527	4.528	(0.761)	125811	50.0000	41.5	
	29 Bromochloromethane	128	4.670	4.674	(0.785)	44961	50.0000	49.6	
	30 Cyclohexane	56	4.662	4.659	(0.784)	207482	50.0000	47.6	
	31 Chloroform	83	4.831	4.832	(0.812)	191052	50.0000	48.2	
	32 Carbon Tetrachloride	117	5.015	5.012	(0.754)	147722	50.0000	52.2	
	33 Tetrahydrofuran	42	5.071	5.072	(0.853)	229576	250.000	234	
$	34 Dibromofluoromethane	113	5.135	5.135	(0.863)	74422	50.0000	47.6	
	35 1,1,1-Trichloroethane	97	5.135	5.132	(0.863)	170545	50.0000	49.4	
	36 2-Butanone	43	5.360	5.364	(0.901)	332647	250.000	230	
	37 1,1-Dichloropropene	75	5.348	5.349	(0.804)	143294	50.0000	52.4	
	38 Benzene	78	5.727	5.724	(0.861)	365562	50.0000	49.4	
	39 Propionitrile	54	5.787	5.788	(0.973)	218789	500.000	492	
	40 Methacrylonitrile	41	5.821	5.821	(0.979)	891869	500.000	502	
*	41 Pentafluorobenzene	168	5.948	5.945	(1.000)	145060	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.997)	102294	50.0000	48.3	
	43 Tertiary-amyl methyl ether	73	5.986	5.983	(1.006)	159695	50.0000	40.6	
	44 1,2-Dichloroethane	62	6.031	6.035	(0.906)	167160	50.0000	47.3	
	45 Isobutyl Alcohol	43	5.978	5.986	(1.005)	67983	1000.00	740	
	46 Methylcyclohexane	83	6.540	6.541	(1.100)	159083	50.0000	46.0	
	47 Trichloroethene	95	6.570	6.575	(0.988)	98754	50.0000	49.9	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	240769	50.0000		
	49 Dibromomethane	93	7.099	7.096	(1.067)	59823	50.0000	47.3	
	50 1,2-Dichloropropane	63	7.230	7.231	(1.087)	101408	50.0000	48.8	
	51 Bromodichloromethane	83	7.343	7.343	(1.104)	131812	50.0000	50.7	
	52 Methyl Methacrylate	41	7.605	7.602	(1.143)	119116	50.0000	44.8	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.363)	121789	50.0000	43.4	
	54 1,4-Dioxane	88	7.601	7.602	(1.143)	25744	1000.00	847	
M	55 Total Alkylbenzenes	100				2717129	50.0000	341	
	56 2-Chloroethylvinylether	63	8.077	8.077	(1.214)	44244	50.0000	36.1	
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	141606	50.0000	44.5	
$	58 Toluene-D8	98	8.299	8.303	(1.247)	274580	50.0000	48.4	
	59 Toluene	91	8.359	8.359	(1.256)	382394	50.0000	48.7	
	60 Tetrachloroethene	164	8.771	8.768	(0.881)	72029	50.0000	49.3	
	61 4-methyl-2-pentanone	43	8.812	8.813	(1.325)	670209	250.000	253	
	62 trans-1,3-Dichloropropene	75	8.838	8.839	(1.328)	129626	50.0000	48.8	
	63 1,1,2-Trichloroethane	97	9.000	9.004	(1.353)	79690	50.0000	48.1	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	92478	50.0000	50.8	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	154462	50.0000	51.3	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	81950	50.0000	48.2	
	67 2-Hexanone	43	9.708	9.709	(0.975)	480319	250.000	232	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	203003	50.0000		
	69 Chlorobenzene	112	9.978	9.979	(1.002)	246502	50.0000	49.8	
	70 1-Chlorohexane	91	12.100	12.097	(1.215)	326385	50.0000		(a)
	71 Ethylbenzene	106	10.042	10.042	(1.008)	136415	50.0000	52.4	
	72 1,1,1,2-Tetrachloroethane	131	10.068	10.069	(1.011)	83066	50.0000	51.4	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	338079	100.000	107	
	74 o-Xylene	106	10.758	10.755	(1.080)	155806	50.0000	48.2	
	75 Styrene	104	10.833	10.833	(1.088)	263974	50.0000	48.9	
	76 Bromoform	173	10.829	10.833	(1.087)	58247	50.0000	51.6	
	77 Isopropylbenzene	105	11.200	11.204	(0.870)	436114	50.0000	48.5	

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8381.D
Report Date: 27-Jan-2021 15:59

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
$ 78 P-Bromofluorobenzene	95	11.530	11.534	(1.733)	101559	50.0000	48.8	
79 cis-1,4-Dichloro-2-Butene	53	11.646	11.647	(0.905)	52963	50.0000	47.8	
80 Bromobenzene	156	11.639	11.639	(0.904)	92248	50.0000	49.8	
81 N-Propylbenzene	91	11.732	11.733	(0.912)	525612	50.0000	49.2	
82 1,1,2,2-Tetrachloroethane	83	11.834	11.834	(0.920)	113815	50.0000	49.6	
83 2-Chlorotoluene	91	11.890	11.890	(0.924)	308511	50.0000	52.0	
84 1,2,3-Trichloropropane	75	11.961	11.965	(0.929)	104864	50.0000	47.9	
85 1,3,5-Trimethylbenzene	105	11.995	11.995	(0.932)	352741	50.0000	49.0	
86 trans-1,4-Dichloro-2-Butene	53	12.040	12.044	(0.936)	58756	50.0000	50.1	
87 4-Chlorotoluene	91	12.100	12.097	(0.940)	326385	50.0000	52.4	
88 tert-Butylbenzene	119	12.358	12.363	(0.960)	303514	50.0000	48.2	
89 Pentachloroethane	165	12.366	12.359	(0.961)	850	50.0000	(a)	
90 1,2,4-Trimethylbenzene	105	12.448	12.449	(0.967)	366059	50.0000	49.1	
91 sec-Butylbenzene	105	12.572	12.573	(0.977)	446589	50.0000	48.7	
92 P-Isopropyltoluene	119	12.752	12.756	(0.991)	370086	50.0000	48.4	
93 1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	181817	50.0000	49.2	
* 94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	101788	50.0000		
95 1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	187800	50.0000	48.6	
96 1,2,3-Trimethylbenzene	105	12.939	12.940	(1.006)	373181	50.0000	53.2	
97 N-Butylbenzene	91	13.221	13.225	(1.027)	352528	50.0000	48.2	
M 98 1,2-Dichloroethylene (total)	96				203237	50.0000	95.3	
99 1,2-Dichlorobenzene	146	13.341	13.341	(1.037)	174503	50.0000	49.6	
100 1,2-Dibromo-3-Chloropropane	157	14.203	14.200	(1.104)	22038	50.0000	46.4	
101 1,3,5-Trichlorobenzene	180	14.240	14.241	(1.107)	127088	50.0000	52.5	
102 Hexachlorobutadiene	225	14.892	14.893	(1.157)	47190	50.0000	48.1	
103 1,2,4-Trichlorobenzene	180	14.892	14.897	(1.157)	107852	50.0000	44.7	
104 Naphthalene	128	15.215	15.215	(1.182)	342008	50.0000	43.1	
105 1,2,3-Trichlorobenzene	180	15.395	15.399	(1.196)	108542	50.0000	46.1	
M 106 Xylenes (total)	106				493885	150.000	156	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8381.D
Date : 29-DEC-2020 16:22
Client ID:
Sample Info: WG292678-4,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.405)
-Vinyl Chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.765)
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.275)+
-Iodomethane (2.395)
-Acrolein (2.575)
-Allyl Chloride (2.699)
-Methylene Chloride (2.796)
-Acetone (2.866)
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.089)
-Tertiary-butyl alcohol (3.227)
-Acetonitrile (3.340)
-Di-isopropyl ether (3.538)+
-1,1-Dichloroethane (3.643)+
-Ethyl tertiary-butyl ethe (4.007)+
-cis-1,2-Dichloroethene (4.371)
-2,2-Dichloropropane (4.532)
-Bromochloromethane (4.670)+
-Chloroform (4.832)
-Carbon Tetrachloride (5.015)+
-Dibromofluoromethane (5.135)+
-2-Butanone (5.356)+
-Pentafluorobenzene (5.949)+
Benzene (5.817)+
-Methylcyclohexane (6.552)+
-1,4-Difluorobenzene (6.653)
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.227)
-Bromodichloromethane (7.343)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.093)+
-Toluene-D8 (8.299)
-Toluene (8.359)
-Tetrachloroethene (8.771)
4-methyl-2-pentanone (8.816)+
-1,1,2-Trichloroethane (9.000)
-Ethyl Methacrylate (9.068)
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.277)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.709)
-Chlorobenzene-D5 (9.975)+
-Ethylbenzene (10.042)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.222)
-o-Xylene (10.754)
-Styrene (10.833)+
-Isopropylbenzene (11.201)
-P-Bromofluorobenzene (11.530)
-cis-1,4-Dichloro-2-Butene (11.643)+
-N-Propylbenzene (11.733)
-1,1,2,2-Tetrachloroethane (11.830)
-2-Chlorotoluene (11.890)
-1,2,3-Trichloropropane (11.995)+
-1-Chlorohexane (12.096)+
-tert-Butylbenzene (12.359)+
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.573)
-P-Isopropyltoluene (12.756)+
-1,4-Dichlorobenzene-D4 (12.870)+
-1,2,3-Trimethylbenzene (12.940)
-N-Butylbenzene (13.221)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloropropa (14.199)
-1,3,5-Trichlorobenzene (14.241)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.215)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)
\\target_server\gg\chem\gcms-c.i\C122920B.b\C8381.D

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292678-5
Analytical Date: 12/30/20 03:18
Lab File ID : C8401.D
Instrument ID: GCMS-C
Initial Calibration Date(s): 12/28/20 10:23 12/28/20 13:35
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2 Chloromethane	1.28835	0.99685	0.99685	0.100	-22.62598	20.00000	Averaged	*
3 Vinyl chloride	0.85921	0.71304	0.71304	0.010	-17.01179	20.00000	Averaged	
4 Bromomethane	50.00000	29.12451	0.25668	0.010	-41.75099	20.00000	Linear	*
5 Chloroethane	0.41086	0.40130	0.40130	0.010	-2.32840	20.00000	Averaged	
8 1,1-Dichloroethene	0.54286	0.54746	0.54746	0.100	0.84751	20.00000	Averaged	
10 Carbon Disulfide	1.37365	1.26750	1.26750	0.010	-7.72751	20.00000	Averaged	
14 Methylene Chloride	50.00000	48.22777	0.73564	0.010	-3.54445	20.00000	Linear	
15 Acetone	0.38025	0.35558	0.35558	0.010	-6.48928	20.00000	Averaged	
16 trans-1,2-Dichloroethene	0.73667	0.68552	0.68552	0.010	-6.94344	20.00000	Averaged	
23 1,1-Dichloroethane	1.53328	1.47484	1.47484	0.100	-3.81171	20.00000	Averaged	
27 cis-1,2-Dichloroethene	0.73314	0.69345	0.69345	0.010	-5.41477	20.00000	Averaged	
31 Chloroform	1.36631	1.33984	1.33984	0.010	-1.93710	20.00000	Averaged	
32 Carbon Tetrachloride	0.58812	0.63034	0.63034	0.010	7.17879	20.00000	Averaged	
35 1,1,1-Trichloroethane	1.19060	1.17916	1.17916	0.010	-0.96119	20.00000	Averaged	
36 2-Butanone	0.49777	0.51308	0.51308	0.010	3.07487	20.00000	Averaged	
38 Benzene	1.53562	1.55919	1.55919	0.010	1.53472	20.00000	Averaged	
44 1,2-Dichloroethane	0.73375	0.73976	0.73976	0.010	0.81964	20.00000	Averaged	
47 Trichloroethene	0.41130	0.42431	0.42431	0.010	3.16255	20.00000	Averaged	
50 1,2-Dichloropropane	0.43139	0.42803	0.42803	0.010	-0.77760	20.00000	Averaged	
51 Bromodichloromethane	0.54022	0.56938	0.56938	0.010	5.39878	20.00000	Averaged	
57 cis-1,3-dichloropropene	50.00000	43.94978	0.58105	0.010	-12.10044	20.00000	Linear	
59 Toluene	1.63046	1.62893	1.62893	0.010	-0.09392	20.00000	Averaged	
60 Tetrachloroethene	0.35979	0.35757	0.35757	0.010	-0.61830	20.00000	Averaged	
61 4-methyl-2-pentanone	0.54963	0.62664	0.62664	0.010	14.01167	20.00000	Averaged	
62 trans-1,3-Dichloropropene	0.55153	0.52543	0.52543	0.010	-4.73220	20.00000	Averaged	
63 1,1,2-Trichloroethane	0.34393	0.34831	0.34831	0.010	1.27485	20.00000	Averaged	
64 Dibromochloromethane	0.44816	0.46648	0.46648	0.010	4.08877	20.00000	Averaged	
67 2-Hexanone	250	254	0.51809	0.010	1.79023	20.00000	Linear	
69 Chlorobenzene	1.21885	1.21490	1.21490	0.300	-0.32430	20.00000	Averaged	
71 Ethylbenzene	0.64058	0.67708	0.67708	0.010	5.69702	20.00000	Averaged	
73 m+p-Xylenes	0.77617	0.82784	0.82784	0.010	6.65715	20.00000	Averaged	
74 o-Xylene	50.00000	48.11307	0.76539	0.010	-3.77386	20.00000	Linear	
75 Styrene	50.00000	48.52146	1.29118	0.010	-2.95707	20.00000	Linear	
76 Bromoform	0.27813	0.28751	0.28751	0.100	3.37512	20.00000	Averaged	
82 1,1,2,2-Tetrachloroethane	1.12811	1.15257	1.15257	0.300	2.16812	20.00000	Averaged	
106 Xylenes (total)	++++	0.80702	0.80702	0.010	++++	20.00000	Averaged	*
34 Dibromofluoromethane	0.53854	0.52170	0.52170	0.010	-3.12735	20.00000	Averaged	
42 1,2-Dichloroethane-D4	0.73025	0.72816	0.72816	0.010	-0.28567	20.00000	Averaged	
58 Toluene-D8	1.17798	1.17182	1.17182	0.010	-0.52290	20.00000	Averaged	
78 P-Bromofluorobenzene	0.43258	0.42803	0.42803	0.010	-1.05100	20.00000	Averaged	

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Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292678-5
Analytical Date: 12/30/20 03:18
Lab File ID : C8401.D
Instrument ID: GCMS-C
Initial Calibration Date(s): 12/28/20 10:23 12/28/20 13:35
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8401.D
Report Date: 27-Jan-2021 16:22

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8401.D
Lab Smp Id: WG292678-5
Inj Date : 30-DEC-2020 03:18
Operator : HG Inst ID: gcms-c.i
Smp Info : WG292678-5,TN0377
Misc Info : WG292678,WG292597-4,TN0377-10
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 07:21 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 21 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.211)	92248	50.0000	34.4	
2 Chloromethane	50	1.401	1.402	(0.236)	138887	50.0000	38.7	
3 Vinyl chloride	62	1.443	1.447	(0.243)	99345	50.0000	41.5	
4 Bromomethane	94	1.675	1.679	(0.282)	35762	50.0000	29.1	
5 Chloroethane	64	1.761	1.765	(0.297)	55911	50.0000	48.8	
6 Trichlorofluoromethane	101	1.870	1.874	(0.315)	124860	50.0000	50.4	
7 Diethyl Ether	59	2.121	2.125	(0.357)	78700	50.0000	50.4	
8 1,1-Dichloroethene	96	2.271	2.275	(0.382)	76276	50.0000	50.4	
9 Freon-113	151	2.308	2.316	(0.389)	46343	50.0000	52.2	
10 Carbon Disulfide	76	2.290	2.294	(0.385)	176596	50.0000	46.1	
11 Iodomethane	142	2.387	2.395	(0.402)	50532	50.0000	37.9	
12 Acrolein	56	2.571	2.575	(0.433)	112866	250.000	224	
13 Allyl Chloride	41	2.691	2.699	(0.453)	183201	50.0000	47.9	
14 Methylene Chloride	84	2.792	2.796	(0.470)	102494	50.0000	48.2	
15 Acetone	43	2.852	2.856	(0.480)	247705	250.000	234	
16 trans-1,2-Dichloroethene	96	2.953	2.957	(0.497)	95511	50.0000	46.5	
17 Methyl Acetate	43	2.983	2.991	(0.502)	129686	50.0000	50.8	
18 Methyl tert-butyl ether	73	3.088	3.092	(0.520)	213058	50.0000	41.9	
19 Tertiary-butyl alcohol	59	3.223	3.227	(0.543)	42945	250.000	197	
20 Acetonitrile	41	3.332	3.336	(0.561)	210024	500.000	517	
21 Di-isopropyl ether	45	3.534	3.538	(0.595)	346809	50.0000	48.2	
22 Chloroprene	53	3.613	3.617	(0.608)	207564	50.0000	52.8	
23 1,1-Dichloroethane	63	3.632	3.640	(0.611)	205483	50.0000	48.1	

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8401.D
Report Date: 27-Jan-2021 16:22

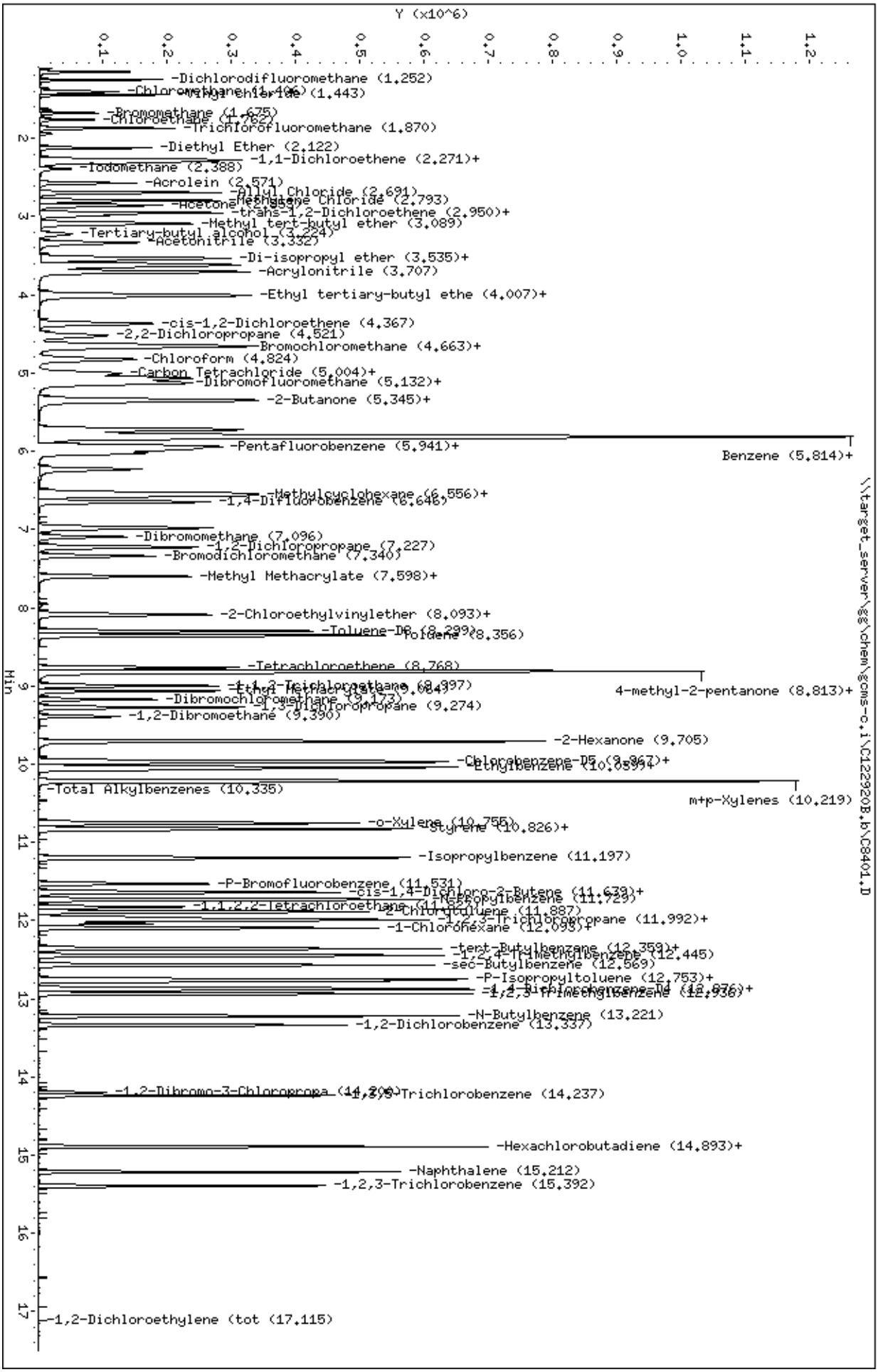
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.707	3.711	(0.624)	248819	250.000	255	
	25 Ethyl tertiary-butyl ether	59	4.010	4.006	(0.675)	242193	50.0000	42.7	
	26 Vinyl Acetate	43	4.007	4.014	(0.603)	247443	50.0000	45.5	
	27 cis-1,2-Dichloroethene	96	4.366	4.378	(0.735)	96615	50.0000	47.3	
	28 2,2-Dichloropropane	77	4.520	4.528	(0.761)	85020	50.0000	29.2	
	29 Bromochloromethane	128	4.663	4.674	(0.785)	42932	50.0000	49.4	
	30 Cyclohexane	56	4.655	4.659	(0.784)	193177	50.0000	46.2	
	31 Chloroform	83	4.824	4.832	(0.812)	186675	50.0000	49.0	
	32 Carbon Tetrachloride	117	5.004	5.012	(0.753)	142721	50.0000	53.6	
	33 Tetrahydrofuran	42	5.064	5.072	(0.852)	245115	250.000	258	
$	34 Dibromofluoromethane	113	5.131	5.135	(0.864)	72686	50.0000	48.4	
	35 1,1,1-Trichloroethane	97	5.124	5.132	(0.862)	164287	50.0000	49.5	
	36 2-Butanone	43	5.356	5.364	(0.902)	357427	250.000	258	
	37 1,1-Dichloropropene	75	5.341	5.349	(0.804)	135829	50.0000	52.8	
	38 Benzene	78	5.723	5.724	(0.861)	353028	50.0000	50.8	
	39 Propionitrile	54	5.783	5.788	(0.973)	222784	500.000	521	
	40 Methacrylonitrile	41	5.813	5.821	(0.979)	905890	500.000	530	
*	41 Pentafluorobenzene	168	5.941	5.945	(1.000)	139326	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.926	5.934	(0.997)	101452	50.0000	49.8	
	43 Tertiary-amyl methyl ether	73	5.978	5.983	(1.006)	146225	50.0000	38.7	
	44 1,2-Dichloroethane	62	6.027	6.035	(0.907)	167496	50.0000	50.4	
	45 Isobutyl Alcohol	43	5.975	5.986	(1.006)	63989	1000.00	726	
	46 Methylcyclohexane	83	6.537	6.541	(1.100)	146883	50.0000	44.3	
	47 Trichloroethene	95	6.567	6.575	(0.988)	96071	50.0000	51.6	
*	48 1,4-Difluorobenzene	114	6.646	6.654	(1.000)	226418	50.0000		
	49 Dibromomethane	93	7.095	7.096	(1.068)	59079	50.0000	49.6	
	50 1,2-Dichloropropane	63	7.223	7.231	(1.087)	96914	50.0000	49.6	
	51 Bromodichloromethane	83	7.339	7.343	(1.104)	128918	50.0000	52.7	
	52 Methyl Methacrylate	41	7.598	7.602	(1.143)	119015	50.0000	47.6	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.364)	118283	50.0000	44.8	
	54 1,4-Dioxane	88	7.598	7.602	(1.143)	26436	1000.00	925	
M	55 Total Alkylbenzenes	100				2571559	50.0000	334	
	56 2-Chloroethylvinylether	63	8.070	8.077	(1.214)	31098	50.0000	26.5	
	57 cis-1,3-dichloropropene	75	8.093	8.097	(1.218)	131560	50.0000	43.9	
$	58 Toluene-D8	98	8.299	8.303	(1.249)	265321	50.0000	49.7	
	59 Toluene	91	8.355	8.359	(1.257)	368818	50.0000	50.0	
	60 Tetrachloroethene	164	8.764	8.768	(0.880)	69944	50.0000	49.7	
	61 4-methyl-2-pentanone	43	8.812	8.813	(1.326)	709413	250.000	285	
	62 trans-1,3-Dichloropropene	75	8.835	8.839	(1.329)	118967	50.0000	47.6	
	63 1,1,2-Trichloroethane	97	9.000	9.004	(1.354)	78864	50.0000	50.6	
	64 Dibromochloromethane	129	9.172	9.176	(0.921)	91249	50.0000	52.0	
	65 1,3-Dichloropropane	76	9.273	9.278	(0.931)	152560	50.0000	52.6	
	66 1,2-Dibromoethane	107	9.390	9.394	(1.413)	82628	50.0000	51.7	
	67 2-Hexanone	43	9.705	9.709	(0.974)	506724	250.000	254	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	195611	50.0000		
	69 Chlorobenzene	112	9.974	9.979	(1.002)	237648	50.0000	49.8	
	70 1-Chlorohexane	91	12.096	12.097	(1.215)	313145	50.0000	(a)	
	71 Ethylbenzene	106	10.038	10.042	(1.008)	132444	50.0000	52.8	
	72 1,1,1,2-Tetrachloroethane	131	10.064	10.069	(1.011)	80844	50.0000	52.0	
	73 m+p-Xylenes	106	10.218	10.222	(1.026)	323869	100.000	107	
	74 o-Xylene	106	10.754	10.755	(1.080)	149718	50.0000	48.1	
	75 Styrene	104	10.825	10.833	(1.087)	252569	50.0000	48.5	
	76 Bromoform	173	10.829	10.833	(1.087)	56241	50.0000	51.7	
	77 Isopropylbenzene	105	11.196	11.204	(0.870)	416450	50.0000	48.0	

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8401.D
Report Date: 27-Jan-2021 16:22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
$ 78	P-Bromofluorobenzene	95	11.530	11.534	(1.735)	96914	50.0000	49.5	
79	cis-1,4-Dichloro-2-Butene	53	11.643	11.647	(0.905)	46150	50.0000	43.1	
80	Bromobenzene	156	11.635	11.639	(0.904)	88466	50.0000	49.5	
81	N-Propylbenzene	91	11.729	11.733	(0.912)	506102	50.0000	49.1	
82	1,1,2,2-Tetrachloroethane	83	11.826	11.834	(0.919)	113167	50.0000	51.1	
83	2-Chlorotoluene	91	11.886	11.890	(0.924)	298334	50.0000	52.1	
84	1,2,3-Trichloropropane	75	11.961	11.965	(0.930)	106831	50.0000	50.6	
85	1,3,5-Trimethylbenzene	105	11.991	11.995	(0.932)	336955	50.0000	48.6	
86	trans-1,4-Dichloro-2-Butene	53	12.036	12.044	(0.936)	52019	50.0000	46.0	
87	4-Chlorotoluene	91	12.096	12.097	(0.940)	313145	50.0000	52.1	
88	tert-Butylbenzene	119	12.359	12.363	(0.961)	289067	50.0000	47.6	
89	Pentachloroethane	165	12.355	12.359	(0.960)	714	50.0000	(a)	
90	1,2,4-Trimethylbenzene	105	12.445	12.449	(0.967)	347767	50.0000	48.4	
91	sec-Butylbenzene	105	12.568	12.573	(0.977)	420275	50.0000	47.6	
92	P-Isopropyltoluene	119	12.748	12.756	(0.991)	344365	50.0000	46.7	
93	1,3-Dichlorobenzene	146	12.775	12.779	(0.993)	177097	50.0000	49.7	
* 94	1,4-Dichlorobenzene-D4	152	12.865	12.869	(1.000)	98187	50.0000		
95	1,4-Dichlorobenzene	146	12.880	12.884	(1.001)	179350	50.0000	48.1	
96	1,2,3-Trimethylbenzene	105	12.936	12.940	(1.006)	357376	50.0000	52.8	
97	N-Butylbenzene	91	13.221	13.225	(1.028)	327028	50.0000	46.4	
M 98	1,2-Dichloroethylene (total)	96				192126	50.0000	93.8	
99	1,2-Dichlorobenzene	146	13.337	13.341	(1.037)	167329	50.0000	49.3	
100	1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.104)	21622	50.0000	47.1	
101	1,3,5-Trichlorobenzene	180	14.237	14.241	(1.107)	116618	50.0000	49.9	
102	Hexachlorobutadiene	225	14.889	14.893	(1.157)	43263	50.0000	45.7	
103	1,2,4-Trichlorobenzene	180	14.893	14.897	(1.158)	104103	50.0000	44.7	
104	Naphthalene	128	15.215	15.215	(1.183)	344783	50.0000	45.0	
105	1,2,3-Trichlorobenzene	180	15.395	15.399	(1.197)	105370	50.0000	46.4	
M 106	Xylenes (total)	106				473587	150.000	155	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8401.D
Date : 30-DEC-2020 03:18
Client ID:
Sample Info: WG292678-5,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.406)
-Vinyl Chloride (1.443)
-Bromomethane (1.675)
-Chloroethane (1.762)
-Trichlorofluoromethane (1.870)
-Diethyl Ether (2.122)
-1,1-Dichloroethene (2.271)+
-Iodomethane (2.388)
-Acrolein (2.571)
-Allyl Chloride (2.691)
-Methylene Chloride (2.793)
-Acetone (2.959)
-trans-1,2-Dichloroethene (2.950)+
-Methyl tert-butyl ether (3.089)
-Tertiary-butyl alcohol (3.224)
-Acetonitrile (3.332)
-Di-isopropyl ether (3.535)+
-Acrylonitrile (3.707)
-Ethyl tertiary-butyl ethe (4.007)+
-cis-1,2-Dichloroethene (4.367)
-2,2-Dichloropropane (4.521)
Bromochloromethane (4.663)+
-Chloroform (4.824)
-Carbon Tetrachloride (5.004)+
-Dibromofluoromethane (5.132)+
-2-Butanone (5.345)+
-Pentafluorobenzene (5.941)+
Benzene (5.814)+
-Methylcyclohexane (6.556)+
-1,4-Difluorobenzene (6.646)
-Dibromomethane (7.096)
-1,2-Dichloropropane (7.227)
-Bromodichloromethane (7.340)
-Methyl Methacrylate (7.598)+
-2-Chloroethylvinylether (8.093)+
-Toluene-D8 (8.299)
Toluene (8.356)
-Tetrachloroethene (8.768)
-1,1,2-Trichloroethane (8.897)
Ethyl Methacrylate (8.984)
4-methyl-2-pentanone (8.813)+
-Dibromochloromethane (9.173)
-1,3-Dichloropropane (9.274)
-1,2-Dibromoethane (9.390)
-2-Hexanone (9.705)
-Chlorobenzene-D5 (9.967)+
-Ethylbenzene (10.059)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.219)
-o-Xylene (10.755)
Styrene (10.826)+
-Isopropylbenzene (11.197)
-P-Bromofluorobenzene (11.531)
-cis-1,4-Dichloro-2-Butene (11.639)+
-n-Propylbenzene (11.729)
-1,1,2,2-Tetrachloroethane (11.820)
2-Chlorotoluene (11.887)
-1,2,3-Trichloropropane (11.992)+
-1-Chlorohexane (12.093)+
-tert-Butylbenzene (12.359)+
-1,2,4-Trimethylbenzene (12.445)
-sec-Butylbenzene (12.569)
-P-Isopropyltoluene (12.753)+
-1,4-Dichlorobenzene-D4 (12.876)+
-1,2,3-Trimethylbenzene (12.936)
-N-Butylbenzene (13.221)
-1,2-Dichlorobenzene (13.337)
-1,2-Dibromo-3-Chloropropa (14.206)
1,2,3-Trichlorobenzene (14.237)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.212)
-1,2,3-Trichlorobenzene (15.392)
-1,2-Dichloroethylene (tot (17.115)
\\target_server\gg\chem\gcms-c.i\C122920B.b\C8401.D

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site **SDG:** TN0377
Lab ID : WG292401-12 **Analytical Date:** 12/23/20 21:39
Lab File ID : T9680.D **Instrument ID:** GCMS-T
Initial Calibration Date(s): 12/23/20 09:24 12/23/20 14:35 **Column ID:**

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2 Chloromethane	0.46030	0.42313	0.42313	0.100	-8.07592	20.00000	Averaged	
3 Vinyl chloride	0.43143	0.43036	0.43036	0.100	-0.24916	20.00000	Averaged	
4 Bromomethane	50.00000	31.25679	0.09678	0.100	-37.48642	20.00000	Linear	*
5 Chloroethane	50.00000	56.22839	0.23769	0.100	12.45678	20.00000	Linear	
8 1,1-Dichloroethene	0.49311	0.49195	0.49195	0.100	-0.23521	20.00000	Averaged	
10 Carbon Disulfide	1.37871	1.32284	1.32284	0.100	-4.05238	20.00000	Averaged	
14 Methylene Chloride	50.00000	50.30408	0.57613	0.100	0.60816	20.00000	Linear	
15 Acetone	0.14116	0.12643	0.12643	0.100	-10.43113	20.00000	Averaged	
16 trans-1,2-Dichloroethene	0.54003	0.52923	0.52923	0.100	-1.99898	20.00000	Averaged	
23 1,1-Dichloroethane	0.92672	0.92367	0.92367	0.200	-0.32985	20.00000	Averaged	
27 cis-1,2-Dichloroethene	0.58093	0.57342	0.57342	0.100	-1.29216	20.00000	Averaged	
31 Chloroform	0.98163	0.96912	0.96912	0.200	-1.27415	20.00000	Averaged	
32 Carbon Tetrachloride	0.42090	0.41957	0.41957	0.100	-0.31584	20.00000	Averaged	
35 1,1,1-Trichloroethane	0.86058	0.85455	0.85455	0.100	-0.70009	20.00000	Averaged	
37 2-Butanone	0.21027	0.21974	0.21974	0.100	4.50615	20.00000	Averaged	
38 Benzene	1.26703	1.23703	1.23703	0.500	-2.36783	20.00000	Averaged	
44 1,2-Dichloroethane	0.40244	0.38450	0.38450	0.100	-4.45817	20.00000	Averaged	
47 Trichloroethene	0.30518	0.30019	0.30019	0.200	-1.63268	20.00000	Averaged	
50 1,2-Dichloropropane	0.29984	0.29532	0.29532	0.100	-1.50890	20.00000	Averaged	
51 Bromodichloromethane	0.43013	0.42756	0.42756	0.200	-0.59716	20.00000	Averaged	
55 cis-1,3-dichloropropene	0.51475	0.48340	0.48340	0.200	-6.08893	20.00000	Averaged	
57 Toluene	0.76971	0.75130	0.75130	0.400	-2.39159	20.00000	Averaged	
58 Tetrachloroethene	0.27855	0.26349	0.26349	0.200	-5.40680	20.00000	Averaged	
59 4-methyl-2-pentanone	0.24078	0.26275	0.26275	0.100	9.12490	20.00000	Averaged	
60 trans-1,3-Dichloropropene	0.45174	0.43606	0.43606	0.100	-3.47163	20.00000	Averaged	
61 1,1,2-Trichloroethane	0.23674	0.23561	0.23561	0.100	-0.47546	20.00000	Averaged	
63 Dibromochloromethane	0.35598	0.36474	0.36474	0.100	2.45947	20.00000	Averaged	
67 2-Hexanone	0.18387	0.20043	0.20043	0.100	9.00930	20.00000	Averaged	
69 Chlorobenzene	0.89786	0.85788	0.85788	0.500	-4.45343	20.00000	Averaged	
70 Ethylbenzene	1.52018	1.50459	1.50459	0.100	-1.02583	20.00000	Averaged	
72 m+p-Xylenes	1.13621	1.14197	1.14197	0.100	0.50625	20.00000	Averaged	
73 o-Xylene	1.18712	1.17768	1.17768	0.300	-0.79518	20.00000	Averaged	
74 Styrene	0.92896	0.94432	0.94432	0.300	1.65342	20.00000	Averaged	
75 Bromoform	0.22283	0.23146	0.23146	0.100	3.87475	20.00000	Averaged	
81 1,1,2,2-Tetrachloroethane	0.81897	0.83276	0.83276	0.300	1.68349	20.00000	Averaged	
105 Xylenes (total)	++++	1.15387	1.15387	0.010	++++	20.00000	Averaged	*
34 Dibromofluoromethane	0.54721	0.55388	0.55388	0.010	1.21915	20.00000	Averaged	
42 1,2-Dichloroethane-D4	0.60242	0.61803	0.61803	0.010	2.59103	20.00000	Averaged	
56 Toluene-D8	1.15619	1.15055	1.15055	0.010	-0.48726	20.00000	Averaged	
77 P-Bromofluorobenzene	0.42531	0.42692	0.42692	0.010	0.37913	20.00000	Averaged	

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Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292401-12
Analytical Date: 12/23/20 21:39
Lab File ID : T9680.D
Instrument ID: GCMS-T
Initial Calibration Date(s): 12/23/20 09:24 12/23/20 14:35
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9680.D
Report Date: 27-Jan-2021 16:12

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9680.D
Lab Smp Id: WG292401-12
Inj Date : 23-DEC-2020 21:39
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-12,TN0377
Misc Info : WG292401,WG292401-4,TN0377-7
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 21 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	228425	50.0000	51.1	
2 Chloromethane	50	1.393	1.390	(0.259)	237049	50.0000	46.0	
3 Vinyl chloride	62	1.434	1.431	(0.267)	241099	50.0000	49.9	
4 Bromomethane	94	1.633	1.633	(0.303)	54216	50.0000	31.2	
5 Chloroethane	64	1.708	1.708	(0.317)	133159	50.0000	56.2	
6 Trichlorofluoromethane	101	1.805	1.802	(0.335)	365412	50.0000	52.0	
7 Diethyl Ether	59	2.011	2.011	(0.374)	151516	50.0000	50.0	
8 1,1-Dichloroethene	96	2.157	2.157	(0.401)	275603	50.0000	49.9	
9 Freon-113	151	2.179	2.184	(0.405)	161006	50.0000	48.7	
10 Carbon Disulfide	76	2.187	2.187	(0.406)	741091	50.0000	48.0	
11 Iodomethane	142	2.269	2.270	(0.422)	136444	50.0000	29.0	
12 Acrolein	56	2.411	2.416	(0.448)	207518	250.000	251	
13 Allyl Chloride	41	2.516	2.517	(0.467)	340877	50.0000	49.4	
14 Methylene Chloride	84	2.606	2.606	(0.484)	322765	50.0000	50.3	
15 Acetone	43	2.647	2.648	(0.492)	354153	250.000	224	
16 trans-1,2-Dichloroethene	96	2.737	2.741	(0.509)	296491	50.0000	49.0	
17 Methyl Acetate	43	2.752	2.752	(0.511)	195569	50.0000	52.2	
18 Methyl tert-butyl ether	73	2.830	2.831	(0.526)	734653	50.0000	49.4	
19 Tertiary-butyl alcohol	59	2.920	2.924	(0.543)	107343	250.000	275	
20 Acetonitrile	41	3.070	3.070	(0.570)	317325	500.000	547	
21 Di-isopropyl ether	45	3.190	3.190	(0.593)	781448	50.0000	52.0	
22 Chloroprene	53	3.294	3.295	(0.612)	357046	50.0000	51.2	
23 1,1-Dichloroethane	63	3.321	3.325	(0.617)	517463	50.0000	49.8	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9680.D
Report Date: 27-Jan-2021 16:12

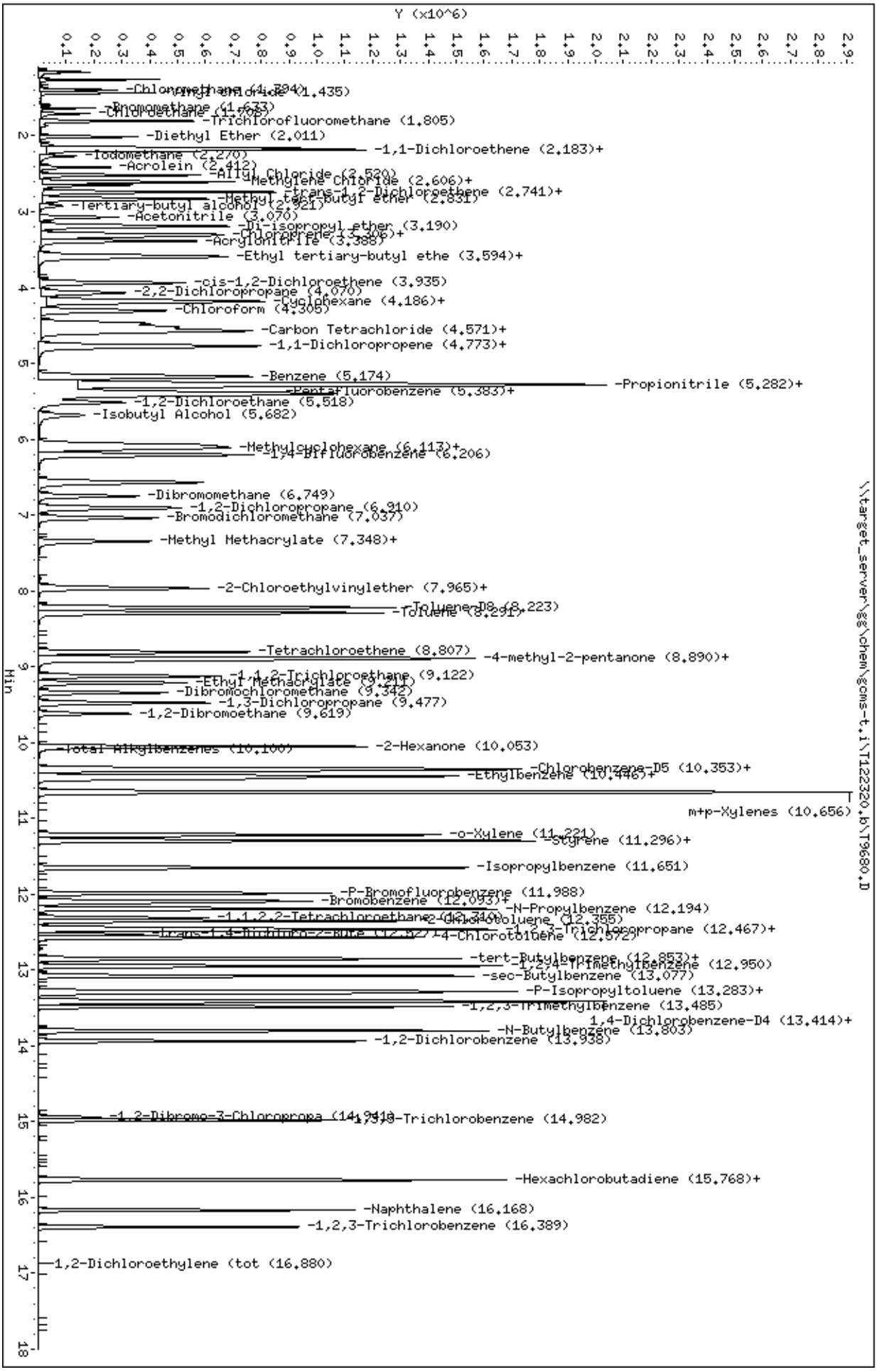
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.384	3.385	(0.629)	410163	250.000	259	
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.666)	716457	50.0000	50.0	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	546016	50.0000	50.3	
	27 cis-1,2-Dichloroethene	96	3.934	3.935	(0.731)	321246	50.0000	49.4	
	28 2,2-Dichloropropane	77	4.069	4.070	(0.756)	315465	50.0000	37.4	
	29 Cyclohexane	56	4.178	4.174	(0.776)	399641	50.0000	50.4	
	30 Bromochloromethane	128	4.189	4.192	(0.778)	135351	50.0000	48.7	
	31 Chloroform	83	4.305	4.304	(0.800)	542929	50.0000	49.4	
	32 Carbon Tetrachloride	117	4.473	4.474	(0.720)	398861	50.0000	49.8	
	33 Tetrahydrofuran	42	4.522	4.519	(0.840)	412931	250.000	278	
$	34 Dibromofluoromethane	113	4.567	4.571	(0.848)	310299	50.0000	50.6	
	35 1,1,1-Trichloroethane	97	4.578	4.582	(0.851)	478743	50.0000	49.6	
	36 1,1-Dichloropropene	75	4.773	4.769	(0.769)	405371	50.0000	49.1	
	37 2-Butanone	43	4.776	4.773	(0.887)	615529	250.000	261	
	38 Benzene	78	5.173	5.174	(0.833)	1175963	50.0000	48.8	
	39 Propionitrile	54	5.248	5.252	(0.975)	363813	500.000	547	
	40 Methacrylonitrile	41	5.282	5.282	(0.981)	1540292	500.000	535	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	560227	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.004)	346236	50.0000	51.3	
	43 Tertiary-amyl methyl ether	73	5.413	5.413	(1.006)	701972	50.0000	51.3	
	44 1,2-Dichloroethane	62	5.517	5.514	(0.889)	365516	50.0000	47.8	
	45 Isobutyl Alcohol	43	5.682	5.686	(1.056)	175974	1000.00	1200	
	46 Methylcyclohexane	83	6.079	6.075	(1.129)	438720	50.0000	51.1	
	47 Trichloroethene	95	6.120	6.117	(0.986)	285376	50.0000	49.2	
*	48 1,4-Difluorobenzene	114	6.210	6.210	(1.000)	950636	50.0000		
	49 Dibromomethane	93	6.748	6.749	(1.087)	194319	50.0000	47.4	
	50 1,2-Dichloropropane	63	6.909	6.910	(1.113)	280738	50.0000	49.2	
	51 Bromodichloromethane	83	7.037	7.033	(1.133)	406455	50.0000	49.7	
	52 Methyl Methacrylate	41	7.347	7.348	(1.183)	219976	50.0000	55.2	
	53 1,4-Dioxane	88	7.358	7.352	(1.185)	51233	1000.00	847	
	54 2-Chloroethylvinylether	63	7.939	7.939	(1.278)	49985	50.0000	29.4	
	55 cis-1,3-dichloropropene	75	7.968	7.965	(1.283)	459542	50.0000	47.0	
$	56 Toluene-D8	98	8.223	8.220	(1.324)	1093759	50.0000	49.8	
	57 Toluene	92	8.290	8.291	(1.335)	714214	50.0000	48.8	
	58 Tetrachloroethene	164	8.810	8.807	(0.852)	228191	50.0000	47.3	
	59 4-methyl-2-pentanone	43	8.885	8.886	(1.431)	1248919	250.000	273	
	60 trans-1,3-Dichloropropene	75	8.915	8.916	(1.436)	414535	50.0000	48.3	
	61 1,1,2-Trichloroethane	83	9.121	9.122	(1.469)	223979	50.0000	49.8	
	62 Ethyl Methacrylate	69	9.211	9.211	(1.483)	359619	50.0000	54.3	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	315869	50.0000	51.2	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	474459	50.0000	48.6	
	65 1,2-Dibromoethane	107	9.619	9.619	(1.549)	276356	50.0000	49.2	
M	66 Total Alkylbenzenes	100				7498308	50.0000	352	
	67 2-Hexanone	43	10.053	10.053	(0.972)	867898	250.000	272	
*	68 Chlorobenzene-D5	117	10.345	10.342	(1.000)	866022	50.0000		
	69 Chlorobenzene	112	10.363	10.364	(1.002)	742941	50.0000	47.8	
	70 Ethylbenzene	91	10.442	10.443	(1.009)	1303007	50.0000	49.5	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	268159	50.0000	49.8	
	72 m+p-Xylenes	91	10.655	10.652	(1.030)	1977934	100.000	100	
	73 o-Xylene	91	11.220	11.217	(1.085)	1019897	50.0000	49.6	
	74 Styrene	104	11.295	11.296	(1.092)	817799	50.0000	50.8	
	75 Bromoform	173	11.288	11.288	(1.091)	200451	50.0000	51.9	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	1235759	50.0000	50.0	
$	77 P-Bromofluorobenzene	95	11.991	11.988	(1.931)	405848	50.0000	50.2	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9680.D
Report Date: 27-Jan-2021 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
78	Bromobenzene	156	12.092	12.093	(0.902)	297674	50.0000	47.9	
79	cis-1,4-Dichloro-2-Butene	53	12.119	12.119	(0.904)	77928	50.0000	48.8	
80	N-Propylbenzene	91	12.193	12.194	(0.910)	1476195	50.0000	50.2	
81	1,1,2,2-Tetrachloroethane	83	12.309	12.310	(0.918)	349475	50.0000	50.8	
82	2-Chlorotoluene	91	12.354	12.355	(0.922)	871823	50.0000	49.3	
83	1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	282935	50.0000	49.9	
84	1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	969422	50.0000	49.9	
85	trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	81890	50.0000	49.8	
86	4-Chlorotoluene	91	12.571	12.572	(0.938)	899813	50.0000	48.6	
87	tert-Butylbenzene	119	12.852	12.853	(0.959)	824993	50.0000	50.2	
88	Pentachloroethane	165	12.856	12.860	(0.959)	2873	50.0000	(a)	
89	1,2,4-Trimethylbenzene	105	12.949	12.946	(0.966)	1007221	50.0000	50.4	
90	sec-Butylbenzene	105	13.077	13.077	(0.975)	1250675	50.0000	50.2	
91	P-Isopropyltoluene	119	13.279	13.279	(0.991)	1000622	50.0000	50.3	
92	1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	541282	50.0000	47.5	
* 93	1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	419661	50.0000		
94	1,4-Dichlorobenzene	146	13.425	13.425	(1.001)	558813	50.0000	47.5	
95	1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	919442	50.0000	50.0	
96	N-Butylbenzene	91	13.803	13.803	(1.030)	969180	50.0000	50.6	
97	1,2-Dichlorobenzene	146	13.937	13.938	(1.040)	513843	50.0000	48.0	
98	1,2-Dibromo-3-Chloropropane	157	14.940	14.937	(1.114)	68854	50.0000	49.7	
99	1,3,5-Trichlorobenzene	180	14.981	14.978	(1.118)	352203	50.0000	48.7	
100	Hexachlorobutadiene	225	15.764	15.768	(1.176)	138449	50.0000	47.6	
101	1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	338001	50.0000	48.9	
102	Naphthalene	128	16.168	16.168	(1.206)	878368	50.0000	51.9	
M 103	1,2-Dichloroethylene (total)	96				617737	50.0000	98.4	
104	1,2,3-Trichlorobenzene	180	16.392	16.389	(1.223)	299134	50.0000	48.9	
M 105	Xylenes (total)	91				2997831	150.000	150	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9680.D
Date : 23-DEC-2020 21:39
Client ID:
Sample Info: WG292401-12,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-t.i\T122320.b\T9680.D
Chloromethane (1.394)
Vinyl Chloride (1.435)
Bromomethane (1.633)
Chloroethane (1.708)
Trichlorofluoromethane (1.805)
Diethyl Ether (2.011)
1,1-Dichloroethene (2.183)+
Iodomethane (2.270)
Acrolein (2.412)
Allyl Chloride (2.520)
Methylene Chloride (2.606)+
Methyl tert-butyl ether (2.831)
trans-1,2-Dichloroethene (2.741)+
tert-butyl alcohol (2.921)
Acetonitrile (3.070)
Di-isopropyl ether (3.190)
Chloroprene (3.306)+
Acrylonitrile (3.388)
Ethyl tertiary-butyl ethe (3.594)+
cis-1,2-Dichloroethene (3.935)
2,2-Dichloropropane (4.070)
Cyclohexane (4.186)+
Chloroform (4.305)
Carbon Tetrachloride (4.571)+
1,1-Dichloropropene (4.773)+
Benzene (5.174)
Propionitrile (5.282)+
Pentafluorobenzene (5.383)+
1,2-Dichloroethane (5.518)
Isobutyl Alcohol (5.682)
Methylcyclohexane (6.113)+
1,4-Difluorobenzene (6.206)
Dibromomethane (6.749)
1,2-Dichloropropane (6.910)
Bromodichloromethane (7.037)
Methyl Methacrylate (7.348)+
2-Chloroethylvinylether (7.965)+
Toluene-D8 (8.223)
Toluene (8.291)
Tetrachloroethene (8.807)
4-methyl-2-pentanone (8.890)+
1,1,2-Trichloroethane (9.122)
Ethyl Methacrylate (9.211)
Dibromochloromethane (9.342)
1,3-Dichloropropane (9.477)
1,2-Dibromoethane (9.619)
Total Alkylbenzenes (10.100)
2-Hexanone (10.053)
Chlorobenzene-D5 (10.353)+
Ethylbenzene (10.446)+
m+p-Xylenes (10.656)
o-Xylene (11.221)
Styrene (11.296)+
Isopropylbenzene (11.651)
P-Bromofluorobenzene (11.988)
Bromobenzene (12.093)+
N-Propylbenzene (12.194)
1,1,2,2-Tetrachloroethane (12.310)
2-Chlorotoluene (12.355)
trans-1,4-Dichloro-2-Bute (12.527)
1,2,3-Trichloropropane (12.467)+
4-Chlorotoluene (12.572)
tert-Butylbenzene (12.857)+
1,2,4-Trimethylbenzene (12.950)
sec-Butylbenzene (13.077)
P-Isopropyltoluene (13.283)+
1,2,3-Trimethylbenzene (13.485)
1,4-Dichlorobenzene-D4 (13.414)+
N-Butylbenzene (13.803)
1,2-Dichlorobenzene (13.938)
1,2-Dibromo-3-Chloropropa (14.910)
1,2,4-Trichlorobenzene (14.982)
Hexachlorobutadiene (15.768)+
Naphthalene (16.168)
1,2,3-Trichlorobenzene (16.389)
1,2-Dichloroethylene (tot (16.880)

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292401-15
Analytical Date: 12/23/20 22:11
Lab File ID : T9681.D
Instrument ID: GCMS-T
Initial Calibration Date(s): 12/23/20 09:24 12/23/20 14:35
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2	Chloromethane	0.46030	0.41748	0.41748	0.100	-9.30331	20.00000	Averaged	
3	Vinyl chloride	0.43143	0.41652	0.41652	0.100	-3.45801	20.00000	Averaged	
4	Bromomethane	50.00000	34.98836	0.10833	0.100	-30.02328	20.00000	Linear	*
5	Chloroethane	50.00000	52.28487	0.22102	0.100	4.56974	20.00000	Linear	
8	1,1-Dichloroethene	0.49311	0.50311	0.50311	0.100	2.02821	20.00000	Averaged	
10	Carbon Disulfide	1.37871	1.35309	1.35309	0.100	-1.85856	20.00000	Averaged	
14	Methylene Chloride	50.00000	55.08752	0.63092	0.100	10.17503	20.00000	Linear	
15	Acetone	0.14116	0.13902	0.13902	0.100	-1.51138	20.00000	Averaged	
16	trans-1,2-Dichloroethene	0.54003	0.55078	0.55078	0.100	1.99081	20.00000	Averaged	
23	1,1-Dichloroethane	0.92672	0.96380	0.96380	0.200	4.00055	20.00000	Averaged	
27	cis-1,2-Dichloroethene	0.58093	0.60640	0.60640	0.100	4.38492	20.00000	Averaged	
31	Chloroform	0.98163	1.01215	1.01215	0.200	3.10900	20.00000	Averaged	
32	Carbon Tetrachloride	0.42090	0.42044	0.42044	0.100	-0.11074	20.00000	Averaged	
35	1,1,1-Trichloroethane	0.86058	0.86216	0.86216	0.100	0.18352	20.00000	Averaged	
37	2-Butanone	0.21027	0.23153	0.23153	0.100	10.11317	20.00000	Averaged	
38	Benzene	1.26703	1.28870	1.28870	0.500	1.71042	20.00000	Averaged	
44	1,2-Dichloroethane	0.40244	0.39767	0.39767	0.100	-1.18431	20.00000	Averaged	
47	Trichloroethene	0.30518	0.31609	0.31609	0.200	3.57518	20.00000	Averaged	
50	1,2-Dichloropropane	0.29984	0.31382	0.31382	0.100	4.66229	20.00000	Averaged	
51	Bromodichloromethane	0.43013	0.45294	0.45294	0.200	5.30219	20.00000	Averaged	
55	cis-1,3-dichloropropene	0.51475	0.52114	0.52114	0.200	1.24249	20.00000	Averaged	
57	Toluene	0.76971	0.78478	0.78478	0.400	1.95754	20.00000	Averaged	
58	Tetrachloroethene	0.27855	0.26753	0.26753	0.200	-3.95729	20.00000	Averaged	
59	4-methyl-2-pentanone	0.24078	0.27515	0.27515	0.100	14.27496	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.45174	0.46623	0.46623	0.100	3.20706	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.23674	0.25006	0.25006	0.100	5.62697	20.00000	Averaged	
63	Dibromochloromethane	0.35598	0.37844	0.37844	0.100	6.30822	20.00000	Averaged	
67	2-Hexanone	0.18387	0.21090	0.21090	0.100	14.70416	20.00000	Averaged	
69	Chlorobenzene	0.89786	0.90405	0.90405	0.500	0.68858	20.00000	Averaged	
70	Ethylbenzene	1.52018	1.55747	1.55747	0.100	2.45258	20.00000	Averaged	
72	m+p-Xylenes	1.13621	1.17397	1.17397	0.100	3.32342	20.00000	Averaged	
73	o-Xylene	1.18712	1.22472	1.22472	0.300	3.16756	20.00000	Averaged	
74	Styrene	0.92896	0.98571	0.98571	0.300	6.10898	20.00000	Averaged	
75	Bromoform	0.22283	0.24186	0.24186	0.100	8.54090	20.00000	Averaged	
81	1,1,2,2-Tetrachloroethane	0.81897	0.83733	0.83733	0.300	2.24190	20.00000	Averaged	
105	Xylenes (total)	++++	1.19089	1.19089	0.010	++++	20.00000	Averaged	*
34	Dibromofluoromethane	0.54721	0.56351	0.56351	0.010	2.97808	20.00000	Averaged	
42	1,2-Dichloroethane-D4	0.60242	0.61593	0.61593	0.010	2.24253	20.00000	Averaged	
56	Toluene-D8	1.15619	1.16256	1.16256	0.010	0.55070	20.00000	Averaged	
77	P-Bromofluorobenzene	0.42531	0.43245	0.43245	0.010	1.67837	20.00000	Averaged	

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sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292401-15
Analytical Date: 12/23/20 22:11
Lab File ID : T9681.D
Instrument ID: GCMS-T
Initial Calibration Date(s): 12/23/20 09:24 12/23/20 14:35
Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type

*** = Compound out of QC criteria**

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sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9681.D
Report Date: 27-Jan-2021 16:12

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9681.D
Lab Smp Id: WG292401-15
Inj Date : 23-DEC-2020 22:11
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-15,TN0377
Misc Info : WG292401,WG292401-4,TN0377-7
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	198371	50.0000	45.4	
2 Chloromethane	50	1.393	1.390	(0.259)	228814	50.0000	45.3	
3 Vinyl chloride	62	1.434	1.431	(0.267)	228285	50.0000	48.3	
4 Bromomethane	94	1.633	1.633	(0.303)	59373	50.0000	35.0	
5 Chloroethane	64	1.708	1.708	(0.317)	121136	50.0000	52.3	
6 Trichlorofluoromethane	101	1.805	1.802	(0.335)	341173	50.0000	49.7	
7 Diethyl Ether	59	2.011	2.011	(0.374)	161449	50.0000	54.5	
8 1,1-Dichloroethene	96	2.157	2.157	(0.401)	275746	50.0000	51.0	
9 Freon-113	151	2.179	2.184	(0.405)	159148	50.0000	49.2	
10 Carbon Disulfide	76	2.183	2.187	(0.406)	741604	50.0000	49.1	
11 Iodomethane	142	2.269	2.270	(0.422)	133603	50.0000	29.1	
12 Acrolein	56	2.415	2.416	(0.449)	206608	250.000	255	
13 Allyl Chloride	41	2.516	2.517	(0.467)	341793	50.0000	50.6	
14 Methylene Chloride	84	2.606	2.606	(0.484)	345795	50.0000	55.1	
15 Acetone	43	2.651	2.648	(0.493)	380980	250.000	246	
16 trans-1,2-Dichloroethene	96	2.741	2.741	(0.509)	301873	50.0000	51.0	
17 Methyl Acetate	43	2.752	2.752	(0.511)	198830	50.0000	54.3	
18 Methyl tert-butyl ether	73	2.830	2.831	(0.526)	770077	50.0000	53.0	
19 Tertiary-butyl alcohol	59	2.924	2.924	(0.543)	111972	250.000	294	
20 Acetonitrile	41	3.074	3.070	(0.571)	325207	500.000	573	
21 Di-isopropyl ether	45	3.190	3.190	(0.593)	798773	50.0000	54.3	
22 Chloroprene	53	3.298	3.295	(0.613)	352188	50.0000	51.6	
23 1,1-Dichloroethane	63	3.324	3.325	(0.618)	528241	50.0000	52.0	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9681.D
Report Date: 27-Jan-2021 16:12

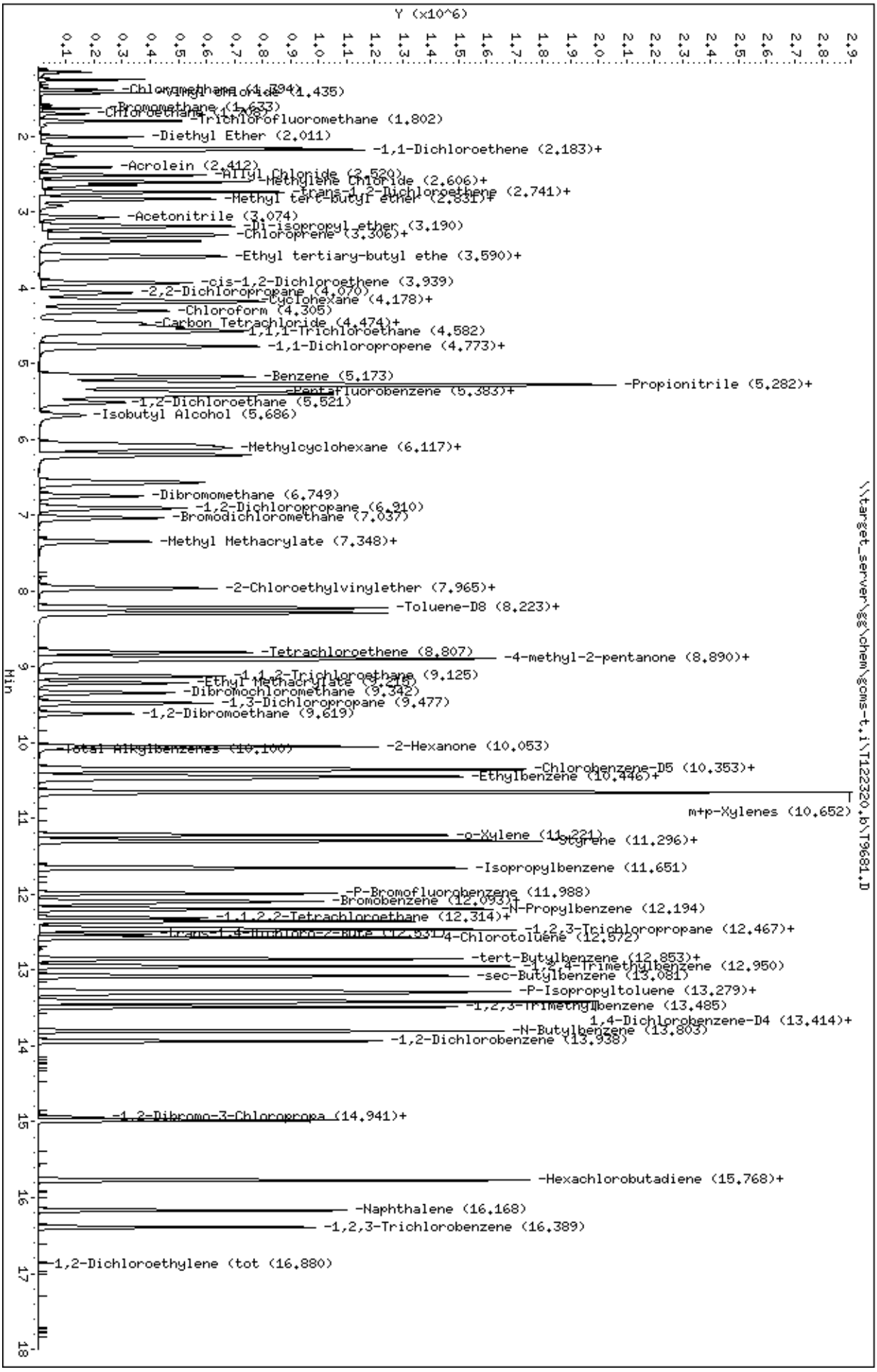
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.384	3.385	(0.629)	423172	250.000	273	
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.666)	733107	50.0000	52.2	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	494723	50.0000	46.8	
	27 cis-1,2-Dichloroethene	96	3.938	3.935	(0.732)	332358	50.0000	52.2	
	28 2,2-Dichloropropane	77	4.069	4.070	(0.756)	352536	50.0000	42.8	
	29 Cyclohexane	56	4.178	4.174	(0.776)	383949	50.0000	49.5	
	30 Bromochloromethane	128	4.192	4.192	(0.779)	141236	50.0000	52.0	
	31 Chloroform	83	4.305	4.304	(0.800)	554742	50.0000	51.6	
	32 Carbon Tetrachloride	117	4.473	4.474	(0.721)	388678	50.0000	49.9	
	33 Tetrahydrofuran	42	4.522	4.519	(0.840)	428052	250.000	294	
$	34 Dibromofluoromethane	113	4.570	4.571	(0.849)	308848	50.0000	51.5	
	35 1,1,1-Trichloroethane	97	4.582	4.582	(0.851)	472533	50.0000	50.1	
	36 1,1-Dichloropropene	75	4.773	4.769	(0.769)	396565	50.0000	49.4	
	37 2-Butanone	43	4.776	4.773	(0.887)	634495	250.000	275	
	38 Benzene	78	5.173	5.174	(0.834)	1191357	50.0000	50.8	
	39 Propionitrile	54	5.255	5.252	(0.976)	375458	500.000	577	
	40 Methacrylonitrile	41	5.281	5.282	(0.981)	1559527	500.000	554	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	548083	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.004)	337580	50.0000	51.1	
	43 Tertiary-amyl methyl ether	73	5.416	5.413	(1.006)	709113	50.0000	53.0	
	44 1,2-Dichloroethane	62	5.521	5.514	(0.890)	367633	50.0000	49.4	
	45 Isobutyl Alcohol	43	5.686	5.686	(1.056)	178055	1000.00	1230	
	46 Methylcyclohexane	83	6.075	6.075	(1.129)	421492	50.0000	50.2	
	47 Trichloroethene	95	6.120	6.117	(0.986)	292212	50.0000	51.8	
*	48 1,4-Difluorobenzene	114	6.206	6.210	(1.000)	924464	50.0000		
	49 Dibromomethane	93	6.748	6.749	(1.087)	199830	50.0000	50.1	
	50 1,2-Dichloropropane	63	6.906	6.910	(1.113)	290115	50.0000	52.3	
	51 Bromodichloromethane	83	7.040	7.033	(1.134)	418723	50.0000	52.6	
	52 Methyl Methacrylate	41	7.351	7.348	(1.185)	221936	50.0000	57.2	
	53 1,4-Dioxane	88	7.355	7.352	(1.185)	54013	1000.00	919	
	54 2-Chloroethylvinylether	63	7.938	7.939	(1.279)	53788	50.0000	33.1	
	55 cis-1,3-dichloropropene	75	7.968	7.965	(1.284)	481778	50.0000	50.6	
$	56 Toluene-D8	98	8.223	8.220	(1.325)	1074741	50.0000	50.3	
	57 Toluene	92	8.290	8.291	(1.336)	725498	50.0000	51.0	
	58 Tetrachloroethene	164	8.807	8.807	(0.851)	226370	50.0000	48.0	
	59 4-methyl-2-pentanone	43	8.889	8.886	(1.432)	1271854	250.000	286	
	60 trans-1,3-Dichloropropene	75	8.915	8.916	(1.437)	431014	50.0000	51.6	
	61 1,1,2-Trichloroethane	83	9.125	9.122	(1.470)	231168	50.0000	52.8	
	62 Ethyl Methacrylate	69	9.215	9.211	(1.485)	367244	50.0000	57.0	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	320212	50.0000	53.2	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	486196	50.0000	50.9	
	65 1,2-Dibromoethane	107	9.619	9.619	(1.550)	283519	50.0000	51.8	
M	66 Total Alkylbenzenes	100				7479056	50.0000	357	
	67 2-Hexanone	43	10.053	10.053	(0.972)	892278	250.000	287	
*	68 Chlorobenzene-D5	117	10.345	10.342	(1.000)	846145	50.0000		
	69 Chlorobenzene	112	10.363	10.364	(1.002)	764954	50.0000	50.3	
	70 Ethylbenzene	91	10.442	10.443	(1.009)	1317843	50.0000	51.2	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	277361	50.0000	52.7	
	72 m+p-Xylenes	91	10.652	10.652	(1.030)	1986705	100.000	103	
	73 o-Xylene	91	11.220	11.217	(1.085)	1036293	50.0000	51.6	
	74 Styrene	104	11.295	11.296	(1.092)	834051	50.0000	53.0	
	75 Bromoform	173	11.292	11.288	(1.092)	204648	50.0000	54.3	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	1232327	50.0000	50.6	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.932)	399783	50.0000	50.8	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9681.D
Report Date: 27-Jan-2021 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.092	12.093	(0.902)	307694	50.0000	50.3	
	79 cis-1,4-Dichloro-2-Butene	53	12.119	12.119	(0.904)	80170	50.0000	51.1	
	80 N-Propylbenzene	91	12.193	12.194	(0.910)	1462594	50.0000	50.6	
	81 1,1,2,2-Tetrachloroethane	83	12.313	12.310	(0.918)	345625	50.0000	51.1	
	82 2-Chlorotoluene	91	12.354	12.355	(0.922)	880016	50.0000	50.6	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	289594	50.0000	51.9	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	970863	50.0000	50.8	
	85 trans-1,4-Dichloro-2-Butene	53	12.530	12.527	(0.935)	84853	50.0000	52.5	
	86 4-Chlorotoluene	91	12.571	12.572	(0.938)	919534	50.0000	50.5	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	817854	50.0000	50.6	
	88 Pentachloroethane	165	12.863	12.860	(0.960)	1289	50.0000	(a)	
	89 1,2,4-Trimethylbenzene	105	12.949	12.946	(0.966)	1024552	50.0000	52.1	
	90 sec-Butylbenzene	105	13.080	13.077	(0.976)	1236026	50.0000	50.4	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	995769	50.0000	50.9	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	553762	50.0000	49.4	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	412771	50.0000		
	94 1,4-Dichlorobenzene	146	13.425	13.425	(1.001)	572640	50.0000	49.5	
	95 1,2,3-Trimethylbenzene	105	13.484	13.485	(1.006)	934439	50.0000	51.7	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	971398	50.0000	51.6	
	97 1,2-Dichlorobenzene	146	13.937	13.938	(1.040)	531887	50.0000	50.5	
	98 1,2-Dibromo-3-Chloropropane	157	14.940	14.937	(1.114)	69137	50.0000	50.8	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	352757	50.0000	49.6	
	100 Hexachlorobutadiene	225	15.764	15.768	(1.176)	137287	50.0000	47.9	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	348113	50.0000	51.2	
	102 Naphthalene	128	16.168	16.168	(1.206)	897225	50.0000	53.9	
M	103 1,2-Dichloroethylene (total)	96				634231	50.0000	103	
	104 1,2,3-Trichlorobenzene	180	16.388	16.389	(1.222)	307205	50.0000	51.1	
M	105 Xylenes (total)	91				3022998	150.000	155	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9681.D
Date : 23-DEC-2020 22:11
Client ID:
Sample Info: WG292401-15,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Chloromethane (1.394)
-Vinyl Chloride (1.435)
-Bromomethane (1.633)
-Chloroethane (1.708)
-Trichlorofluoromethane (1.802)
-Diethyl Ether (2.011)
-1,1-Dichloroethene (2.183)+
-Acrolein (2.412)
-Allyl Chloride (2.520)
-Methylene Chloride (2.606)+
-trans-1,2-Dichloroethene (2.741)+
-Methyl tert-butyl ether (2.831)+
-Acetonitrile (3.074)
-Di-isopropyl ether (3.190)
-Chloroprene (3.306)+
-Ethyl tertiary-butyl ethe (3.590)+
-cis-1,2-Dichloroethene (3.939)
-2,2-Dichloropropane (4.070)
-Cyclohexane (4.178)+
-Chloroform (4.305)
-Carbon Tetrachloride (4.474)+
-1,1,1-Trichloroethane (4.582)
-1,1-Dichloropropene (4.773)+
-Benzene (5.173)
-Propionitrile (5.282)+
-Pentafluorobenzene (5.383)+
-1,2-Dichloroethane (5.521)
-Isobutyl Alcohol (5.686)
-Methylcyclohexane (6.117)+
-Dibromomethane (6.749)
-1,2-Dichloropropane (6.910)
-Bromodichloromethane (7.037)
-Methyl Methacrylate (7.348)+
-2-Chloroethylvinylether (7.965)+
-Toluene-D8 (8.223)+
-Tetrachloroethene (8.807)
-4-methyl-2-pentanone (8.890)+
-1,1,2-Trichloroethane (9.125)
-Ethyl Methacrylate (9.216)
-Dibromochloromethane (9.342)
-1,3-Dichloropropane (9.477)
-1,2-Dibromoethane (9.619)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.053)
-Chlorobenzene-D5 (10.353)+
-Ethylbenzene (10.446)+
m+p-Xylenes (10.652)
-o-Xylene (11.221)
-Styrene (11.296)+
-Isopropylbenzene (11.651)
-P-Bromofluorobenzene (11.988)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.194)
-1,1,2,2-Tetrachloroethane (12.314)+
-1,2,3-Trichloropropane (12.467)+
-trans-1,4-Dichloro-2-Bute (12.531)
-4-Chlorotoluene (12.572)
-tert-Butylbenzene (12.853)+
-1,2,4-Trimethylbenzene (12.950)
-sec-Butylbenzene (13.081)
-P-Isopropyltoluene (13.279)+
-1,2,3-Trimethylbenzene (13.485)
1,4-Dichlorobenzene-D4 (13.414)+
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropa (14.941)+
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.168)
-1,2,3-Trichlorobenzene (16.389)
-1,2-Dichloroethylene (tot (16.880)
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Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG292401-16
Analytical Date: 12/23/20 22:42
Lab File ID : T9682.D
Instrument ID: GCMS-T
Initial Calibration Date(s): 12/23/20 09:24 12/23/20 14:35
Column ID:

	Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
2	Chloromethane	0.46030	0.41669	0.41669	0.100	-9.47507	20.00000	Averaged	
3	Vinyl chloride	0.43143	0.41518	0.41518	0.100	-3.76640	20.00000	Averaged	
4	Bromomethane	50.00000	36.95597	0.11442	0.100	-26.08806	20.00000	Linear	*
5	Chloroethane	50.00000	50.09122	0.21174	0.100	0.18244	20.00000	Linear	
8	1,1-Dichloroethene	0.49311	0.50396	0.50396	0.100	2.20152	20.00000	Averaged	
10	Carbon Disulfide	1.37871	1.34926	1.34926	0.100	-2.13638	20.00000	Averaged	
14	Methylene Chloride	50.00000	54.37897	0.62280	0.100	8.75794	20.00000	Linear	
15	Acetone	0.14116	0.12840	0.12840	0.100	-9.03545	20.00000	Averaged	
16	trans-1,2-Dichloroethene	0.54003	0.54101	0.54101	0.100	0.18082	20.00000	Averaged	
23	1,1-Dichloroethane	0.92672	0.95756	0.95756	0.200	3.32729	20.00000	Averaged	
27	cis-1,2-Dichloroethene	0.58093	0.60986	0.60986	0.100	4.98098	20.00000	Averaged	
31	Chloroform	0.98163	1.00511	1.00511	0.200	2.39198	20.00000	Averaged	
32	Carbon Tetrachloride	0.42090	0.43117	0.43117	0.100	2.43987	20.00000	Averaged	
35	1,1,1-Trichloroethane	0.86058	0.87618	0.87618	0.100	1.81305	20.00000	Averaged	
37	2-Butanone	0.21027	0.22056	0.22056	0.100	4.89416	20.00000	Averaged	
38	Benzene	1.26703	1.29383	1.29383	0.500	2.11546	20.00000	Averaged	
44	1,2-Dichloroethane	0.40244	0.39849	0.39849	0.100	-0.98207	20.00000	Averaged	
47	Trichloroethene	0.30518	0.31289	0.31289	0.200	2.52621	20.00000	Averaged	
50	1,2-Dichloropropane	0.29984	0.30955	0.30955	0.100	3.23851	20.00000	Averaged	
51	Bromodichloromethane	0.43013	0.44679	0.44679	0.200	3.87435	20.00000	Averaged	
55	cis-1,3-dichloropropene	0.51475	0.51833	0.51833	0.200	0.69550	20.00000	Averaged	
57	Toluene	0.76971	0.78633	0.78633	0.400	2.15982	20.00000	Averaged	
58	Tetrachloroethene	0.27855	0.27374	0.27374	0.200	-1.72879	20.00000	Averaged	
59	4-methyl-2-pentanone	0.24078	0.26445	0.26445	0.100	9.83042	20.00000	Averaged	
60	trans-1,3-Dichloropropene	0.45174	0.46047	0.46047	0.100	1.93153	20.00000	Averaged	
61	1,1,2-Trichloroethane	0.23674	0.24476	0.24476	0.100	3.38992	20.00000	Averaged	
63	Dibromochloromethane	0.35598	0.37153	0.37153	0.100	4.36882	20.00000	Averaged	
67	2-Hexanone	0.18387	0.20116	0.20116	0.100	9.40378	20.00000	Averaged	
69	Chlorobenzene	0.89786	0.90147	0.90147	0.500	0.40195	20.00000	Averaged	
70	Ethylbenzene	1.52018	1.57433	1.57433	0.100	3.56215	20.00000	Averaged	
72	m+p-Xylenes	1.13621	1.18520	1.18520	0.100	4.31127	20.00000	Averaged	
73	o-Xylene	1.18712	1.23316	1.23316	0.300	3.87816	20.00000	Averaged	
74	Styrene	0.92896	0.99082	0.99082	0.300	6.65974	20.00000	Averaged	
75	Bromoform	0.22283	0.23466	0.23466	0.100	5.31171	20.00000	Averaged	
81	1,1,2,2-Tetrachloroethane	0.81897	0.82313	0.82313	0.300	0.50846	20.00000	Averaged	
105	Xylenes (total)	++++	1.20119	1.20119	0.010	++++	20.00000	Averaged	*
34	Dibromofluoromethane	0.54721	0.55502	0.55502	0.010	1.42672	20.00000	Averaged	
42	1,2-Dichloroethane-D4	0.60242	0.60342	0.60342	0.010	0.16554	20.00000	Averaged	
56	Toluene-D8	1.15619	1.16852	1.16852	0.010	1.06627	20.00000	Averaged	
77	P-Bromofluorobenzene	0.42531	0.42902	0.42902	0.010	0.87219	20.00000	Averaged	

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sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
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Column ID:

Compound	RRF/Amount	RF50	CCAL RRF50	Min	%D/ %Drift	Max %D/ %Drift	Curve Type

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9682.D
Report Date: 27-Jan-2021 16:12

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9682.D
Lab Smp Id: WG292401-16
Inj Date : 23-DEC-2020 22:42
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-16,TN0377
Misc Info : WG292401,WG292401-4,TN0377-7
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 23 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	203404	50.0000	45.4	
2 Chloromethane	50	1.390	1.390	(0.258)	234226	50.0000	45.3	
3 Vinyl chloride	62	1.431	1.431	(0.266)	233380	50.0000	48.1	
4 Bromomethane	94	1.633	1.633	(0.303)	64317	50.0000	37.0	
5 Chloroethane	64	1.708	1.708	(0.317)	119024	50.0000	50.1	
6 Trichlorofluoromethane	101	1.805	1.802	(0.335)	354722	50.0000	50.4	
7 Diethyl Ether	59	2.011	2.011	(0.373)	153394	50.0000	50.5	
8 1,1-Dichloroethene	96	2.157	2.157	(0.400)	283284	50.0000	51.1	
9 Freon-113	151	2.179	2.184	(0.405)	161237	50.0000	48.6	
10 Carbon Disulfide	76	2.187	2.187	(0.406)	758432	50.0000	48.9	
11 Iodomethane	142	2.269	2.270	(0.421)	142052	50.0000	30.1	
12 Acrolein	56	2.411	2.416	(0.448)	213694	250.000	257	
13 Allyl Chloride	41	2.516	2.517	(0.467)	354707	50.0000	51.2	
14 Methylene Chloride	84	2.606	2.606	(0.484)	350084	50.0000	54.4	
15 Acetone	43	2.647	2.648	(0.491)	360881	250.000	227	
16 trans-1,2-Dichloroethene	96	2.737	2.741	(0.508)	304105	50.0000	50.1	
17 Methyl Acetate	43	2.748	2.752	(0.510)	206902	50.0000	55.0	
18 Methyl tert-butyl ether	73	2.831	2.831	(0.526)	759904	50.0000	51.0	
19 Tertiary-butyl alcohol	59	2.924	2.924	(0.543)	112634	250.000	288	
20 Acetonitrile	41	3.070	3.070	(0.570)	324781	500.000	558	
21 Di-isopropyl ether	45	3.190	3.190	(0.592)	793508	50.0000	52.6	
22 Chloroprene	53	3.298	3.295	(0.612)	360524	50.0000	51.5	
23 1,1-Dichloroethane	63	3.321	3.325	(0.617)	538254	50.0000	51.7	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9682.D
Report Date: 27-Jan-2021 16:12

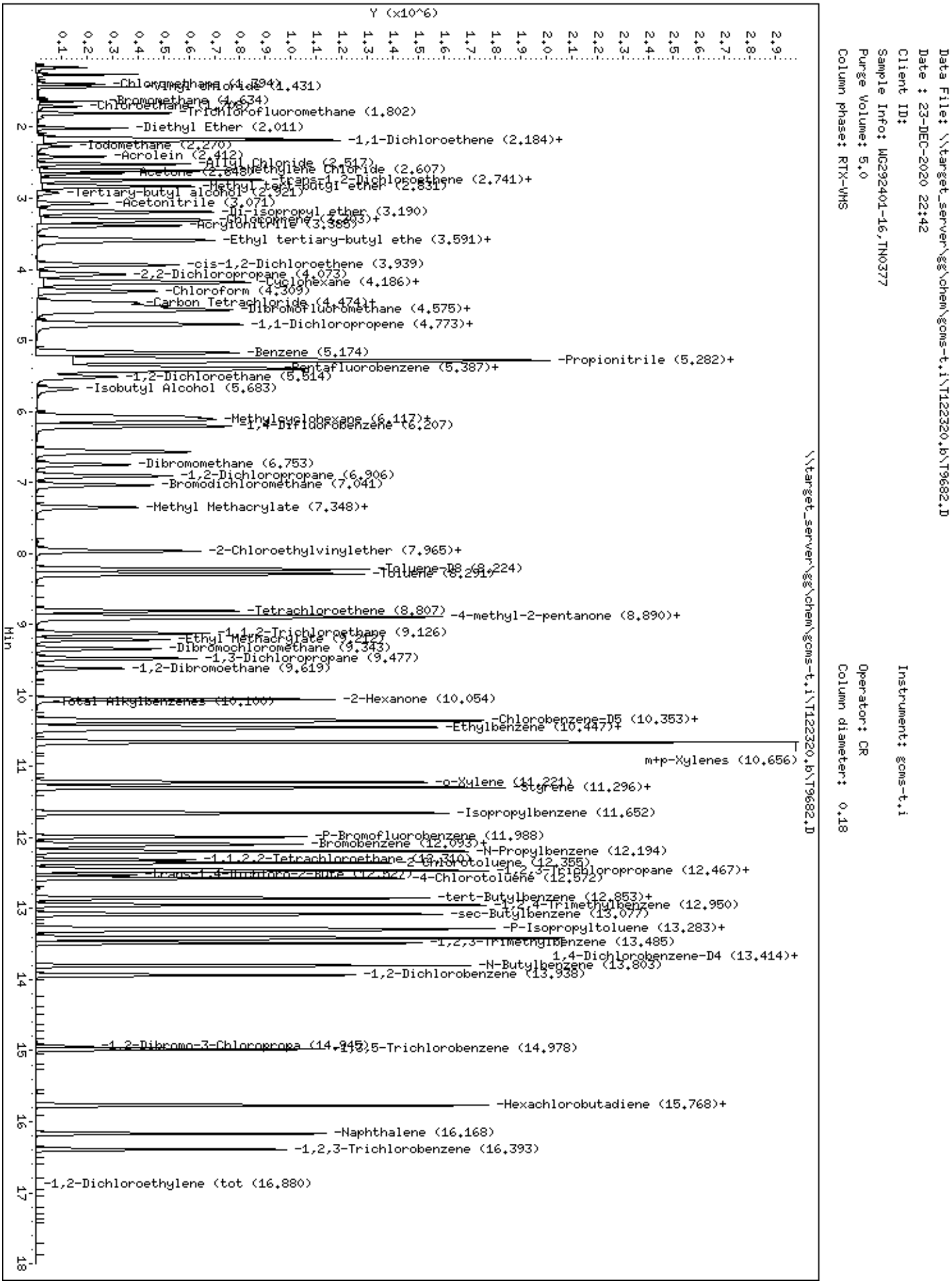
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.388	3.385	(0.629)	417416	250.000	263	
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.665)	739851	50.0000	51.4	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	562448	50.0000	51.7	
	27 cis-1,2-Dichloroethene	96	3.935	3.935	(0.730)	342811	50.0000	52.5	
	28 2,2-Dichloropropane	77	4.069	4.070	(0.755)	371155	50.0000	43.9	
	29 Cyclohexane	56	4.178	4.174	(0.776)	407396	50.0000	51.2	
	30 Bromochloromethane	128	4.193	4.192	(0.778)	144146	50.0000	51.7	
	31 Chloroform	83	4.309	4.304	(0.800)	564984	50.0000	51.2	
	32 Carbon Tetrachloride	117	4.473	4.474	(0.721)	410340	50.0000	51.2	
	33 Tetrahydrofuran	42	4.522	4.519	(0.840)	414766	250.000	278	
$	34 Dibromofluoromethane	113	4.571	4.571	(0.849)	311981	50.0000	50.7	
	35 1,1,1-Trichloroethane	97	4.578	4.582	(0.850)	492510	50.0000	50.9	
	36 1,1-Dichloropropene	75	4.769	4.769	(0.769)	418387	50.0000	50.6	
	37 2-Butanone	43	4.777	4.773	(0.887)	619892	250.000	262	
	38 Benzene	78	5.173	5.174	(0.834)	1231322	50.0000	51.0	
	39 Propionitrile	54	5.256	5.252	(0.976)	361965	500.000	542	
	40 Methacrylonitrile	41	5.285	5.282	(0.981)	1527308	500.000	529	
*	41 Pentafluorobenzene	168	5.387	5.383	(1.000)	562111	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.003)	339187	50.0000	50.1	
	43 Tertiary-amyl methyl ether	73	5.416	5.413	(1.006)	714698	50.0000	52.1	
	44 1,2-Dichloroethane	62	5.514	5.514	(0.889)	379233	50.0000	49.5	
	45 Isobutyl Alcohol	43	5.686	5.686	(1.056)	173520	1000.00	1180	
	46 Methylcyclohexane	83	6.071	6.075	(1.127)	437490	50.0000	50.8	
	47 Trichloroethene	95	6.120	6.117	(0.987)	297770	50.0000	51.3	
*	48 1,4-Difluorobenzene	114	6.202	6.210	(1.000)	951686	50.0000		
	49 Dibromomethane	93	6.752	6.749	(1.089)	203060	50.0000	49.5	
	50 1,2-Dichloropropane	63	6.906	6.910	(1.113)	294595	50.0000	51.6	
	51 Bromodichloromethane	83	7.037	7.033	(1.135)	425208	50.0000	51.9	
	52 Methyl Methacrylate	41	7.344	7.348	(1.184)	217822	50.0000	54.6	
	53 1,4-Dioxane	88	7.347	7.352	(1.185)	55902	1000.00	924	
	54 2-Chloroethylvinylether	63	7.939	7.939	(1.280)	55138	50.0000	32.9	
	55 cis-1,3-dichloropropene	75	7.965	7.965	(1.284)	493285	50.0000	50.3	
$	56 Toluene-D8	98	8.223	8.220	(1.326)	1112061	50.0000	50.5	
	57 Toluene	92	8.290	8.291	(1.337)	748343	50.0000	51.1	
	58 Tetrachloroethene	164	8.807	8.807	(0.851)	238397	50.0000	49.1	
	59 4-methyl-2-pentanone	43	8.889	8.886	(1.433)	1258382	250.000	274	
	60 trans-1,3-Dichloropropene	75	8.915	8.916	(1.437)	438222	50.0000	51.0	
	61 1,1,2-Trichloroethane	83	9.125	9.122	(1.471)	232935	50.0000	51.7	
	62 Ethyl Methacrylate	69	9.211	9.211	(1.485)	359557	50.0000	54.2	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	323565	50.0000	52.2	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	496614	50.0000	50.5	
	65 1,2-Dibromoethane	107	9.619	9.619	(1.551)	287232	50.0000	51.0	
M	66 Total Alkylbenzenes	100				7829383	50.0000	360	
	67 2-Hexanone	43	10.053	10.053	(0.972)	875938	250.000	274	
*	68 Chlorobenzene-D5	117	10.345	10.342	(1.000)	870893	50.0000		
	69 Chlorobenzene	112	10.364	10.364	(1.002)	785086	50.0000	50.2	
	70 Ethylbenzene	91	10.442	10.443	(1.009)	1371077	50.0000	51.8	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	283450	50.0000	52.3	
	72 m+p-Xylenes	91	10.656	10.652	(1.030)	2064362	100.000	104	
	73 o-Xylene	91	11.221	11.217	(1.085)	1073949	50.0000	51.9	
	74 Styrene	104	11.296	11.296	(1.092)	862901	50.0000	53.3	
	75 Bromoform	173	11.292	11.288	(1.092)	204367	50.0000	52.6	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	1295933	50.0000	51.3	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.933)	408292	50.0000	50.4	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9682.D
Report Date: 27-Jan-2021 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.093	12.093	(0.902)	316330	50.0000	49.8	
	79 cis-1,4-Dichloro-2-Butene	53	12.119	12.119	(0.904)	81436	50.0000	50.0	
	80 N-Propylbenzene	91	12.194	12.194	(0.910)	1537243	50.0000	51.2	
	81 1,1,2,2-Tetrachloroethane	83	12.310	12.310	(0.918)	352569	50.0000	50.2	
	82 2-Chlorotoluene	91	12.355	12.355	(0.922)	913369	50.0000	50.6	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	287119	50.0000	49.6	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	1019851	50.0000	51.4	
	85 trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	84460	50.0000	50.3	
	86 4-Chlorotoluene	91	12.572	12.572	(0.938)	959293	50.0000	50.8	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	856732	50.0000	51.0	
	88 Pentachloroethane	165	12.860	12.860	(0.959)	3245	50.0000	(a)	
	89 1,2,4-Trimethylbenzene	105	12.950	12.946	(0.966)	1055004	50.0000	51.7	
	90 sec-Butylbenzene	105	13.077	13.077	(0.975)	1286305	50.0000	50.6	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	1051172	50.0000	51.8	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	574682	50.0000	49.4	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	428326	50.0000		
	94 1,4-Dichlorobenzene	146	13.425	13.425	(1.001)	594208	50.0000	49.5	
	95 1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	949426	50.0000	50.6	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	1023076	50.0000	52.3	
	97 1,2-Dichlorobenzene	146	13.938	13.938	(1.040)	544286	50.0000	49.8	
	98 1,2-Dibromo-3-Chloropropane	157	14.944	14.937	(1.115)	70034	50.0000	49.6	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	364951	50.0000	49.4	
	100 Hexachlorobutadiene	225	15.767	15.768	(1.176)	143717	50.0000	48.4	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	357347	50.0000	50.6	
	102 Naphthalene	128	16.168	16.168	(1.206)	890305	50.0000	51.5	
M	103 1,2-Dichloroethylene (total)	96				646916	50.0000	102	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	313096	50.0000	50.2	
M	105 Xylenes (total)	91				3138311	150.000	156	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9682.D
Date : 23-DEC-2020 22:42
Client ID:
Sample Info: WG292401-16,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Chloromethane (4.394)
-Vinyl Chloride (4.431)
-Bromomethane (4.634)
-Chloroethane (4.778)
-Trichlorofluoromethane (1.802)
-Diethyl Ether (2.011)
-1,1-Dichloroethene (2.184)+
-Iodomethane (2.270)
-Acrolein (2.412)
-Allyl Chloride (2.517)
-Acetone (2.648)
-Methylene Chloride (2.607)
-trans-1,2-Dichloroethene (2.741)+
-Methyl tert-butyl ether (2.831)
-Tertiary-butyl alcohol (2.921)
-Acetonitrile (3.071)
-Di-isopropyl ether (3.190)
-Chloroprene (3.243)+
-Acrylonitrile (3.388)
-Ethyl tertiary-butyl ethe (3.591)+
-cis-1,2-Dichloroethene (3.939)
-2,2-Dichloropropane (4.073)
-Cyclohexane (4.186)+
-Chloroform (4.309)
-Carbon Tetrachloride (4.474)+
-Dibromofluoromethane (4.575)+
-1,1-Dichloropropene (4.773)+
-Benzene (5.174)
-Propionitrile (5.282)+
-Pentafluorobenzene (5.387)+
-1,2-Dichloroethane (5.514)
-Isobutyl Alcohol (5.683)
-Methylcyclohexane (6.117)+
-1,4-Difluorobenzene (6.207)
-Dibromomethane (6.753)
-1,2-Dichloropropane (6.906)
-Bromodichloromethane (7.041)
-Methyl Methacrylate (7.348)+
-2-Chloroethylvinylether (7.965)+
-Toluene-D8 (8.224)
-Toluene (8.291)
-Tetrachloroethene (8.807)
-4-methyl-2-pentanone (8.890)+
-1,1,2-Trichloroethane (9.126)
-Ethyl Methacrylate (9.212)
-Dibromochloromethane (9.343)
-1,3-Dichloropropane (9.477)
-1,2-Dibromoethane (9.619)
-Total Alkylbenzenes (10.100)
-2-Hexanone (10.054)
-Chlorobenzene-D5 (10.353)+
-Ethylbenzene (10.447)+
m+p-Xylenes (10.656)
-o-Xylene (11.221)
-Styrene (11.296)+
-Isopropylbenzene (11.652)
-P-Bromofluorobenzene (11.988)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.194)
-1,1,2,2-Tetrachloroethane (12.310)
-2-Chlorotoluene (12.355)
-1,2,3-Trichloropropane (12.467)+
-trans-1,4-Dichloro-2-Bute (12.527)
-4-Chlorotoluene (12.572)
-tert-Butylbenzene (12.853)+
-1,2,4-Trimethylbenzene (12.950)
-sec-Butylbenzene (13.077)
-P-Isopropyltoluene (13.283)+
-1,2,3-Trimethylbenzene (13.485)
1,4-Dichlorobenzene-D4 (13.414)+
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropa (14.945)
-1,2,5-Trichlorobenzene (14.978)
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.168)
-1,2,3-Trichlorobenzene (16.393)
-1,2-Dichloroethylene (tot (16.880)
\\target_server\gg\chem\gcms-t.i\T122320.b\T9682.D

Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\CB502a.D

Date : 28-DEC-2020 10:01

Client ID:

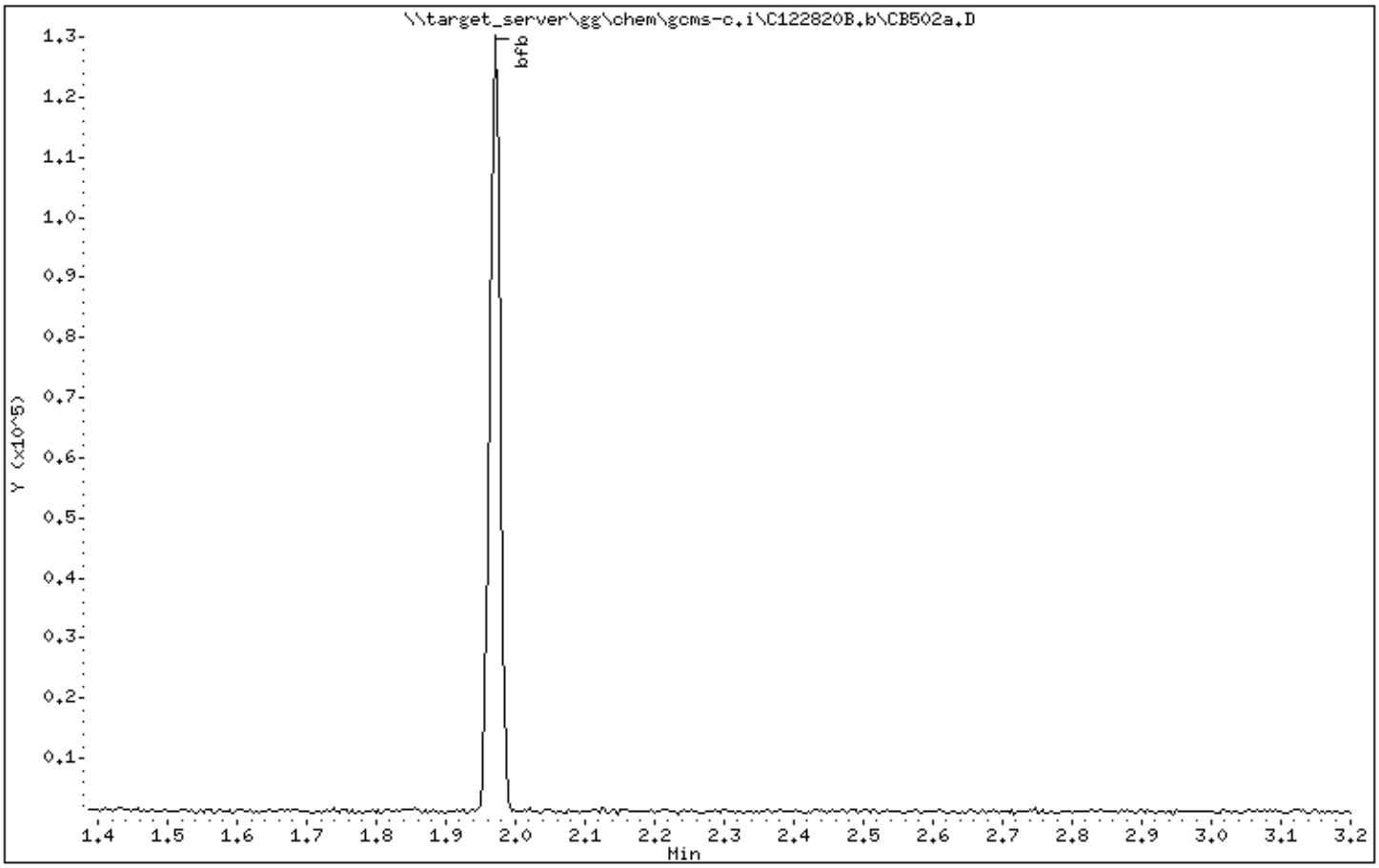
Instrument: gcms-c.i

Sample Info: WG292597-11,TN0377

Operator: CR

Column phase:

Column diameter: 2.00



Data File: \\target_server\gg\chem\gcms-c.i\C122820B.b\CB502a.D

Date : 28-DEC-2020 10:01

Client ID:

Instrument: gcms-c.i

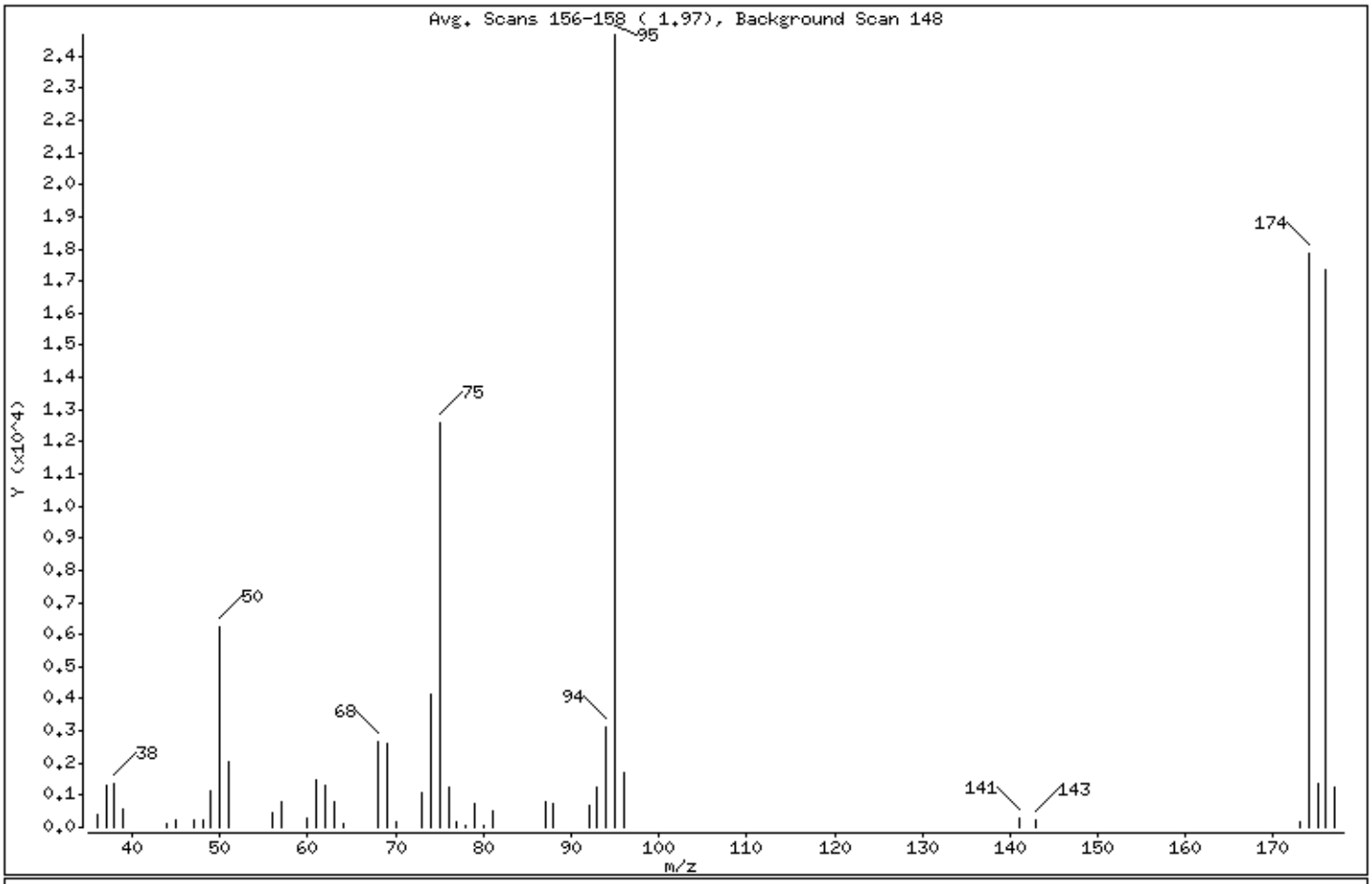
Sample Info: WG292597-11,TN0377

Operator: CR

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	25.39
75	30.00 - 60.00% of mass 95	51.03
96	5.00 - 9.00% of mass 95	6.90
173	Less than 2.00% of mass 174	0.77 (1.06)
174	Greater than 50.00% of mass 95	72.46
175	5.00 - 9.00% of mass 174	5.52 (7.62)
176	95.00 - 101.00% of mass 174	70.39 (97.14)
177	5.00 - 9.00% of mass 176	5.10 (7.25)

Date : 28-DEC-2020 10:01

Client ID: Instrument: gcms-c.i

Sample Info: WG292597-11,TN0377

Operator: CR

Column phase: Column diameter: 2.00

Data File: CB502a.D
Spectrum: Avg. Scans 156-158 (1.97), Background Scan 148
Location of Maximum: 95.00
Number of points: 44

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	389	57.00	778	76.00	1243	96.00	1702
37.00	1286	60.00	275	77.00	161	141.00	272
38.00	1347	61.00	1489	78.00	73	143.00	234
39.00	550	62.00	1321	79.00	749	173.00	189
44.00	124	63.00	802	80.00	84	174.00	17872
45.00	212	64.00	97	81.00	534	175.00	1362
47.00	249	68.00	2691	87.00	793	176.00	17360
48.00	228	69.00	2583	88.00	745	177.00	1258
49.00	1158	70.00	182	92.00	698		
50.00	6261	73.00	1098	93.00	1227		
51.00	2030	74.00	4165	94.00	3122		
56.00	434	75.00	12586	95.00	24664		

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\CB503a.D

Date : 29-DEC-2020 03:54

Client ID:

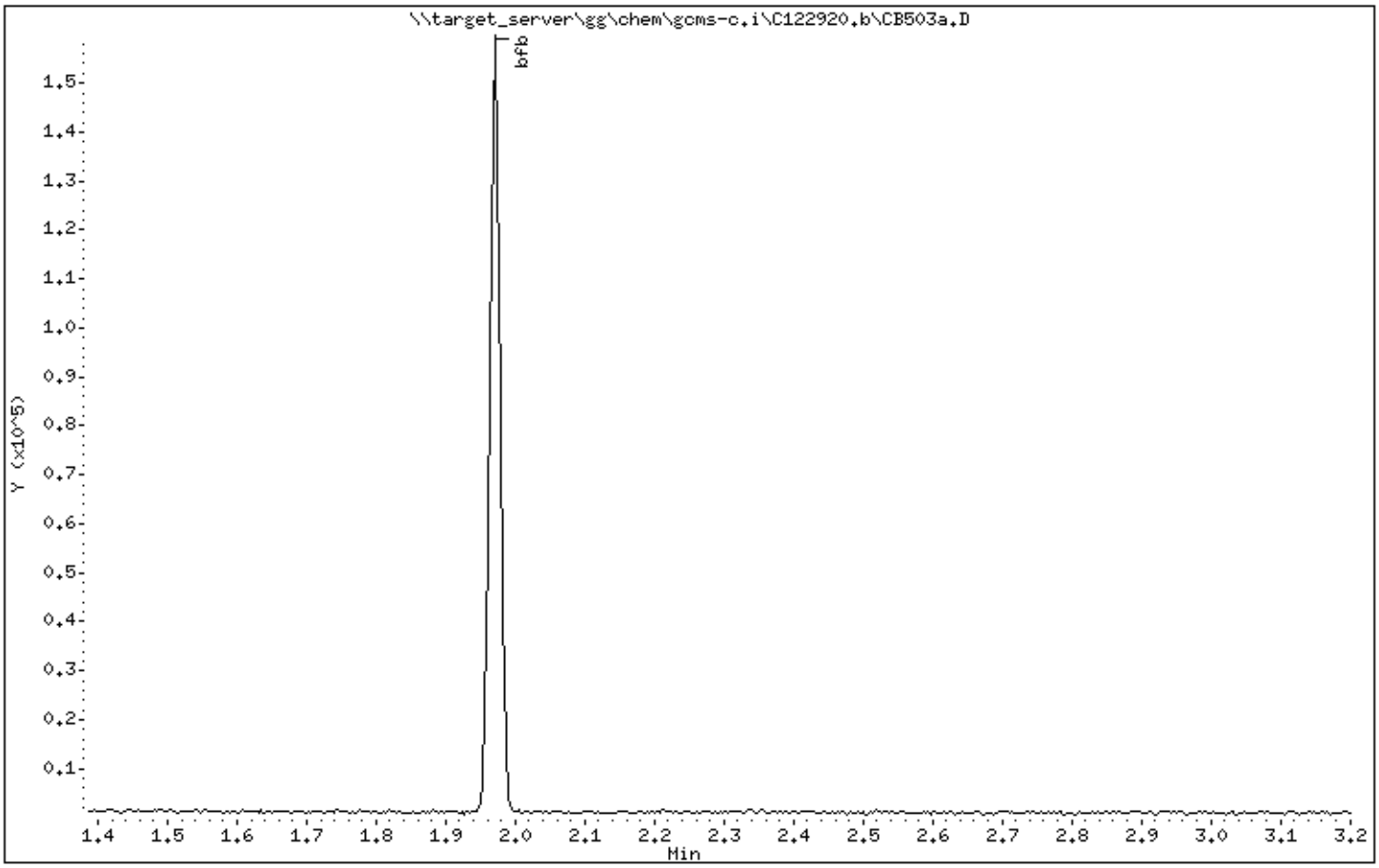
Instrument: gcms-c.i

Sample Info: WG292631-3,TN0377

Operator: CR

Column phase:

Column diameter: 2.00



Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\CB503a.D

Date : 29-DEC-2020 03:54

Client ID:

Instrument: gcms-c.i

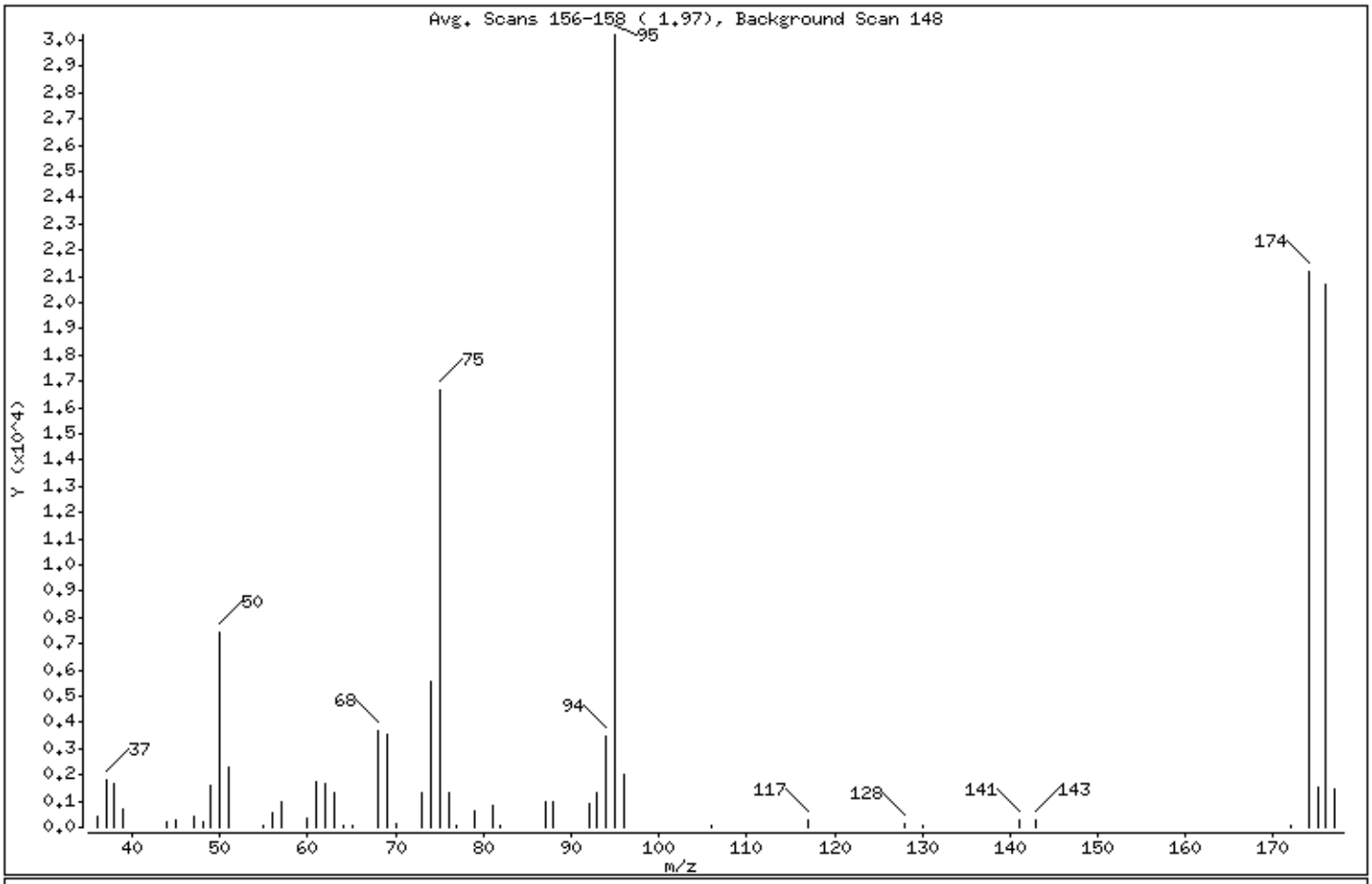
Sample Info: WG292631-3,TN0377

Operator: CR

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	24.51
75	30.00 - 60.00% of mass 95	55.27
96	5.00 - 9.00% of mass 95	6.67
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	70.15
175	5.00 - 9.00% of mass 174	5.12 (7.30)
176	95.00 - 101.00% of mass 174	68.46 (97.58)
177	5.00 - 9.00% of mass 176	4.83 (7.05)

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\CB503a.D

Date : 29-DEC-2020 03:54

Client ID:

Instrument: gcms-c.i

Sample Info: WG292631-3,TN0377

Operator: CR

Column phase:

Column diameter: 2.00

Data File: CB503a.D
Spectrum: Avg. Scans 156-158 (1.97), Background Scan 148
Location of Maximum: 95.00
Number of points: 49

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	418	57.00	1005	76.00	1343	117.00	285
37.00	1797	60.00	376	77.00	90	128.00	155
38.00	1639	61.00	1750	79.00	644	130.00	88
39.00	706	62.00	1661	81.00	838	141.00	255
44.00	227	63.00	1354	82.00	84	143.00	263
45.00	274	64.00	85	87.00	978	172.00	80
47.00	419	65.00	67	88.00	983	174.00	21192
48.00	211	68.00	3659	92.00	876	175.00	1548
49.00	1613	69.00	3519	93.00	1351	176.00	20680
50.00	7405	70.00	106	94.00	3473	177.00	1458
51.00	2285	73.00	1303	95.00	30208		
55.00	75	74.00	5546	96.00	2015		
56.00	573	75.00	16696	106.00	76		

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\CB504a.D

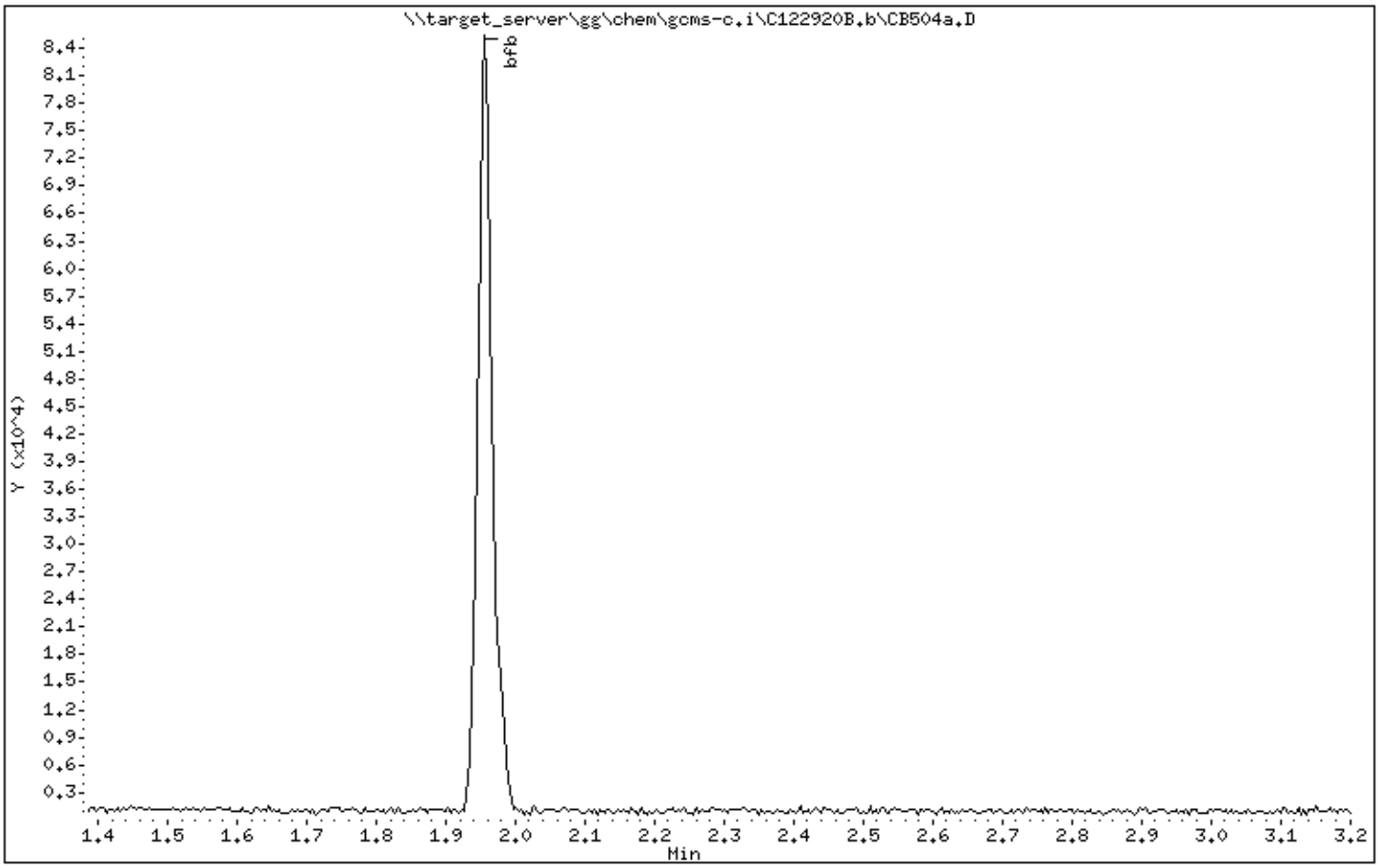
Date : 29-DEC-2020 15:58

Client ID: Instrument: gcms-c.i

Sample Info: WG292678-3,TN0377

Operator: HG

Column phase: Column diameter: 2.00



Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\CB504a.D

Date : 29-DEC-2020 15:58

Client ID:

Instrument: gcms-c.i

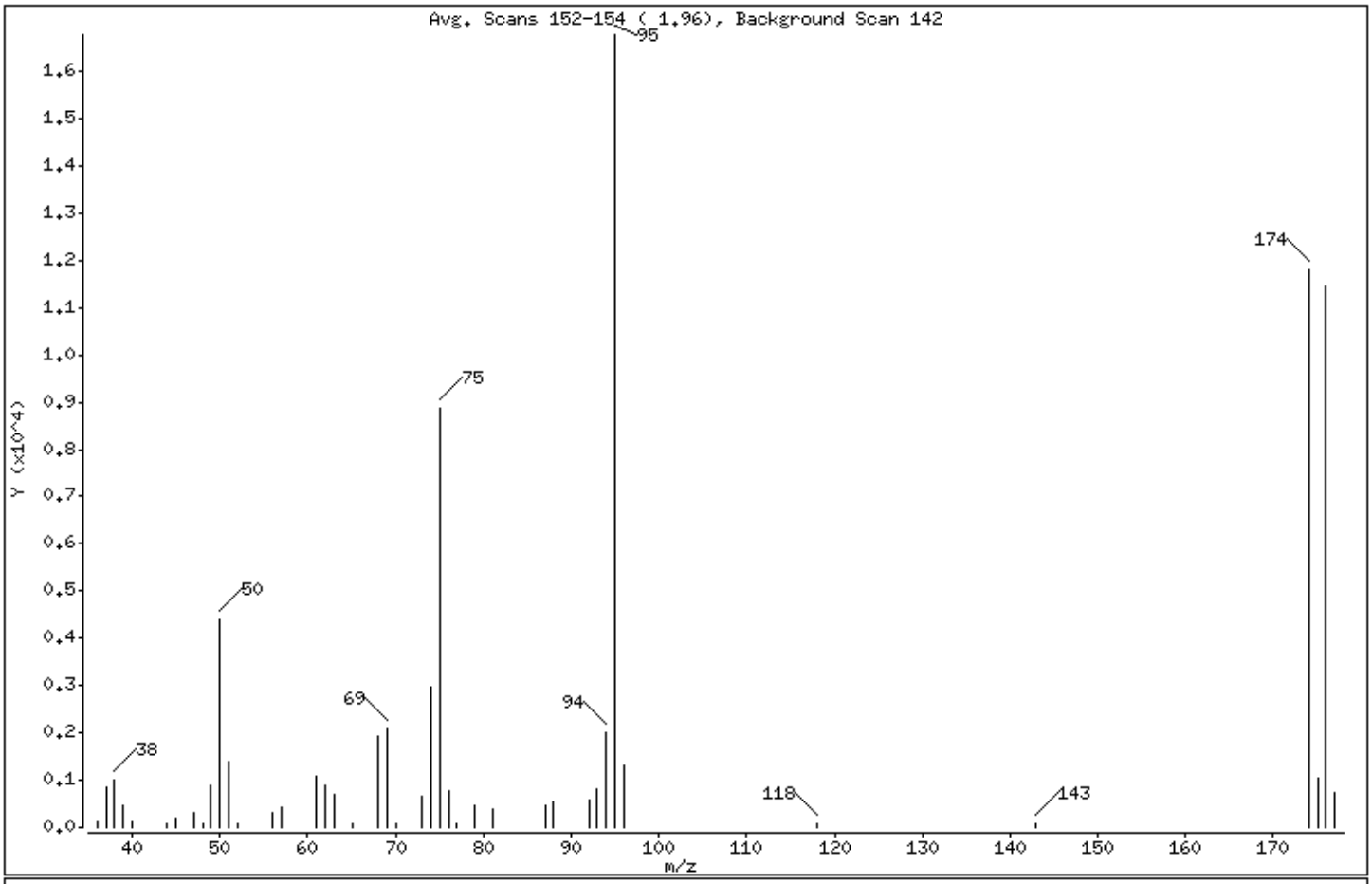
Sample Info: WG292678-3,TN0377

Operator: HG

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	26.10
75	30.00 - 60.00% of mass 95	52.77
96	5.00 - 9.00% of mass 95	7.90
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	70.28
175	5.00 - 9.00% of mass 174	6.20 (8.82)
176	95.00 - 101.00% of mass 174	68.30 (97.18)
177	5.00 - 9.00% of mass 176	4.27 (6.25)

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\CB504a.D

Date : 29-DEC-2020 15:58

Client ID:

Instrument: gcms-c.i

Sample Info: WG292678-3,TN0377

Operator: HG

Column phase:

Column diameter: 2.00

Data File: CB504a.D
Spectrum: Avg. Scans 152-154 (1.96), Background Scan 142
Location of Maximum: 95.00
Number of points: 42

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	107	51.00	1376	73.00	640	94.00	1987
37.00	865	52.00	89	74.00	2978	95.00	16776
38.00	1010	56.00	304	75.00	8853	96.00	1326
39.00	456	57.00	427	76.00	775	118.00	72
40.00	104	61.00	1085	77.00	69	143.00	90
44.00	94	62.00	899	79.00	468	174.00	11791
45.00	193	63.00	712	81.00	370	175.00	1040
47.00	311	65.00	74	87.00	452	176.00	11458
48.00	72	68.00	1928	88.00	547	177.00	716
49.00	874	69.00	2064	92.00	571		
50.00	4378	70.00	75	93.00	803		

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\TB380a.D

Date : 23-DEC-2020 09:02

Client ID:

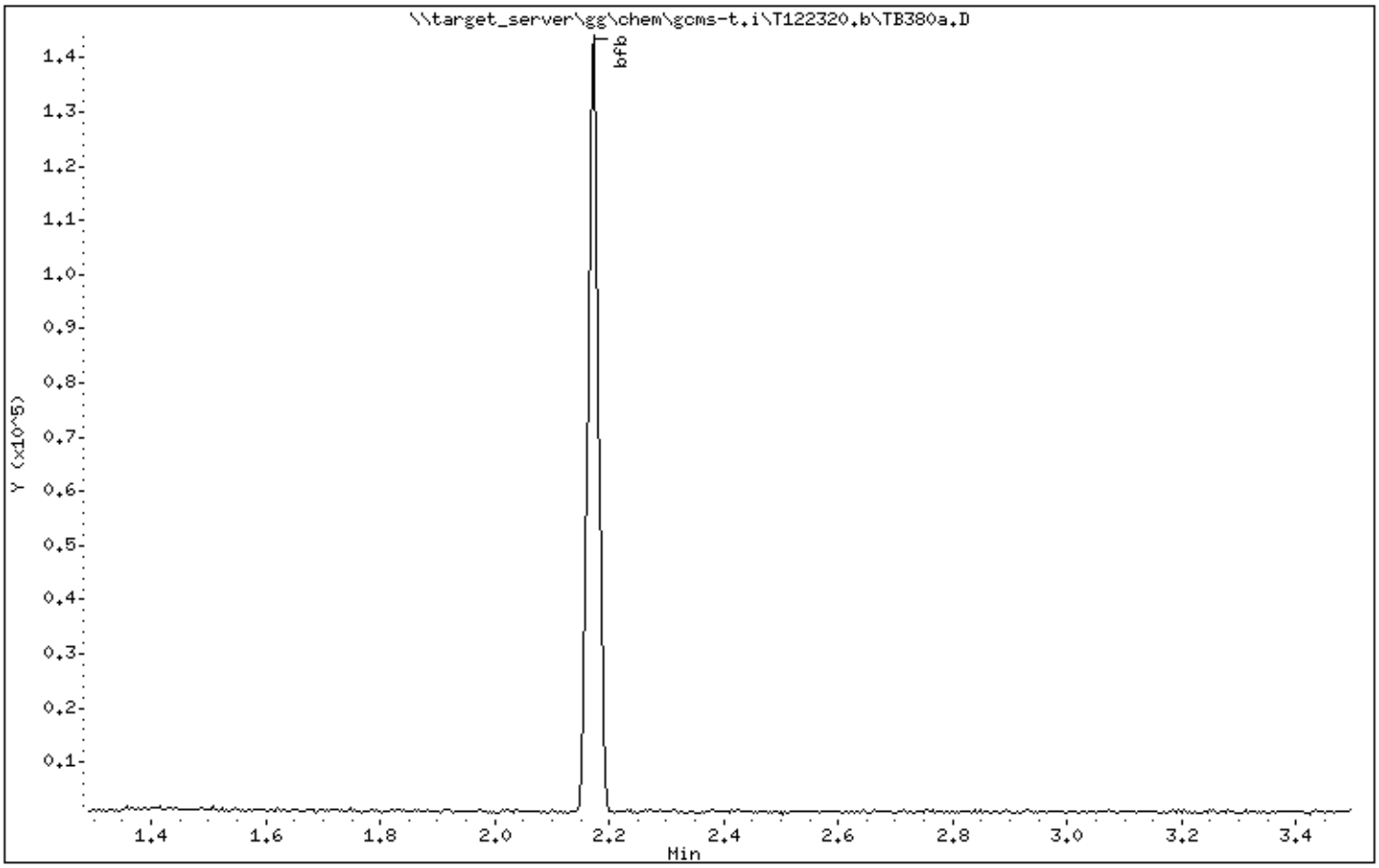
Instrument: gcms-t.i

Sample Info: WG292401-11,TN0377

Operator: CR

Column phase: RTX-VMS

Column diameter: 0.18



Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\TB380a.D

Date : 23-DEC-2020 09:02

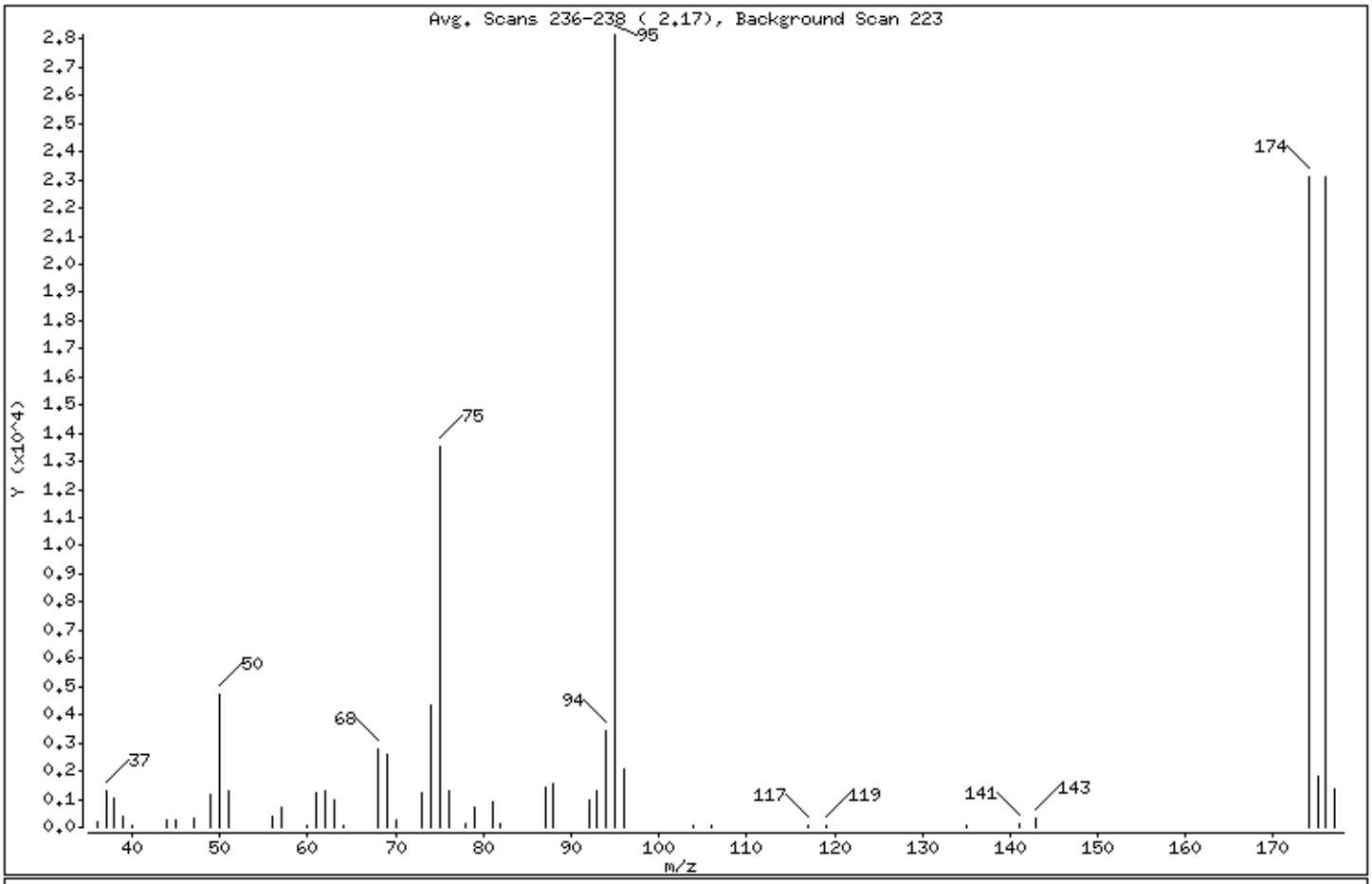
Client ID: Instrument: gcms-t.i

Sample Info: WG292401-11,TN0377

Operator: CR

Column phase: RTX-VMS Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.82
75	30.00 - 60.00% of mass 95	48.15
96	5.00 - 9.00% of mass 95	7.28
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	82.04
175	5.00 - 9.00% of mass 174	6.44 (7.85)
176	95.00 - 101.00% of mass 174	81.96 (99.90)
177	5.00 - 9.00% of mass 176	4.82 (5.89)

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\TB380a.D

Date : 23-DEC-2020 09:02

Client ID:

Instrument: gcms-t.i

Sample Info: WG292401-11,TN0377

Operator: CR

Column phase: RTX-VMS

Column diameter: 0.18

Data File: TB380a.D
Spectrum: Avg. Scans 236-238 (2.17), Background Scan 223
Location of Maximum: 95.00
Number of points: 47

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	208	57.00	680	76.00	1275	104.00	69
37.00	1270	60.00	93	78.00	98	106.00	70
38.00	1061	61.00	1229	79.00	744	117.00	83
39.00	379	62.00	1324	81.00	889	119.00	90
40.00	52	63.00	998	82.00	146	135.00	83
44.00	245	64.00	78	87.00	1419	141.00	137
45.00	290	68.00	2772	88.00	1574	143.00	315
47.00	352	69.00	2587	92.00	952	174.00	23096
49.00	1177	70.00	289	93.00	1289	175.00	1812
50.00	4735	73.00	1208	94.00	3454	176.00	23072
51.00	1283	74.00	4304	95.00	28152	177.00	1358
56.00	413	75.00	13556	96.00	2050		

Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG292631-2
Client ID: Method Blank Sample
Project:
SDG: TN0377
Lab File ID: C8363.D

Sample Date:
Received Date:
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Report of Analytical Results

Client:
Lab ID: WG292631-2
Client ID: Method Blank Sample
Project:
SDG: TN0377
Lab File ID: C8363.D

Sample Date:
Received Date:
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		91.8	%					
Toluene-d8		99.2	%					
1,2-Dichloroethane-d4		117.	%					
Dibromofluoromethane		112.	%					

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Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8363.D
Report Date: 27-Jan-2021 15:52

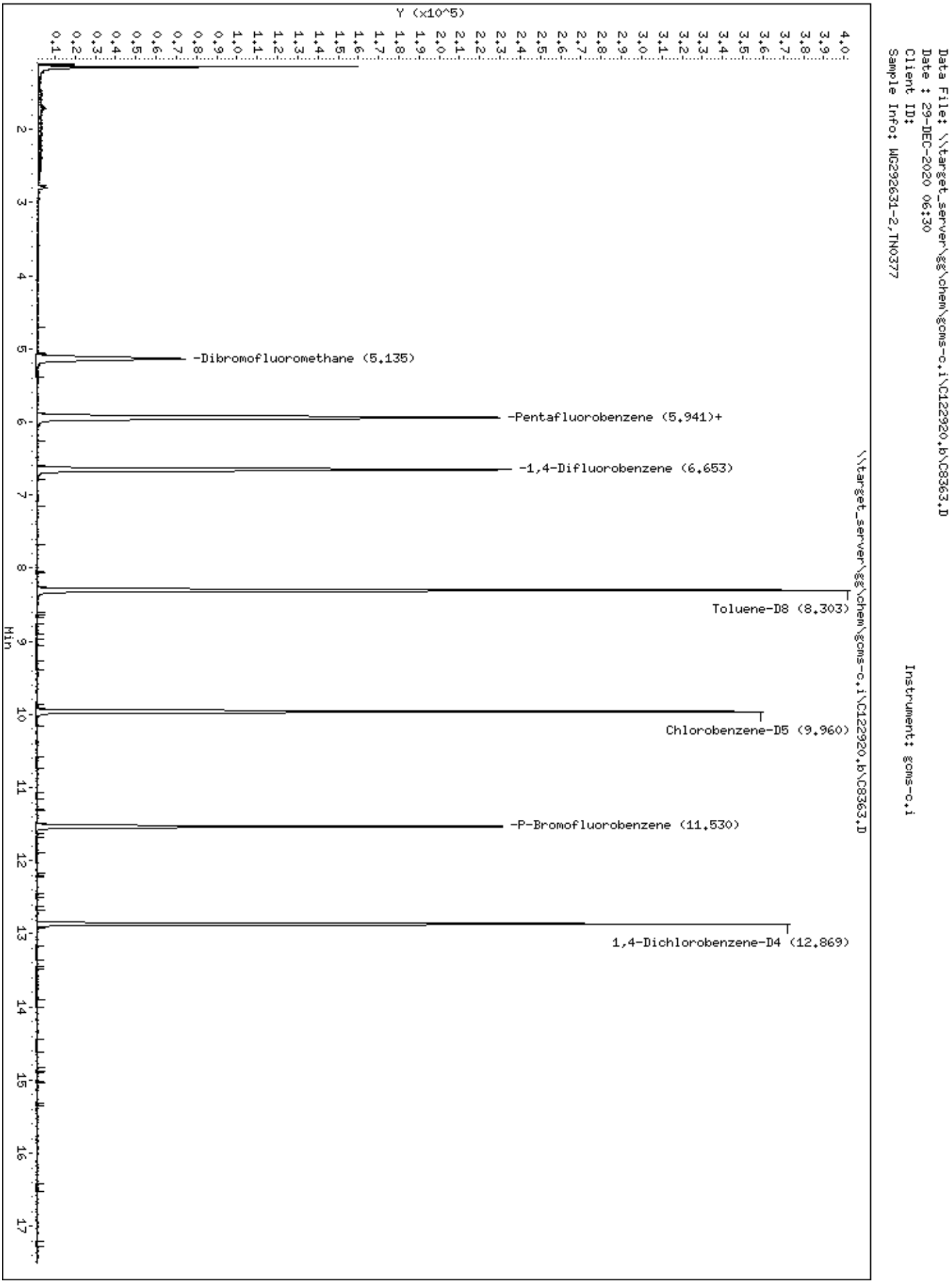
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920.b\C8363.D
Lab Smp Id: WG292631-2
Inj Date : 29-DEC-2020 06:30
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292631-2,TN0377
Misc Info : WG292631,WG292597-4,TN0377-13
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920.b\C8A05(37)DN.m
Meth Date : 29-Dec-2020 15:49 tcote Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 34 Dibromofluoromethane	113	5.135	5.135	(0.864)	70437	55.8618	55.9	
* 41 Pentafluorobenzene	168	5.944	5.945	(1.000)	117068	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.998)	99890	58.4229	58.4	
* 48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	205299	50.0000		
$ 58 Toluene-D8	98	8.302	8.303	(1.248)	239889	49.5971	49.6	
* 68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	178330	50.0000		
$ 78 P-Bromofluorobenzene	95	11.530	11.534	(1.733)	81551	45.9143	45.9	
* 94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	82013	50.0000		


Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8363.D
Date : 29-DEC-2020 06:30
Client ID:
Sample Info: WG292631-2,TN0377
Instrument: gcms-c.i
\\target_server\gg\chem\gcms-c.i\C122920.b\C8363.D
Y (x10^5)
Min
-Dibromofluoromethane (5.135)
-Pentafluorobenzene (5.941)+
-1,4-Difluorobenzene (6.653)
Toluene-D8 (8.303)
Chlorobenzene-D5 (9.960)
-P-Bromofluorobenzene (11.530)
1,4-Dichlorobenzene-D4 (12.869)

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Report of Analytical Results

Client:
Lab ID: WG292678-2
Client ID: Method Blank Sample
Project:
SDG: TN0377
Lab File ID: C8385.D

Sample Date:
Received Date:
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	U	0.50	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	U	2.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Report of Analytical Results

Client:
Lab ID: WG292678-2
Client ID: Method Blank Sample
Project:
SDG: TN0377
Lab File ID: C8385.D

Sample Date:
Received Date:
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		93.1	%					
Toluene-d8		99.0	%					
1,2-Dichloroethane-d4		110.	%					
Dibromofluoromethane		105.	%					

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Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8385.D
Report Date: 27-Jan-2021 15:59

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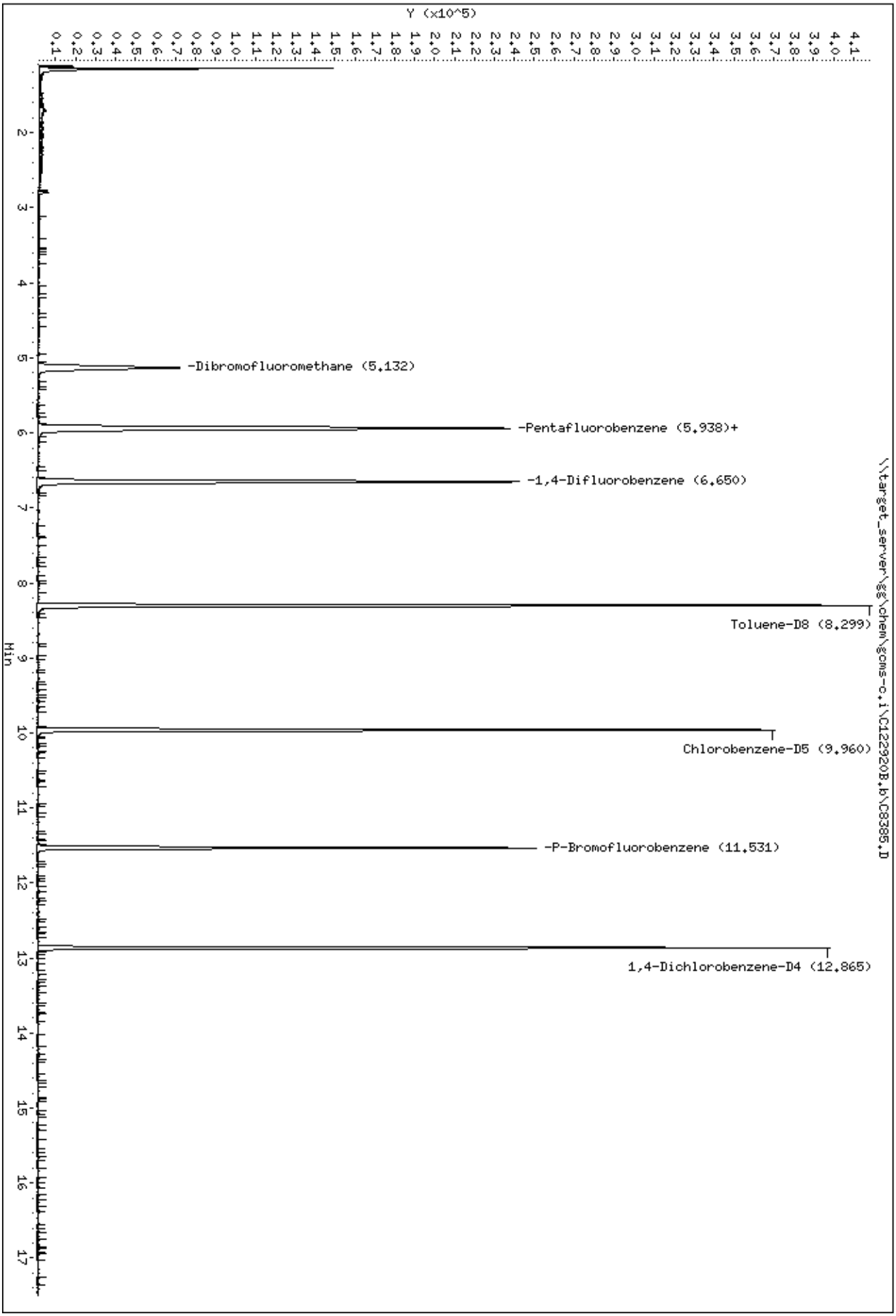
Data file : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8385.D
Lab Smp Id: WG292678-2 Client Smp ID: WG292678-Blank
Inj Date : 29-DEC-2020 18:46
Operator : HG Inst ID: gcms-c.i
Smp Info : WG292678-2,TN0377
Misc Info : WG292678,WG292597-4,TN0377-10
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 07:21 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
$ 34 Dibromofluoromethane	113	5.131	5.135	(0.864)	69761	52.6079	52.6	
* 41 Pentafluorobenzene	168	5.937	5.945	(1.000)	123116	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.930	5.934	(0.999)	99313	55.2320	55.2	
* 48 1,4-Difluorobenzene	114	6.649	6.654	(1.000)	207600	50.0000		
$ 58 Toluene-D8	98	8.303	8.303	(1.249)	241988	49.4765	49.5	
* 68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	178362	50.0000		
$ 78 P-Bromofluorobenzene	95	11.530	11.534	(1.734)	83596	46.5440	46.5	
* 94 1,4-Dichlorobenzene-D4	152	12.865	12.869	(1.000)	83730	50.0000		


Data File: \\target_server\gg\chem\gcms-c,i\C122920B,b\C8385,D
Date : 29-DEC-2020 18:46
Client ID: WG292678-Blank
Sample Info: WG292678-2,TN0377
Instrument: gcms-c,i
\\target_server\gg\chem\gcms-c,i\C122920B,b\C8385,D
Y (x10^5)
Min
-Dibromofluoromethane (5,132)
-Pentafluorobenzene (5,938)+
-1,4-Difluorobenzene (6,650)
Toluene-D8 (8,299)
Chlorobenzene-D5 (9,960)
-P-Bromofluorobenzene (11,531)
1,4-Dichlorobenzene-D4 (12,865)

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Report of Analytical Results

Client:
Lab ID: WG292401-10
Client ID: Method Blank Sample
Project:
SDG: TN0377
Lab File ID: T9670.D

Sample Date:
Received Date:
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Chloromethane	U	1.0	ug/L	1	2	2.0	0.36	1.0
Vinyl Chloride	U	1.0	ug/L	1	2	2.0	0.25	1.0
Bromomethane	U	1.0	ug/L	1	2	2.0	0.49	1.0
Chloroethane	U	1.0	ug/L	1	2	2.0	0.55	1.0
1,1-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.35	0.50
Carbon Disulfide	J	0.38	ug/L	1	1	1.0	0.25	0.50
Methylene Chloride	J	1.5	ug/L	1	5	5.0	1.1	2.5
Acetone	U	2.5	ug/L	1	5	5.0	2.2	2.5
trans-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.25	0.50
1,1-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.21	0.50
cis-1,2-Dichloroethene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Chloroform	U	0.50	ug/L	1	1	1.0	0.32	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	1	1.0	0.22	0.50
1,1,1-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
2-Butanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Benzene	U	0.50	ug/L	1	1	1.0	0.26	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	1	1.0	0.20	0.50
Trichloroethene	U	0.50	ug/L	1	1	1.0	0.28	0.50
1,2-Dichloropropane	U	0.50	ug/L	1	1	1.0	0.25	0.50
Bromodichloromethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
cis-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.19	0.50
Toluene	U	0.50	ug/L	1	1	1.0	0.27	0.50
4-Methyl-2-Pentanone	U	2.5	ug/L	1	5	5.0	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	1	1.0	0.40	0.50
trans-1,3-Dichloropropene	U	0.50	ug/L	1	1	1.0	0.20	0.50
1,1,2-Trichloroethane	U	0.50	ug/L	1	1	1.0	0.33	0.50
Dibromochloromethane	U	0.50	ug/L	1	1	1.0	0.30	0.50
2-Hexanone	U	2.5	ug/L	1	5	5.0	1.7	2.5
Chlorobenzene	U	0.50	ug/L	1	1	1.0	0.22	0.50
Ethylbenzene	U	0.50	ug/L	1	1	1.0	0.21	0.50
Xylenes (Total)	U	1.5	ug/L	1	3	3.0	0.25	1.5
m+p-Xylenes	U	1.0	ug/L	1	2	2.0	0.59	1.0
o-Xylene	U	0.50	ug/L	1	1	1.0	0.25	0.50
Styrene	U	0.50	ug/L	1	1	1.0	0.23	0.50

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Report of Analytical Results

Client:
Lab ID: WG292401-10
Client ID: Method Blank Sample
Project:
SDG: TN0377
Lab File ID: T9670.D

Sample Date:
Received Date:
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Bromoform	U	0.50	ug/L	1	1	1.0	0.23	0.50
1,1,2,2-Tetrachloroethane	U	0.50	ug/L	1	1	1.0	0.38	0.50
P-Bromofluorobenzene		99.4	%					
Toluene-d8		100.	%					
1,2-Dichloroethane-d4		102.	%					
Dibromofluoromethane		100.	%					

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Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9670.D
Report Date: 27-Jan-2021 16:11

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9670.D
Lab Smp Id: WG292401-10 Client Smp ID: WG292401-Blank
Inj Date : 23-DEC-2020 16:24
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-10,TN0377
Misc Info : WG292401,WG292401-4,TN0377-7
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 11 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

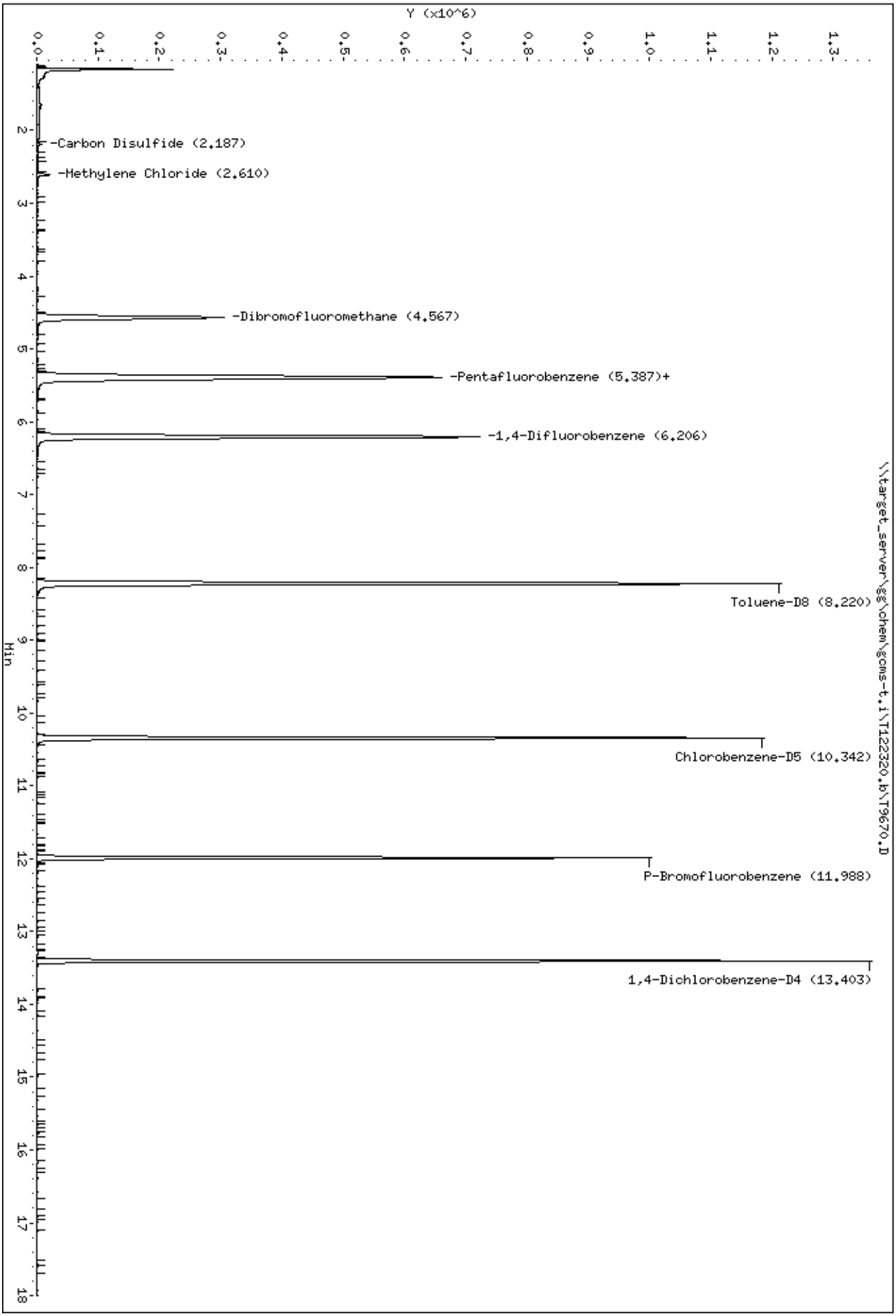
Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
10 Carbon Disulfide	76	2.187	2.187	(0.406)	5604	0.38013	0.38(a)	
14 Methylene Chloride	84	2.610	2.606	(0.485)	9482	1.54851	1.5(a)	
$ 34 Dibromofluoromethane	113	4.567	4.571	(0.848)	293124	50.0956	50.1	
* 41 Pentafluorobenzene	168	5.386	5.383	(1.000)	534648	50.0000		
$ 42 1,2-Dichloroethane-D4	65	5.409	5.406	(1.004)	330241	51.2666	51.3	
* 48 1,4-Difluorobenzene	114	6.206	6.210	(1.000)	892564	50.0000		
$ 56 Toluene-D8	98	8.219	8.220	(1.324)	1035576	50.1746	50.2	
* 68 Chlorobenzene-D5	117	10.341	10.342	(1.000)	807614	50.0000		
$ 77 P-Bromofluorobenzene	95	11.988	11.988	(1.932)	377279	49.6921	49.7	
* 93 1,4-Dichlorobenzene-D4	152	13.402	13.407	(1.000)	388643	50.0000		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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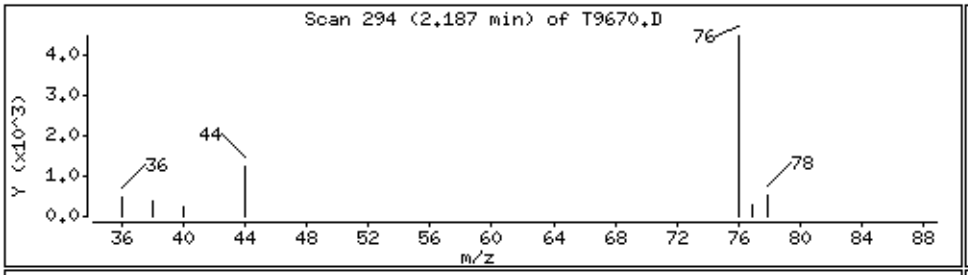
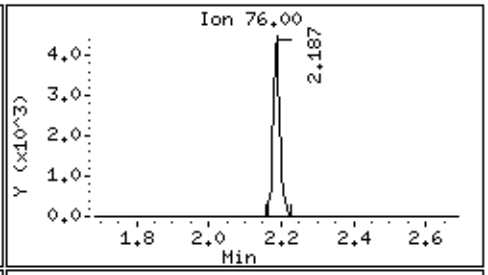
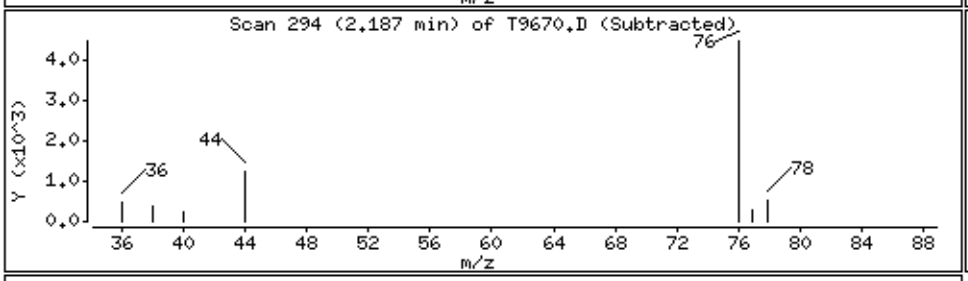
Date : 23-DEC-2020 16:24
Client ID: WG292401-Blank
Sample Info: WG292401-10,TN0377
Instrument: gcms-t.i
\\target_server\gg\chem\gcms-t.i\T122320.b\T9670.D
Y (x10^6)
Min
-Carbon Disulfide (2.187)
-Methylene Chloride (2.610)
-Dibromofluoromethane (4.567)
-Pentafluorobenzene (5.387)+
-1,4-Difluorobenzene (6.206)
Toluene-D8 (8.220)
Chlorobenzene-D5 (10.342)
P-Bromofluorobenzene (11.988)
1,4-Dichlorobenzene-D4 (13.403)

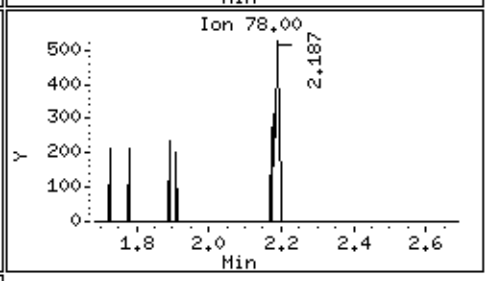
Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9670.D
Date : 23-DEC-2020 16:24
Client ID: WG292401-Blank
Instrument: gcms-t.i
Sample Info: WG292401-10,TN0377

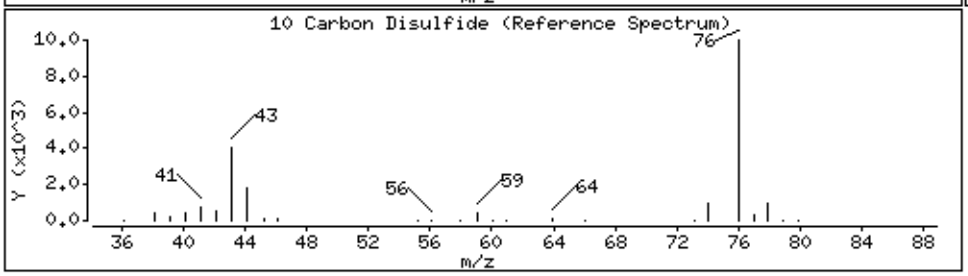
10 Carbon Disulfide
Concentration: 0.38 ug/l



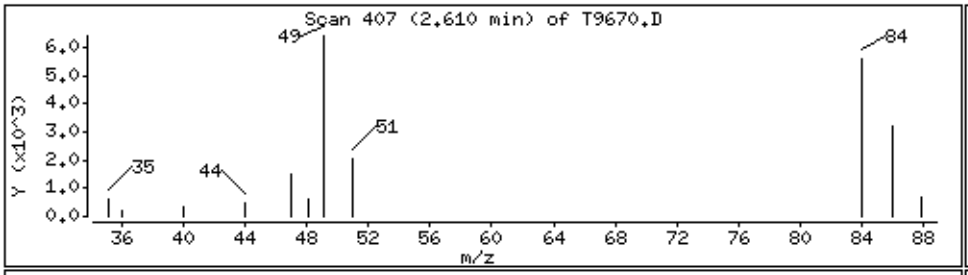


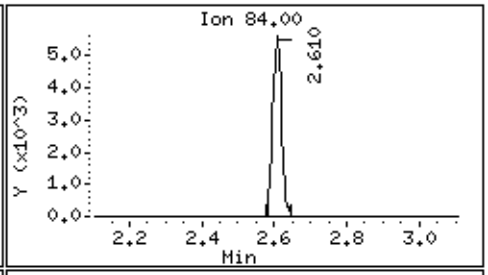


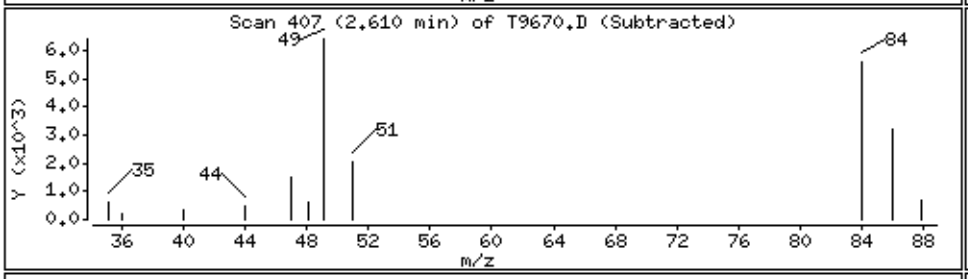


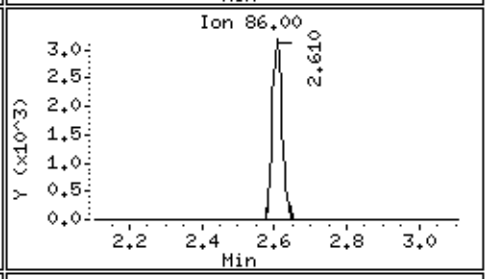


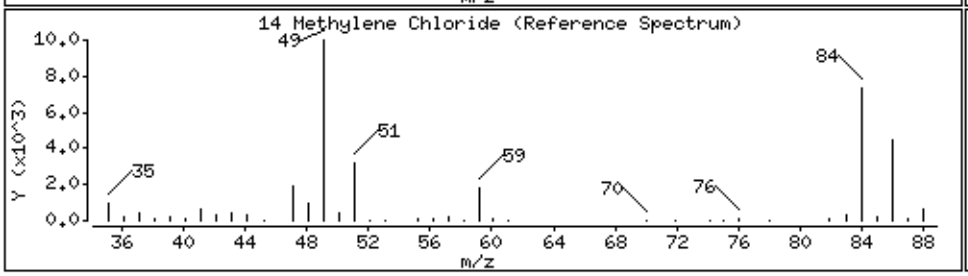
14 Methylene Chloride
Concentration: 1.5 ug/l

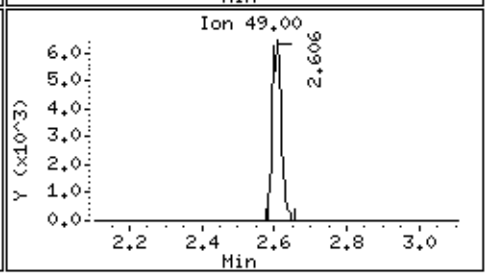












Katahdin
ANALYTICAL SERVICES

LCS/LCSD Recovery Report

LCS ID: WG292631-1
LCSD ID: WG292631-6
Project:
SDG: TN0377
Report Date: 27-JAN-21
LCS File ID: C8360.D

Received Date:
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631
LCSD File ID: C8361.D

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Chloromethane	50.0	42.3	84.6	45.1	90.2	ug/L	6	20	50-139
Vinyl Chloride	50.0	46.2	92.4	47.6	95.2	ug/L	3	20	58-137
Bromomethane	50.0	48.2	96.4	48.2	96.4	ug/L	0	20	53-141
Chloroethane	50.0	51.2	102.	53.6	107.	ug/L	4	20	60-138
1,1-Dichloroethene	50.0	47.8	95.6	48.2	96.4	ug/L	1	20	71-131
Carbon Disulfide	50.0	43.8	87.6	44.2	88.4	ug/L	1	20	64-133
Methylene Chloride	50.0	48.1	96.2	49.0	98.0	ug/L	2	20	74-124
Acetone	50.0	47.7	95.4	44.3	88.6	ug/L	7	20	39-160
trans-1,2-Dichloroethene	50.0	46.5	93.0	48.2	96.4	ug/L	4	20	75-124
1,1-Dichloroethane	50.0	48.0	96.0	49.5	99.0	ug/L	3	20	77-125
cis-1,2-Dichloroethene	50.0	48.1	96.2	49.4	98.8	ug/L	3	20	78-123
Chloroform	50.0	46.8	93.6	48.2	96.4	ug/L	3	20	79-124
Carbon Tetrachloride	50.0	48.6	97.2	48.9	97.8	ug/L	1	20	72-136
1,1,1-Trichloroethane	50.0	48.2	96.4	48.9	97.8	ug/L	1	20	74-131
2-Butanone	50.0	48.1	96.2	46.1	92.2	ug/L	4	20	56-143
Benzene	50.0	50.0	100.	52.0	104.	ug/L	4	20	79-120
1,2-Dichloroethane	50.0	48.5	97.0	48.8	97.6	ug/L	1	20	73-128
Trichloroethene	50.0	48.7	97.4	51.0	102.	ug/L	5	20	79-123
1,2-Dichloropropane	50.0	49.1	98.2	50.6	101.	ug/L	3	20	78-122
Bromodichloromethane	50.0	50.6	101.	51.6	103.	ug/L	2	20	79-125
cis-1,3-Dichloropropene	50.0	45.7	91.4	47.2	94.4	ug/L	3	20	75-124
Toluene	50.0	49.3	98.6	51.3	103.	ug/L	4	20	80-121
4-Methyl-2-Pentanone	50.0	50.2	100.	48.8	97.6	ug/L	3	20	67-130
Tetrachloroethene	50.0	47.5	95.0	48.8	97.6	ug/L	3	20	74-129
trans-1,3-Dichloropropene	50.0	52.8	106.	53.2	106.	ug/L	1	20	73-127
1,1,2-Trichloroethane	50.0	50.9	102.	50.9	102.	ug/L	0	20	80-119
Dibromochloromethane	50.0	50.7	101.	51.6	103.	ug/L	2	20	74-126
2-Hexanone	50.0	45.0	90.0	42.3	84.6	ug/L	6	20	57-139
Chlorobenzene	50.0	49.2	98.4	50.2	100.	ug/L	2	20	82-118
Ethylbenzene	50.0	51.1	102.	52.9	106.	ug/L	3	20	79-121
Xylenes (Total)	150.	153.	102.	158.	105.	ug/L	3	20	79-121
m+p-Xylenes	100.	105.	105.	109.	109.	ug/L	4	20	80-121
o-Xylene	50.0	47.8	95.6	49.0	98.0	ug/L	2	20	78-122
Styrene	50.0	48.8	97.6	50.5	101.	ug/L	3	20	78-123

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http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS/LCSD Recovery Report

LCS ID: WG292631-1
LCSD ID: WG292631-6
Project:
SDG: TN0377
Report Date: 27-JAN-21
LCS File ID: C8360.D

Received Date:
Extract Date: 29-DEC-20
Extracted By: CR
Extraction Method: SW846 5030C
Lab Prep Batch: WG292631
LCSD File ID: C8361.D

Analysis Date: 29-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Bromoform	50.0	51.6	103.	50.5	101.	ug/L	2	20	66-130
1,1,2,2-Tetrachloroethane	50.0	52.0	104.	50.6	101.	ug/L	3	20	71-121
P-Bromofluorobenzene			97.7		99.2				85-114
Toluene-d8			98.1		97.4				89-112
1,2-Dichloroethane-d4			98.6		102.				81-118
Dibromofluoromethane			98.6		101.				80-119

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Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8360.D
Report Date: 27-Jan-2021 15:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920.b\C8360.D
Lab Smp Id: WG292631-1
Inj Date : 29-DEC-2020 04:54
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292631-1,TN0377
Misc Info : WG292631,WG292597-4,TN0377-13
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920.b\C8A05(37)DN.m
Meth Date : 29-Dec-2020 15:49 tcote Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.211)	101494	35.8246	35.8	
2 Chloromethane	50	1.405	1.402	(0.237)	160754	42.3141	42.3	
3 Vinyl chloride	62	1.446	1.447	(0.243)	116999	46.1788	46.2	
4 Bromomethane	94	1.675	1.679	(0.282)	62652	48.2160	48.2	
5 Chloroethane	64	1.765	1.765	(0.297)	62058	51.2222	51.2	
6 Trichlorofluoromethane	101	1.873	1.874	(0.315)	137203	52.3116	52.3	
7 Diethyl Ether	59	2.121	2.125	(0.357)	87409	52.9463	52.9	
8 1,1-Dichloroethene	96	2.275	2.275	(0.383)	76552	47.8215	47.8	
9 Freon-113	151	2.312	2.316	(0.389)	50103	53.3221	53.3	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	177297	43.7706	43.8	
11 Iodomethane	142	2.391	2.395	(0.402)	66639	47.2643	47.3	
12 Acrolein	56	2.571	2.575	(0.433)	140609	263.920	264	
13 Allyl Chloride	41	2.694	2.699	(0.454)	210892	52.0790	52.1	
14 Methylene Chloride	84	2.796	2.796	(0.471)	108160	48.0934	48.1	
15 Acetone	43	2.856	2.856	(0.481)	53535	47.7446	47.7	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.498)	100937	46.4658	46.5	
17 Methyl Acetate	43	2.987	2.991	(0.503)	135586	50.1620	50.2	
18 Methyl tert-butyl ether	73	3.092	3.092	(0.520)	268100	49.7768	49.8	
19 Tertiary-butyl alcohol	59	3.223	3.227	(0.543)	54364	233.781	234	
20 Acetonitrile	41	3.332	3.336	(0.561)	228186	530.683	531	
21 Di-isopropyl ether	45	3.538	3.538	(0.596)	396916	52.0853	52.1	
22 Chloroprene	53	3.613	3.617	(0.608)	220582	53.0412	53.0	
23 1,1-Dichloroethane	63	3.639	3.640	(0.613)	216990	47.9928	48.0	

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8360.D
Report Date: 27-Jan-2021 15:52

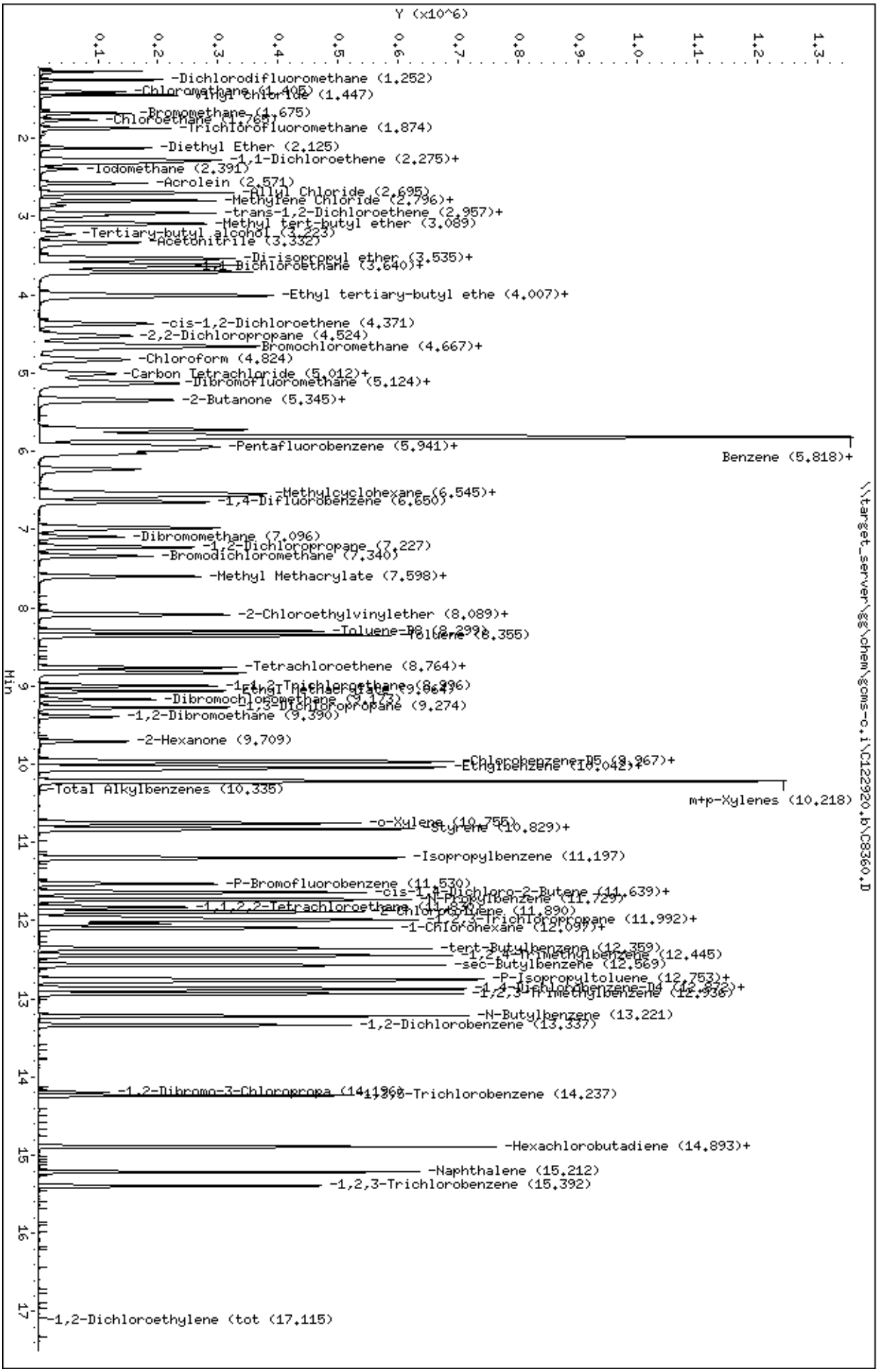
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.707	3.711	(0.624)	274711	266.470	266	
	25 Ethyl tertiary-butyl ether	59	4.010	4.006	(0.675)	295787	49.2662	49.3	
	26 Vinyl Acetate	43	4.006	4.014	(0.603)	319882	53.3572	53.4	
	27 cis-1,2-Dichloroethene	96	4.366	4.378	(0.735)	103992	48.1026	48.1	
	28 2,2-Dichloropropane	77	4.524	4.528	(0.762)	133352	43.2734	43.3	
	29 Bromochloromethane	128	4.666	4.674	(0.785)	48484	52.6683	52.7	
	30 Cyclohexane	56	4.655	4.659	(0.784)	216468	48.9052	48.9	
	31 Chloroform	83	4.824	4.832	(0.812)	188632	46.8192	46.8	
	32 Carbon Tetrachloride	117	5.011	5.012	(0.754)	142852	48.6375	48.6	
	33 Tetrahydrofuran	42	5.071	5.072	(0.854)	44455	46.1646	46.2	
$	34 Dibromofluoromethane	113	5.124	5.135	(0.862)	78260	49.2811	49.3	
	35 1,1,1-Trichloroethane	97	5.135	5.132	(0.864)	169181	48.1885	48.2	
	36 2-Butanone	43	5.363	5.364	(0.903)	70586	48.0888	48.1	
	37 1,1-Dichloropropene	75	5.341	5.349	(0.803)	144168	50.8717	50.9	
	38 Benzene	78	5.723	5.724	(0.861)	383857	50.0540	50.0	
	39 Propionitrile	54	5.783	5.788	(0.973)	242701	536.467	536	
	40 Methacrylonitrile	41	5.817	5.821	(0.979)	984745	544.942	545	
*	41 Pentafluorobenzene	168	5.941	5.945	(1.000)	147439	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.930	5.934	(0.998)	106172	49.3057	49.3	
	43 Tertiary-amyl methyl ether	73	5.978	5.983	(1.006)	181105	45.2673	45.3	
	44 1,2-Dichloroethane	62	6.031	6.035	(0.907)	177676	48.4879	48.5	
	45 Isobutyl Alcohol	43	5.982	5.986	(1.007)	78651	842.750	843	
	46 Methylcyclohexane	83	6.541	6.541	(1.101)	165446	47.1280	47.1	
	47 Trichloroethene	95	6.571	6.575	(0.988)	99966	48.6683	48.7	
*	48 1,4-Difluorobenzene	114	6.649	6.654	(1.000)	249699	50.0000		
	49 Dibromomethane	93	7.095	7.096	(1.067)	60452	46.0551	46.0	
	50 1,2-Dichloropropane	63	7.227	7.231	(1.087)	105867	49.1414	49.1	
	51 Bromodichloromethane	83	7.343	7.343	(1.104)	136522	50.6045	50.6	
	52 Methyl Methacrylate	41	7.598	7.602	(1.143)	133546	48.4250	48.4	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.364)	132355	45.4437	45.4	
	54 1,4-Dioxane	88	7.598	7.602	(1.143)	30095	954.807	955	
M	55 Total Alkylbenzenes	100				2774291	338.427	338	
	56 2-Chloroethylvinylether	63	8.070	8.077	(1.214)	54107	43.1464	43.1	
	57 cis-1,3-dichloropropene	75	8.092	8.097	(1.217)	150883	45.7054	45.7	
$	58 Toluene-D8	98	8.299	8.303	(1.248)	288437	49.0305	49.0	
	59 Toluene	91	8.355	8.359	(1.256)	401751	49.3402	49.3	
	60 Tetrachloroethene	164	8.767	8.768	(0.880)	73002	47.4806	47.5	
	61 4-methyl-2-pentanone	43	8.812	8.813	(1.325)	137883	50.2337	50.2	
	62 trans-1,3-Dichloropropene	75	8.835	8.839	(1.329)	145416	52.7954	52.8	
	63 1,1,2-Trichloroethane	97	8.996	9.004	(1.353)	87383	50.8761	50.9	
	64 Dibromochloromethane	129	9.172	9.176	(0.921)	97093	50.6978	50.7	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	158863	50.1772	50.2	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.413)	88394	50.1743	50.2	
	67 2-Hexanone	43	9.712	9.709	(0.975)	97982	45.0481	45.0	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	213667	50.0000		
	69 Chlorobenzene	112	9.974	9.979	(1.002)	256400	49.2265	49.2	
	70 1-Chlorohexane	91	12.096	12.097	(1.215)	335806			(aR)
	71 Ethylbenzene	106	10.038	10.042	(1.008)	139983	51.1366	51.1	
	72 1,1,1,2-Tetrachloroethane	131	10.064	10.069	(1.011)	89199	52.4981	52.5	
	73 m+p-Xylenes	106	10.218	10.222	(1.026)	348145	104.963	105	
	74 o-Xylene	106	10.754	10.755	(1.080)	162425	47.7857	47.8	
	75 Styrene	104	10.829	10.833	(1.087)	277217	48.7562	48.8	
	76 Bromoform	173	10.825	10.833	(1.087)	61385	51.6477	51.6	
	77 Isopropylbenzene	105	11.196	11.204	(0.871)	441483	47.7375	47.7	

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8360.D
Report Date: 27-Jan-2021 15:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$	78 P-Bromofluorobenzene	95	11.530	11.534	(1.734)	105531	48.8505	48.8	
	79 cis-1,4-Dichloro-2-Butene	53	11.642	11.647	(0.905)	57540	50.4143	50.4	
	80 Bromobenzene	156	11.635	11.639	(0.905)	99317	52.1045	52.1	
	81 N-Propylbenzene	91	11.732	11.733	(0.912)	531079	48.3236	48.3	
	82 1,1,2,2-Tetrachloroethane	83	11.830	11.834	(0.920)	122890	51.9960	52.0	
	83 2-Chlorotoluene	91	11.890	11.890	(0.925)	317508	51.9774	52.0	
	84 1,2,3-Trichloropropane	75	11.961	11.965	(0.930)	114245	50.7429	50.7	
	85 1,3,5-Trimethylbenzene	105	11.991	11.995	(0.932)	363183	49.0490	49.0	
	86 trans-1,4-Dichloro-2-Butene	53	12.040	12.044	(0.936)	61428	50.9203	50.9	
	87 4-Chlorotoluene	91	12.096	12.097	(0.941)	335806	52.3596	52.4	
	88 tert-Butylbenzene	119	12.358	12.363	(0.961)	310078	47.8796	47.9	
	90 1,2,4-Trimethylbenzene	105	12.445	12.449	(0.968)	373036	48.6259	48.6	
	91 sec-Butylbenzene	105	12.568	12.573	(0.977)	457724	48.5503	48.6	
	92 P-Isopropyltoluene	119	12.748	12.756	(0.991)	382174	48.5547	48.6	
	93 1,3-Dichlorobenzene	146	12.775	12.779	(0.993)	190916	50.2592	50.2	
*	94 1,4-Dichlorobenzene-D4	152	12.861	12.869	(1.000)	104753	50.0000		
	95 1,4-Dichlorobenzene	146	12.883	12.884	(1.002)	190919	47.9780	48.0	
	96 1,2,3-Trimethylbenzene	105	12.936	12.940	(1.006)	383874	53.2102	53.2	
	97 N-Butylbenzene	91	13.221	13.225	(1.028)	357017	47.4436	47.4	
M	98 1,2-Dichloroethylene (total)	96				204929	94.5684	94.6	
	99 1,2-Dichlorobenzene	146	13.337	13.341	(1.037)	180002	49.6703	49.7	
	100 1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.104)	24964	50.7738	50.8	
	101 1,3,5-Trichlorobenzene	180	14.236	14.241	(1.107)	131407	52.7331	52.7	
	102 Hexachlorobutadiene	225	14.889	14.893	(1.158)	47342	46.9160	46.9	
	103 1,2,4-Trichlorobenzene	180	14.893	14.897	(1.158)	115348	46.4579	46.4	
	104 Naphthalene	128	15.211	15.215	(1.183)	376842	46.1444	46.1	
	105 1,2,3-Trichlorobenzene	180	15.391	15.399	(1.197)	115381	47.5820	47.6	
M	106 Xylenes (total)	106				510570	152.749	153	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.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Date : 29-DEC-2020 04:54
Client ID:
Sample Info: WG292631-1,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.405)
-Vinyl Chloride (1.447)
-Bromomethane (1.675)
-Chloroethane (1.768)
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.275)+
-Iodomethane (2.391)
-Acrolein (2.571)
-Allyl Chloride (2.695)
-Methylene Chloride (2.796)+
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.089)
-Tertiary-butyl alcohol (3.223)
-Acetonitrile (3.332)
-Di-isopropyl ether (3.535)+
-1,1-Dichloroethane (3.640)+
-Ethyl tertiary-butyl ethe (4.007)+
-cis-1,2-Dichloroethene (4.371)
-2,2-Dichloropropane (4.524)
-Bromochloromethane (4.667)+
-Chloroform (4.824)
-Carbon Tetrachloride (5.012)+
-Dibromofluoromethane (5.124)+
-2-Butanone (5.345)+
-Pentafluorobenzene (5.941)+
Benzene (5.818)+
-Methylcyclohexane (6.545)+
-1,4-Difluorobenzene (6.650)
-Dibromomethane (7.096)
-1,2-Dichloropropane (7.227)
-Bromodichloromethane (7.340)
-Methyl Methacrylate (7.598)+
-2-Chloroethylvinylether (8.089)+
-Toluene-D8 (8.299)
-Toluene (8.355)
-Tetrachloroethene (8.764)+
-1,1,2-Trichloroethane (8.896)
-Ethyl Methacrylate (9.064)
-Dibromochloromethane (9.173)
-1,3-Dichloropropane (9.274)
-1,2-Dibromoethane (9.390)
-2-Hexanone (9.709)
-Chlorobenzene-D5 (9.967)+
-Ethylbenzene (10.042)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.218)
-o-Xylene (10.755)
-Styrene (10.829)+
-Isopropylbenzene (11.197)
-P-Bromofluorobenzene (11.530)
-cis-1,4-Dichloro-2-Butene (11.639)+
-N-Propylbenzene (11.729)
-1,1,2,2-Tetrachloroethane (11.838)
-2-Chlorotoluene (11.890)
-1,2,3-Trichloropropane (11.992)+
-1-Chlorohexane (12.097)+
-tert-Butylbenzene (12.359)
-1,2,4-Trimethylbenzene (12.445)
-sec-Butylbenzene (12.569)
-P-Isopropyltoluene (12.753)+
-1,4-Dichlorobenzene-D4 (12.872)+
-1,2,3-Trimethylbenzene (12.936)
-N-Butylbenzene (13.221)
-1,2-Dichlorobenzene (13.337)
-1,2-Dibromo-3-Chloropropa (14.136)
-1,2,4-Trichlorobenzene (14.237)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.212)
-1,2,3-Trichlorobenzene (15.392)
-1,2-Dichloroethylene (tot (17.115)
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Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8361.D
Report Date: 27-Jan-2021 15:52

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920.b\C8361.D
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Inj Date : 29-DEC-2020 05:26
Operator : CR Inst ID: gcms-c.i
Smp Info : WG292631-6,TN0377
Misc Info : WG292631,WG292597-4,TN0377-13
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920.b\C8A05(37)DN.m
Meth Date : 29-Dec-2020 15:49 tcote Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 3 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: T6-O360

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.211)	99770	35.9239	35.9	
2 Chloromethane	50	1.401	1.402	(0.236)	167836	45.0662	45.1	
3 Vinyl chloride	62	1.446	1.447	(0.244)	118294	47.6283	47.6	
4 Bromomethane	94	1.678	1.679	(0.283)	61387	48.1920	48.2	
5 Chloroethane	64	1.765	1.765	(0.297)	63710	53.6427	53.6	
6 Trichlorofluoromethane	101	1.873	1.874	(0.316)	134779	52.4202	52.4	
7 Diethyl Ether	59	2.125	2.125	(0.358)	84122	51.9795	52.0	
8 1,1-Dichloroethene	96	2.275	2.275	(0.383)	75606	48.1799	48.2	
9 Freon-113	151	2.308	2.316	(0.389)	48041	52.1552	52.2	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	175688	44.2451	44.2	
11 Iodomethane	142	2.391	2.395	(0.403)	65809	47.6138	47.6	
12 Acrolein	56	2.571	2.575	(0.433)	130467	249.806	250	
13 Allyl Chloride	41	2.694	2.699	(0.454)	210211	52.9542	53.0	
14 Methylene Chloride	84	2.796	2.796	(0.471)	107968	48.9729	49.0	
15 Acetone	43	2.859	2.856	(0.482)	48703	44.3082	44.3	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.498)	102637	48.1981	48.2	
17 Methyl Acetate	43	2.991	2.991	(0.504)	126913	47.8970	47.9	
18 Methyl tert-butyl ether	73	3.092	3.092	(0.521)	268155	50.7876	50.8	
19 Tertiary-butyl alcohol	59	3.223	3.227	(0.543)	49850	219.390	219	
20 Acetonitrile	41	3.335	3.336	(0.562)	216334	513.232	513	
21 Di-isopropyl ether	45	3.534	3.538	(0.595)	396626	53.0933	53.1	
22 Chloroprene	53	3.613	3.617	(0.609)	219610	53.8688	53.9	
23 1,1-Dichloroethane	63	3.639	3.640	(0.613)	219229	49.4625	49.5	

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8361.D
Report Date: 27-Jan-2021 15:52

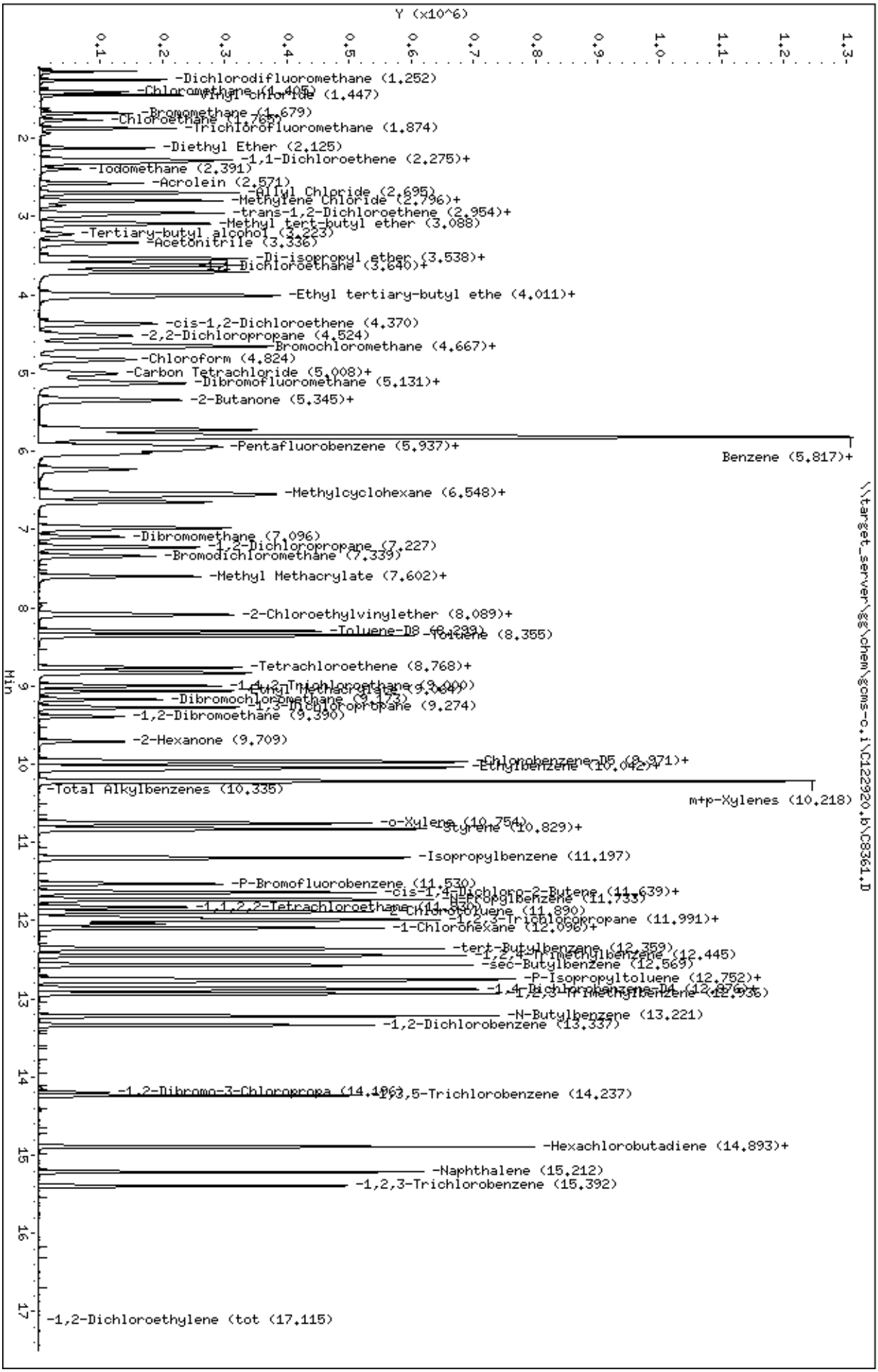
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.706	3.711	(0.624)	257706	255.000	255	
	25 Ethyl tertiary-butyl ether	59	4.010	4.006	(0.675)	302962	51.4755	51.5	
	26 Vinyl Acetate	43	4.010	4.014	(0.603)	311010	52.9160	52.9	
	27 cis-1,2-Dichloroethene	96	4.370	4.378	(0.736)	104819	49.4596	49.4	
	28 2,2-Dichloropropane	77	4.524	4.528	(0.762)	128079	42.3976	42.4	
	29 Bromochloromethane	128	4.666	4.674	(0.786)	47863	53.0388	53.0	
	30 Cyclohexane	56	4.655	4.659	(0.784)	213852	49.2852	49.3	
	31 Chloroform	83	4.824	4.832	(0.812)	190349	48.1949	48.2	
	32 Carbon Tetrachloride	117	5.007	5.012	(0.754)	140884	48.9278	48.9	
	33 Tetrahydrofuran	42	5.075	5.072	(0.855)	42057	44.5652	44.6	
$	34 Dibromofluoromethane	113	5.131	5.135	(0.864)	78689	50.5471	50.5	
	35 1,1,1-Trichloroethane	97	5.131	5.132	(0.864)	168205	48.8735	48.9	
	36 2-Butanone	43	5.363	5.364	(0.903)	66374	46.1281	46.1	
	37 1,1-Dichloropropene	75	5.345	5.349	(0.804)	145239	52.2757	52.3	
	38 Benzene	78	5.723	5.724	(0.861)	391227	52.0364	52.0	
	39 Propionitrile	54	5.783	5.788	(0.974)	224655	506.559	506	
	40 Methacrylonitrile	41	5.817	5.821	(0.980)	932477	526.389	526	
*	41 Pentafluorobenzene	168	5.937	5.945	(1.000)	144534	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.926	5.934	(0.998)	107840	51.0868	51.1	
	43 Tertiary-amyl methyl ether	73	5.974	5.983	(1.006)	186193	47.4745	47.5	
	44 1,2-Dichloroethane	62	6.031	6.035	(0.907)	175265	48.7875	48.8	
	45 Isobutyl Alcohol	43	5.978	5.986	(1.007)	78141	854.114	854	
	46 Methylcyclohexane	83	6.540	6.541	(1.102)	166737	48.4504	48.4	
	47 Trichloroethene	95	6.570	6.575	(0.989)	102788	51.0441	51.0	
*	48 1,4-Difluorobenzene	114	6.645	6.654	(1.000)	244798	50.0000		
	49 Dibromomethane	93	7.095	7.096	(1.068)	60567	47.0665	47.1	
	50 1,2-Dichloropropane	63	7.226	7.231	(1.087)	106784	50.5595	50.6	
	51 Bromodichloromethane	83	7.343	7.343	(1.105)	136623	51.6558	51.6	
	52 Methyl Methacrylate	41	7.601	7.602	(1.144)	128974	47.7034	47.7	
	53 Ethyl Methacrylate	69	9.063	9.068	(1.364)	131679	46.1167	46.1	
	54 1,4-Dioxane	88	7.598	7.602	(1.143)	27488	889.556	890	
M	55 Total Alkylbenzenes	100				2824675	343.307	343	
	56 2-Chloroethylvinylether	63	8.070	8.077	(1.214)	47938	38.6798	38.7	
	57 cis-1,3-dichloropropene	75	8.092	8.097	(1.218)	152701	47.1822	47.2	
$	58 Toluene-D8	98	8.299	8.303	(1.249)	280928	48.7102	48.7	
	59 Toluene	91	8.355	8.359	(1.257)	409272	51.2702	51.3	
	60 Tetrachloroethene	164	8.767	8.768	(0.880)	73866	48.7642	48.8	
	61 4-methyl-2-pentanone	43	8.812	8.813	(1.326)	131186	48.7507	48.8	
	62 trans-1,3-Dichloropropene	75	8.835	8.839	(1.329)	143727	53.2269	53.2	
	63 1,1,2-Trichloroethane	97	8.996	9.004	(1.354)	85729	50.9124	50.9	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	97303	51.5707	51.6	
	65 1,3-Dichloropropane	76	9.273	9.278	(0.931)	159182	51.0332	51.0	
	66 1,2-Dibromoethane	107	9.389	9.394	(1.413)	90229	52.2413	52.2	
	67 2-Hexanone	43	9.708	9.709	(0.975)	90600	42.2799	42.3	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	210505	50.0000		
	69 Chlorobenzene	112	9.974	9.979	(1.002)	257813	50.2413	50.2	
	70 1-Chlorohexane	91	12.096	12.097	(1.215)	336609			(aR)
	71 Ethylbenzene	106	10.042	10.042	(1.008)	142622	52.8832	52.9	
	72 1,1,1,2-Tetrachloroethane	131	10.064	10.069	(1.011)	89179	53.2747	53.3	
	73 m+p-Xylenes	106	10.218	10.222	(1.026)	355420	108.766	109	
	74 o-Xylene	106	10.754	10.755	(1.080)	164130	49.0126	49.0	
	75 Styrene	104	10.829	10.833	(1.087)	282809	50.4868	50.5	
	76 Bromoform	173	10.821	10.833	(1.087)	59185	50.5447	50.5	
	77 Isopropylbenzene	105	11.196	11.204	(0.870)	447777	48.2463	48.2	

Data File: \\target_server\gg\chem\gcms-c.i\C122920.b\C8361.D
Report Date: 27-Jan-2021 15:52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$	78 P-Bromofluorobenzene	95	11.530	11.534	(1.735)	105011	49.5830	49.6	
	79 cis-1,4-Dichloro-2-Butene	53	11.646	11.647	(0.905)	53181	46.4298	46.4	
	80 Bromobenzene	156	11.639	11.639	(0.905)	98415	51.4481	51.4	
	81 N-Propylbenzene	91	11.732	11.733	(0.912)	537726	48.7549	48.8	
	82 1,1,2,2-Tetrachloroethane	83	11.830	11.834	(0.920)	120045	50.6120	50.6	
	83 2-Chlorotoluene	91	11.886	11.890	(0.924)	322169	52.5533	52.6	
	84 1,2,3-Trichloropropane	75	11.961	11.965	(0.930)	109026	48.2530	48.2	
	85 1,3,5-Trimethylbenzene	105	11.991	11.995	(0.932)	367325	49.4324	49.4	
	86 trans-1,4-Dichloro-2-Butene	53	12.036	12.044	(0.936)	60279	49.7905	49.8	
	87 4-Chlorotoluene	91	12.096	12.097	(0.940)	336609	52.2986	52.3	
	88 tert-Butylbenzene	119	12.358	12.363	(0.961)	313644	48.2584	48.2	
	90 1,2,4-Trimethylbenzene	105	12.445	12.449	(0.967)	375089	48.7200	48.7	
	91 sec-Butylbenzene	105	12.568	12.573	(0.977)	470447	49.7228	49.7	
	92 P-Isopropyltoluene	119	12.752	12.756	(0.991)	391412	49.5520	49.6	
	93 1,3-Dichlorobenzene	146	12.774	12.779	(0.993)	194846	51.1118	51.1	
*	94 1,4-Dichlorobenzene-D4	152	12.864	12.869	(1.000)	105126	50.0000		
	95 1,4-Dichlorobenzene	146	12.879	12.884	(1.001)	195111	48.8574	48.8	
	96 1,2,3-Trimethylbenzene	105	12.936	12.940	(1.006)	391704	54.1029	54.1	
	97 N-Butylbenzene	91	13.221	13.225	(1.028)	369032	48.8663	48.9	
M	98 1,2-Dichloroethylene (total)	96				207456	97.6577	97.6	
	99 1,2-Dichlorobenzene	146	13.337	13.341	(1.037)	185003	50.8691	50.9	
	100 1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.104)	24459	49.6421	49.6	
	101 1,3,5-Trichlorobenzene	180	14.236	14.241	(1.107)	136458	54.5658	54.6	
	102 Hexachlorobutadiene	225	14.892	14.893	(1.158)	49074	48.4599	48.4	
	103 1,2,4-Trichlorobenzene	180	14.896	14.897	(1.158)	119761	48.0642	48.1	
	104 Naphthalene	128	15.211	15.215	(1.182)	375165	45.7761	45.8	
	105 1,2,3-Trichlorobenzene	180	15.391	15.399	(1.196)	119463	49.0905	49.1	
M	106 Xylenes (total)	106				519550	157.779	158	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.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Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.405)
-Vinyl Chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.765)
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.275)+
-Iodomethane (2.391)
-Acrolein (2.571)
-Allyl Chloride (2.695)
-Methylene Chloride (2.796)+
-trans-1,2-Dichloroethene (2.954)+
-Methyl tert-butyl ether (3.088)
-Tertiary-butyl alcohol (3.223)
-Acetonitrile (3.336)
-Di-isopropyl ether (3.538)+
-1,1-Dichloroethane (3.640)+
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.370)
-2,2-Dichloropropane (4.524)
-Bromochloromethane (4.667)+
-Chloroform (4.824)
-Carbon Tetrachloride (5.008)+
-Dibromofluoromethane (5.131)+
-2-Butanone (5.345)+
-Pentafluorobenzene (5.937)+
Benzene (5.817)+
-Methylcyclohexane (6.548)+
-Dibromomethane (7.096)
-1,2-Dichloropropane (7.227)
-Bromodichloromethane (7.339)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.089)+
-Toluene-D8 (8.299)
-Toluene (8.355)
-Tetrachloroethene (8.768)+
-1,4,2-Trichloroethane (9.000)
-Ethyl Methacrylate (9.064)
-Dibromochloromethane (9.173)
-1,3-Dichloropropane (9.274)
-1,2-Dibromoethane (9.390)
-2-Hexanone (9.709)
-Chlorobenzene-D5 (9.971)+
-Ethylbenzene (10.042)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.218)
-o-Xylene (10.754)
-Styrene (10.829)+
-Isopropylbenzene (11.197)
-P-Bromofluorobenzene (11.530)
-cis-1,4-Dichloro-2-Butene (11.639)+
-n-Propylbenzene (11.733)
-1,1,2,2-Tetrachloroethane (11.830)
-2-Chlorotoluene (11.890)
-1,2,3-Trichloropropane (11.991)+
-1-Chlorohexane (12.096)+
-tert-Butylbenzene (12.359)
-1,2,4-Trimethylbenzene (12.445)
-sec-Butylbenzene (12.569)
-P-Isopropyltoluene (12.752)+
-1,4-Dichlorobenzene-D4 (12.876)+
-1,2,3-Trimethylbenzene (12.936)
-N-Butylbenzene (13.221)
-1,2-Dichlorobenzene (13.337)
-1,2-Dibromo-3-Chloropropa (14.106)
-1,3,5-Trichlorobenzene (14.237)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.212)
-1,2,3-Trichlorobenzene (15.392)
-1,2-Dichloroethylene (tot (17.115)
\\target_server\gg\chem\gcms-c.i\C122920.b\C8361.D

Katahdin
ANALYTICAL SERVICES

LCS/LCSD Recovery Report

LCS ID: WG292678-1
LCSD ID: WG292678-6
Project:
SDG: TN0377
Report Date: 27-JAN-21
LCS File ID: C8382.D

Received Date:
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678
LCSD File ID: C8383.D

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Chloromethane	50.0	43.4	86.8	43.0	86.0	ug/L	1	20	50-139
Vinyl Chloride	50.0	47.3	94.6	46.9	93.8	ug/L	1	20	58-137
Bromomethane	50.0	47.2	94.4	45.4	90.8	ug/L	4	20	53-141
Chloroethane	50.0	51.5	103.	50.9	102.	ug/L	1	20	60-138
1,1-Dichloroethene	50.0	46.8	93.6	46.7	93.4	ug/L	0	20	71-131
Carbon Disulfide	50.0	43.4	86.8	42.3	84.6	ug/L	2	20	64-133
Methylene Chloride	50.0	47.9	95.8	46.0	92.0	ug/L	4	20	74-124
Acetone	50.0	40.8	81.6	42.3	84.6	ug/L	4	20	39-160
trans-1,2-Dichloroethene	50.0	46.5	93.0	45.4	90.8	ug/L	2	20	75-124
1,1-Dichloroethane	50.0	46.9	93.8	46.5	93.0	ug/L	1	20	77-125
cis-1,2-Dichloroethene	50.0	45.9	91.8	46.6	93.2	ug/L	2	20	78-123
Chloroform	50.0	45.3	90.6	45.0	90.0	ug/L	1	20	79-124
Carbon Tetrachloride	50.0	48.9	97.8	48.3	96.6	ug/L	1	20	72-136
1,1,1-Trichloroethane	50.0	46.1	92.2	46.3	92.6	ug/L	0	20	74-131
2-Butanone	50.0	42.4	84.8	43.6	87.2	ug/L	3	20	56-143
Benzene	50.0	49.9	99.8	50.3	101.	ug/L	1	20	79-120
1,2-Dichloroethane	50.0	47.3	94.6	47.3	94.6	ug/L	0	20	73-128
Trichloroethene	50.0	49.6	99.2	49.3	98.6	ug/L	1	20	79-123
1,2-Dichloropropane	50.0	47.9	95.8	48.4	96.8	ug/L	1	20	78-122
Bromodichloromethane	50.0	49.6	99.2	48.6	97.2	ug/L	2	20	79-125
cis-1,3-Dichloropropene	50.0	44.8	89.6	44.5	89.0	ug/L	1	20	75-124
Toluene	50.0	49.4	98.8	49.1	98.2	ug/L	1	20	80-121
4-Methyl-2-Pentanone	50.0	45.4	90.8	46.5	93.0	ug/L	2	20	67-130
Tetrachloroethene	50.0	47.4	94.8	47.5	95.0	ug/L	0	20	74-129
trans-1,3-Dichloropropene	50.0	49.9	99.8	50.0	100.	ug/L	0	20	73-127
1,1,2-Trichloroethane	50.0	48.8	97.6	49.9	99.8	ug/L	2	20	80-119
Dibromochloromethane	50.0	49.5	99.0	48.9	97.8	ug/L	1	20	74-126
2-Hexanone	50.0	39.4	78.8	40.6	81.2	ug/L	3	20	57-139
Chlorobenzene	50.0	48.3	96.6	48.8	97.6	ug/L	1	20	82-118
Ethylbenzene	50.0	52.0	104.	52.3	105.	ug/L	0	20	79-121
Xylenes (Total)	150.	153.	102.	155.	103.	ug/L	1	20	79-121
m+p-Xylenes	100.	105.	105.	107.	107.	ug/L	2	20	80-121
o-Xylene	50.0	47.5	95.0	47.8	95.6	ug/L	1	20	78-122
Styrene	50.0	48.3	96.6	48.3	96.6	ug/L	0	20	78-123

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Katahdin
ANALYTICAL SERVICES

LCS/LCSD Recovery Report

LCS ID: WG292678-1
LCSD ID: WG292678-6
Project:
SDG: TN0377
Report Date: 27-JAN-21
LCS File ID: C8382.D

Received Date:
Extract Date: 29-DEC-20
Extracted By: HG
Extraction Method: SW846 5030C
Lab Prep Batch: WG292678
LCSD File ID: C8383.D

Analysis Date: 29-DEC-20
Analyst: HG
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
Bromoform	50.0	49.6	99.2	49.7	99.4	ug/L	0	20	66-130
1,1,2,2-Tetrachloroethane	50.0	49.0	98.0	51.1	102.	ug/L	4	20	71-121
P-Bromofluorobenzene			97.7		95.9				85-114
Toluene-d8			98.9		97.7				89-112
1,2-Dichloroethane-d4			97.1		96.9				81-118
Dibromofluoromethane			96.9		93.8				80-119

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Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8382.D
Report Date: 27-Jan-2021 15:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8382.D
Lab Smp Id: WG292678-1
Inj Date : 29-DEC-2020 17:04
Operator : HG Inst ID: gcms-c.i
Smp Info : WG292678-1,TN0377
Misc Info : WG292678,WG292597-4,TN0377-10
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 07:21 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 2 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.251	1.252	(0.211)	103176	35.8712	35.9	
2 Chloromethane	50	1.401	1.402	(0.236)	167500	43.4274	43.4	
3 Vinyl chloride	62	1.446	1.447	(0.243)	121587	47.2686	47.3	
4 Bromomethane	94	1.679	1.679	(0.282)	62344	47.2581	47.2	
5 Chloroethane	64	1.765	1.765	(0.297)	63322	51.4803	51.5	
6 Trichlorofluoromethane	101	1.874	1.874	(0.315)	141933	53.3019	53.3	
7 Diethyl Ether	59	2.125	2.125	(0.357)	83180	49.6277	49.6	
8 1,1-Dichloroethene	96	2.275	2.275	(0.383)	76051	46.7948	46.8	
9 Freon-113	151	2.312	2.316	(0.389)	49459	51.8459	51.8	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	178358	43.3710	43.4	
11 Iodomethane	142	2.395	2.395	(0.403)	70399	49.1809	49.2	
12 Acrolein	56	2.571	2.575	(0.433)	132066	244.161	244	
13 Allyl Chloride	41	2.698	2.699	(0.454)	204082	49.6401	49.6	
14 Methylene Chloride	84	2.796	2.796	(0.470)	109471	47.9450	47.9	
15 Acetone	43	2.856	2.856	(0.480)	46473	40.8237	40.8	
16 trans-1,2-Dichloroethene	96	2.957	2.957	(0.497)	102584	46.5145	46.5	
17 Methyl Acetate	43	2.991	2.991	(0.503)	126026	45.9246	45.9	
18 Methyl tert-butyl ether	73	3.092	3.092	(0.520)	258234	47.2246	47.2	
19 Tertiary-butyl alcohol	59	3.223	3.227	(0.542)	46721	199.427	199	
20 Acetonitrile	41	3.336	3.336	(0.561)	214939	492.365	492	
21 Di-isopropyl ether	45	3.538	3.538	(0.595)	383161	49.5249	49.5	
22 Chloroprene	53	3.617	3.617	(0.608)	222263	52.6424	52.6	
23 1,1-Dichloroethane	63	3.643	3.640	(0.613)	215301	46.9037	46.9	

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8382.D
Report Date: 27-Jan-2021 15:59

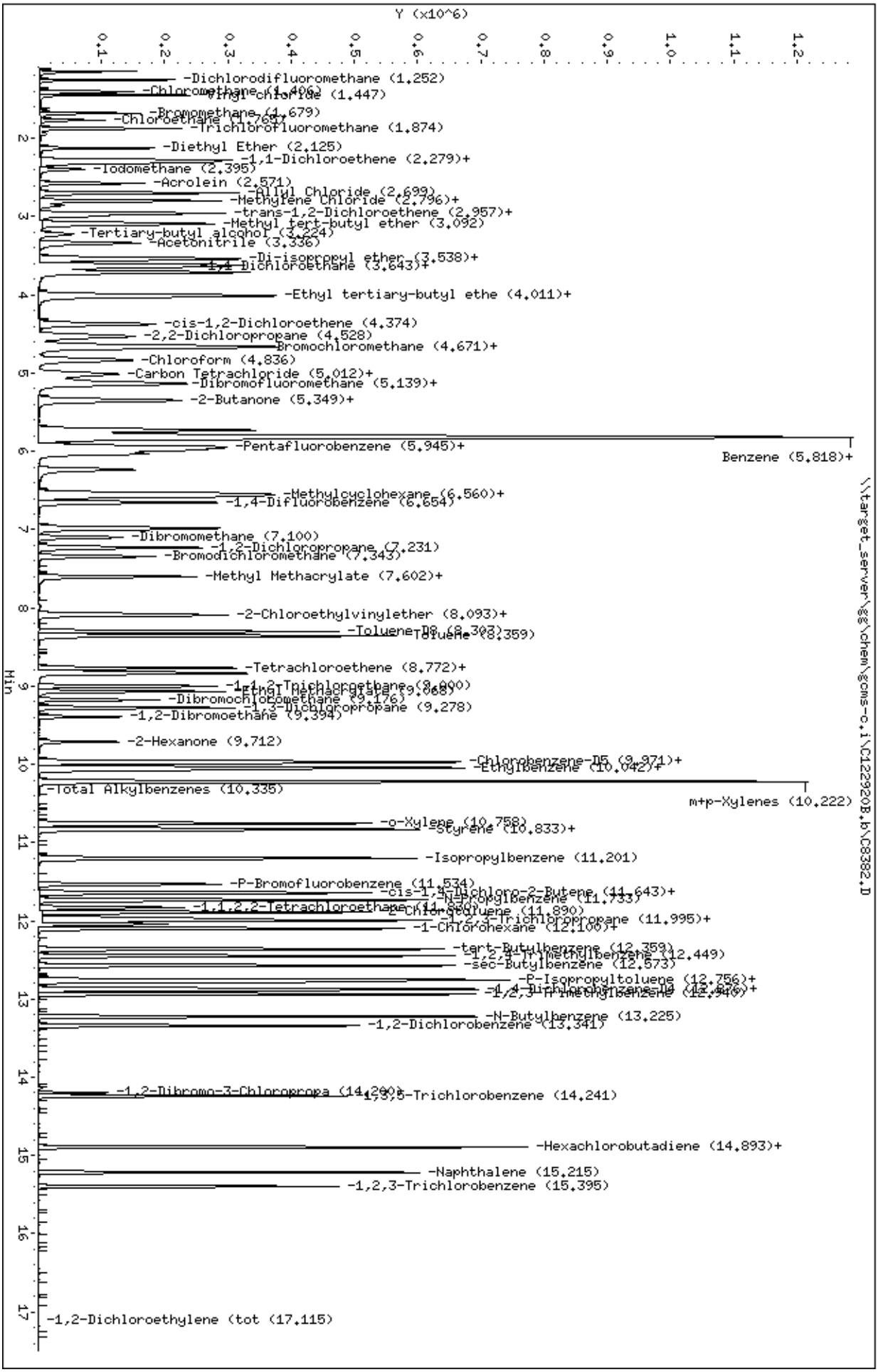
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.710	3.711	(0.624)	259037	247.491	247	
	25 Ethyl tertiary-butyl ether	59	4.010	4.006	(0.675)	281465	46.1763	46.2	
	26 Vinyl Acetate	43	4.014	4.014	(0.603)	304600	51.3450	51.3	
	27 cis-1,2-Dichloroethene	96	4.370	4.378	(0.735)	100812	45.9310	45.9	
	28 2,2-Dichloropropane	77	4.528	4.528	(0.762)	126196	40.3360	40.3	
	29 Bromochloromethane	128	4.670	4.674	(0.786)	47201	50.5042	50.5	
	30 Cyclohexane	56	4.663	4.659	(0.784)	221128	49.2074	49.2	
	31 Chloroform	83	4.835	4.832	(0.813)	185481	45.3454	45.3	
	32 Carbon Tetrachloride	117	5.011	5.012	(0.753)	142109	48.8958	48.9	
	33 Tetrahydrofuran	42	5.082	5.072	(0.855)	41149	42.1205	42.1	
$	34 Dibromofluoromethane	113	5.139	5.135	(0.864)	78128	48.4588	48.4	
	35 1,1,1-Trichloroethane	97	5.135	5.132	(0.864)	164215	46.0713	46.1	
	36 2-Butanone	43	5.367	5.364	(0.903)	63142	42.3710	42.4	
	37 1,1-Dichloropropene	75	5.349	5.349	(0.804)	146251	52.1520	52.2	
	38 Benzene	78	5.727	5.724	(0.861)	378379	49.8611	49.9	
	39 Propionitrile	54	5.787	5.788	(0.974)	225745	491.490	491	
	40 Methacrylonitrile	41	5.821	5.821	(0.979)	925349	504.379	504	
*	41 Pentafluorobenzene	168	5.945	5.945	(1.000)	149688	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.998)	106182	48.5694	48.6	
	43 Tertiary-amyl methyl ether	73	5.982	5.983	(1.006)	166958	41.1043	41.1	
	44 1,2-Dichloroethane	62	6.035	6.035	(0.907)	171468	47.2882	47.3	
	45 Isobutyl Alcohol	43	5.982	5.986	(1.006)	71476	754.362	754	
	46 Methylcyclohexane	83	6.544	6.541	(1.101)	164103	46.0431	46.0	
	47 Trichloroethene	95	6.574	6.575	(0.988)	100755	49.5708	49.6	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	247088	50.0000		
	49 Dibromomethane	93	7.099	7.096	(1.067)	57764	44.4723	44.5	
	50 1,2-Dichloropropane	63	7.230	7.231	(1.087)	102167	47.9251	47.9	
	51 Bromodichloromethane	83	7.343	7.343	(1.104)	132396	49.5937	49.6	
	52 Methyl Methacrylate	41	7.598	7.602	(1.142)	123712	45.3331	45.3	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.363)	123422	42.8244	42.8	
	54 1,4-Dioxane	88	7.598	7.602	(1.142)	27644	886.313	886	
M	55 Total Alkylbenzenes	100				2758079	330.668	331	
	56 2-Chloroethylvinylether	63	8.074	8.077	(1.214)	52266	42.0353	42.0	
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	146245	44.7686	44.8	
$	58 Toluene-D8	98	8.303	8.303	(1.248)	287847	49.4473	49.4	
	59 Toluene	91	8.359	8.359	(1.256)	397991	49.3949	49.4	
	60 Tetrachloroethene	164	8.767	8.768	(0.880)	71708	47.4579	47.4	
	61 4-methyl-2-pentanone	43	8.816	8.813	(1.325)	123330	45.4065	45.4	
	62 trans-1,3-Dichloropropene	75	8.839	8.839	(1.328)	136051	49.9173	49.9	
	63 1,1,2-Trichloroethane	97	9.004	9.004	(1.353)	82923	48.7896	48.8	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	93091	49.4617	49.5	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	153275	49.2623	49.3	
	66 1,2-Dibromoethane	107	9.397	9.394	(1.412)	86102	49.3898	49.4	
	67 2-Hexanone	43	9.712	9.709	(0.975)	84203	39.3929	39.4	
*	68 Chlorobenzene-D5	117	9.959	9.964	(1.000)	209980	50.0000		
	69 Chlorobenzene	112	9.978	9.979	(1.002)	247137	48.2812	48.3	
	70 1-Chlorohexane	91	12.100	12.097	(1.215)	329481			(aR)
	71 Ethylbenzene	106	10.042	10.042	(1.008)	140014	52.0460	52.0	
	72 1,1,1,2-Tetrachloroethane	131	10.068	10.069	(1.011)	84807	50.7896	50.8	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	342811	105.170	105	
	74 o-Xylene	106	10.758	10.755	(1.080)	158572	47.4713	47.5	
	75 Styrene	104	10.833	10.833	(1.088)	269677	48.2629	48.3	
	76 Bromoform	173	10.829	10.833	(1.087)	57996	49.6531	49.6	
	77 Isopropylbenzene	105	11.200	11.204	(0.871)	434936	46.2759	46.3	

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8382.D
Report Date: 27-Jan-2021 15:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$	78 P-Bromofluorobenzene	95	11.534	11.534	(1.734)	104479	48.8746	48.9	
	79 cis-1,4-Dichloro-2-Butene	53	11.643	11.647	(0.905)	52980	45.6751	45.7	
	80 Bromobenzene	156	11.643	11.639	(0.905)	94774	48.9244	48.9	
	81 N-Propylbenzene	91	11.733	11.733	(0.912)	531962	47.6283	47.6	
	82 1,1,2,2-Tetrachloroethane	83	11.830	11.834	(0.920)	117595	48.9583	49.0	
	83 2-Chlorotoluene	91	11.890	11.890	(0.924)	312344	50.3126	50.3	
	84 1,2,3-Trichloropropane	75	11.965	11.965	(0.930)	107228	46.8630	46.9	
	85 1,3,5-Trimethylbenzene	105	11.995	11.995	(0.932)	357773	47.5441	47.5	
	86 trans-1,4-Dichloro-2-Butene	53	12.040	12.044	(0.936)	59951	48.8996	48.9	
	87 4-Chlorotoluene	91	12.100	12.097	(0.941)	329481	50.5501	50.6	
	88 tert-Butylbenzene	119	12.359	12.363	(0.961)	301436	45.7993	45.8	
	90 1,2,4-Trimethylbenzene	105	12.449	12.449	(0.968)	365990	46.9429	46.9	
	91 sec-Butylbenzene	105	12.572	12.573	(0.977)	458017	47.8029	47.8	
	92 P-Isopropyltoluene	119	12.756	12.756	(0.992)	381142	47.6476	47.6	
	93 1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	188586	48.8502	48.8	
*	94 1,4-Dichlorobenzene-D4	152	12.865	12.869	(1.000)	106459	50.0000		
	95 1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	186165	46.0336	46.0	
	96 1,2,3-Trimethylbenzene	105	12.936	12.940	(1.006)	372020	50.7407	50.7	
	97 N-Butylbenzene	91	13.224	13.225	(1.028)	361759	47.3034	47.3	
M	98 1,2-Dichloroethylene (total)	96				203396	92.4455	92.4	
	99 1,2-Dichlorobenzene	146	13.341	13.341	(1.037)	174412	47.3565	47.4	
	100 1,2-Dibromo-3-Chloropropane	157	14.199	14.200	(1.104)	22965	46.2265	46.2	
	101 1,3,5-Trichlorobenzene	180	14.240	14.241	(1.107)	129621	51.1829	51.2	
	102 Hexachlorobutadiene	225	14.893	14.893	(1.158)	48913	47.6961	47.7	
	103 1,2,4-Trichlorobenzene	180	14.896	14.897	(1.158)	113123	44.8317	44.8	
	104 Naphthalene	128	15.215	15.215	(1.183)	362781	43.7108	43.7	
	105 1,2,3-Trichlorobenzene	180	15.395	15.399	(1.197)	112329	45.5810	45.6	
M	106 Xylenes (total)	106				501383	152.641	153	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8382.D
Date : 29-DEC-2020 17:04
Client ID:
Sample Info: WG292678-1,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: HG
Column diameter: 0.18
\\target_server\gg\chem\gcms-c.i\C122920B.b\C8382.D
Y (x10^6)
Min
-Dichlorodifluoromethane (1.252)
-Chloromethane (1.406)
-Vinyl Chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.767)
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.279)+
-Iodomethane (2.395)
-Acrolein (2.571)
-Allyl Chloride (2.699)
-Methylene Chloride (2.796)+
-trans-1,2-Dichloroethene (2.957)+
-Methyl tert-butyl ether (3.092)
-Tertiary-butyl alcohol (3.224)
-Acetonitrile (3.336)
-Di-isopropyl ether (3.538)+
-1,1-Dichloroethane (3.643)+
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.374)
-2,2-Dichloropropane (4.528)
-Bromochloromethane (4.671)+
-Chloroform (4.836)
-Carbon Tetrachloride (5.012)+
-Dibromofluoromethane (5.139)+
-2-Butanone (5.349)+
-Pentafluorobenzene (5.945)+
Benzene (5.818)+
-Methylcyclohexane (6.560)+
-1,4-Difluorobenzene (6.654)
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.231)
-Bromodichloromethane (7.343)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.093)+
-Toluene-D8 (8.303)
Toluene (8.359)
-Tetrachloroethene (8.772)+
-1,1,2-Trichloroethane (9.090)
-Ethyl Methacrylate (9.068)
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.278)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.712)
-Chlorobenzene-D5 (9.971)+
-Ethylbenzene (10.042)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.222)
-o-Xylene (10.758)
-Styrene (10.833)+
-Isopropylbenzene (11.201)
-P-Bromofluorobenzene (11.534)
-cis-1,4-Dichloro-2-Butene (11.643)+
-N-Propylbenzene (11.733)
-1,1,2,2-Tetrachloroethane (11.800)
-2-Chlorotoluene (11.890)
-1,2,3-Trichloropropane (11.995)+
-1-Chlorohexane (12.100)+
-tert-Butylbenzene (12.359)
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.573)
-P-Isopropyltoluene (12.756)+
-1,4-Dichlorobenzene-D4 (12.826)+
-1,2,3-Trimethylbenzene (12.946)
-N-Butylbenzene (13.225)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloropropa (14.200)
-1,3,5-Trichlorobenzene (14.241)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.215)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8383.D
Report Date: 27-Jan-2021 15:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8383.D
Lab Smp Id: WG292678-6
Inj Date : 29-DEC-2020 17:42
Operator : HG Inst ID: gcms-c.i
Smp Info : WG292678-6,TN0377
Misc Info : WG292678,WG292597-4,TN0377-10
Comment : SW846 5030C
Method : \\target_server\gg\chem\gcms-c.i\C122920B.b\C8A05(37)DN.m
Meth Date : 30-Dec-2020 07:21 croy Quant Type: ISTD
Cal Date : 28-DEC-2020 13:35 Cal File: C8341.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: VOA-WS

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.252	(0.211)	102504	35.3153	35.3	
2 Chloromethane	50	1.405	1.402	(0.236)	167346	42.9951	43.0	
3 Vinyl chloride	62	1.446	1.447	(0.243)	121755	46.9059	46.9	
4 Bromomethane	94	1.679	1.679	(0.282)	60449	45.4073	45.4	
5 Chloroethane	64	1.769	1.765	(0.298)	63195	50.9124	50.9	
6 Trichlorofluoromethane	101	1.874	1.874	(0.315)	139048	51.7463	51.7	
7 Diethyl Ether	59	2.125	2.125	(0.357)	82066	48.5203	48.5	
8 1,1-Dichloroethene	96	2.275	2.275	(0.383)	76525	46.6606	46.7	
9 Freon-113	151	2.316	2.316	(0.390)	49379	51.2939	51.3	
10 Carbon Disulfide	76	2.293	2.294	(0.386)	175679	42.3332	42.3	
11 Iodomethane	142	2.395	2.395	(0.403)	67068	46.4302	46.4	
12 Acrolein	56	2.575	2.575	(0.433)	131811	241.486	241	
13 Allyl Chloride	41	2.698	2.699	(0.454)	201393	48.5430	48.5	
14 Methylene Chloride	84	2.799	2.796	(0.471)	106044	46.0240	46.0	
15 Acetone	43	2.859	2.856	(0.481)	48550	42.2626	42.3	
16 trans-1,2-Dichloroethene	96	2.961	2.957	(0.498)	100938	45.3543	45.4	
17 Methyl Acetate	43	2.991	2.991	(0.503)	130070	46.9696	47.0	
18 Methyl tert-butyl ether	73	3.096	3.092	(0.521)	256684	46.5167	46.5	
19 Tertiary-butyl alcohol	59	3.227	3.227	(0.543)	49745	209.923	210	
20 Acetonitrile	41	3.339	3.336	(0.562)	220919	501.487	501	
21 Di-isopropyl ether	45	3.538	3.538	(0.595)	377999	48.4158	48.4	
22 Chloroprene	53	3.620	3.617	(0.609)	220280	51.7009	51.7	
23 1,1-Dichloroethane	63	3.643	3.640	(0.613)	215335	46.4869	46.5	

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8383.D
Report Date: 27-Jan-2021 15:59

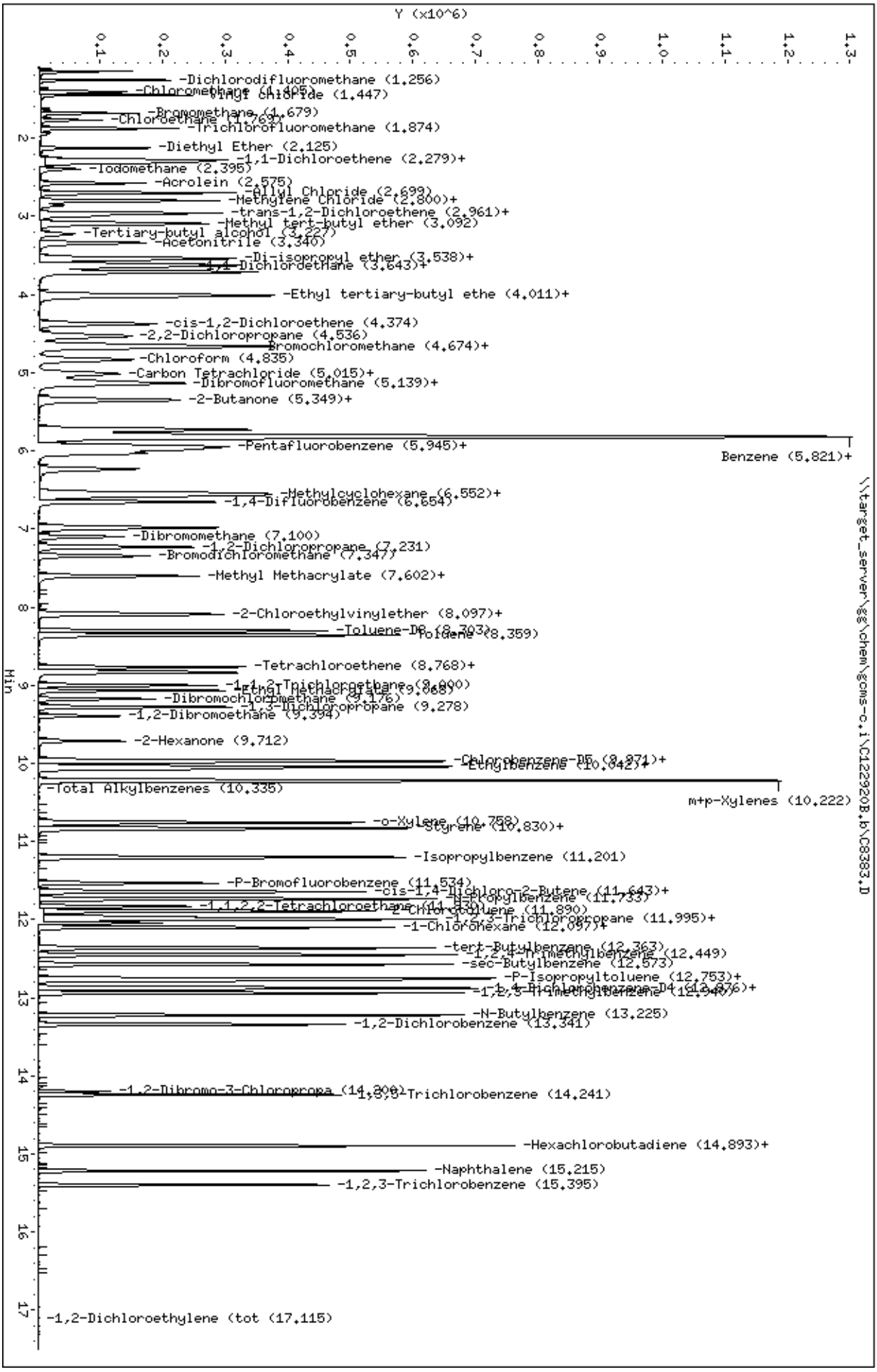
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.710	3.711	(0.624)	263465	249.445	249	
	25 Ethyl tertiary-butyl ether	59	4.010	4.006	(0.675)	278257	45.2372	45.2	
	26 Vinyl Acetate	43	4.010	4.014	(0.603)	304385	51.3809	51.4	
	27 cis-1,2-Dichloroethene	96	4.370	4.378	(0.735)	103228	46.6065	46.6	
	28 2,2-Dichloropropane	77	4.535	4.528	(0.763)	123566	39.1382	39.1	
	29 Bromochloromethane	128	4.674	4.674	(0.786)	47451	50.3126	50.3	
	30 Cyclohexane	56	4.663	4.659	(0.784)	224016	49.3992	49.4	
	31 Chloroform	83	4.835	4.832	(0.813)	185646	44.9753	45.0	
	32 Carbon Tetrachloride	117	5.015	5.012	(0.754)	140325	48.3499	48.3	
	33 Tetrahydrofuran	42	5.082	5.072	(0.855)	41918	42.5166	42.5	
$	34 Dibromofluoromethane	113	5.139	5.135	(0.864)	76275	46.8816	46.9	
	35 1,1,1-Trichloroethane	97	5.139	5.132	(0.864)	166578	46.3116	46.3	
	36 2-Butanone	43	5.364	5.364	(0.902)	65622	43.6370	43.6	
	37 1,1-Dichloropropene	75	5.349	5.349	(0.804)	144832	51.7187	51.7	
	38 Benzene	78	5.727	5.724	(0.861)	381322	50.3196	50.3	
	39 Propionitrile	54	5.787	5.788	(0.974)	232385	501.371	501	
	40 Methacrylonitrile	41	5.821	5.821	(0.979)	935238	505.160	505	
*	41 Pentafluorobenzene	168	5.945	5.945	(1.000)	151054	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.933	5.934	(0.998)	106913	48.4616	48.5	
	43 Tertiary-amyl methyl ether	73	5.978	5.983	(1.006)	169607	41.3789	41.4	
	44 1,2-Dichloroethane	62	6.031	6.035	(0.906)	171448	47.3492	47.3	
	45 Isobutyl Alcohol	43	5.986	5.986	(1.007)	71691	749.789	750	
	46 Methylcyclohexane	83	6.541	6.541	(1.100)	164627	45.7724	45.8	
	47 Trichloroethene	95	6.574	6.575	(0.988)	100138	49.3365	49.3	
*	48 1,4-Difluorobenzene	114	6.653	6.654	(1.000)	246741	50.0000		
	49 Dibromomethane	93	7.095	7.096	(1.066)	58506	45.1069	45.1	
	50 1,2-Dichloropropane	63	7.230	7.231	(1.087)	103102	48.4317	48.4	
	51 Bromodichloromethane	83	7.347	7.343	(1.104)	129496	48.5756	48.6	
	52 Methyl Methacrylate	41	7.601	7.602	(1.143)	125737	46.1400	46.1	
	53 Ethyl Methacrylate	69	9.067	9.068	(1.363)	125304	43.5385	43.5	
	54 1,4-Dioxane	88	7.594	7.602	(1.141)	27890	895.458	895	
M	55 Total Alkylbenzenes	100				2738421	336.332	336	
	56 2-Chloroethylvinylether	63	8.074	8.077	(1.214)	52095	41.9503	42.0	
	57 cis-1,3-dichloropropene	75	8.096	8.097	(1.217)	145097	44.4796	44.5	
$	58 Toluene-D8	98	8.302	8.303	(1.248)	283878	48.8341	48.8	
	59 Toluene	91	8.359	8.359	(1.256)	394849	49.0739	49.1	
	60 Tetrachloroethene	164	8.767	8.768	(0.880)	71029	47.4871	47.5	
	61 4-methyl-2-pentanone	43	8.816	8.813	(1.325)	126170	46.5175	46.5	
	62 trans-1,3-Dichloropropene	75	8.839	8.839	(1.328)	136037	49.9823	50.0	
	63 1,1,2-Trichloroethane	97	9.000	9.004	(1.353)	84752	49.9358	49.9	
	64 Dibromochloromethane	129	9.176	9.176	(0.921)	91167	48.9325	48.9	
	65 1,3-Dichloropropane	76	9.277	9.278	(0.931)	152987	49.6703	49.7	
	66 1,2-Dibromoethane	107	9.393	9.394	(1.412)	86322	49.5856	49.6	
	67 2-Hexanone	43	9.712	9.709	(0.975)	85887	40.5897	40.6	
*	68 Chlorobenzene-D5	117	9.963	9.964	(1.000)	207864	50.0000		
	69 Chlorobenzene	112	9.978	9.979	(1.002)	247427	48.8299	48.8	
	70 1-Chlorohexane	91	12.096	12.097	(1.214)	329472			(aR)
	71 Ethylbenzene	106	10.042	10.042	(1.008)	139410	52.3490	52.3	
	72 1,1,1,2-Tetrachloroethane	131	10.072	10.069	(1.011)	85206	51.5480	51.5	
	73 m+p-Xylenes	106	10.222	10.222	(1.026)	345421	107.049	107	
	74 o-Xylene	106	10.758	10.755	(1.080)	158078	47.8051	47.8	
	75 Styrene	104	10.833	10.833	(1.087)	267141	48.2957	48.3	
	76 Bromoform	173	10.829	10.833	(1.087)	57451	49.6872	49.7	
	77 Isopropylbenzene	105	11.200	11.204	(0.870)	439181	47.8480	47.8	

Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8383.D
Report Date: 27-Jan-2021 15:59

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
$	78 P-Bromofluorobenzene	95	11.530	11.534	(1.733)	102353	47.9474	47.9	
	79 cis-1,4-Dichloro-2-Butene	53	11.646	11.647	(0.905)	54072	47.7344	47.7	
	80 Bromobenzene	156	11.639	11.639	(0.904)	95144	50.2931	50.3	
	81 N-Propylbenzene	91	11.732	11.733	(0.912)	526994	48.3149	48.3	
	82 1,1,2,2-Tetrachloroethane	83	11.830	11.834	(0.919)	119954	51.1379	51.1	
	83 2-Chlorotoluene	91	11.890	11.890	(0.924)	311158	51.3234	51.3	
	84 1,2,3-Trichloropropane	75	11.965	11.965	(0.930)	107320	48.0279	48.0	
	85 1,3,5-Trimethylbenzene	105	11.995	11.995	(0.932)	355797	48.4153	48.4	
	86 trans-1,4-Dichloro-2-Butene	53	12.040	12.044	(0.936)	57997	48.4401	48.4	
	87 4-Chlorotoluene	91	12.096	12.097	(0.940)	329472	51.7608	51.8	
	88 tert-Butylbenzene	119	12.362	12.363	(0.961)	303761	47.2592	47.2	
	90 1,2,4-Trimethylbenzene	105	12.448	12.449	(0.967)	363933	47.7984	47.8	
	91 sec-Butylbenzene	105	12.572	12.573	(0.977)	455498	48.6799	48.7	
	92 P-Isopropyltoluene	119	12.752	12.756	(0.991)	374862	47.9863	48.0	
	93 1,3-Dichlorobenzene	146	12.778	12.779	(0.993)	188513	50.0023	50.0	
*	94 1,4-Dichlorobenzene-D4	152	12.868	12.869	(1.000)	103966	50.0000		
	95 1,4-Dichlorobenzene	146	12.883	12.884	(1.001)	188257	47.6671	47.7	
	96 1,2,3-Trimethylbenzene	105	12.940	12.940	(1.006)	368929	51.5257	51.5	
	97 N-Butylbenzene	91	13.224	13.225	(1.028)	357576	47.8776	47.9	
M	98 1,2-Dichloroethylene (total)	96				204166	91.9607	92.0	
	99 1,2-Dichlorobenzene	146	13.344	13.341	(1.037)	173461	48.2277	48.2	
	100 1,2-Dibromo-3-Chloropropane	157	14.203	14.200	(1.104)	23307	47.9360	47.9	
	101 1,3,5-Trichlorobenzene	180	14.240	14.241	(1.107)	126557	51.1713	51.2	
	102 Hexachlorobutadiene	225	14.893	14.893	(1.157)	48217	48.1449	48.1	
	103 1,2,4-Trichlorobenzene	180	14.896	14.897	(1.158)	112920	45.8243	45.8	
	104 Naphthalene	128	15.215	15.215	(1.182)	366652	45.2365	45.2	
	105 1,2,3-Trichlorobenzene	180	15.399	15.399	(1.197)	113322	47.0866	47.1	
M	106 Xylenes (total)	106				503499	154.854	155	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-c.i\C122920B.b\C8383.D
Date : 29-DEC-2020 17:42
Client ID:
Sample Info: WG292678-6,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-c.i
Operator: HG
Column diameter: 0.18
Y (x10^6)
Min
-Dichlorodifluoromethane (1.256)
-Chloromethane (1.405)
-Vinyl Chloride (1.447)
-Bromomethane (1.679)
-Chloroethane (1.767)
-Trichlorofluoromethane (1.874)
-Diethyl Ether (2.125)
-1,1-Dichloroethene (2.279)+
-Iodomethane (2.395)
-Acrolein (2.575)
-Allyl Chloride (2.699)
-Methylene Chloride (2.800)+
-trans-1,2-Dichloroethene (2.961)+
-Methyl tert-butyl ether (3.092)
-Tertiary-butyl alcohol (3.227)
-Acetonitrile (3.340)
-Di-isopropyl ether (3.538)+
-1,1-Dichlordethane (3.643)+
-Ethyl tertiary-butyl ethe (4.011)+
-cis-1,2-Dichloroethene (4.374)
-2,2-Dichloropropane (4.536)
-Bromochloromethane (4.674)+
-Chloroform (4.835)
-Carbon Tetrachloride (5.015)+
-Dibromofluoromethane (5.139)+
-2-Butanone (5.349)+
-Pentafluorobenzene (5.945)+
Benzene (5.821)+
-Methylcyclohexane (6.552)+
-1,4-Difluorobenzene (6.654)
-Dibromomethane (7.100)
-1,2-Dichloropropane (7.231)
-Bromodichloromethane (7.347)
-Methyl Methacrylate (7.602)+
-2-Chloroethylvinylether (8.097)+
-Toluene-D8 (8.303)
-Toluene (8.359)
-Tetrachloroethene (8.768)+
-1,1,2-Trichloroethane (9.090)
-Ethyl Methacrylate (9.068)
-Dibromochloromethane (9.176)
-1,3-Dichloropropane (9.278)
-1,2-Dibromoethane (9.394)
-2-Hexanone (9.712)
-Chlorobenzene-D5 (9.971)+
-Ethylbenzene (10.042)+
-Total Alkylbenzenes (10.335)
m+p-Xylenes (10.222)
-o-Xylene (10.758)
-Styrene (10.830)+
-Isopropylbenzene (11.201)
-P-Bromofluorobenzene (11.534)
-cis-1,4-Dichloro-2-Butene (11.643)+
-n-Propylbenzene (11.733)
-1,1,2,2-Tetrachloroethane (11.836)
-2-Chlorotoluene (11.890)
-1,2,3-Trichloropropane (11.995)+
-1-Chlorohexane (12.097)+
-tert-Butylbenzene (12.363)
-1,2,4-Trimethylbenzene (12.449)
-sec-Butylbenzene (12.573)
-P-Isopropyltoluene (12.753)+
-1,4-Dichlorobenzene-D4 (12.876)+
-1,2,3-Trimethylbenzene (12.94
-N-Butylbenzene (13.225)
-1,2-Dichlorobenzene (13.341)
-1,2-Dibromo-3-Chloropropa (14.208)
-1,3,5-Trichlorobenzene (14.241)
-Hexachlorobutadiene (14.893)+
-Naphthalene (15.215)
-1,2,3-Trichlorobenzene (15.395)
-1,2-Dichloroethylene (tot (17.115)
\\target_server\gg\chem\gcms-c.i\C122920B.b\C8383.D

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG292401-9
Client ID: LCS
Project:
SDG: TN0377
LCS File ID: T9668.D

Sample Date:
Received Date:
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Chloromethane	116.	50.0	57.8	ug/L	50-139
Vinyl Chloride	116.	50.0	57.9	ug/L	58-137
Bromomethane	108.	50.0	54.2	ug/L	53-141
Chloroethane	110.	50.0	54.8	ug/L	60-138
1,1-Dichloroethene	92.8	50.0	46.4	ug/L	71-131
Carbon Disulfide	89.0	50.0	44.5	ug/L	64-133
Methylene Chloride	96.6	50.0	48.3	ug/L	74-124
Acetone	82.0	50.0	41.0	ug/L	39-160
trans-1,2-Dichloroethene	94.2	50.0	47.1	ug/L	75-124
1,1-Dichloroethane	95.2	50.0	47.6	ug/L	77-125
cis-1,2-Dichloroethene	95.8	50.0	47.9	ug/L	78-123
Chloroform	92.8	50.0	46.4	ug/L	79-124
Carbon Tetrachloride	96.0	50.0	48.0	ug/L	72-136
1,1,1-Trichloroethane	94.8	50.0	47.4	ug/L	74-131
2-Butanone	92.4	50.0	46.2	ug/L	56-143
Benzene	97.2	50.0	48.6	ug/L	79-120
1,2-Dichloroethane	94.0	50.0	47.0	ug/L	73-128
Trichloroethene	97.8	50.0	48.9	ug/L	79-123
1,2-Dichloropropane	96.0	50.0	48.0	ug/L	78-122
Bromodichloromethane	96.4	50.0	48.2	ug/L	79-125
cis-1,3-Dichloropropene	95.0	50.0	47.5	ug/L	75-124
Toluene	99.4	50.0	49.7	ug/L	80-121
4-Methyl-2-Pentanone	105.	50.0	52.3	ug/L	67-130
Tetrachloroethene	90.8	50.0	45.4	ug/L	74-129
trans-1,3-Dichloropropene	99.6	50.0	49.8	ug/L	73-127
1,1,2-Trichloroethane	100.	50.0	50.0	ug/L	80-119
Dibromochloromethane	97.4	50.0	48.7	ug/L	74-126
2-Hexanone	103.	50.0	51.3	ug/L	57-139
Chlorobenzene	95.2	50.0	47.6	ug/L	82-118
Ethylbenzene	98.2	50.0	49.1	ug/L	79-121
Xylenes (Total)	98.7	150.	148.	ug/L	79-121
m+p-Xylenes	99.4	100.	99.4	ug/L	80-121
o-Xylene	97.2	50.0	48.6	ug/L	78-122
Styrene	101.	50.0	50.6	ug/L	78-123
Bromoform	98.4	50.0	49.2	ug/L	66-130

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http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG292401-9
Client ID: LCS
Project:
SDG: TN0377
LCS File ID: T9668.D

Sample Date:
Received Date:
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 27-JAN-21

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
1,1,2,2-Tetrachloroethane	99.0	50.0	49.5	ug/L	71-121
P-Bromofluorobenzene	101.				85-114
Toluene-d8	100.				89-112
1,2-Dichloroethane-d4	100.				81-118
Dibromofluoromethane	101.				80-119

600 Technology Way
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http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9668.D
Report Date: 27-Jan-2021 16:11

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9668.D
Lab Smp Id: WG292401-9
Inj Date : 23-DEC-2020 15:14
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-9,TN0377
Misc Info : WG292401,WG292401-4,TN0377-7
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 9 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	298430	65.5028	65.5	
2 Chloromethane	50	1.390	1.390	(0.258)	304167	57.8355	57.8	
3 Vinyl chloride	62	1.431	1.431	(0.266)	285386	57.8955	57.9	
4 Bromomethane	94	1.633	1.633	(0.303)	95879	54.2078	54.2	
5 Chloroethane	64	1.711	1.708	(0.318)	132252	54.7657	54.8	
6 Trichlorofluoromethane	101	1.805	1.802	(0.335)	422668	59.0363	59.0	
7 Diethyl Ether	59	2.011	2.011	(0.374)	160262	51.9065	51.9	
8 1,1-Dichloroethene	96	2.157	2.157	(0.401)	261478	46.4109	46.4	
9 Freon-113	151	2.183	2.184	(0.406)	171729	50.9829	51.0	
10 Carbon Disulfide	76	2.183	2.187	(0.406)	701564	44.5370	44.5	
11 Iodomethane	142	2.269	2.270	(0.422)	207900	42.8147	42.8	
12 Acrolein	56	2.411	2.416	(0.448)	214657	254.304	254	
13 Allyl Chloride	41	2.516	2.517	(0.467)	360378	51.1804	51.2	
14 Methylene Chloride	84	2.606	2.606	(0.484)	316203	48.3286	48.3	
15 Acetone	43	2.651	2.648	(0.493)	66196	41.0449	41.0	
16 trans-1,2-Dichloroethene	96	2.737	2.741	(0.509)	290658	47.1078	47.1	
17 Methyl Acetate	43	2.748	2.752	(0.511)	191549	50.1563	50.2	
18 Methyl tert-butyl ether	73	2.830	2.831	(0.526)	821164	54.1753	54.2	
19 Tertiary-butyl alcohol	59	2.920	2.924	(0.543)	107594	270.711	271	
20 Acetonitrile	41	3.070	3.070	(0.570)	298454	504.212	504	
21 Di-isopropyl ether	45	3.190	3.190	(0.593)	803199	52.4290	52.4	
22 Chloroprene	53	3.294	3.295	(0.612)	372235	52.3107	52.3	
23 1,1-Dichloroethane	63	3.324	3.325	(0.618)	504477	47.6451	47.6	
24 Acrylonitrile	52	3.384	3.385	(0.629)	415874	257.487	257	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9668.D
Report Date: 27-Jan-2021 16:11

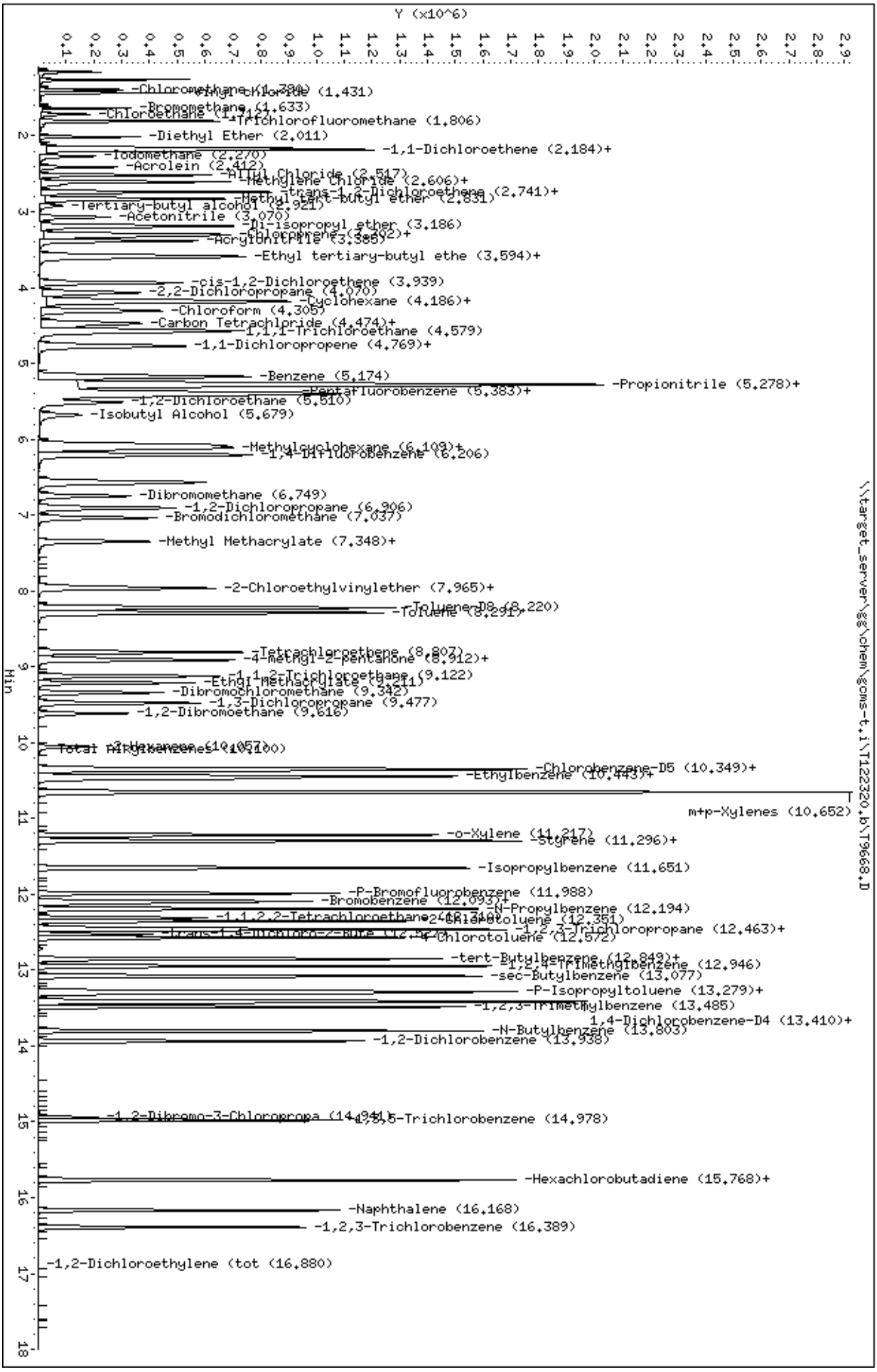
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.666)	774808	52.9839	53.0	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	636832	58.4035	58.4	
	27 cis-1,2-Dichloroethene	96	3.934	3.935	(0.731)	318144	47.9324	47.9	
	28 2,2-Dichloropropane	77	4.069	4.070	(0.756)	379326	44.1524	44.2	
	29 Cyclohexane	56	4.174	4.174	(0.775)	440162	54.4430	54.4	
	30 Bromochloromethane	128	4.189	4.192	(0.778)	148887	52.5588	52.6	
	31 Chloroform	83	4.305	4.304	(0.800)	520402	46.4000	46.4	
	32 Carbon Tetrachloride	117	4.473	4.474	(0.720)	385961	48.0486	48.0	
	33 Tetrahydrofuran	42	4.522	4.519	(0.840)	74034	48.8148	48.8	
$	34 Dibromofluoromethane	113	4.567	4.571	(0.848)	315256	50.4239	50.4	
	35 1,1,1-Trichloroethane	97	4.578	4.582	(0.851)	465817	47.3754	47.4	
	36 1,1-Dichloropropene	75	4.769	4.769	(0.768)	400416	48.3291	48.3	
	37 2-Butanone	43	4.773	4.773	(0.887)	110880	46.1538	46.2	
	38 Benzene	78	5.173	5.174	(0.833)	1174733	48.5815	48.6	
	39 Propionitrile	54	5.252	5.252	(0.976)	351375	518.239	518	
	40 Methacrylonitrile	41	5.282	5.282	(0.981)	1544642	526.182	526	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	571272	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.004)	345908	50.2561	50.2	
	43 Tertiary-amyl methyl ether	73	5.413	5.413	(1.006)	741040	53.1581	53.2	
	44 1,2-Dichloroethane	62	5.510	5.514	(0.887)	360659	46.9587	47.0	
	45 Isobutyl Alcohol	43	5.678	5.686	(1.055)	163376	1096.11	1100	
	46 Methylcyclohexane	83	6.075	6.075	(1.129)	464322	53.0477	53.0	
	47 Trichloroethene	95	6.120	6.117	(0.986)	284964	48.9278	48.9	
*	48 1,4-Difluorobenzene	114	6.210	6.210	(1.000)	954227	50.0000		
	49 Dibromomethane	93	6.745	6.749	(1.086)	183638	44.6274	44.6	
	50 1,2-Dichloropropane	63	6.909	6.910	(1.113)	274722	48.0089	48.0	
	51 Bromodichloromethane	83	7.037	7.033	(1.133)	395680	48.2018	48.2	
	52 Methyl Methacrylate	41	7.347	7.348	(1.183)	224108	55.9876	56.0	
	53 1,4-Dioxane	88	7.355	7.352	(1.184)	58691	967.100	967	
	54 2-Chloroethylvinylether	63	7.939	7.939	(1.278)	114683	80.3751	80.4(R)	
	55 cis-1,3-dichloropropene	75	7.965	7.965	(1.283)	466299	47.4667	47.5	
$	56 Toluene-D8	98	8.219	8.220	(1.324)	1109010	50.2603	50.3	
	57 Toluene	92	8.290	8.291	(1.335)	729588	49.6671	49.7	
	58 Tetrachloroethene	164	8.807	8.807	(0.852)	220343	45.4204	45.4	
	59 4-methyl-2-pentanone	43	8.889	8.886	(1.431)	240278	52.2885	52.3	
	60 trans-1,3-Dichloropropene	75	8.912	8.916	(1.435)	429692	49.8406	49.8	
	61 1,1,2-Trichloroethane	83	9.121	9.122	(1.469)	226054	50.0343	50.0	
	62 Ethyl Methacrylate	69	9.211	9.211	(1.483)	370112	55.6835	55.7	
	63 Dibromochloromethane	129	9.342	9.342	(0.903)	301723	48.6680	48.7	
	64 1,3-Dichloropropane	76	9.477	9.477	(0.916)	460341	46.8488	46.8	
	65 1,2-Dibromoethane	107	9.615	9.619	(1.548)	275592	48.8305	48.8	
M	66 Total Alkylbenzenes	100				7504682	348.841	349	
	67 2-Hexanone	43	10.053	10.053	(0.972)	164173	51.2692	51.3	
*	68 Chlorobenzene-D5	117	10.341	10.342	(1.000)	870781	50.0000		
	69 Chlorobenzene	112	10.360	10.364	(1.002)	743643	47.5571	47.6	
	70 Ethylbenzene	91	10.442	10.443	(1.010)	1299201	49.0729	49.1	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	271619	50.1713	50.2	
	72 m+p-Xylenes	91	10.652	10.652	(1.030)	1967231	99.4161	99.4	
	73 o-Xylene	91	11.217	11.217	(1.085)	1005860	48.6524	48.6	
	74 Styrene	104	11.295	11.296	(1.092)	818253	50.5770	50.6	
	75 Bromoform	173	11.288	11.288	(1.092)	190951	49.2055	49.2	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	1229170	49.1967	49.2	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.930)	410417	50.5636	50.6	
	78 Bromobenzene	156	12.092	12.093	(0.902)	296963	47.2893	47.3	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9668.D
Report Date: 27-Jan-2021 16:11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	79 cis-1,4-Dichloro-2-Butene	53	12.115	12.119	(0.904)	84126	52.1881	52.2	
	80 N-Propylbenzene	91	12.194	12.194	(0.910)	1452727	48.9467	48.9	
	81 1,1,2,2-Tetrachloroethane	83	12.310	12.310	(0.918)	343897	49.5388	49.5	
	82 2-Chlorotoluene	91	12.351	12.355	(0.921)	861865	48.2744	48.3	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	271864	47.4880	47.5	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	975564	49.7014	49.7	
	85 trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	82540	49.7060	49.7	
	86 4-Chlorotoluene	91	12.571	12.572	(0.938)	885919	47.4198	47.4	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	816349	49.1415	49.1	
	88 Pentachloroethane	165	12.863	12.860	(0.960)	636		(aR)	
	89 1,2,4-Trimethylbenzene	105	12.946	12.946	(0.966)	1001091	49.5732	49.6	
	90 sec-Butylbenzene	105	13.077	13.077	(0.975)	1257950	49.9994	50.0	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	1023963	50.9813	51.0	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	539883	46.9494	46.9	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	423824	50.0000		
	94 1,4-Dichlorobenzene	146	13.421	13.425	(1.001)	550619	46.3638	46.4	
	95 1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	950060	51.1676	51.2	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	977038	50.4975	50.5	
	97 1,2-Dichlorobenzene	146	13.937	13.938	(1.040)	512472	47.3744	47.4	
	98 1,2-Dibromo-3-Chloropropane	157	14.940	14.937	(1.114)	67913	48.5637	48.6	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	361815	49.5003	49.5	
	100 Hexachlorobutadiene	225	15.767	15.768	(1.176)	133897	45.5459	45.5	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	337995	48.3875	48.4	
	102 Naphthalene	128	16.168	16.168	(1.206)	856489	50.1079	50.1	
M	103 1,2-Dichloroethylene (total)	96				608802	95.0401	95.0	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	305590	49.4740	49.5	
M	105 Xylenes (total)	91				2973091	148.068	148	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9668.D
Date : 23-DEC-2020 15:14
Client ID:
Sample Info: WG292401-9,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-t.i\T122320.b\T9668.D
-Chloromethane (1.380)
-Vinyl Chloride (1.431)
-Bromomethane (1.633)
-Chloroethane (1.712)
-Trichlorofluoromethane (1.806)
-Diethyl Ether (2.011)
-1,1-Dichloroethene (2.184)+
-Iodomethane (2.270)
-Acrolein (2.412)
-Allyl Chloride (2.517)
-Methylene Chloride (2.606)+
-trans-1,2-Dichloroethene (2.741)+
-Methyl tert-butyl ether (2.831)
-Tertiary-butyl alcohol (2.921)
-Acetonitrile (3.070)
-Di-isopropyl ether (3.186)
-Chloroprene (3.292)+
-Acrylonitrile (3.385)
-Ethyl tertiary-butyl ethe (3.594)+
-cis-1,2-Dichloroethene (3.939)
-2,2-Dichloropropane (4.070)
-Cyclohexane (4.186)+
-Chloroform (4.305)
-Carbon Tetrachloride (4.474)+
-1,1,1-Trichloroethane (4.579)
-1,1-Dichloropropene (4.769)+
-Benzene (5.174)
-Propionitrile (5.278)+
-Pentafluorobenzene (5.383)+
-1,2-Dichloroethane (5.510)
-Isobutyl Alcohol (5.679)
-Methylcyclohexane (6.109)+
-1,4-Difluorobenzene (6.206)
-Dibromomethane (6.749)
-1,2-Dichloropropane (6.906)
-Bromodichloromethane (7.037)
-Methyl Methacrylate (7.348)+
-2-Chloroethylvinylether (7.965)+
-Toluene-D8 (8.220)
-Toluene (8.291)
-Tetrachloroethene (8.807)
-4-methyl-2-pentanone (8.912)+
-1,1,2-Trichloroethane (9.122)
-Ethyl Methacrylate (9.211)
-Dibromochloromethane (9.342)
-1,3-Dichloropropane (9.477)
-1,2-Dibromoethane (9.616)
-2-Hexanone (10.057)
-Total Xylenes (10.100)
-Chlorobenzene-D5 (10.349)+
-Ethylbenzene (10.443)+
m+p-Xylenes (10.652)
-o-Xylene (11.217)
-Styrene (11.296)+
-Isopropylbenzene (11.651)
-P-Bromofluorobenzene (11.988)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.194)
-1,1,2,2-Tetrachloroethane (12.241)
-Chlorotoluene (12.351)
-1,2,3-Trichloropropane (12.463)+
-trans-1,4-Dichloro-2-Bute (12.527)
-4-Chlorotoluene (12.572)
-tert-Butylbenzene (12.849)+
-1,2,4-Trimethylbenzene (12.946)
-sec-Butylbenzene (13.077)
-P-Isopropyltoluene (13.279)+
-1,2,3-Trimethylbenzene (13.485)
1,4-Dichlorobenzene-D4 (13.410)+
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropa (14.941)
-1,3,5-Trichlorobenzene (14.978)
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.168)
-1,2,3-Trichlorobenzene (16.389)
-1,2-Dichloroethylene (tot (16.880)

Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG292401-13
MSD ID: WG292401-14
Sample ID: TN0377-7
Client ID: MW-01-WINTER2020
Project:
SDG: TN0377
MS File ID: T9678.D

Received Date:
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401
Report Date: 27-JAN-21
MSD File ID: T9679.D

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Chloromethane	50.0	50.0	ug/L	U1.0	57.3	63.1	115.	126.	10	20	50-139
Vinyl Chloride	50.0	50.0	ug/L	U1.0	64.6	68.1	129.	136.	5	20	58-137
Bromomethane	50.0	50.0	ug/L	UM1.0	16.4	30.8	32.8*	61.6	61*	20	53-141
Chloroethane	50.0	50.0	ug/L	UM1.0	67.2	75.1	134.	150.*	11	20	60-138
1,1-Dichloroethene	50.0	50.0	ug/L	U0.50	52.2	57.6	104.	115.	10	20	71-131
Carbon Disulfide	50.0	50.0	ug/L	U0.50	50.4	53.2	101.	106.	5	20	64-133
Methylene Chloride	50.0	50.0	ug/L	J2.2	51.7	56.8	99.0	109.	9	20	74-124
Acetone	50.0	50.0	ug/L	U2.5	45.0	51.7	90.0	103.	14	20	39-160
trans-1,2-Dichloroethene	50.0	50.0	ug/L	U0.50	52.2	55.0	104.	110.	5	20	75-124
1,1-Dichloroethane	50.0	50.0	ug/L	U0.50	53.2	57.1	106.	114.	7	20	77-125
cis-1,2-Dichloroethene	50.0	50.0	ug/L	U0.50	51.8	55.8	104.	112.	7	20	78-123
Chloroform	50.0	50.0	ug/L	U0.50	50.5	55.7	101.	111.	10	20	79-124
Carbon Tetrachloride	50.0	50.0	ug/L	U0.50	52.2	58.5	104.	117.	11	20	72-136
1,1,1-Trichloroethane	50.0	50.0	ug/L	U0.50	52.9	57.2	106.	114.	8	20	74-131
2-Butanone	50.0	50.0	ug/L	U2.5	52.2	56.8	104.	114.	8	20	56-143
Benzene	50.0	50.0	ug/L	U0.50	53.1	58.6	106.	117.	10	20	79-120
1,2-Dichloroethane	50.0	50.0	ug/L	U0.50	50.4	55.8	101.	112.	10	20	73-128
Trichloroethene	50.0	50.0	ug/L	U0.50	53.3	58.2	107.	116.	9	20	79-123
1,2-Dichloropropane	50.0	50.0	ug/L	U0.50	52.3	57.1	105.	114.	9	20	78-122
Bromodichloromethane	50.0	50.0	ug/L	U0.50	52.3	58.6	105.	117.	11	20	79-125
cis-1,3-Dichloropropene	50.0	50.0	ug/L	U0.50	50.4	56.2	101.	112.	11	20	75-124
Toluene	50.0	50.0	ug/L	U0.50	53.9	59.2	108.	118.	9	20	80-121
4-Methyl-2-Pentanone	50.0	50.0	ug/L	U2.5	59.0	64.5	118.	129.	9	20	67-130
Tetrachloroethene	50.0	50.0	ug/L	U0.50	49.0	53.9	98.0	108.	10	20	74-129
trans-1,3-Dichloropropene	50.0	50.0	ug/L	U0.50	52.7	59.4	105.	119.	12	20	73-127
1,1,2-Trichloroethane	50.0	50.0	ug/L	U0.50	53.4	59.5	107.	119.	11	20	80-119
Dibromochloromethane	50.0	50.0	ug/L	U0.50	51.4	57.5	103.	115.	11	20	74-126
2-Hexanone	50.0	50.0	ug/L	U2.5	58.4	64.1	117.	128.	9	20	57-139
Chlorobenzene	50.0	50.0	ug/L	U0.50	50.7	55.9	101.	112.	10	20	82-118
Ethylbenzene	50.0	50.0	ug/L	U0.50	53.4	58.5	107.	117.	9	20	79-121
Xylenes (Total)	150.	150.	ug/L	U1.5	160.	176.	107.	117.	10	20	79-121
m+p-Xylenes	100.	100.	ug/L	U1.0	107.	118.	107.	118.	10	20	80-121
o-Xylene	50.0	50.0	ug/L	U0.50	52.5	58.5	105.	117.	11	20	78-122

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Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG292401-13
MSD ID: WG292401-14
Sample ID: TN0377-7
Client ID: MW-01-WINTER2020
Project:
SDG: TN0377
MS File ID: T9678.D

Received Date:
Extract Date: 23-DEC-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG292401
Report Date: 27-JAN-21
MSD File ID: T9679.D

Analysis Date: 23-DEC-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Styrene	50.0	50.0	ug/L	U0.50	53.8	59.6	108.	119.	10	20	78-123
Bromoform	50.0	50.0	ug/L	U0.50	51.9	58.3	104.	117.	12	20	66-130
1,1,2,2-Tetrachloroethane	50.0	50.0	ug/L	U0.50	54.6	59.6	109.	119.	9	20	71-121
P-Bromofluorobenzene							102.	101.			85-114
Toluene-d8							101.	101.			89-112
1,2-Dichloroethane-d4							104.	101.			81-118
Dibromofluoromethane							102.	101.			80-119

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Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9678.D
Report Date: 27-Jan-2021 16:12

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9678.D
Lab Smp Id: WG292401-13 Client Smp ID: MW-01-WINTER2020MS
Inj Date : 23-DEC-2020 20:36
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-13,TN0377
Misc Info : WG292401,WG292401-4,TN0377-7
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 19 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T2

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.255	1.255	(0.233)	329963	73.3248	73.3	
2 Chloromethane	50	1.390	1.390	(0.258)	297760	57.3214	57.3	
3 Vinyl chloride	62	1.435	1.431	(0.267)	314632	64.6225	64.6	
4 Bromomethane	94	1.637	1.633	(0.304)	28586	16.3629	16.4(R)	
5 Chloroethane	64	1.708	1.708	(0.317)	160383	67.2408	67.2	
6 Trichlorofluoromethane	101	1.805	1.802	(0.335)	469619	66.4101	66.4	
7 Diethyl Ether	59	2.015	2.011	(0.374)	160655	52.6810	52.7	
8 1,1-Dichloroethene	96	2.157	2.157	(0.401)	290623	52.2255	52.2	
9 Freon-113	151	2.183	2.184	(0.406)	171883	51.6633	51.7	
10 Carbon Disulfide	76	2.187	2.187	(0.406)	784182	50.4010	50.4	
11 Iodomethane	142	2.269	2.270	(0.422)	84572	18.0739	18.1(R)	
12 Acrolein	56	2.415	2.416	(0.449)	219123	262.824	263	
13 Allyl Chloride	41	2.520	2.517	(0.468)	371503	53.4166	53.4	
14 Methylene Chloride	84	2.606	2.606	(0.484)	333969	51.6788	51.7	
15 Acetone	43	2.655	2.648	(0.493)	71733	45.0313	45.0	
16 trans-1,2-Dichloroethene	96	2.741	2.741	(0.509)	318274	52.2251	52.2	
17 Methyl Acetate	43	2.752	2.752	(0.511)	196561	52.1088	52.1	
18 Methyl tert-butyl ether	73	2.831	2.831	(0.526)	865649	57.8204	57.8	
19 Tertiary-butyl alcohol	59	2.928	2.924	(0.544)	119671	304.842	305	
20 Acetonitrile	41	3.070	3.070	(0.570)	332444	568.621	569	
21 Di-isopropyl ether	45	3.194	3.190	(0.593)	812167	53.6737	53.7	
22 Chloroprene	53	3.295	3.295	(0.612)	384331	54.6824	54.7	
23 1,1-Dichloroethane	63	3.325	3.325	(0.618)	556530	53.2150	53.2	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9678.D
Report Date: 27-Jan-2021 16:12

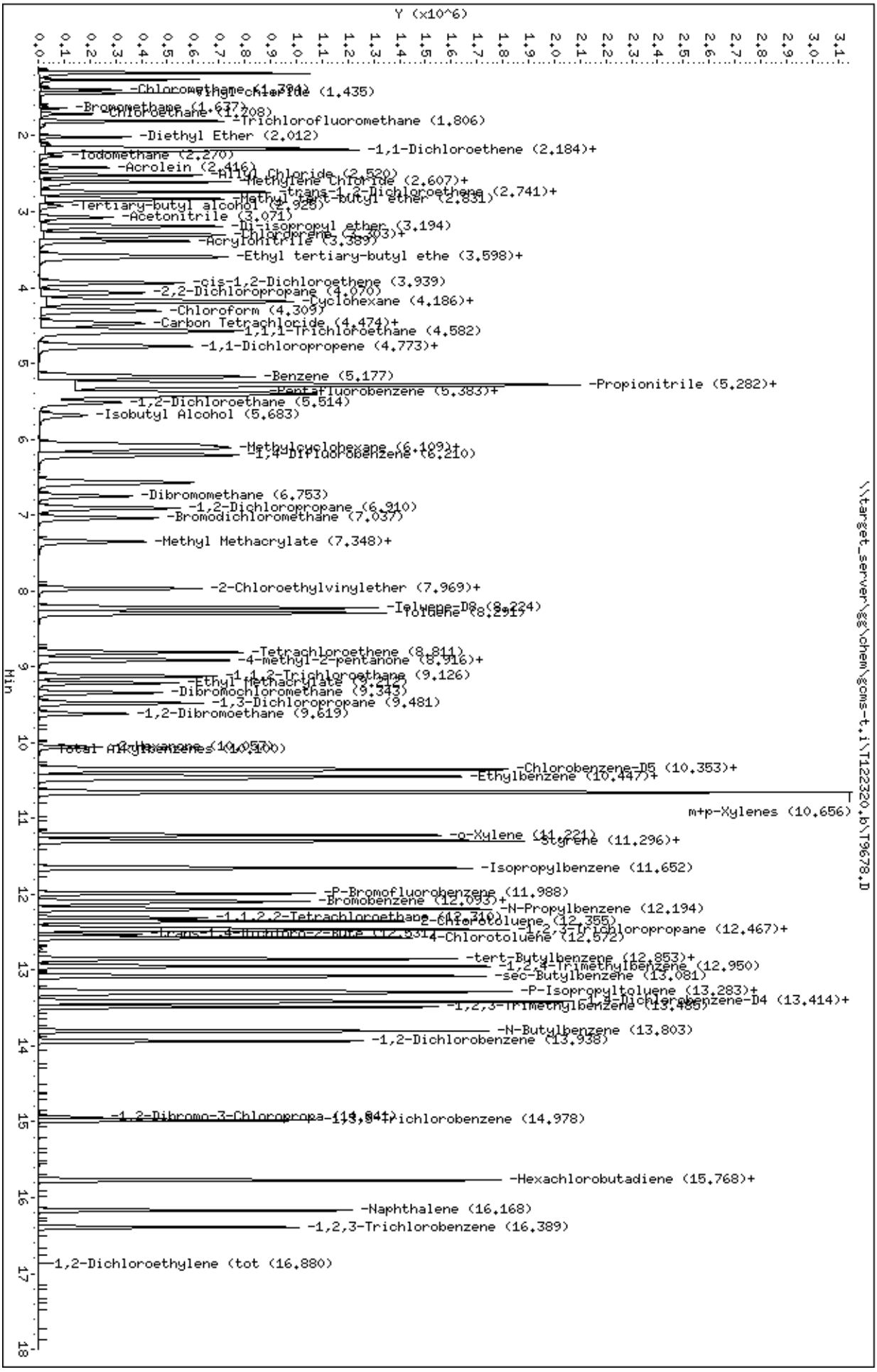
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.388	3.385	(0.629)	427025	267.679	268	
	25 Ethyl tertiary-butyl ether	59	3.586	3.583	(0.666)	740910	51.2961	51.3	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	649319	59.8221	59.8	
	27 cis-1,2-Dichloroethene	96	3.938	3.935	(0.732)	339943	51.8537	51.8	
	28 2,2-Dichloropropane	77	4.069	4.070	(0.756)	408171	48.1008	48.1	
	29 Cyclohexane	56	4.178	4.174	(0.776)	492917	61.7265	61.7	
	30 Bromochloromethane	128	4.193	4.192	(0.779)	157017	56.1182	56.1	
	31 Chloroform	83	4.309	4.304	(0.800)	559397	50.4972	50.5	
	32 Carbon Tetrachloride	117	4.470	4.474	(0.720)	417829	52.2547	52.2	
	33 Tetrahydrofuran	42	4.533	4.519	(0.842)	87071	58.1249	58.1	
$	34 Dibromofluoromethane	113	4.567	4.571	(0.848)	314990	51.0080	51.0	
	35 1,1,1-Trichloroethane	97	4.582	4.582	(0.851)	513474	52.8718	52.9	
	36 1,1-Dichloropropene	75	4.773	4.769	(0.769)	446107	54.0911	54.1	
	37 2-Butanone	43	4.780	4.773	(0.888)	123991	52.2532	52.2	
	38 Benzene	78	5.177	5.174	(0.834)	1277619	53.0790	53.1	
	39 Propionitrile	54	5.256	5.252	(0.976)	372972	556.934	557	
	40 Methacrylonitrile	41	5.282	5.282	(0.981)	1582488	545.779	546	
*	41 Pentafluorobenzene	168	5.383	5.383	(1.000)	564254	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.409	5.406	(1.005)	352411	51.8377	51.8	
	43 Tertiary-amyl methyl ether	73	5.413	5.413	(1.006)	712673	51.7590	51.8	
	44 1,2-Dichloroethane	62	5.514	5.514	(0.888)	385687	50.4481	50.4	
	45 Isobutyl Alcohol	43	5.682	5.686	(1.056)	206314	1374.44	1370(R)	
	46 Methylcyclohexane	83	6.079	6.075	(1.129)	472735	54.6806	54.7	
	47 Trichloroethene	95	6.120	6.117	(0.986)	308953	53.2903	53.3	
*	48 1,4-Difluorobenzene	114	6.210	6.210	(1.000)	949865	50.0000		
	49 Dibromomethane	93	6.752	6.749	(1.087)	197483	48.2124	48.2	
	50 1,2-Dichloropropane	63	6.910	6.910	(1.113)	297793	52.2796	52.3	
	51 Bromodichloromethane	83	7.037	7.033	(1.133)	427106	52.2690	52.3	
	52 Methyl Methacrylate	41	7.347	7.348	(1.183)	227173	57.0139	57.0	
	53 1,4-Dioxane	88	7.355	7.352	(1.184)	66322	1097.86	1100	
	54 2-Chloroethylvinylether	63	7.969	7.939	(1.283)	2135	1.07536	1.1(R)	
	55 cis-1,3-dichloropropene	75	7.969	7.965	(1.283)	492933	50.4083	50.4	
$	56 Toluene-D8	98	8.223	8.220	(1.324)	1110797	50.5725	50.6	
	57 Toluene	92	8.294	8.291	(1.336)	787986	53.8890	53.9	
	58 Tetrachloroethene	164	8.807	8.807	(0.851)	238456	48.9634	49.0	
	59 4-methyl-2-pentanone	43	8.893	8.886	(1.432)	270108	59.0499	59.0	
	60 trans-1,3-Dichloropropene	75	8.915	8.916	(1.436)	452182	52.6901	52.7	
	61 1,1,2-Trichloroethane	83	9.125	9.122	(1.469)	240029	53.3714	53.4	
	62 Ethyl Methacrylate	69	9.215	9.211	(1.484)	367535	55.5497	55.5	
	63 Dibromochloromethane	129	9.346	9.342	(0.903)	319953	51.4083	51.4	
	64 1,3-Dichloropropane	76	9.481	9.477	(0.916)	491869	49.8632	49.9	
	65 1,2-Dibromoethane	107	9.619	9.619	(1.549)	293989	52.3294	52.3	
M	66 Total Alkylbenzenes	100				8053641	380.734	381	
	67 2-Hexanone	43	10.053	10.053	(0.972)	187733	58.3992	58.4	
*	68 Chlorobenzene-D5	117	10.345	10.342	(1.000)	874173	50.0000		
	69 Chlorobenzene	112	10.364	10.364	(1.002)	795795	50.6948	50.7	
	70 Ethylbenzene	91	10.442	10.443	(1.009)	1418596	53.3747	53.4	
	71 1,1,1,2-Tetrachloroethane	131	10.476	10.476	(1.013)	289315	53.2326	53.2	
	72 m+p-Xylenes	91	10.656	10.652	(1.030)	2125329	106.989	107	
	73 o-Xylene	91	11.221	11.217	(1.085)	1090545	52.5438	52.5	
	74 Styrene	104	11.296	11.296	(1.092)	874481	53.8428	53.8	
	75 Bromoform	173	11.292	11.288	(1.092)	202172	51.8949	51.9	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	1328548	54.1078	54.1	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.930)	413273	51.1493	51.1	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9678.D
Report Date: 27-Jan-2021 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.093	12.093	(0.902)	316585	51.2991	51.3	
	79 cis-1,4-Dichloro-2-Butene	53	12.119	12.119	(0.904)	83436	52.6689	52.7	
	80 N-Propylbenzene	91	12.194	12.194	(0.910)	1562334	53.5640	53.6	
	81 1,1,2,2-Tetrachloroethane	83	12.310	12.310	(0.918)	372658	54.6244	54.6	
	82 2-Chlorotoluene	91	12.355	12.355	(0.922)	925047	52.7231	52.7	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	295128	52.4568	52.4	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	1044097	54.1268	54.1	
	85 trans-1,4-Dichloro-2-Butene	53	12.530	12.527	(0.935)	87412	53.5642	53.6	
	86 4-Chlorotoluene	91	12.572	12.572	(0.938)	960092	52.2923	52.3	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	877970	53.7789	53.8	
	88 Pentachloroethane	165	12.856	12.860	(0.959)	501		(aR)	
	89 1,2,4-Trimethylbenzene	105	12.950	12.946	(0.966)	1058357	53.3292	53.3	
	90 sec-Butylbenzene	105	13.081	13.077	(0.976)	1367000	55.2878	55.3	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	1090071	55.2257	55.2	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	572147	50.6287	50.6	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	416511	50.0000		
	94 1,4-Dichlorobenzene	146	13.425	13.425	(1.001)	579585	49.6597	49.6	
	95 1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	934160	51.1946	51.2	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	1053812	55.4218	55.4	
	97 1,2-Dichlorobenzene	146	13.938	13.938	(1.040)	533675	50.2007	50.2	
	98 1,2-Dibromo-3-Chloropropane	157	14.940	14.937	(1.114)	75975	55.2826	55.3	
	99 1,3,5-Trichlorobenzene	180	14.978	14.978	(1.117)	355858	49.5401	49.5	
	100 Hexachlorobutadiene	225	15.764	15.768	(1.176)	142149	49.2018	49.2	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	356891	51.9897	52.0	
	102 Naphthalene	128	16.168	16.168	(1.206)	965754	57.4923	57.5	
M	103 1,2-Dichloroethylene (total)	96				658217	104.079	104	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	314714	51.8457	51.8	
M	105 Xylenes (total)	91				3215874	159.533	160	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9678.D
Date : 23-DEC-2020 20:36
Client ID: MW-01-WINTER2020HS
Sample Info: WG292401-13,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
Y (x10^6)
Min
\\target_server\gg\chem\gcms-t.i\T122320.b\T9678.D
-Chloromethane (1.294)
-Vinyl Chloride (1.435)
-Bromomethane (1.637)
-Chloroethane (1.708)
-Trichlorofluoromethane (1.806)
-Diethyl Ether (2.012)
-1,1-Dichloroethene (2.184)+
-Iodomethane (2.270)
-Acrolein (2.416)
-Allyl Chloride (2.520)
-Methylene Chloride (2.607)+
-Methyl trans-1,2-Dichloroethene (2.741)+
-Methyl tert-butyl ether (2.831)
-Tertiary-butyl alcohol (2.928)
-Acetonitrile (3.071)
-Di-isopropyl ether (3.194)
-Chloroprene (3.303)+
-Acrylonitrile (3.389)
-Ethyl tertiary-butyl ethe (3.598)+
-cis-1,2-Dichloroethene (3.939)
-2,2-Dichloropropane (4.070)
-Cyclohexane (4.186)+
-Chloroform (4.309)
-Carbon Tetrachloride (4.474)+
-1,1,1-Trichloroethane (4.582)
-1,1-Dichloropropene (4.773)+
-Benzene (5.177)
-Propionitrile (5.282)+
-Pentafluorobenzene (5.383)+
-1,2-Dichloroethane (5.514)
-Isobutyl Alcohol (5.683)
-Methylcyclohexane (6.109)+
-1,4-Difluorobenzene (6.210)
-Dibromomethane (6.753)
-1,2-Dichloropropane (6.910)
-Bromodichloromethane (7.037)
-Methyl Methacrylate (7.348)+
-2-Chloroethylvinylether (7.969)+
-Toluene-D8 (8.224)
-Toluene (8.291)
-Tetrachloroethene (8.811)
-4-methyl-2-pentanone (8.916)+
-1,1,2-Trichloroethane (9.126)
-Ethyl Methacrylate (9.212)
-Dibromochloromethane (9.343)
-1,3-Dichloropropane (9.481)
-1,2-Dibromoethane (9.619)
-2-Hexanone (10.057)
Total Alkylbenzenes (10.310)
-Chlorobenzene-D5 (10.353)+
-Ethylbenzene (10.447)+
m+p-Xylenes (10.656)
-o-Xylene (11.221)
-Styrene (11.296)+
-Isopropylbenzene (11.652)
-P-Bromofluorobenzene (11.988)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.194)
-1,1,2,2-Tetrachloroethane (12.310)
-2-Chlorotoluene (12.355)
-1,2,3-Trichloropropane (12.467)+
-trans-1,4-Dichloro-2-Butene (12.531)
-4-Chlorotoluene (12.572)
-tert-Butylbenzene (12.853)+
-1,2,4-Trimethylbenzene (12.950)
-sec-Butylbenzene (13.081)
-P-Isopropyltoluene (13.283)+
-1,4-Dichlorobenzene-D4 (13.414)+
-1,2,3-Trimethylbenzene (13.485)
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropa (14.841)
-1,2,4-Trichlorobenzene (14.978)
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.168)
-1,2,3-Trichlorobenzene (16.389)
-1,2-Dichloroethylene (tot (16.880)

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9679.D
Report Date: 27-Jan-2021 16:12

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-t.i\T122320.b\T9679.D
Lab Smp Id: WG292401-14 Client Smp ID: MW-01-WINTER2020MSD
Inj Date : 23-DEC-2020 21:08
Operator : CR Inst ID: gcms-t.i
Smp Info : WG292401-14,TN0377
Misc Info : WG292401,WG292401-4,TN0377-7
Comment : SW846 5030
Method : \\target_server\gg\chem\gcms-t.i\T122320.b\T8A05(43)D.m
Meth Date : 24-Dec-2020 06:30 HGOULD Quant Type: ISTD
Cal Date : 23-DEC-2020 14:35 Cal File: T9667.D
Als bottle: 20 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T2

Concentration Formula: Amt * DF * 5/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
1 Dichlorodifluoromethane	85	1.259	1.255	(0.234)	347972	77.0348	77.0(R)	
2 Chloromethane	50	1.393	1.390	(0.259)	329055	63.1067	63.1	
3 Vinyl chloride	62	1.435	1.431	(0.266)	332888	68.1139	68.1	
4 Bromomethane	94	1.637	1.633	(0.304)	53968	30.7751	30.8	
5 Chloroethane	64	1.711	1.708	(0.318)	179814	75.1026	75.1(R)	
6 Trichlorofluoromethane	101	1.805	1.802	(0.335)	503234	70.8949	70.9(R)	
7 Diethyl Ether	59	2.015	2.011	(0.374)	171204	55.9281	55.9	
8 1,1-Dichloroethene	96	2.157	2.157	(0.400)	321883	57.6246	57.6	
9 Freon-113	151	2.183	2.184	(0.405)	188951	56.5790	56.6	
10 Carbon Disulfide	76	2.187	2.187	(0.406)	831721	53.2545	53.2	
11 Iodomethane	142	2.269	2.270	(0.421)	164393	34.4403	34.4(R)	
12 Acrolein	56	2.415	2.416	(0.448)	234612	280.339	280	
13 Allyl Chloride	41	2.520	2.517	(0.468)	397112	56.8832	56.9	
14 Methylene Chloride	84	2.606	2.606	(0.484)	368245	56.7675	56.8	
15 Acetone	43	2.651	2.648	(0.492)	82649	51.6880	51.7	
16 trans-1,2-Dichloroethene	96	2.741	2.741	(0.509)	336523	55.0111	55.0	
17 Methyl Acetate	43	2.752	2.752	(0.511)	202501	53.4808	53.5	
18 Methyl tert-butyl ether	73	2.834	2.831	(0.526)	943103	62.7560	62.8(R)	
19 Tertiary-butyl alcohol	59	2.920	2.924	(0.542)	120694	306.286	306	
20 Acetonitrile	41	3.070	3.070	(0.570)	342088	582.907	583	
21 Di-isopropyl ether	45	3.190	3.190	(0.592)	878063	57.8095	57.8	
22 Chloroprene	53	3.298	3.295	(0.612)	416303	59.0076	59.0	
23 1,1-Dichloroethane	63	3.324	3.325	(0.617)	599747	57.1308	57.1	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9679.D
Report Date: 27-Jan-2021 16:12

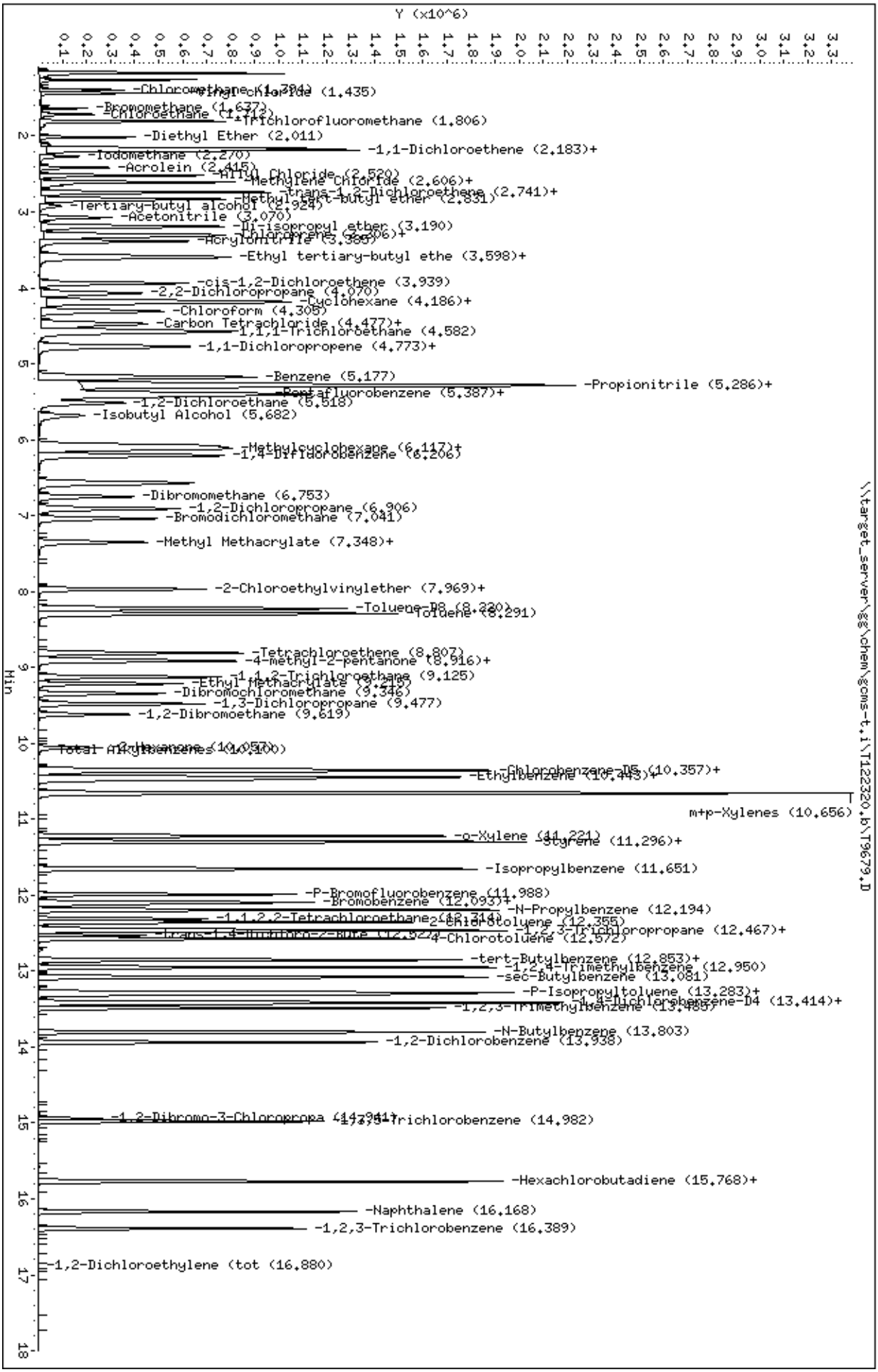
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)	REVIEW CODE
	24 Acrylonitrile	52	3.384	3.385	(0.628)	462364	288.737	289	
	25 Ethyl tertiary-butyl ether	59	3.583	3.583	(0.665)	808441	55.7601	55.8	
	26 Vinyl Acetate	43	3.605	3.606	(0.581)	699195	64.9872	65.0	
	27 cis-1,2-Dichloroethene	96	3.938	3.935	(0.731)	367535	55.8507	55.8	
	28 2,2-Dichloropropane	77	4.069	4.070	(0.755)	450799	52.9237	52.9	
	29 Cyclohexane	56	4.178	4.174	(0.776)	526510	65.6842	65.7(R)	
	30 Bromochloromethane	128	4.193	4.192	(0.778)	170042	60.5439	60.5	
	31 Chloroform	83	4.305	4.304	(0.799)	619625	55.7228	55.7	
	32 Carbon Tetrachloride	117	4.477	4.474	(0.721)	463403	58.4672	58.5	
	33 Tetrahydrofuran	42	4.529	4.519	(0.841)	89391	59.4483	59.4	
$	34 Dibromofluoromethane	113	4.567	4.571	(0.848)	313582	50.5882	50.6	
	35 1,1,1-Trichloroethane	97	4.582	4.582	(0.851)	557408	57.1789	57.2	
	36 1,1-Dichloropropene	75	4.773	4.769	(0.769)	480455	58.7714	58.8	
	37 2-Butanone	43	4.776	4.773	(0.887)	135207	56.7647	56.8	
	38 Benzene	78	5.177	5.174	(0.834)	1397234	58.5622	58.6	
	39 Propionitrile	54	5.255	5.252	(0.976)	397102	590.727	591	
	40 Methacrylonitrile	41	5.285	5.282	(0.981)	1705628	586.027	586	
*	41 Pentafluorobenzene	168	5.386	5.383	(1.000)	566393	50.0000		
$	42 1,2-Dichloroethane-D4	65	5.405	5.406	(1.003)	344164	50.4335	50.4	
	43 Tertiary-amyl methyl ether	73	5.413	5.413	(1.005)	775774	56.1290	56.1	
	44 1,2-Dichloroethane	62	5.517	5.514	(0.889)	422611	55.7669	55.8	
	45 Isobutyl Alcohol	43	5.682	5.686	(1.055)	193719	1293.14	1290	
	46 Methylcyclohexane	83	6.079	6.075	(1.129)	517947	59.6839	59.7	
	47 Trichloroethene	95	6.124	6.117	(0.986)	334207	58.1564	58.2	
*	48 1,4-Difluorobenzene	114	6.210	6.210	(1.000)	941533	50.0000		
	49 Dibromomethane	93	6.749	6.749	(1.087)	216147	53.2359	53.2	
	50 1,2-Dichloropropane	63	6.909	6.910	(1.113)	322476	57.1139	57.1	
	51 Bromodichloromethane	83	7.037	7.033	(1.133)	474895	58.6317	58.6	
	52 Methyl Methacrylate	41	7.347	7.348	(1.183)	243223	61.5822	61.6	
	53 1,4-Dioxane	88	7.351	7.352	(1.184)	58736	980.890	981	
	54 2-Chloroethylvinylether	63	7.972	7.939	(1.284)	2681	1.36508	1.4(R)	
	55 cis-1,3-dichloropropene	75	7.968	7.965	(1.283)	545187	56.2452	56.2	
$	56 Toluene-D8	98	8.223	8.220	(1.324)	1101560	50.5957	50.6	
	57 Toluene	92	8.294	8.291	(1.336)	858171	59.2081	59.2	
	58 Tetrachloroethene	164	8.807	8.807	(0.851)	258469	53.8776	53.9	
	59 4-methyl-2-pentanone	43	8.889	8.886	(1.431)	292516	64.5146	64.5	
	60 trans-1,3-Dichloropropene	75	8.915	8.916	(1.436)	504913	59.3552	59.4	
	61 1,1,2-Trichloroethane	83	9.121	9.122	(1.469)	265095	59.4666	59.5	
	62 Ethyl Methacrylate	69	9.215	9.211	(1.484)	405506	61.8311	61.8	
	63 Dibromochloromethane	129	9.346	9.342	(0.903)	352767	57.5402	57.5	
	64 1,3-Dichloropropane	76	9.480	9.477	(0.916)	540644	55.6389	55.6	
	65 1,2-Dibromoethane	107	9.619	9.619	(1.549)	320141	57.4886	57.5	
M	66 Total Alkylbenzenes	100				8785186	411.831	412	
	67 2-Hexanone	43	10.057	10.053	(0.972)	203049	64.1215	64.1	
*	68 Chlorobenzene-D5	117	10.345	10.342	(1.000)	861114	50.0000		
	69 Chlorobenzene	112	10.364	10.364	(1.002)	863833	55.8636	55.9	
	70 Ethylbenzene	91	10.442	10.443	(1.009)	1531610	58.5008	58.5	
	71 1,1,1,2-Tetrachloroethane	131	10.480	10.476	(1.013)	320851	59.9303	59.9	
	72 m+p-Xylenes	91	10.655	10.652	(1.030)	2301027	117.590	118	
	73 o-Xylene	91	11.217	11.217	(1.084)	1195634	58.4808	58.5	
	74 Styrene	104	11.295	11.296	(1.092)	953631	59.6066	59.6	
	75 Bromoform	173	11.292	11.288	(1.092)	223713	58.2950	58.3	
	76 Isopropylbenzene	105	11.651	11.651	(0.869)	1451195	58.5989	58.6	
$	77 P-Bromofluorobenzene	95	11.988	11.988	(1.930)	404063	50.4519	50.4	

Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9679.D
Report Date: 27-Jan-2021 16:12

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)	REVIEW CODE
	78 Bromobenzene	156	12.092	12.093	(0.902)	348671	56.0166	56.0	
	79 cis-1,4-Dichloro-2-Butene	53	12.119	12.119	(0.904)	91983	57.5691	57.6	
	80 N-Propylbenzene	91	12.193	12.194	(0.910)	1709569	58.1121	58.1	
	81 1,1,2,2-Tetrachloroethane	83	12.309	12.310	(0.918)	409775	59.5529	59.6	
	82 2-Chlorotoluene	91	12.354	12.355	(0.922)	1013662	57.2811	57.3	
	83 1,2,3-Trichloropropane	75	12.444	12.441	(0.928)	323532	57.0150	57.0	
	84 1,3,5-Trimethylbenzene	105	12.467	12.467	(0.930)	1140479	58.6192	58.6	
	85 trans-1,4-Dichloro-2-Butene	53	12.527	12.527	(0.934)	96695	58.7474	58.7	
	86 4-Chlorotoluene	91	12.571	12.572	(0.938)	1042646	56.3044	56.3	
	87 tert-Butylbenzene	119	12.852	12.853	(0.959)	972720	59.0746	59.1	
	88 Pentachloroethane	165	12.848	12.860	(0.958)	748		(aR)	
	89 1,2,4-Trimethylbenzene	105	12.949	12.946	(0.966)	1158644	57.8847	57.9	
	90 sec-Butylbenzene	105	13.080	13.077	(0.976)	1487932	59.6657	59.7	
	91 P-Isopropyltoluene	119	13.279	13.279	(0.991)	1192361	59.8928	59.9	
	92 1,3-Dichlorobenzene	146	13.305	13.305	(0.992)	623129	54.6699	54.7	
*	93 1,4-Dichlorobenzene-D4	152	13.406	13.407	(1.000)	420093	50.0000		
	94 1,4-Dichlorobenzene	146	13.425	13.425	(1.001)	636695	54.0878	54.1	
	95 1,2,3-Trimethylbenzene	105	13.485	13.485	(1.006)	1032801	56.1178	56.1	
	96 N-Butylbenzene	91	13.803	13.803	(1.030)	1123481	58.5820	58.6	
	97 1,2-Dichlorobenzene	146	13.937	13.938	(1.040)	595113	55.5026	55.5	
	98 1,2-Dibromo-3-Chloropropane	157	14.937	14.937	(1.114)	83156	59.9918	60.0	
	99 1,3,5-Trichlorobenzene	180	14.981	14.978	(1.118)	393680	54.3381	54.3	
	100 Hexachlorobutadiene	225	15.767	15.768	(1.176)	151825	52.1029	52.1	
	101 1,2,4-Trichlorobenzene	180	15.771	15.772	(1.176)	383666	55.4136	55.4	
	102 Naphthalene	128	16.168	16.168	(1.206)	1050496	62.0038	62.0	
M	103 1,2-Dichloroethylene (total)	96				704058	110.862	111	
	104 1,2,3-Trichlorobenzene	180	16.389	16.389	(1.222)	346576	56.6078	56.6	
M	105 Xylenes (total)	91				3496661	176.071	176	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.


Data File: \\target_server\gg\chem\gcms-t.i\T122320.b\T9679.D
Date : 23-DEC-2020 21:08
Client ID: MW-01-WINTER2020HSD
Sample Info: WG292401-14,TN0377
Purge Volume: 5.0
Column phase: RTX-VMS
Instrument: gcms-t.i
Operator: CR
Column diameter: 0.18
\\target_server\gg\chem\gcms-t.i\T122320.b\T9679.D
Y (x10^6)
Min
-Chloromethane (1.394)
-Vinyl Chloride (1.435)
-Bromomethane (1.637)
-Chloroethane (1.712)
-Trichlorofluoromethane (1.806)
-Diethyl Ether (2.011)
-1,1-Dichloroethene (2.183)+
-Iodomethane (2.270)
-Acrolein (2.415)
-Allyl Chloride (2.520)
-Methylene Chloride (2.606)+
-trans-1,2-Dichloroethene (2.741)+
-Methyl tert-butyl ether (2.831)
-Tertiary-butyl alcohol (2.924)
-Acetonitrile (3.070)
-Di-isopropyl ether (3.190)
-Chloroprene (3.206)+
-Acrylonitrile (3.386)
-Ethyl tertiary-butyl ethe (3.598)+
-cis-1,2-Dichloroethene (3.939)
-2,2-Dichloropropane (4.070)
-Cyclohexane (4.186)+
-Chloroform (4.305)
-Carbon Tetrachloride (4.477)+
-1,1,1-Trichloroethane (4.582)
-1,1-Dichloropropene (4.773)+
-Benzene (5.177)
-Propionitrile (5.286)+
-Pentafluorobenzene (5.387)+
-1,2-Dichloroethane (5.518)
-Isobutyl Alcohol (5.682)
-Methylcyclohexane (6.117)+
-1,4-Difluorobenzene (6.206)
-Dibromomethane (6.753)
-1,2-Dichloropropane (6.906)
-Bromodichloromethane (7.041)
-Methyl Methacrylate (7.348)+
-2-Chloroethylvinylether (7.969)+
-Toluene-D8 (8.220)
-Toluene (8.291)
-Tetrachloroethene (8.807)
-4-methyl-2-pentanone (8.916)+
-1,1,2-Trichloroethane (9.125)
-Ethyl Methacrylate (9.215)
-Dibromochloromethane (9.346)
-1,3-Dichloropropane (9.477)
-1,2-Dibromoethane (9.619)
-2-Hexanone (10.057)
Total Alkylbenzenes (10.310)
-Chlorobenzene-D5 (10.357)+
-Ethylbenzene (10.443)+
m+p-Xylenes (10.656)
-o-Xylene (11.221)
-Styrene (11.296)+
-Isopropylbenzene (11.651)
-P-Bromofluorobenzene (11.988)
-Bromobenzene (12.093)+
-N-Propylbenzene (12.194)
-1,1,2,2-Tetrachloroethane (12.314)
-2-Chlorotoluene (12.355)
-1,2,3-Trichloropropane (12.467)+
-trans-1,4-Dichloro-2-Bute (12.527)
-4-Chlorotoluene (12.572)
-tert-Butylbenzene (12.853)+
-1,2,4-Trimethylbenzene (12.950)
-sec-Butylbenzene (13.081)
-P-Isopropyltoluene (13.283)+
-1,4-Dichlorobenzene-D4 (13.414)+
-1,2,3-Trimethylbenzene (13.485)
-N-Butylbenzene (13.803)
-1,2-Dichlorobenzene (13.938)
-1,2-Dibromo-3-Chloropropa (14.294)
-1,2,4-Trichlorobenzene (14.982)
-Hexachlorobutadiene (15.768)+
-Naphthalene (16.168)
-1,2,3-Trichlorobenzene (16.389)
-1,2-Dichloroethylene (tot (16.880)

Logbooks and Supporting Documents

WG

GCMS-C INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

10:01

DATE/TIME OF BFB INJECTION: 12-28-20 B

Method - Check One:	8260 ✓	8260 - 10 mL	8260 SIM	624	524
STD IDs: * BFB STD: V2088	CAL STD: V2111	GAS STD: V2110A	XTRAs STD: V2109	LCS/MS STD: V2108	
SURR STD: V2102	IS STD: V2102				

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	5030	5035	1311	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
WG292597-11	CB502	—	—	VOABFB	✓						Y	CR	N/A	N/A	
VStd 150 -6	C8335	1	1	C81A05(37)							Y				
100 -5	36	1	2								Y				
075 -7	37	1	3								Y				
050 -4	38	1	4								Y				Curve
020 -3	39	1	5								Y				okay for
005 -2	40	1	6								Y				everything
001 -1	41	1	7								Y				
Ind/LCS -8/9	42	1	8								Y/Y				Ind "A" file
VBlank	43	1	9								N				
VBlank -10	44	1	10								Y				
TN0312-4A	45	1	11						5.1		Y		<2		ISST NOTH
TN0334-14A	46	1	12								Y				~~ISST~~
-24A	47	1	13								Y				ISST NOTH>LOQ
-25A	48	1	14								Y				ISST NOTH>LOQ
TN0312-1A	49	1	15								Y				ISST NOTH
-2A	50	1	16								Y				ISST NOTH
-3A	51	1	17								Y				ISST NOTH
TN0330-2A	52	1	18					✓			Y				RR 1:10
-3A	53	1	19					✓			Y				RR 1:10
CCV	54	1	20								Y		N/A		21:00 ✓
CCV	55	1	21								N				Not Needed
CCV	56	1	22								N				
Rinse	57	1	23								—				

* Refer to page 1 for standard preparation instructions.

VOA-002 - Revision 2 - 12/21/2018

QAMS734 - 000221

CR 12/29/20

0000005

WG

GCMS-C INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

3:54

DATE/TIME OF BFB INJECTION: 12-29-20

Method - Check One:	8260 ✓	8260 - 10 mL	8260 SIM	624	524
STD IDs: *	BFB STD: V2088	CAL STD: V2111	GAS STD: V2110B	XTRAs STD: V2109	LCS/MS STD: V2108
SURR STD: V2102		IS STD: V2102			

pH Paper Lot #: 6003003 KI Paper Lot # ——

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	Prep Method 5030	Prep Method 5035	Prep Method 1311	Criteria KAS	Criteria DoD	Criteria QAPP	Y/N	ANALYST	pH	TRC	COMMENTS
WG292631-3	CB503	—	—	VOABFB	✓						Y	CR	N/A	N/A	
VStd 050 -4	C8359	1	1	C8A05(37)							Y				
LCS -1	60	1	2								Y				
LCSD -6	61	1	3								Y				
VBlank	62	1	4								N				
VBlank -2	63	1	5								Y				
MeOHBlank -7	64	1	6								Y				(800ul MeOH)
TN0323-6 A	65	1	7						5.1		Y		<2		ISST NOTH
-5 B	66	1	8								Y				ISST NOTH
TN0377-13A	67	1	9								Y				ISST NOTH > LOQ
TN0322-6DL A	68	1	10								Y		N/A		(800ul MeOH) ISST matrix
-18DL A	69	1	11								Y				ISST matrix
-21DL A	70	1	12								Y				
-22DL A	71	1	13								Y				
TN0289-1RA B	72	1	14								Y		7		
-2RA B	73	1	15								Y		<2		
-3 A	74	1	16								Y				ISST no TH
-4 A	75	1	17								Y				ISST no TH
-5 A	76	1	18								Y				ISST no TH
-6 A	77	1	19								Y				ISST no TH
TN0377-8A	78	1	20								Y				~~ISS~~
-9A	79	1	21								Y				ISST no TH
CCV	80	1	22								Y		N/A		

Refer to page 1 for standard preparation instructions.

VOA-002 - Revision 2 - 12/21/2018

QAMS734 - 000221

0000006

Katahdin Analytical Services 2000259

GCMS-C INSTRUMENT RUNLOG

KATAHDIN ANALYTICAL SERVICES

15:58

DATE/TIME OF BFB INJECTION: 12-29-20 B

Method - Check One:	8260 ✓	8260 - 10 mL	8260 SIM	624	524
STD IDs: * BFB STD: V2075	CAL STD: V2111	GAS STD: V2116B	XTRAs STD: V2109	LCS/MS STD: V2105	
SURR STD: V2102	IS STD: V2102				

pH Paper Lot #: [illegible] KI Paper Lot #

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	Prep Method 5030	5035	1311	Criteria KAS	DoD	QAPP	Y/N	ANALYST	pH	TRC	COMMENTS
WG292078-4	C8354	—	—	VBMB5	✓										
VStd 50-4	C8351	1	1	CTA05(37)							Y	TAO	N/A	N/A	
LCS -1	82		2								Y				
LCSD -6	83		3								Y				
VBLKA	84		4								Y				
B-2.	85		5								N				
Moot -7	86		6								Y				
IN0325-8	87		7								Y				
V -7	88		8						5.1		Y		<2		
IN0322-29DL	89		9								Y				
IN0323-29DL	90		10								Y		N/A		800ml Moot
IN0341-1DL	91	10	11					✓							700ml Moot RR 500 ml
IN0377-10	92	1	12								Y		N/A		250ml Anti foam
11	93		13						5.1		Y		<2		
12	94		14								Y				
IN0325-1	95		15								Y				
2	96		16								Y				
3	97		17								Y				
4	98		18								Y				
5	99		19												ISST RR
6	C8400		20								Y				
CCV 5	01		21								Y				
2	02		22								Y		N/A		3.18✓
3	03		23								N				Not needed
Rinse	04		24								N				
											—				

* Refer to page 1 for standard preparation instructions.

VOA-002 - Revision 2 - 12/21/2018

Ck 12/30/20

Katahdin Analytical Services 2000260

WG

KATAHDIN ANALYTICAL SERVICES

9:02

GCMS-T INSTRUMENT RUNLOG

DATE/TIME OF BFB INJECTION: 12-23-20

Method - Check One:	8260 ✓	8260 - 10 mL	8260 SIM	624	524

STD IDs: *	BFB STD: V2058	CAL STD: V2101	GAS STD: V2100B	XTRAs STD: V2099	LCS/MS STD: V2108
SURR STD: V2102		IS STD: V2102	Prep Method	Criteria	pH Paper Lot #: [illegible] KI Paper Lot # —

SAMPLE NAME	DATAFILE	DF	ALS #	METHOD	5030	5035	1311	KAS	DoD	QAPP	Y/N	ANALYST	pH	TRC	COMMENTS
W6292-401-11	TB3[illegible]	—	—	V[illegible]	✓						Y	[illegible]	N/A	N/A	
VStd150 -6	T9660	1	1	TNA05(43)							Y				
100 -5	61	1	2								Y				
75	62	1	3								N				No Good for 1,4-D
50 -4	63	1	4								Y				chloroethane ↑75
20 -3	64	1	5								Y				
5 -2	65	1	6								Y				
1 -1	66	1	7								Y				
75 -7	67	1	8								Y				
LCS/Ind -9/-8	68	1	9								Y/Y				Ind "A" file
VBlank	69	1	10								✓				
VBlank -10	70	1	11								Y				
LOD 0.5	71	1	12												
LOD 0.75	72	1	13										↓		
TN0377-15A	73	1	14						5.1		Y		<2		
TN0208-6RAZ	74	1	15					✓			Y				(200uAF)
↓ -6RAZ	75	1	16					✓			Y		↓		↓
TN0163-11DLRA B	76	20	17						5.1		Y		↓		(400uAF) diluted due to color
TN0377-7A	77	1	18								Y		<2		
↓ -13 -7MSB	78	1	19								Y		↓		
↓ -14 -7MSDC	79	1	20								Y		↓		
CCV -12	80	1	21								Y		N/A		21:39 37min 00c
CCV -15	81	1	22								Y				report all 3+ Nars
CCV -6	82	1	23								Y				↓
Rinse	83	1	24	↓	↓						—	↓	↓	↓	

* Refer to page 1 for standard preparation instructions.

VOA-009 - Revision 4 - 10/17/2018

QAMS731 - 000282

CR [illegible]

0000034

Katahdin Analytical Services 2000261

8270 SIM
POLYNUCLEAR AROMATIC HYDROCARBONS DATA

QC Summary Section

Katahdin
ANALYTICAL SERVICES

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** LO-58 Nike Missile Battery Launch Site **Matrix:** AQ
Lab Code: KAS **SDG:** TN0377

Client Sample ID	Lab Sample ID	Col. ID	2MN	#	FLO	#	PYR	#
DW-01-EFF-WINTER2020	TN0377-1		85.6		76.7		65.2	
MW-04-WINTER2020	TN0377-10		80.4		74.3		95.6	
MW-05-WINTER2020	TN0377-11		67.7		72.8		94.2	
MW-FD-WINTER2020	TN0377-12		76.4		70.1		91.0	
GW-EB-WINTER2020	TN0377-13		88.6		79.8		102.	
DW-01-INF-WINTER2020	TN0377-2		70.5		57.4		89.9	
DW-01-MID-WINTER2020	TN0377-3		100.	*	88.4		109.	
DW-02R-EFF-WINTER202	TN0377-4		77.1		74.0		99.0	
DW-02R-INF-WINTER202	TN0377-5		73.2		72.5		106.	
DW-FD-WINTER2020	TN0377-6		78.9		74.3		91.2	
MW-01-WINTER2020	TN0377-7		75.2		77.6		100.	
MW-02-WINTER2020	TN0377-8		78.1		72.9		87.2	
MW-03-WINTER2020	TN0377-9		86.6		78.8		97.6	
Method Blank Sample	WG292336-1		79.8		72.0		81.9	
Laboratory Control S	WG292336-2		69.6		56.4		82.9	
Matrix Spike	WG292336-3		108.	*	74.3		98.6	
Matrix Spike Duplica	WG292336-4		69.2		59.7		82.4	
Matrix Spike	WG292336-5		103.	*	73.5		75.2	
Matrix Spike Duplica	WG292336-6		103.	*	73.0		84.8	

		QC Limits
2MN	2-METHYLNAPHTHALENE-D10	43-92
FLO	FLUORENE-D10	29-101
PYR	PYRENE-D10	53-166

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : N1286.D
Instrument ID : GCMS-N
Matrix : AQ

SDG : TN0377
Lab Sample ID : WG292336-1
Date Extracted : 22-DEC-20
Date Analyzed : 08-JAN-21
Time Analyzed : 11:12

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	WG292336-2	N1285.D	01/08/21	10:39
DW-01-EFF-WINTER2020	TN0377-1	N1287.D	01/08/21	11:44
DW-01-INF-WINTER2020	TN0377-2	N1288.D	01/08/21	12:17
Matrix Spike	WG292336-3	N1289.D	01/08/21	12:49
Matrix Spike Duplica	WG292336-4	N1290.D	01/08/21	13:21
DW-01-MID-WINTER2020	TN0377-3	N1291.D	01/08/21	13:54
DW-02R-EFF-WINTER2020	TN0377-4	N1292.D	01/08/21	14:26
DW-FD-WINTER2020	TN0377-6	N1293.D	01/08/21	14:59
MW-02-WINTER2020	TN0377-8	N1295.D	01/08/21	16:04
MW-03-WINTER2020	TN0377-9	N1296.D	01/08/21	16:37
MW-04-WINTER2020	TN0377-10	N1297.D	01/08/21	17:14
MW-05-WINTER2020	TN0377-11	N1298.D	01/08/21	17:53
MW-FD-WINTER2020	TN0377-12	N1299.D	01/08/21	18:30
GW-EB-WINTER2020	TN0377-13	N1300.D	01/08/21	19:07
MW-01-WINTER2020	TN0377-7	N1320.D	01/11/21	16:02
Matrix Spike	WG292336-5	N1321.D	01/11/21	16:35
Matrix Spike Duplica	WG292336-6	N1322.D	01/11/21	17:11
DW-02R-INF-WINTER2020	TN0377-5	N1378.D	01/13/21	18:26

Katahdin
ANALYTICAL SERVICES

Form 5
Semivolatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : ND088.D
Instrument ID : GCMS-N

SDG : TN0377
Date Analyzed : 06-JAN-21
Time Analyzed : 13:02

m/e	Ion Abundance Criteria	% Relative Abundance		
51	30.0 - 60.0% of mass 198	33.6		
68	Less than 2.0% of mass 69	0.0	0.0	1
69	Less than 100.0% of mass 198	45.0		
70	Less than 2.0% of mass 69	0.3	0.60	1
127	40.0 - 60.0% of mass 198	59.3		
197	Less than 1.0% of mass 198	0.0		
198	Base Peak, 100% relative abundance	100		
199	5.0 - 9.0% of mass 198	6.9		
275	10.0 - 30.0% of mass 198	23.5		
365	1.0 - 100.0% of mass 198	2.4		
441	0.0 - 100.0% of mass 443	13.0	86.84	2
442	40.0 - 100.0% of mass 198	76.7		
443	17.0 - 23.0% of mass 442	15.0	19.56	3

1-Value is % mass 69 2-Value is % mass 443
3-Value is % mass 442

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG292998-4	N1239.D	01/06/21	13:20
Initial Calibration	WG292998-2	N1240.D	01/06/21	13:53
Initial Calibration	WG292998-3	N1241.D	01/06/21	14:25
Initial Calibration	WG292998-5	N1242.D	01/06/21	14:58
Initial Calibration	WG292998-6	N1243.D	01/06/21	15:31
Initial Calibration	WG292998-7	N1244.D	01/06/21	16:03
Independent Source	WG292998-8	N1245.D	01/06/21	16:36

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Form 5
Semivolatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : ND090.D
Instrument ID : GCMS-N

SDG : TN0377
Date Analyzed : 08-JAN-21
Time Analyzed : 09:44

m/e	Ion Abundance Criteria	% Relative Abundance		
51	30.0 - 60.0% of mass 198	32.2		
68	Less than 2.0% of mass 69	0.0	0.0	1
69	Less than 100.0% of mass 198	43.9		
70	Less than 2.0% of mass 69	0.3	0.62	1
127	40.0 - 60.0% of mass 198	58.0		
197	Less than 1.0% of mass 198	0.0		
198	Base Peak, 100% relative abundance	100		
199	5.0 - 9.0% of mass 198	6.8		
275	10.0 - 30.0% of mass 198	23.8		
365	1.0 - 100.0% of mass 198	2.6		
441	0.0 - 100.0% of mass 443	14.2	93.15	2
442	40.0 - 100.0% of mass 198	81.7		
443	17.0 - 23.0% of mass 442	15.3	18.72	3

1-Value is % mass 69
2-Value is % mass 443
3-Value is % mass 442

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Continuing Calibrati	WG293131-2	N1284.D	01/08/21	10:02
Laboratory Control S	WG292336-2	N1285.D	01/08/21	10:39
Method Blank Sample	WG292336-1	N1286.D	01/08/21	11:12
DW-01-EFF-WINTER2020	TN0377-1	N1287.D	01/08/21	11:44
DW-01-INF-WINTER2020	TN0377-2	N1288.D	01/08/21	12:17
Matrix Spike	WG292336-3	N1289.D	01/08/21	12:49
Matrix Spike Duplica	WG292336-4	N1290.D	01/08/21	13:21
DW-01-MID-WINTER2020	TN0377-3	N1291.D	01/08/21	13:54
DW-02R-EFF-WINTER2020	TN0377-4	N1292.D	01/08/21	14:26
DW-FD-WINTER2020	TN0377-6	N1293.D	01/08/21	14:59
MW-02-WINTER2020	TN0377-8	N1295.D	01/08/21	16:04
MW-03-WINTER2020	TN0377-9	N1296.D	01/08/21	16:37
MW-04-WINTER2020	TN0377-10	N1297.D	01/08/21	17:14
MW-05-WINTER2020	TN0377-11	N1298.D	01/08/21	17:53
MW-FD-WINTER2020	TN0377-12	N1299.D	01/08/21	18:30
GW-EB-WINTER2020	TN0377-13	N1300.D	01/08/21	19:07
Continuing Calibrati	WG293131-3	N1304.D	01/08/21	21:34

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Form 5
Semivolatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : ND091.D
Instrument ID : GCMS-N

SDG : TN0377
Date Analyzed : 11-JAN-21
Time Analyzed : 10:51

m/e	Ion Abundance Criteria	% Relative Abundance		
51	30.0 - 60.0% of mass 198	32.2		
68	Less than 2.0% of mass 69	0.0	0.0	1
69	Less than 100.0% of mass 198	42.6		
70	Less than 2.0% of mass 69	0.2	0.59	1
127	40.0 - 60.0% of mass 198	57.1		
197	Less than 1.0% of mass 198	0.0		
198	Base Peak, 100% relative abundance	100		
199	5.0 - 9.0% of mass 198	6.7		
275	10.0 - 30.0% of mass 198	23.2		
365	1.0 - 100.0% of mass 198	2.5		
441	0.0 - 100.0% of mass 443	14.3	90.51	2
442	40.0 - 100.0% of mass 198	82.1		
443	17.0 - 23.0% of mass 442	15.8	19.30	3

1-Value is % mass 69
2-Value is % mass 443
3-Value is % mass 442

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG293230-4	N1311.D	01/11/21	11:09
Initial Calibration	WG293230-2	N1312.D	01/11/21	11:42
Initial Calibration	WG293230-3	N1313.D	01/11/21	12:14
Initial Calibration	WG293230-5	N1314.D	01/11/21	12:46
Initial Calibration	WG293230-6	N1315.D	01/11/21	13:19
Initial Calibration	WG293230-7	N1316.D	01/11/21	13:52
Independent Source	WG293230-8	N1317.D	01/11/21	14:24
MW-01-WINTER2020	TN0377-7	N1320.D	01/11/21	16:02
Matrix Spike	WG292336-5	N1321.D	01/11/21	16:35
Matrix Spike Duplica	WG292336-6	N1322.D	01/11/21	17:11
Continuing Calibrati	WG293230-9	N1331.D	01/11/21	22:45

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Form 5
Semivolatile Organic Instrument Performance Check

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : ND093.D
Instrument ID : GCMS-N

SDG : TN0377
Date Analyzed : 13-JAN-21
Time Analyzed : 12:57

m/e	Ion Abundance Criteria	% Relative Abundance		
51	30.0 - 60.0% of mass 198	33.6		
68	Less than 2.0% of mass 69	0.0	0.0	1
69	Less than 100.0% of mass 198	44.7		
70	Less than 2.0% of mass 69	0.3	0.59	1
127	40.0 - 60.0% of mass 198	59.6		
197	Less than 1.0% of mass 198	0.0		
198	Base Peak, 100% relative abundance	100		
199	5.0 - 9.0% of mass 198	6.6		
275	10.0 - 30.0% of mass 198	23.5		
365	1.0 - 100.0% of mass 198	2.4		
441	0.0 - 100.0% of mass 443	14.0	95.40	2
442	40.0 - 100.0% of mass 198	80.2		
443	17.0 - 23.0% of mass 442	14.6	18.26	3

1-Value is % mass 69
2-Value is % mass 443
3-Value is % mass 442

This check applies to the following samples, LCS, MS, MSD and standards:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Initial Calibration	WG293350-4	N1369.D	01/13/21	13:16
Initial Calibration	WG293350-2	N1370.D	01/13/21	13:49
Initial Calibration	WG293350-3	N1371.D	01/13/21	14:21
Initial Calibration	WG293350-5	N1372.D	01/13/21	14:54
Initial Calibration	WG293350-6	N1373.D	01/13/21	15:27
Initial Calibration	WG293350-7	N1374.D	01/13/21	16:00
Independent Source	WG293350-8	N1375.D	01/13/21	16:32
DW-02R-INF-WINTER2020	TN0377-5	N1378.D	01/13/21	18:26
Continuing Calibrati	WG293350-9	N1389.D	01/14/21	01:28
Continuing Calibrati	WG293350-10	N1390.D	01/14/21	02:06
Continuing Calibrati	WG293350-11	N1391.D	01/14/21	02:43

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292998-4
Lab File ID : N1239.D

SDG: TN0377
Analytical Date: 01/06/21 13:20
Instrument ID: GCMS-N

		1,4-DICHLOROBENZENE-D4				NAPHTHALENE-D8				ACENAPHTHENE-D10			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	27301		7.37		76750		9.01		39556		11.35	
	Upper Limit	54602		7.54		153500		9.18		79112		11.52	
	Lower Limit	13650.5		7.21		38375		8.85		19778		11.18	
Client Sample ID	Lab Sample ID												
Continuing Calibrati	WG293131-2	37123		7.36		109543		9.00		61171		11.34	
Laboratory Control S	WG292336-2	33302		7.36		80350		9.01		52123		11.34	
Method Blank Sample	WG292336-1	38778		7.37		105159		9.02		56479		11.35	
DW-01-EFF-WINTER2	TN0377-1	36612		7.36		108353		9.02		60007		11.35	
DW-01-INF-WINTER2	TN0377-2	35309		7.38		105668		9.03		56209		11.35	
Matrix Spike	WG292336-3	36502		7.35		102928		9.00		60324		11.34	
Matrix Spike Duplica	WG292336-4	35194		7.35		98031		9.00		56999		11.34	
DW-01-MID-WINTER	TN0377-3	37396		7.36		99919		9.03		56268		11.35	
DW-02R-EFF-WINTEI	TN0377-4	33175		7.36		98384		9.03		52709		11.34	
DW-FD-WINTER2020	TN0377-6	37409		7.36		100597		9.03		53878		11.35	
MW-02-WINTER2020	TN0377-8	39265		7.37		107208		9.04		58698		11.35	
MW-03-WINTER2020	TN0377-9	35443		7.36		103757		9.03		56471		11.35	
MW-04-WINTER2020	TN0377-10	31303		7.36		92308		9.04		50937		11.34	
MW-05-WINTER2020	TN0377-11	38675		7.36		115576		9.00		63774		11.34	
MW-FD-WINTER2020	TN0377-12	35841		7.36		105221		9.03		57118		11.35	
GW-EB-WINTER2020	TN0377-13	39230		7.37		105467		9.02		57771		11.35	
Continuing Calibrati	WG293131-3	31972		7.35		93800		9.00		51610		11.34	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292998-4
Lab File ID : N1239.D

SDG: TN0377
Analytical Date: 01/06/21 13:20
Instrument ID: GCMS-N

		PHENANTHRENE-D10				CHRYSENE-D12				PERYLENE-D12			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	62702		13.35		26652		17.12		19116		20.15	
	Upper Limit	125404		13.51		53304		17.29		38232		20.31	
	Lower Limit	31351		13.18		13326		16.96		9558		19.98	
Client Sample ID	Lab Sample ID												
Continuing Calibrati	WG293131-2	85235		13.32		35614		17.10		26067		20.11	
Laboratory Control S	WG292336-2	70575		13.32		28423		17.10		19884		20.11	
Method Blank Sample	WG292336-1	76569		13.34		31920		17.11		21113		20.11	
DW-01-EFF-WINTER2	TN0377-1	80530		13.34		32257		17.11		21395		20.11	
DW-01-INF-WINTER2	TN0377-2	71265		13.34		29594		17.10		18447		20.11	
Matrix Spike	WG292336-3	86314		13.32		32666		17.10		21743		20.10	
Matrix Spike Duplica	WG292336-4	76944		13.32		28985		17.10		19709		20.10	
DW-01-MID-WINTER	TN0377-3	73394		13.34		25686		17.11		17493		20.11	
DW-02R-EFF-WINTEI	TN0377-4	68939		13.34		23794		17.11		16489		20.11	
DW-FD-WINTER2020	TN0377-6	75869		13.35		27770		17.11		18609		20.11	
MW-02-WINTER2020	TN0377-8	76612		13.34		30178		17.11		18472		20.11	
MW-03-WINTER2020	TN0377-9	75217		13.33		26056		17.11		18027		20.11	
MW-04-WINTER2020	TN0377-10	71613		13.35		26130		17.10		18098		20.10	
MW-05-WINTER2020	TN0377-11	89881		13.32		32221		17.10		20274		20.10	
MW-FD-WINTER202(	TN0377-12	77833		13.33		28071		17.10		17738		20.10	
GW-EB-WINTER2020	TN0377-13	77166		13.34		27773		17.10		17955		20.10	
Continuing Calibrati	WG293131-3	70499		13.32		32661		17.10		21331		20.11	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG293230-4
Lab File ID : N1311.D

SDG: TN0377
Analytical Date: 01/11/21 11:09
Instrument ID: GCMS-N

		1,4-DICHLOROBENZENE-D4				NAPHTHALENE-D8				ACENAPHTHENE-D10			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	26444		7.35		71052		9.00		34531		11.34	
	Upper Limit	52888		7.52		142104		9.17		69062		11.50	
	Lower Limit	13222		7.19		35526		8.83		17265.5		11.17	
Client Sample ID	Lab Sample ID												
MW-01-WINTER2020	TN0377-7	33062		7.36		95584		9.04		51625		11.34	
Matrix Spike	WG292336-5	28884		7.35		78381		9.00		47311		11.34	
Matrix Spike Duplica	WG292336-6	29540		7.36		74497		9.00		45265		11.34	
Continuing Calibrati	WG293230-9	24460		7.35		70697		9.00		38823		11.33	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG293230-4
Lab File ID : N1311.D

SDG: TN0377
Analytical Date: 01/11/21 11:09
Instrument ID: GCMS-N

		PHENANTHRENE-D10				CHRYSENE-D12				PERYLENE-D12			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	42404		13.33		19381		17.10		12757		20.11	
	Upper Limit	84808		13.50		38762		17.27		25514		20.28	
	Lower Limit	21202		13.17		9690.5		16.93		6378.5		19.95	
Client Sample ID	Lab Sample ID												
MW-01-WINTER2020	TN0377-7	73765		13.34		28043		17.11		18725		20.10	
Matrix Spike	WG292336-5	72764		13.32		32946		17.09		22994		20.10	
Matrix Spike Duplica	WG292336-6	64852		13.32		30369		17.09		20581		20.10	
Continuing Calibrati	WG293230-9	57577		13.32		28252		17.10		15957		20.11	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG293350-4
Lab File ID : N1369.D

SDG: TN0377
Analytical Date: 01/13/21 13:16
Instrument ID: GCMS-N

		1,4-DICHLOROBENZENE-D4				NAPHTHALENE-D8				ACENAPHTHENE-D10			
		Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
	Std .	34067		7.34		89994		8.99		48868		11.32	
	Upper Limit	68134		7.51		179988		9.16		97736		11.48	
	Lower Limit	17033.5		7.18		44997		8.82		24434		11.15	
Client Sample ID	Lab Sample ID												
DW-02R-INF-WINTEI	TN0377-5	29717		7.34		86027		9.03		48902		11.33	
Continuing Calibrati	WG293350-9	27989		7.35		73283		8.99		42529		11.33	
Continuing Calibrati	WG293350-10	25108		7.36		79631		9.00		44716		11.33	
Continuing Calibrati	WG293350-11	23432		7.35		63014		9.00		33644		11.33	

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Katahdin
ANALYTICAL SERVICES

Form 8
Internal Standard Area and RT Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG293350-4
Lab File ID : N1369.D

SDG: TN0377
Analytical Date: 01/13/21 13:16
Instrument ID: GCMS-N

		PHENANTHRENE-D10			CHRYSENE-D12			PERYLENE-D12		
		Area	#	RT #	Area	#	RT #	Area	#	RT #
	Std .	74699		13.31	28531		17.08	15337		20.09
	Upper Limit	149398		13.48	57062		17.25	30674		20.26
	Lower Limit	37349.5		13.14	14265.5		16.91	7668.5		19.92
Client Sample ID	Lab Sample ID									
DW-02R-INF-WINTEI	TN0377-5	69953		13.32	27342		17.08	15137		20.08
Continuing Calibrati	WG293350-9	61924		13.32	14713		17.10	11907		20.11
Continuing Calibrati	WG293350-10	65743		13.32	17136		17.10	13002		20.10
Continuing Calibrati	WG293350-11	51257		13.32	12847	*	17.10	10072		20.11

Area Upper Limit = +100% of internal standard area
Area Lower Limit = - 50% of internal standard area
RT Upper Limit = + 10 seconds of internal standard RT
RT Lower Limit = - 10 seconds of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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Sample Data Section

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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), 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/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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), 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, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-1
Client ID: DW-01-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1287.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.093	ug/L	1	.2	0.19	0.060	0.093
2-Methylnaphthalene	U	0.093	ug/L	1	.2	0.19	0.072	0.093
1-Methylnaphthalene	U	0.093	ug/L	1	.2	0.19	0.064	0.093
Acenaphthylene	U	0.093	ug/L	1	.2	0.19	0.050	0.093
Acenaphthene	U	0.093	ug/L	1	.2	0.19	0.060	0.093
Fluorene	U	0.093	ug/L	1	.2	0.19	0.057	0.093
Phenanthrene	U	0.093	ug/L	1	.2	0.19	0.048	0.093
Anthracene	U	0.093	ug/L	1	.2	0.19	0.041	0.093
Fluoranthene	U	0.093	ug/L	1	.2	0.19	0.068	0.093
Pyrene	U	0.093	ug/L	1	.2	0.19	0.055	0.093
Benzo(a)anthracene	U	0.093	ug/L	1	.2	0.19	0.043	0.093
Chrysene	U	0.093	ug/L	1	.2	0.19	0.034	0.093
Benzo(b)Fluoranthene	U	0.093	ug/L	1	.2	0.19	0.083	0.093
Benzo(k)fluoranthene	U	0.093	ug/L	1	.2	0.19	0.046	0.093
Benzo(a)pyrene	U	0.093	ug/L	1	.2	0.19	0.062	0.093
Indeno(1,2,3-cd)pyrene	U	0.093	ug/L	1	.2	0.19	0.048	0.093
Dibenzo(a,h)anthracene	U	0.093	ug/L	1	.2	0.19	0.065	0.093
Benzo(g,h,i)perylene	U	0.093	ug/L	1	.2	0.19	0.061	0.093
2-Methylnaphthalene-D10		85.6	%					
Fluorene-D10		76.7	%					
Pyrene-D10		65.2	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1287.D
Report Date: 15-Jan-2021 15:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1287.D
Lab Smp Id: TN0377-1 Client Smp ID: W-01-EFF-WINTER2020
Inj Date : 08-JAN-2021 11:44
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-1
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

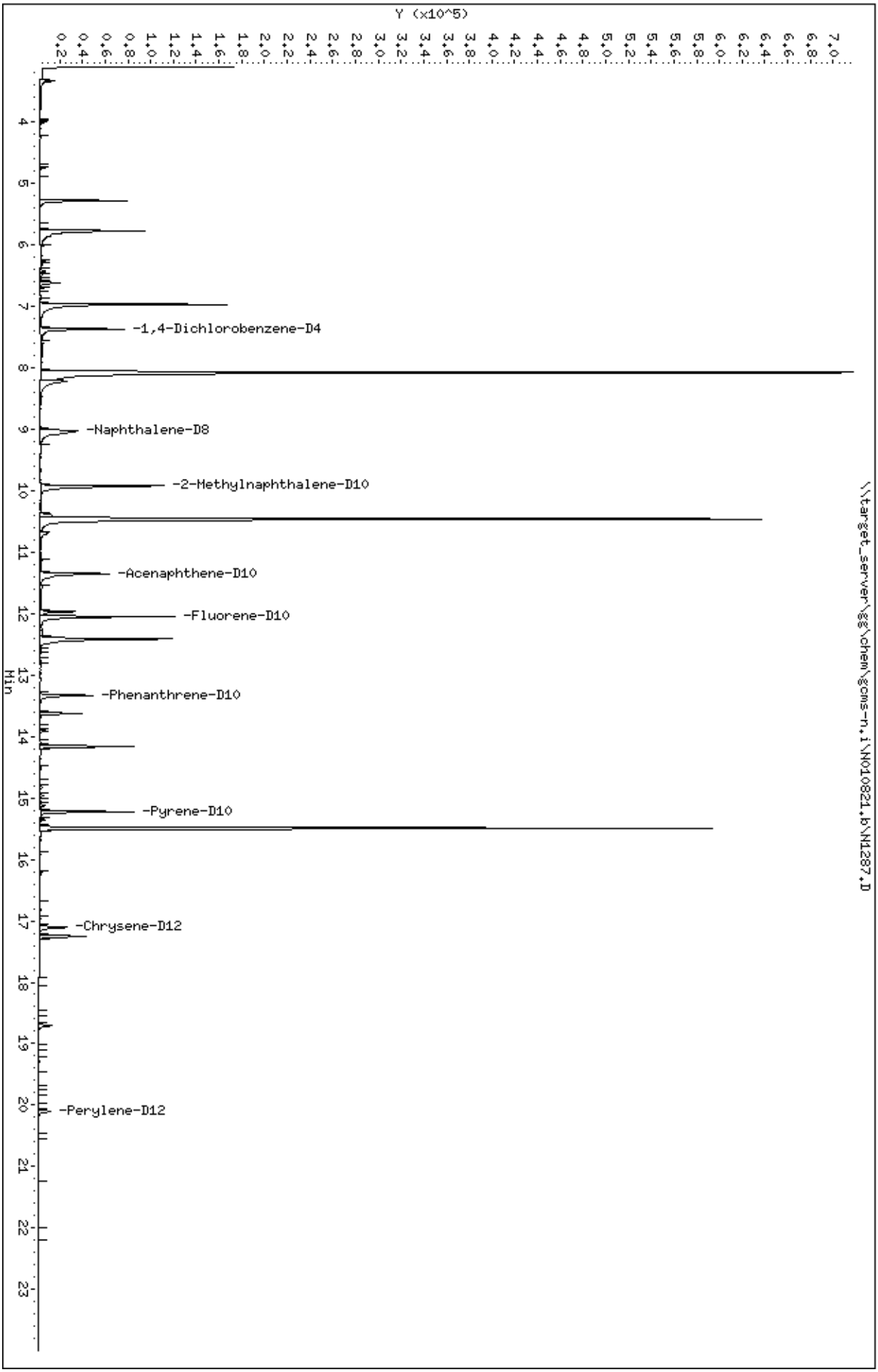
Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.070	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.374	(1.000)	36612	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.022	9.012	(1.000)	108353	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.099)	112600	1.71285	1.60	
* 48 Acenaphthene-D10	164	11.349	11.349	(1.000)	60007	0.80000	(a)	
$ 56 Fluorene-D10	174	12.046	12.057	(1.061)	98345	1.53348	1.43	
* 66 Phenanthrene-D10	188	13.335	13.335	(1.000)	80530	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	72228	1.30364	1.22	
* 77 Chrysene-D12	240	17.113	17.124	(1.000)	32257	0.80000	(a)	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	21395	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.


Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1287,D
Date : 08-JAN-2021 11:44
Client ID: W-01-EFF-WINTER2020
Sample Info: TN0377-1
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010821,b\N1287,D
Y (x10^5)
-1,4-Dichlorobenzene-D4
-Naphthalene-D8
-2-Methylnaphthalene-D10
-Acenaphthene-D10
-Fluorene-D10
-Phenanthrene-D10
-Pyrene-D10
-Chrysene-D12
-Perylene-D12
Min

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1288.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.095	ug/L	1	.2	0.19	0.061	0.095
2-Methylnaphthalene	U	0.095	ug/L	1	.2	0.19	0.073	0.095
1-Methylnaphthalene	U	0.095	ug/L	1	.2	0.19	0.065	0.095
Acenaphthylene	U	0.095	ug/L	1	.2	0.19	0.051	0.095
Acenaphthene	U	0.095	ug/L	1	.2	0.19	0.061	0.095
Fluorene	U	0.095	ug/L	1	.2	0.19	0.058	0.095
Phenanthrene	U	0.095	ug/L	1	.2	0.19	0.048	0.095
Anthracene	U	0.095	ug/L	1	.2	0.19	0.042	0.095
Fluoranthene	U	0.095	ug/L	1	.2	0.19	0.070	0.095
Pyrene	U	0.095	ug/L	1	.2	0.19	0.056	0.095
Benzo(a)anthracene	U	0.095	ug/L	1	.2	0.19	0.044	0.095
Chrysene	U	0.095	ug/L	1	.2	0.19	0.034	0.095
Benzo(b)Fluoranthene	U	0.095	ug/L	1	.2	0.19	0.085	0.095
Benzo(k)fluoranthene	U	0.095	ug/L	1	.2	0.19	0.047	0.095
Benzo(a)pyrene	U	0.095	ug/L	1	.2	0.19	0.063	0.095
Indeno(1,2,3-cd)pyrene	U	0.095	ug/L	1	.2	0.19	0.050	0.095
Dibenzo(a,h)anthracene	U	0.095	ug/L	1	.2	0.19	0.067	0.095
Benzo(g,h,i)perylene	U	0.095	ug/L	1	.2	0.19	0.062	0.095
2-Methylnaphthalene-D10		70.5	%					
Fluorene-D10		57.4	%					
Pyrene-D10		89.9	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1288.D
Report Date: 15-Jan-2021 16:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1288.D
Lab Smp Id: TN0377-2 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 08-JAN-2021 12:17
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-2
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

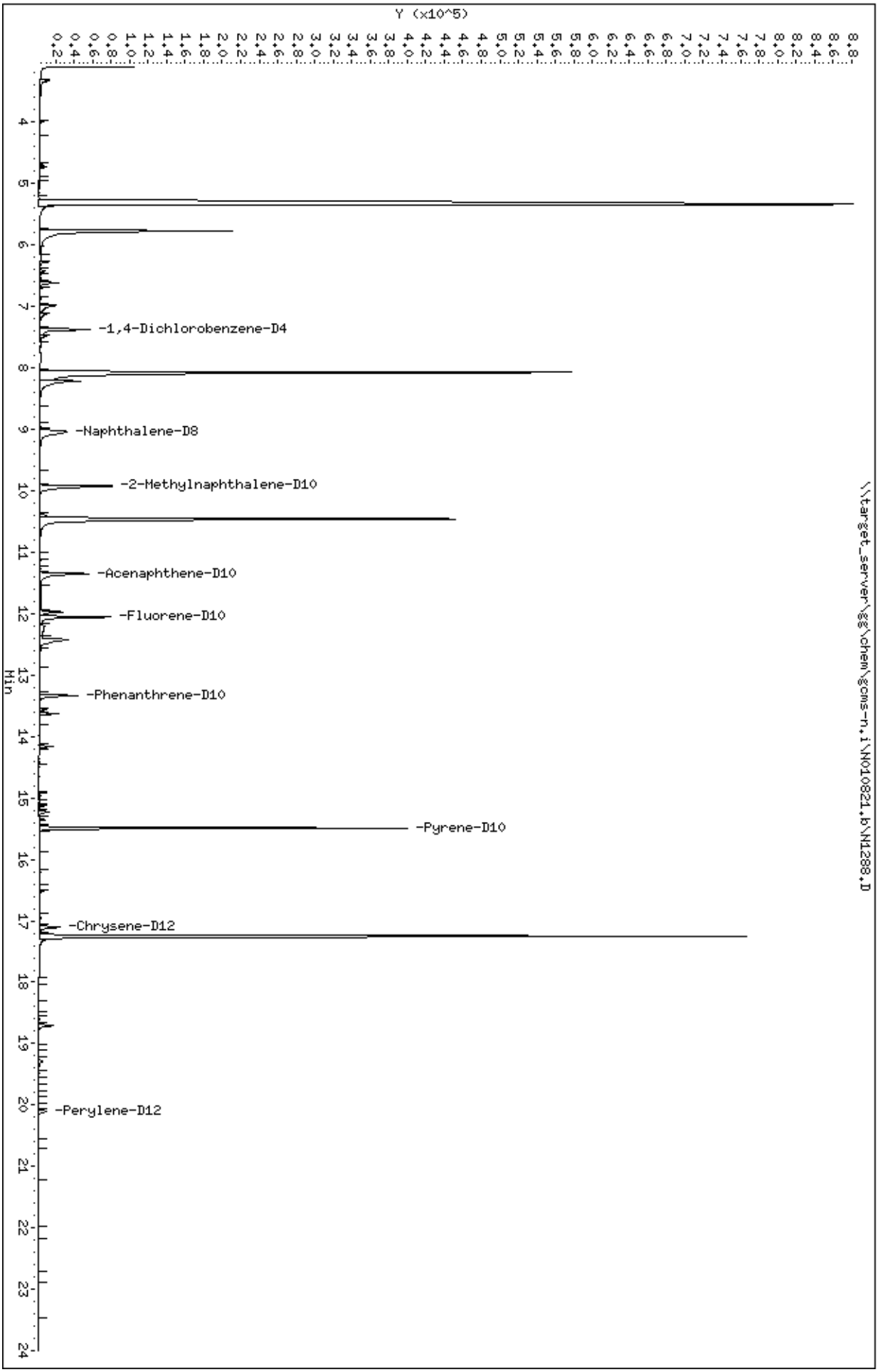
Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.050	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.375	7.374	(1.000)	35309	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.033	9.012	(1.000)	105668	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.920	9.919	(1.098)	90344	1.40922	1.34	
* 48 Acenaphthene-D10	164	11.349	11.349	(1.000)	56209	0.80000	(a)	
$ 56 Fluorene-D10	174	12.047	12.057	(1.061)	69004	1.14867	1.09	
* 66 Phenanthrene-D10	188	13.335	13.335	(1.000)	71265	0.80000	(a)	
$ 72 Pyrene-D10	212	15.492	15.247	(0.906)	91404	1.79820	1.71(Q)	
* 77 Chrysene-D12	240	17.102	17.124	(1.000)	29594	0.80000	(a)	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	18447	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.


Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1288,D
Date : 08-JAN-2021 12:17
Client ID: W-01-INF-WINTER2020
Sample Info: TN0377-2
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010821,b\N1288,D
Y (x10^5)
Min
-1,4-Dichlorobenzene-D4
-Naphthalene-D8
-2-Methylnaphthalene-D10
-Acenaphthene-D10
-Fluorene-D10
-Phenanthrene-D10
-Pyrene-D10
-Chrysene-D12
-Perylene-D12

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-3
Client ID: DW-01-MID-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1291.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.10	ug/L	1	.2	0.21	0.067	0.10
2-Methylnaphthalene	U	0.10	ug/L	1	.2	0.21	0.081	0.10
1-Methylnaphthalene	U	0.10	ug/L	1	.2	0.21	0.072	0.10
Acenaphthylene	U	0.10	ug/L	1	.2	0.21	0.057	0.10
Acenaphthene	U	0.10	ug/L	1	.2	0.21	0.067	0.10
Fluorene	U	0.10	ug/L	1	.2	0.21	0.064	0.10
Phenanthrene	U	0.10	ug/L	1	.2	0.21	0.054	0.10
Anthracene	U	0.10	ug/L	1	.2	0.21	0.046	0.10
Fluoranthene	U	0.10	ug/L	1	.2	0.21	0.077	0.10
Pyrene	U	0.10	ug/L	1	.2	0.21	0.062	0.10
Benzo(a)anthracene	U	0.10	ug/L	1	.2	0.21	0.048	0.10
Chrysene	U	0.10	ug/L	1	.2	0.21	0.038	0.10
Benzo(b)Fluoranthene	U	0.10	ug/L	1	.2	0.21	0.094	0.10
Benzo(k)fluoranthene	U	0.10	ug/L	1	.2	0.21	0.052	0.10
Benzo(a)pyrene	U	0.10	ug/L	1	.2	0.21	0.069	0.10
Indeno(1,2,3-cd)pyrene	U	0.10	ug/L	1	.2	0.21	0.055	0.10
Dibenzo(a,h)anthracene	U	0.10	ug/L	1	.2	0.21	0.074	0.10
Benzo(g,h,i)perylene	U	0.10	ug/L	1	.2	0.21	0.068	0.10
2-Methylnaphthalene-D10	*	100.	%					
Fluorene-D10		88.4	%					
Pyrene-D10		109.	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1291.D
Report Date: 15-Jan-2021 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1291.D
Lab Smp Id: TN0377-3 Client Smp ID: W-01-MID-WINTER2020
Inj Date : 08-JAN-2021 13:54
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-3
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	0.95000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

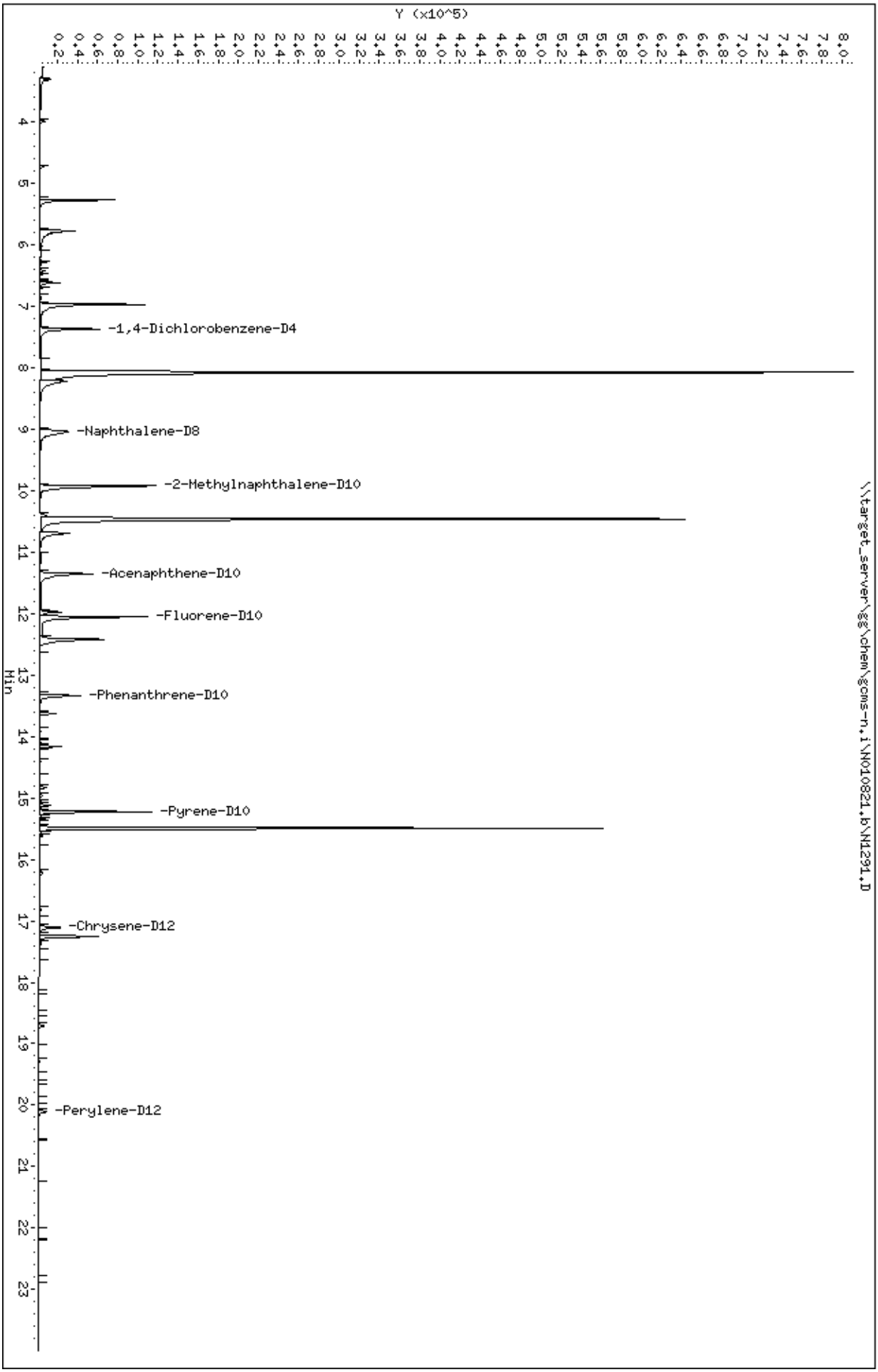
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.374	(1.000)	37396	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.033	9.012	(1.000)	99919	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.098)	121615	2.00614	2.11(R)	
* 48 Acenaphthene-D10	164	11.349	11.349	(1.000)	56268	0.80000	(a)	
$ 56 Fluorene-D10	174	12.046	12.057	(1.061)	106323	1.76804	1.86	
* 66 Phenanthrene-D10	188	13.335	13.335	(1.000)	73394	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	96497	2.18723	2.30	
* 77 Chrysene-D12	240	17.113	17.124	(1.000)	25686	0.80000	(a)	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	17493	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.

Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1291,D
Date : 08-JAN-2021 13:54
Client ID: W-01-MID-WINTER2020
Sample Info: TN0377-3
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-4
Client ID: DW-02R-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1292.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.094	ug/L	1	.2	0.19	0.060	0.094
2-Methylnaphthalene	U	0.094	ug/L	1	.2	0.19	0.073	0.094
1-Methylnaphthalene	U	0.094	ug/L	1	.2	0.19	0.064	0.094
Acenaphthylene	U	0.094	ug/L	1	.2	0.19	0.051	0.094
Acenaphthene	U	0.094	ug/L	1	.2	0.19	0.060	0.094
Fluorene	U	0.094	ug/L	1	.2	0.19	0.058	0.094
Phenanthrene	U	0.094	ug/L	1	.2	0.19	0.048	0.094
Anthracene	U	0.094	ug/L	1	.2	0.19	0.042	0.094
Fluoranthene	U	0.094	ug/L	1	.2	0.19	0.069	0.094
Pyrene	U	0.094	ug/L	1	.2	0.19	0.056	0.094
Benzo(a)anthracene	U	0.094	ug/L	1	.2	0.19	0.043	0.094
Chrysene	U	0.094	ug/L	1	.2	0.19	0.034	0.094
Benzo(b)Fluoranthene	U	0.094	ug/L	1	.2	0.19	0.084	0.094
Benzo(k)fluoranthene	U	0.094	ug/L	1	.2	0.19	0.046	0.094
Benzo(a)pyrene	U	0.094	ug/L	1	.2	0.19	0.062	0.094
Indeno(1,2,3-cd)pyrene	U	0.094	ug/L	1	.2	0.19	0.049	0.094
Dibenzo(a,h)anthracene	U	0.094	ug/L	1	.2	0.19	0.066	0.094
Benzo(g,h,i)perylene	U	0.094	ug/L	1	.2	0.19	0.061	0.094
2-Methylnaphthalene-D10		77.1	%					
Fluorene-D10		74.0	%					
Pyrene-D10		99.0	%					

600 Technology Way
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Tel:(207) 874-2400 Fax:(207) 775-4029
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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1292.D
Report Date: 15-Jan-2021 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1292.D
Lab Smp Id: TN0377-4 Client Smp ID: W-02R-EFF-WINTER202
Inj Date : 08-JAN-2021 14:26
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-4
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.060	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

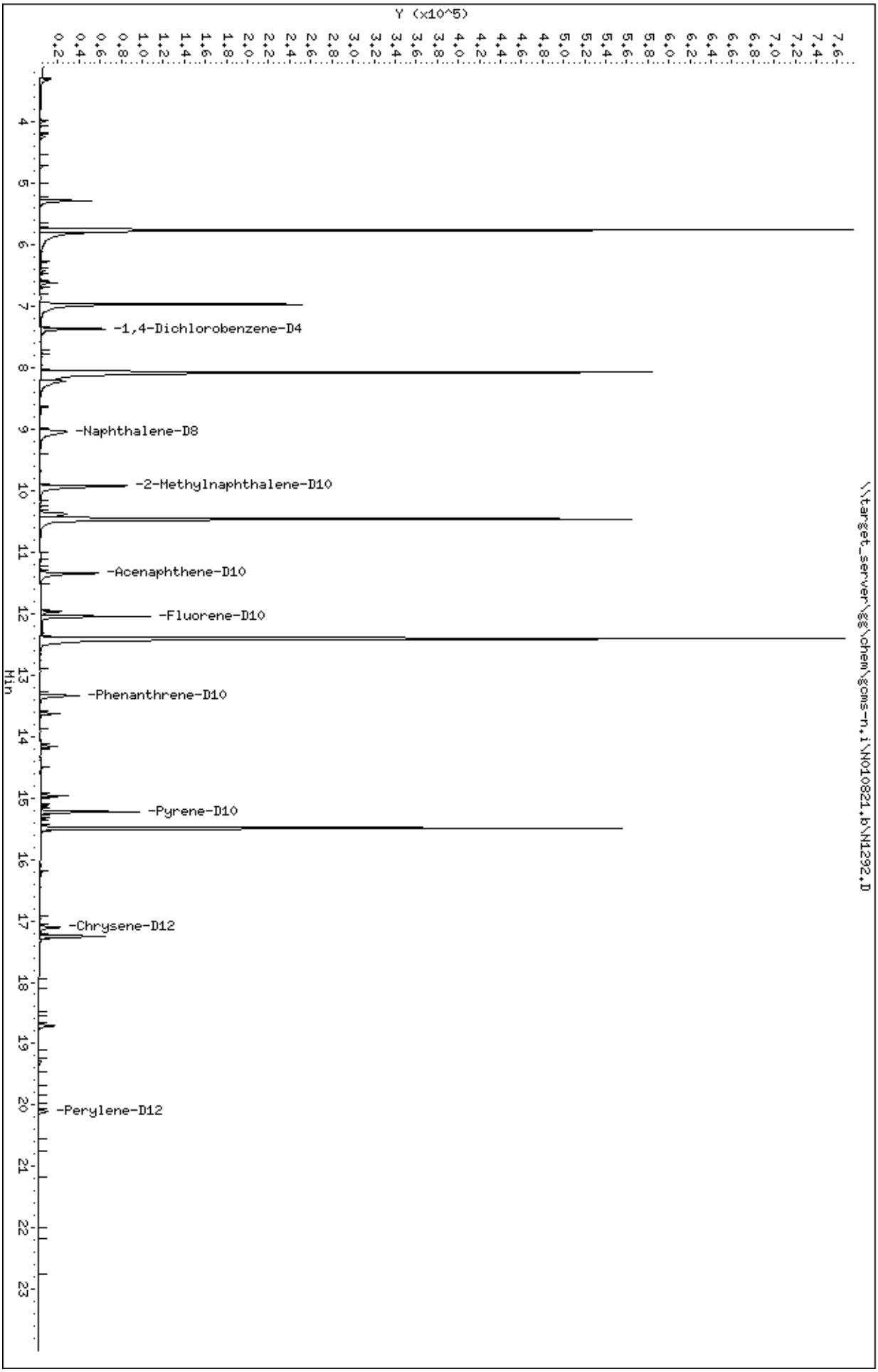
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.374	(1.000)	33175	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.033	9.012	(1.000)	98384	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.098)	92058	1.54227	1.45	
* 48 Acenaphthene-D10	164	11.338	11.349	(1.000)	52709	0.80000	(a)	
$ 56 Fluorene-D10	174	12.046	12.057	(1.062)	83378	1.48011	1.40	
* 66 Phenanthrene-D10	188	13.335	13.335	(1.000)	68939	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	80915	1.97988	1.87	
* 77 Chrysene-D12	240	17.113	17.124	(1.000)	23794	0.80000	(a)	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	16489	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1292,D
Date : 08-JAN-2021 14:26
Client ID: W-02R-EFF-WINTER202
Sample Info: TN0377-4
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-5
Client ID: DW-02R-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1378.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 13-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.096	ug/L	1	.2	0.19	0.062	0.096
2-Methylnaphthalene	U	0.096	ug/L	1	.2	0.19	0.074	0.096
1-Methylnaphthalene	U	0.096	ug/L	1	.2	0.19	0.065	0.096
Acenaphthylene	U	0.096	ug/L	1	.2	0.19	0.052	0.096
Acenaphthene	U	0.096	ug/L	1	.2	0.19	0.062	0.096
Fluorene	U	0.096	ug/L	1	.2	0.19	0.059	0.096
Phenanthrene	U	0.096	ug/L	1	.2	0.19	0.049	0.096
Anthracene	U	0.096	ug/L	1	.2	0.19	0.042	0.096
Fluoranthene	U	0.096	ug/L	1	.2	0.19	0.070	0.096
Pyrene	J	0.064	ug/L	1	.2	0.19	0.057	0.096
Benzo(a)anthracene	U	0.096	ug/L	1	.2	0.19	0.044	0.096
Chrysene	J	0.046	ug/L	1	.2	0.19	0.035	0.096
Benzo(b)Fluoranthene	U	0.096	ug/L	1	.2	0.19	0.086	0.096
Benzo(k)fluoranthene	U	0.096	ug/L	1	.2	0.19	0.047	0.096
Benzo(a)pyrene	U	0.096	ug/L	1	.2	0.19	0.063	0.096
Indeno(1,2,3-cd)pyrene	U	0.096	ug/L	1	.2	0.19	0.050	0.096
Dibenzo(a,h)anthracene	U	0.096	ug/L	1	.2	0.19	0.067	0.096
Benzo(g,h,i)perylene	U	0.096	ug/L	1	.2	0.19	0.062	0.096
2-Methylnaphthalene-D10		73.2	%					
Fluorene-D10		72.5	%					
Pyrene-D10		106.	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1378.D
Report Date: 15-Jan-2021 16:03

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1378.D
Lab Smp Id: TN0377-5 Client Smp ID: W-02R-INF-WINTER202
Inj Date : 13-JAN-2021 18:26
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-5
Misc Info : WG293350,WG292336,WG293350-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 14-Jan-2021 08:20 cgomez Quant Type: ISTD
Cal Date : 13-JAN-2021 16:00 Cal File: N1374.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.040	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

JCG

1:37 pm, Jan 18, 2021

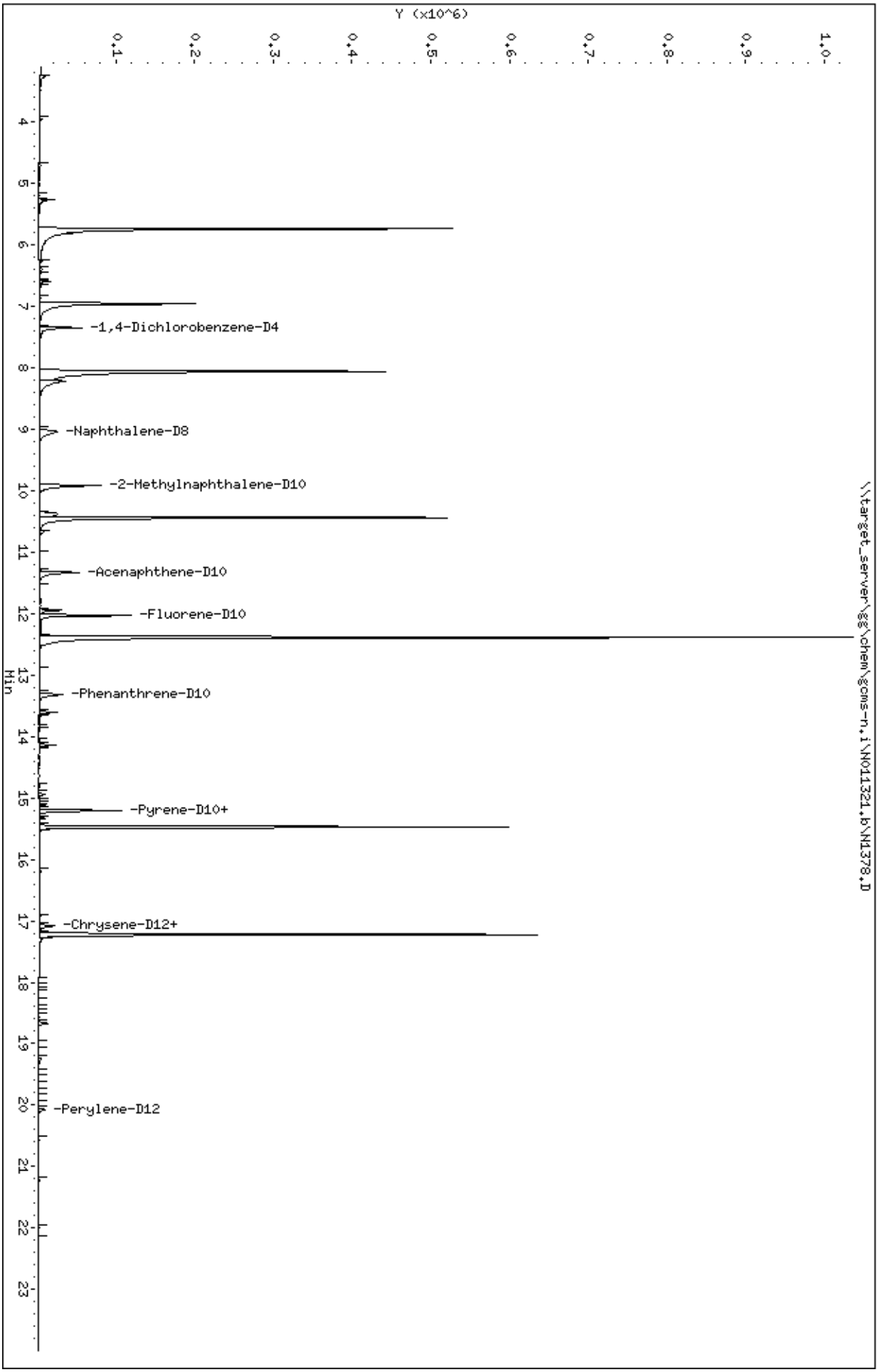
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.344	7.334	(1.000)	29717	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.033	8.980	(1.000)	86027	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.909	9.900	(1.097)	90527	1.46491	1.41	
* 48 Acenaphthene-D10	164	11.327	11.316	(1.000)	48902	0.80000	(a)	
$ 56 Fluorene-D10	174	12.024	12.024	(1.062)	85483	1.44975	1.39	
* 66 Phenanthrene-D10	188	13.323	13.300	(1.000)	69953	0.80000	(a)	
$ 72 Pyrene-D10	212	15.203	15.214	(0.890)	105487	2.11811	2.04	
73 Pyrene	202	15.225	15.236	(0.891)	5054	0.06712	0.0645(aH)	
* 77 Chrysene-D12	240	17.079	17.079	(1.000)	27342	0.80000	(a)	
78 Chrysene	228	17.135	17.124	(1.003)	1988	0.04825	0.0464(aM)	M3
* 84 Perylene-D12	264	20.079	20.090	(1.000)	15137	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\target_server\gg\chem\gcms-n,i\N011321,b\N1378,D
Date : 13-JAN-2021 18:26
Client ID: W-02R-INF-WINTER202
Sample Info: TN0377-5
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25



Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1378.D

Date : 13-JAN-2021 18:26

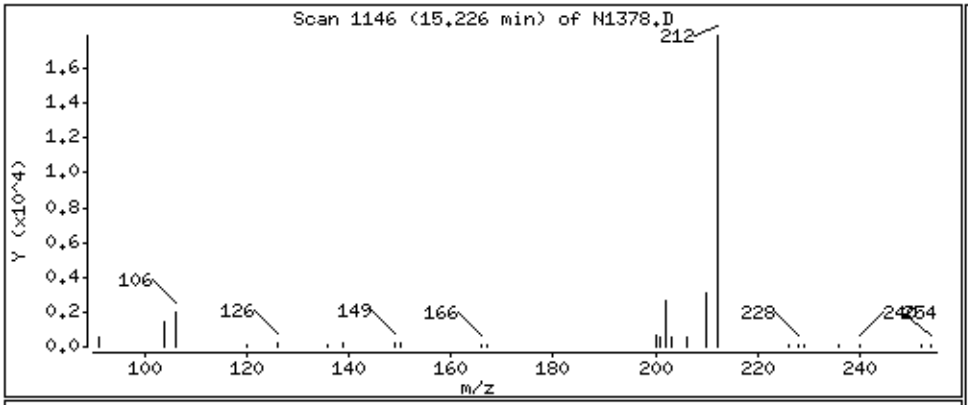
Client ID: W-02R-INF-WINTER202 Instrument: gcms-n.i

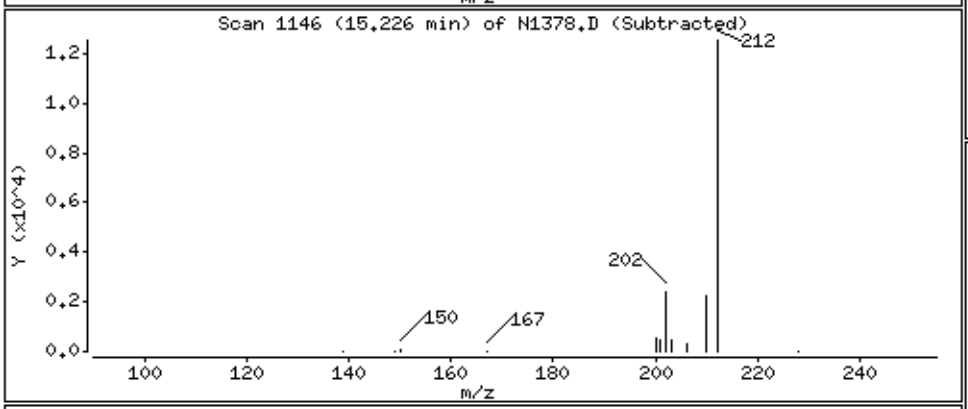
Sample Info: TN0377-5

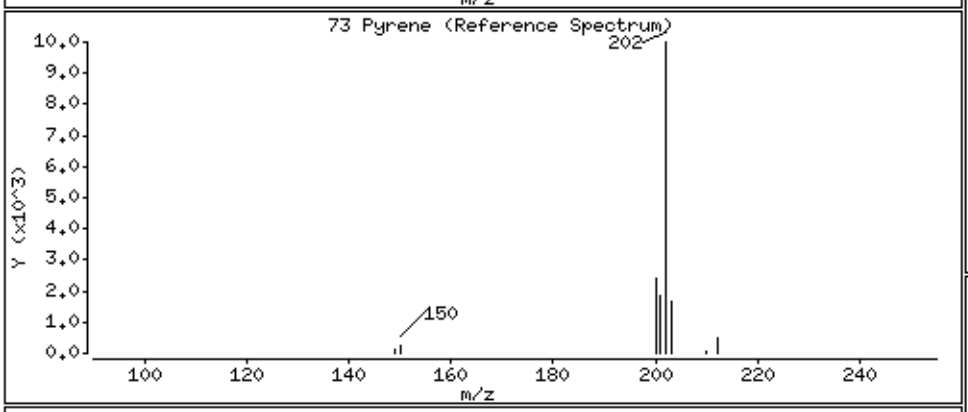
Volume Injected (uL): 1.0 Operator: JCG

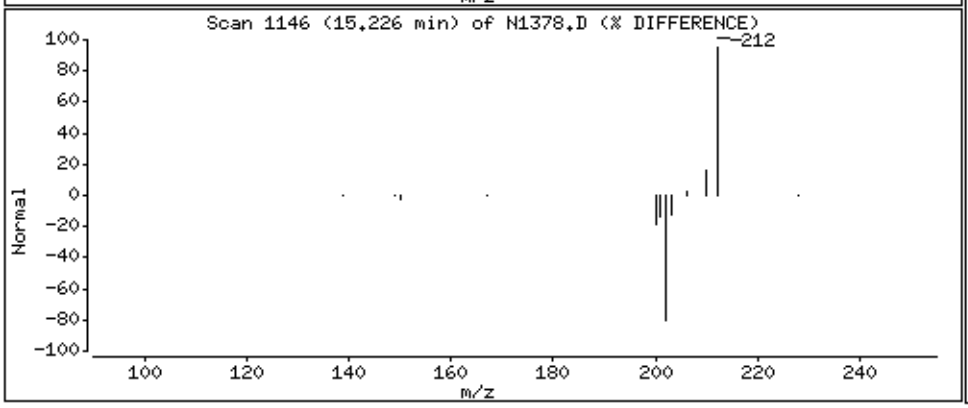
Column phase: ZB5-MS Column diameter: 0.25

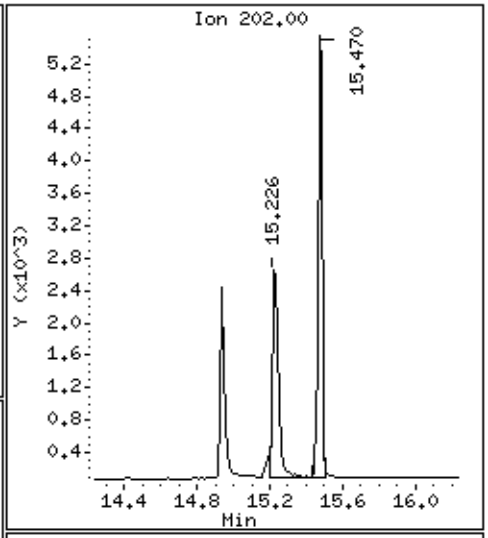
73 Pyrene Concentration: 0.0645 ug/L

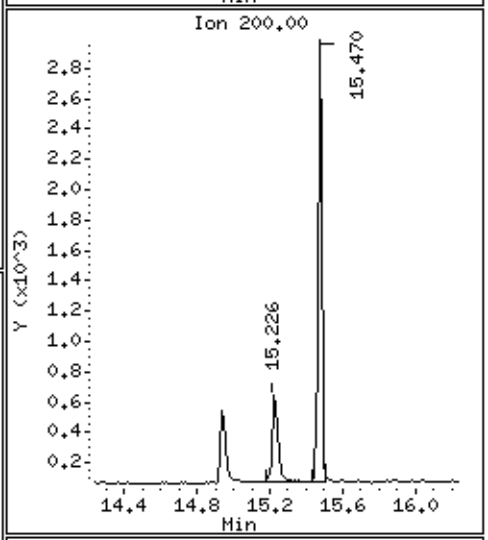


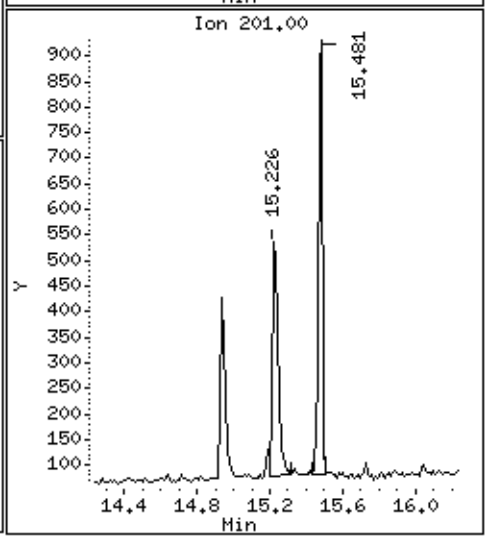












Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1378.D

Date : 13-JAN-2021 18:26

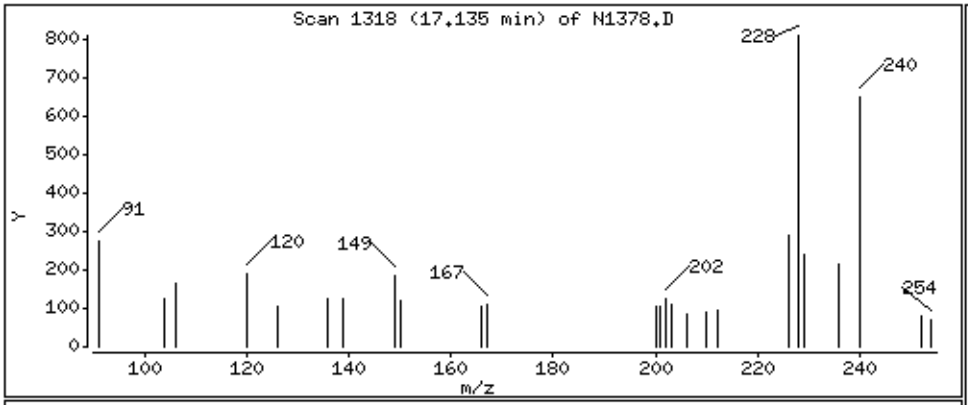
Client ID: W-02R-INF-WINTER202 | Instrument: gcms-n.i

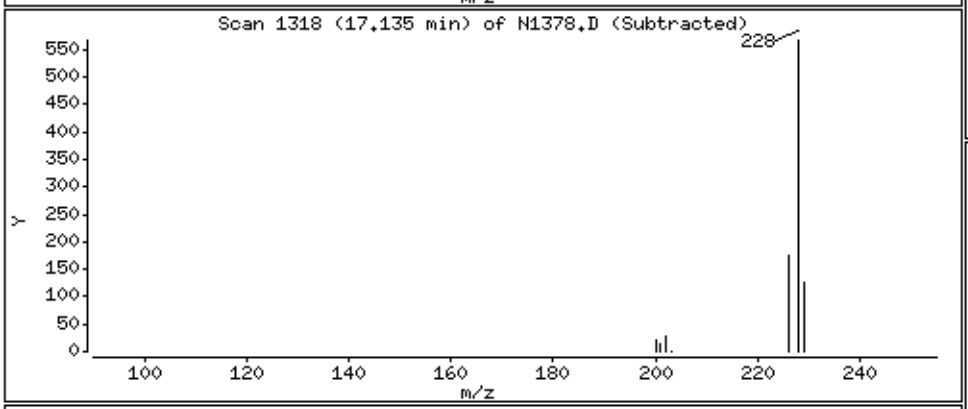
Sample Info: TN0377-5

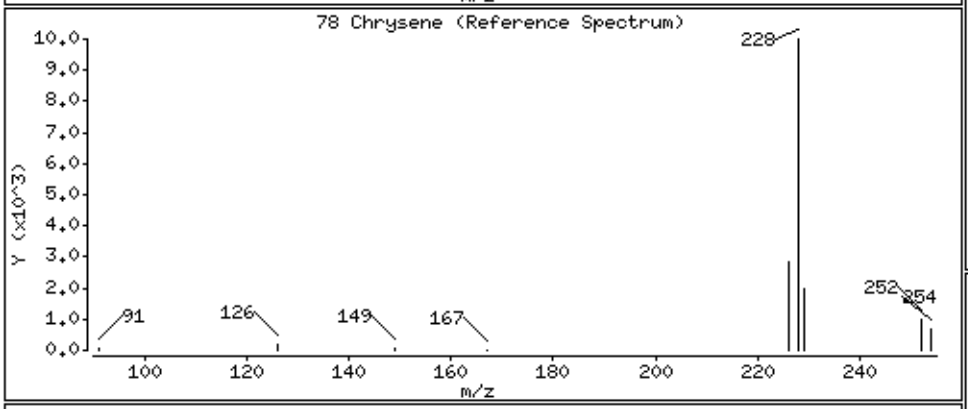
Volume Injected (uL): 1.0 | Operator: JCG

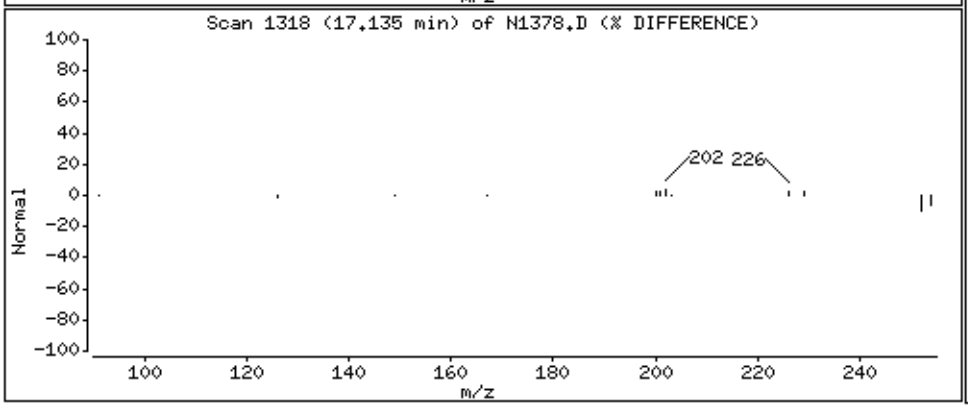
Column phase: ZB5-MS | Column diameter: 0.25

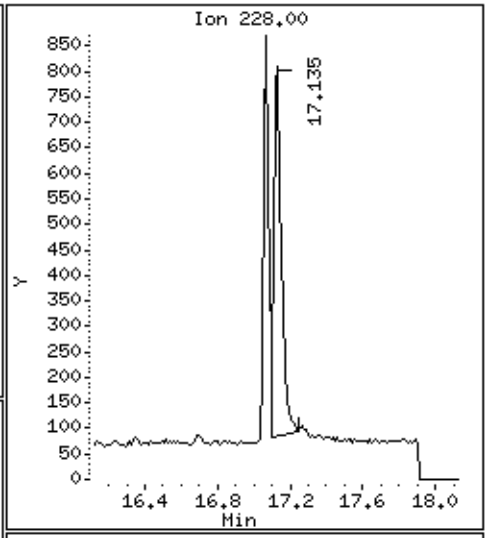
78 Chrysene | Concentration: 0.0464 ug/L

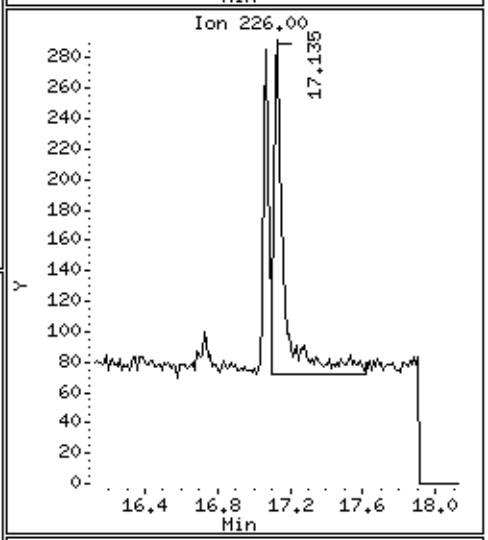


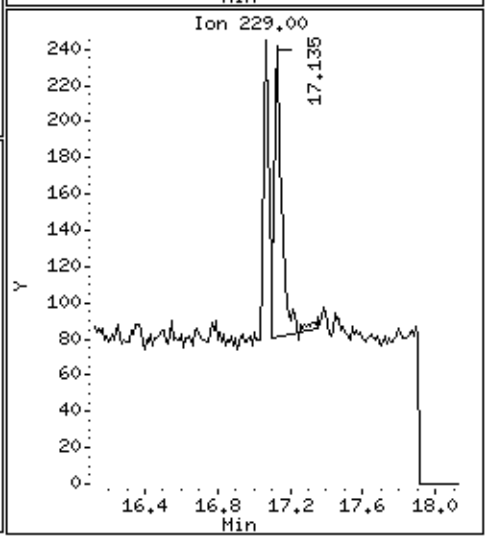








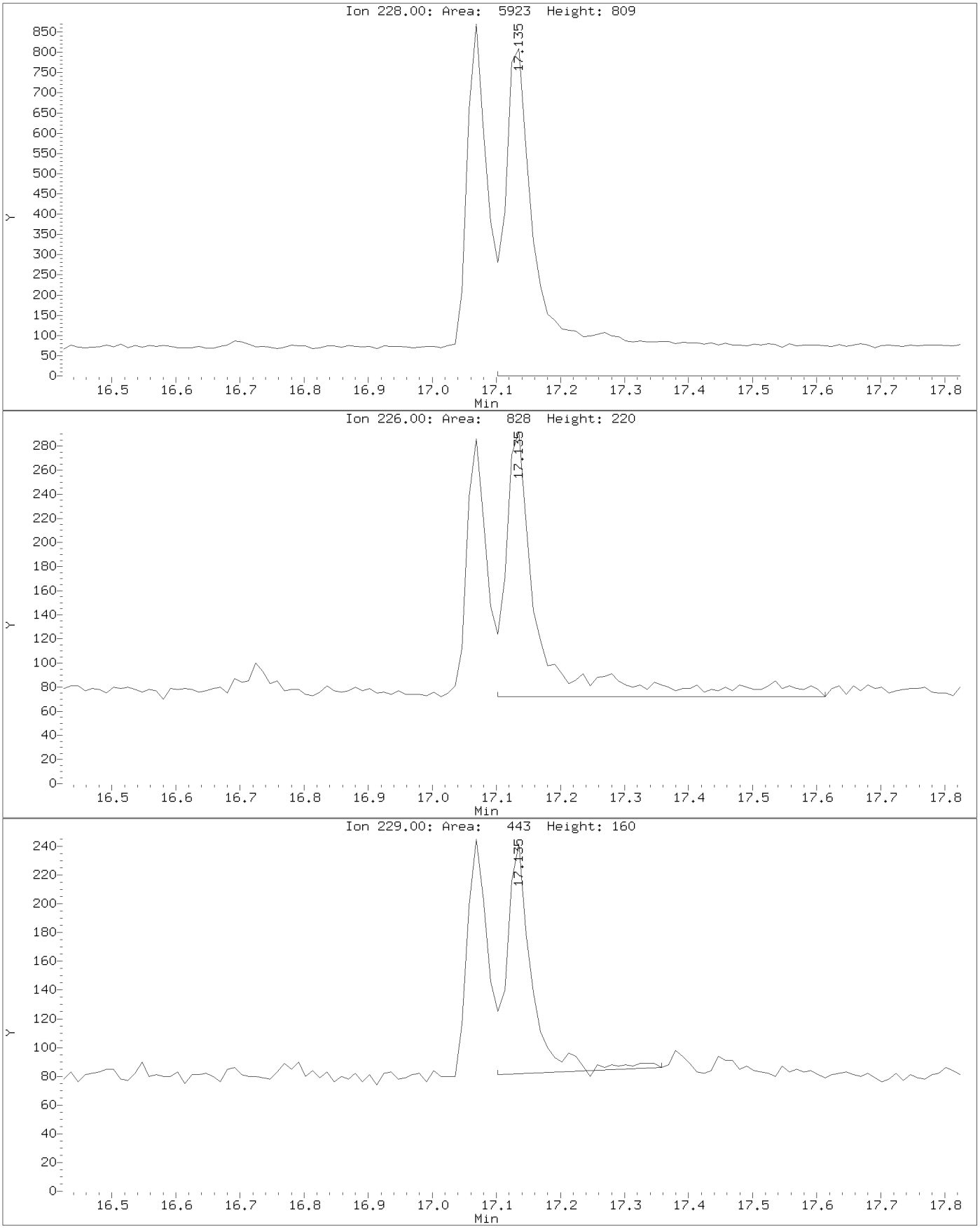




Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1378.D
Injection Date: 13-JAN-2021 18:26
Instrument: gcms-n.i
Client Sample ID: W-02R-INF-WINTER202

Compound: Chrysene
CAS Number: 218-01-9

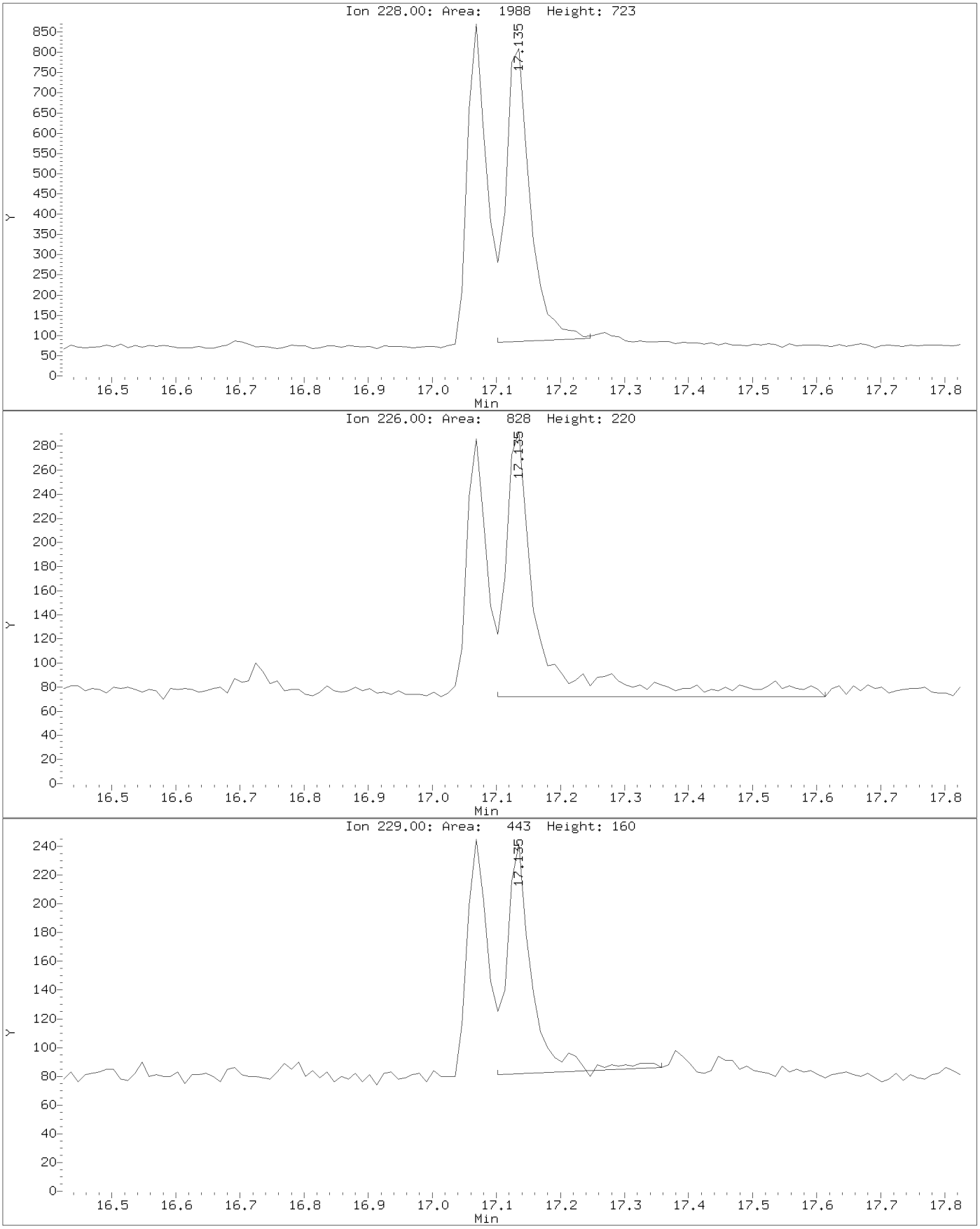
BEFORE MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1378.D
Injection Date: 13-JAN-2021 18:26
Instrument: gcms-n.i
Client Sample ID: W-02R-INF-WINTER202

Compound: Chrysene
CAS Number: 218-01-9

AFTER MANUAL INTEGRATION



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-6
Client ID: DW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1293.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.097	ug/L	1	.2	0.19	0.062	0.097
2-Methylnaphthalene	U	0.097	ug/L	1	.2	0.19	0.075	0.097
1-Methylnaphthalene	U	0.097	ug/L	1	.2	0.19	0.066	0.097
Acenaphthylene	U	0.097	ug/L	1	.2	0.19	0.052	0.097
Acenaphthene	U	0.097	ug/L	1	.2	0.19	0.062	0.097
Fluorene	U	0.097	ug/L	1	.2	0.19	0.059	0.097
Phenanthrene	U	0.097	ug/L	1	.2	0.19	0.050	0.097
Anthracene	U	0.097	ug/L	1	.2	0.19	0.043	0.097
Fluoranthene	U	0.097	ug/L	1	.2	0.19	0.071	0.097
Pyrene	U	0.097	ug/L	1	.2	0.19	0.057	0.097
Benzo(a)anthracene	U	0.097	ug/L	1	.2	0.19	0.045	0.097
Chrysene	U	0.097	ug/L	1	.2	0.19	0.035	0.097
Benzo(b)Fluoranthene	U	0.097	ug/L	1	.2	0.19	0.086	0.097
Benzo(k)fluoranthene	U	0.097	ug/L	1	.2	0.19	0.048	0.097
Benzo(a)pyrene	U	0.097	ug/L	1	.2	0.19	0.064	0.097
Indeno(1,2,3-cd)pyrene	U	0.097	ug/L	1	.2	0.19	0.050	0.097
Dibenzo(a,h)anthracene	U	0.097	ug/L	1	.2	0.19	0.068	0.097
Benzo(g,h,i)perylene	U	0.097	ug/L	1	.2	0.19	0.063	0.097
2-Methylnaphthalene-D10		78.9	%					
Fluorene-D10		74.3	%					
Pyrene-D10		91.2	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1293.D
Report Date: 15-Jan-2021 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1293.D
Lab Smp Id: TN0377-6 Client Smp ID: DW-FD-WINTER2020
Inj Date : 08-JAN-2021 14:59
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-6
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

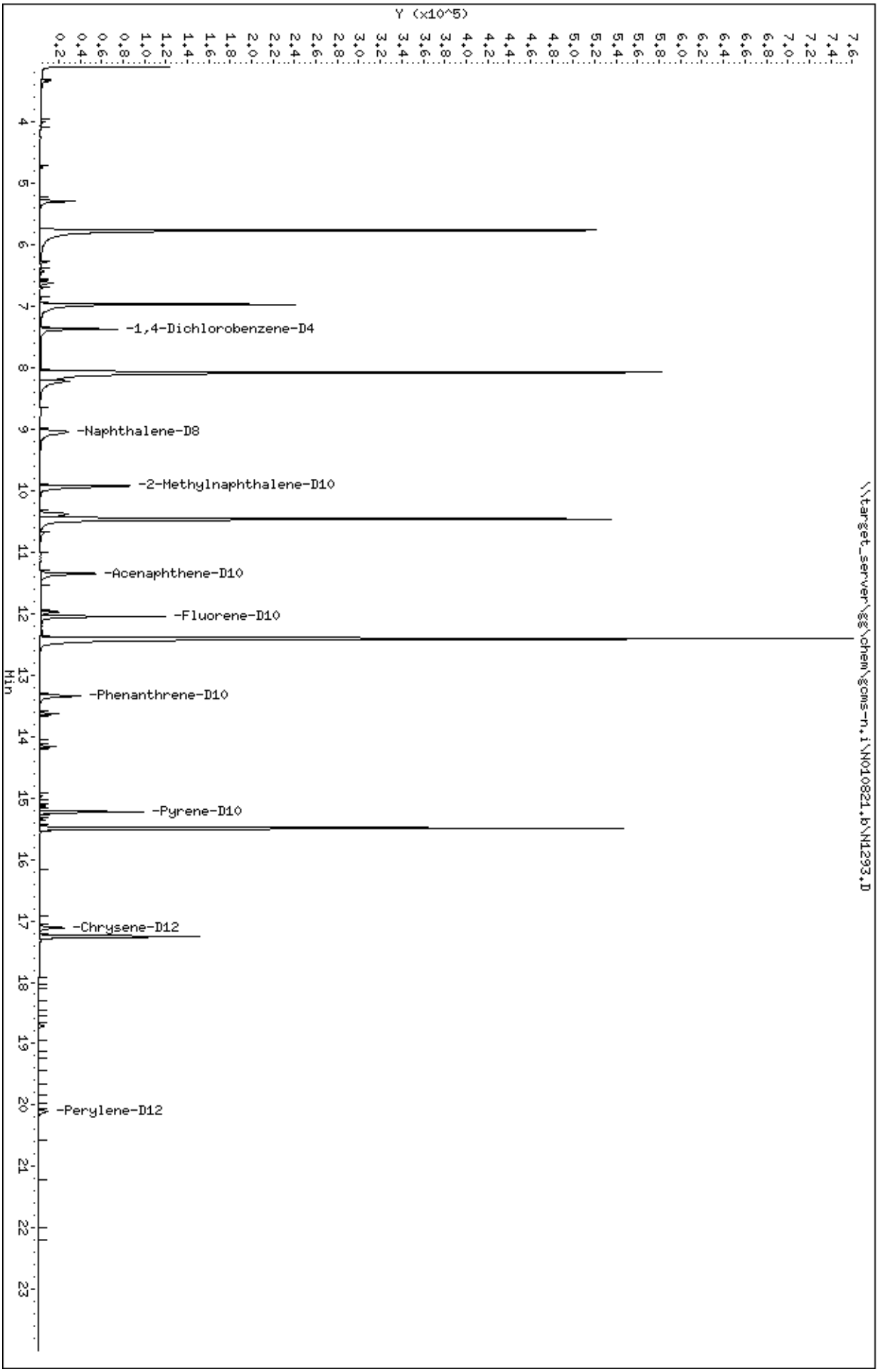
Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.030	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.374	(1.000)	37409	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.033	9.012	(1.000)	100597	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.098)	96294	1.57775	1.53	
* 48 Acenaphthene-D10	164	11.349	11.349	(1.000)	53878	0.80000	(a)	
$ 56 Fluorene-D10	174	12.046	12.057	(1.061)	85575	1.48615	1.44	
* 66 Phenanthrene-D10	188	13.346	13.335	(1.000)	75869	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	86978	1.82352	1.77	
* 77 Chrysene-D12	240	17.113	17.124	(1.000)	27770	0.80000	(a)	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	18609	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.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Date : 08-JAN-2021 14:59
Client ID: DW-FD-WINTER2020
Sample Info: TN0377-6
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010821,b\N1293,D
Y (x10^5)
Min
-1,4-Dichlorobenzene-D4
-Naphthalene-D8
-2-Methylnaphthalene-D10
-Acenaphthene-D10
-Fluorene-D10
-Phenanthrene-D10
-Pyrene-D10
-Chrysene-D12
-Perylene-D12

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-7
Client ID: MW-01-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1320.D

Sample Date: 14-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 11-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.10	ug/L	1	.2	0.20	0.065	0.10
2-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.078	0.10
1-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.069	0.10
Acenaphthylene	U	0.10	ug/L	1	.2	0.20	0.055	0.10
Acenaphthene	U	0.10	ug/L	1	.2	0.20	0.065	0.10
Fluorene	U	0.10	ug/L	1	.2	0.20	0.062	0.10
Phenanthrene	U	0.10	ug/L	1	.2	0.20	0.052	0.10
Anthracene	U	0.10	ug/L	1	.2	0.20	0.045	0.10
Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.074	0.10
Pyrene	J	0.070	ug/L	1	.2	0.20	0.060	0.10
Benzo(a)anthracene	U	0.10	ug/L	1	.2	0.20	0.047	0.10
Chrysene	J	0.044	ug/L	1	.2	0.20	0.037	0.10
Benzo(b)Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.091	0.10
Benzo(k)fluoranthene	U	0.10	ug/L	1	.2	0.20	0.050	0.10
Benzo(a)pyrene	UM	0.10	ug/L	1	.2	0.20	0.067	0.10
Indeno(1,2,3-cd)pyrene	UM	0.10	ug/L	1	.2	0.20	0.053	0.10
Dibenzo(a,h)anthracene	UM	0.10	ug/L	1	.2	0.20	0.071	0.10
Benzo(g,h,i)perylene	UM	0.10	ug/L	1	.2	0.20	0.066	0.10
2-Methylnaphthalene-D10		75.2	%					
Fluorene-D10		77.6	%					
Pyrene-D10		100.	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1320.D
Report Date: 18-Jan-2021 13:15

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1320.D
Lab Smp Id: TN0377-7 Client Smp ID: MW-01-WINTER2020
Inj Date : 11-JAN-2021 16:02
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-7
Misc Info : WG293230,WG292336,WG293230-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 13:52 Cal File: N1316.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12

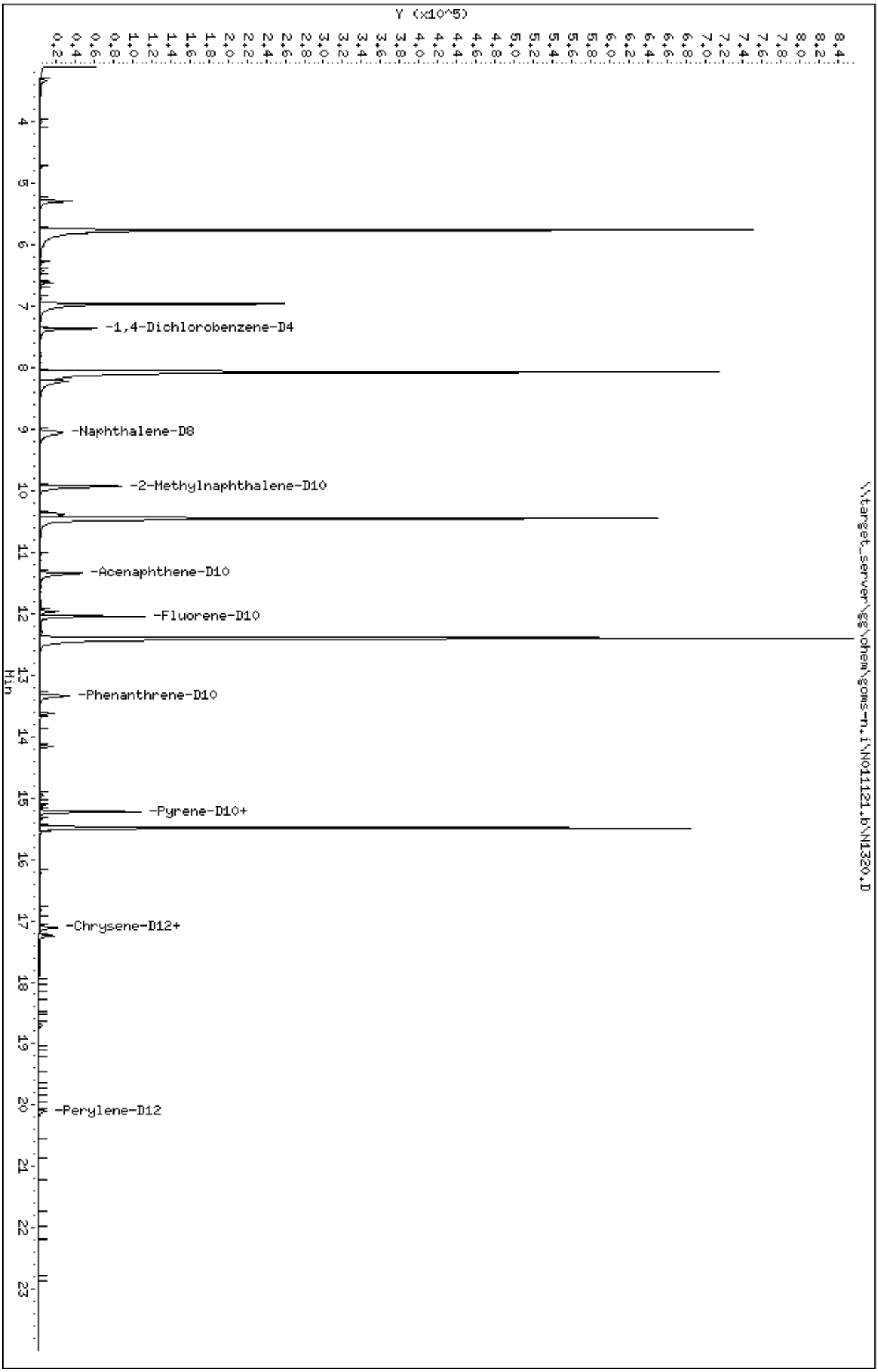
Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	0.98000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.354	(1.000)	33062	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.044	8.990	(1.000)	95584	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.929	9.900	(1.098)	99568	1.50390	1.53	
* 48 Acenaphthene-D10	164	11.338	11.327	(1.000)	51625	0.80000	(a)	
$ 56 Fluorene-D10	174	12.035	12.024	(1.062)	90740	1.55242	1.58	
* 66 Phenanthrene-D10	188	13.335	13.311	(1.000)	73765	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.225	(0.890)	107701	2.00931	2.05	
73 Pyrene	202	15.247	15.247	(0.891)	5101	0.06857	0.0700(a)	
* 77 Chrysene-D12	240	17.113	17.090	(1.000)	28043	0.80000	(a)	
78 Chrysene	228	17.157	17.135	(1.003)	1999	0.04304	0.0439(aQ)	
* 84 Perylene-D12	264	20.101	20.101	(1.000)	18725	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.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Date : 11-JAN-2021 16:02
Client ID: MW-01-WINTER2020
Sample Info: TN0377-7
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011121,b\N1320,D
Y (x10^5)
Min
-1,4-Dichlorobenzene-D4
-Naphthalene-D8
-2-Methylnaphthalene-D10
-Acenaphthene-D10
-Fluorene-D10
-Phenanthrene-D10
-Pyrene-D10+
-Chrysene-D12+
-Perylene-D12

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1320.D

Date : 11-JAN-2021 16:02

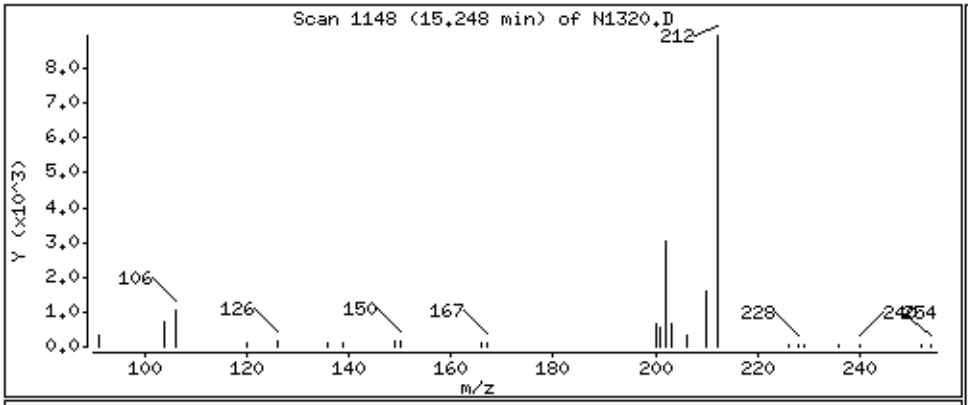
Client ID: MW-01-WINTER2020 | Instrument: gcms-n.i

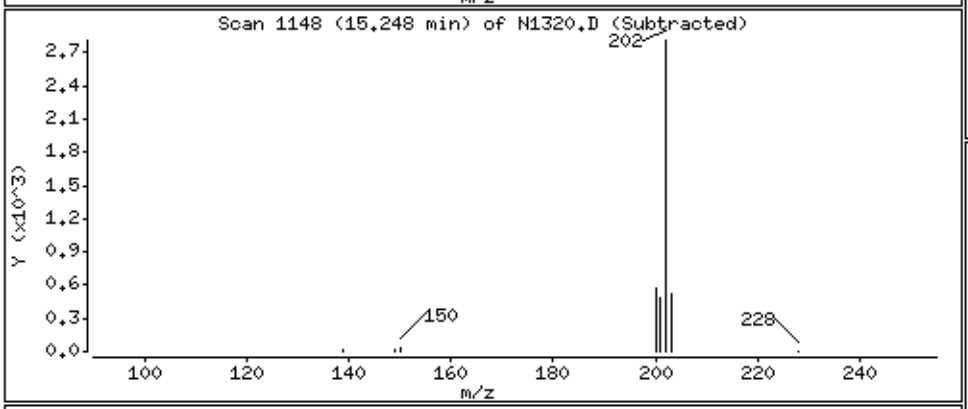
Sample Info: TN0377-7

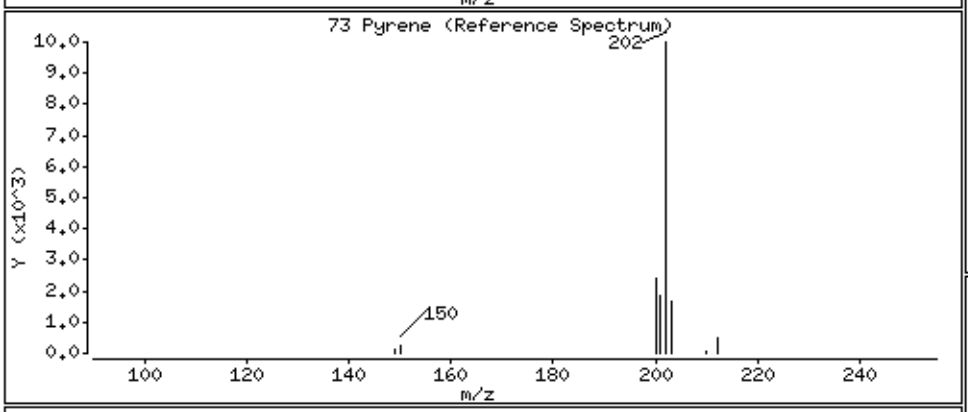
Volume Injected (uL): 1.0 | Operator: JCG

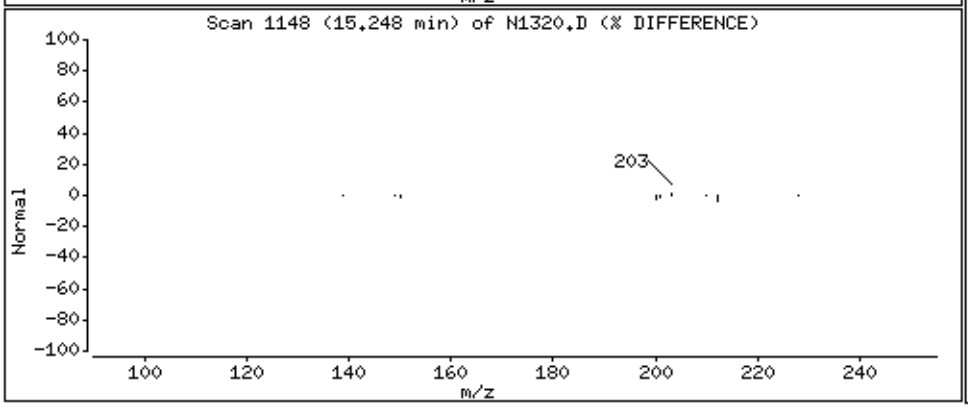
Column phase: ZB5-MS | Column diameter: 0.25

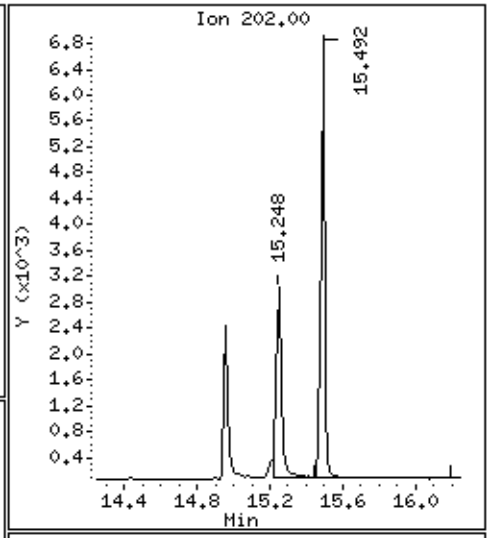
73 Pyrene | Concentration: 0.0700 ug/L

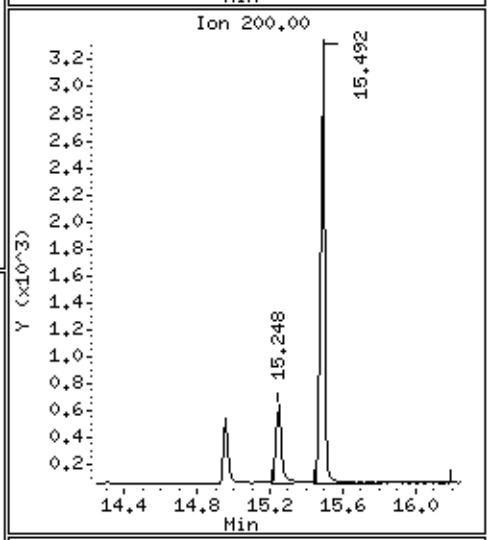


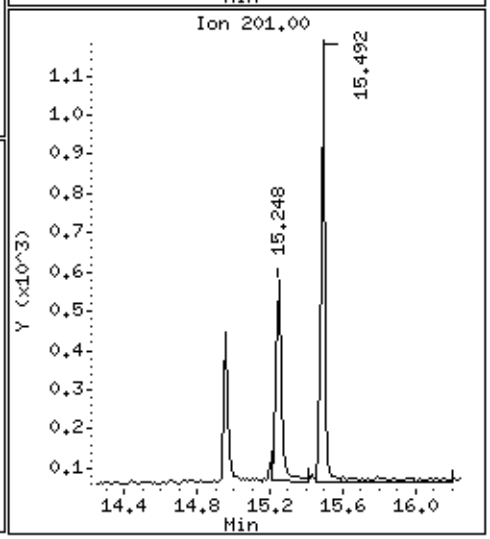












Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1320.D

Date : 11-JAN-2021 16:02

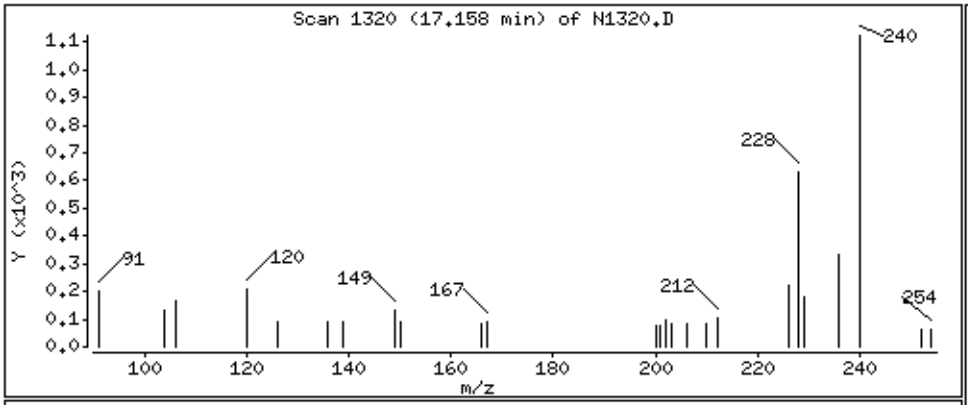
Client ID: MW-01-WINTER2020 Instrument: gcms-n.i

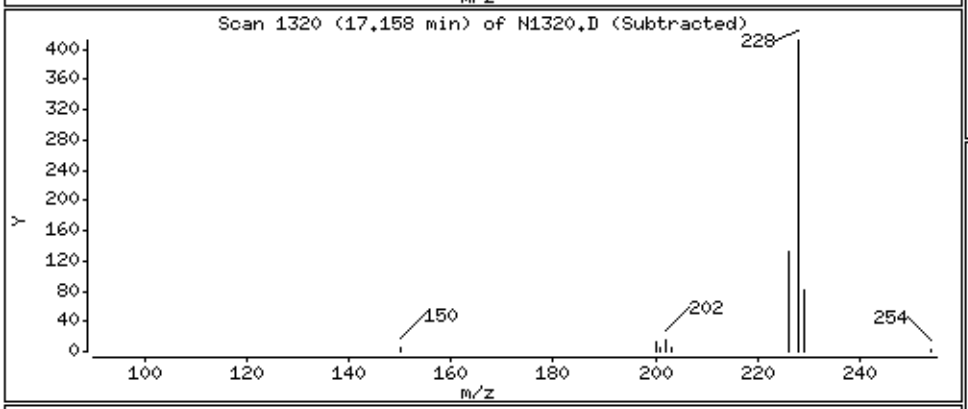
Sample Info: TN0377-7

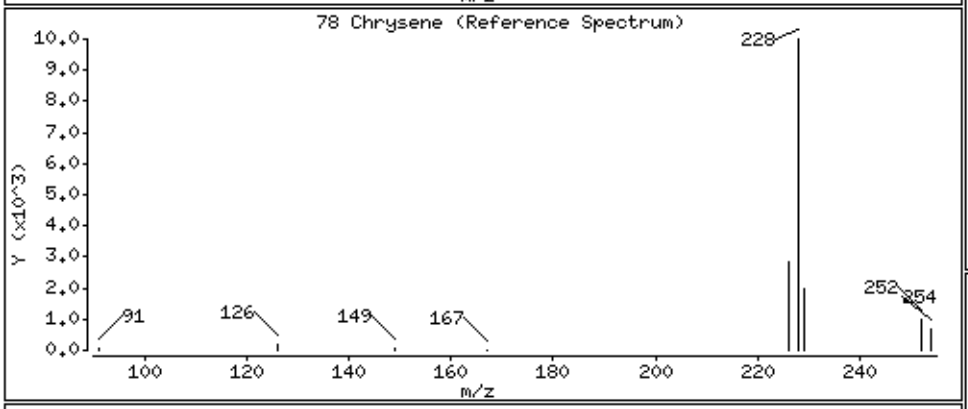
Volume Injected (uL): 1.0 Operator: JCG

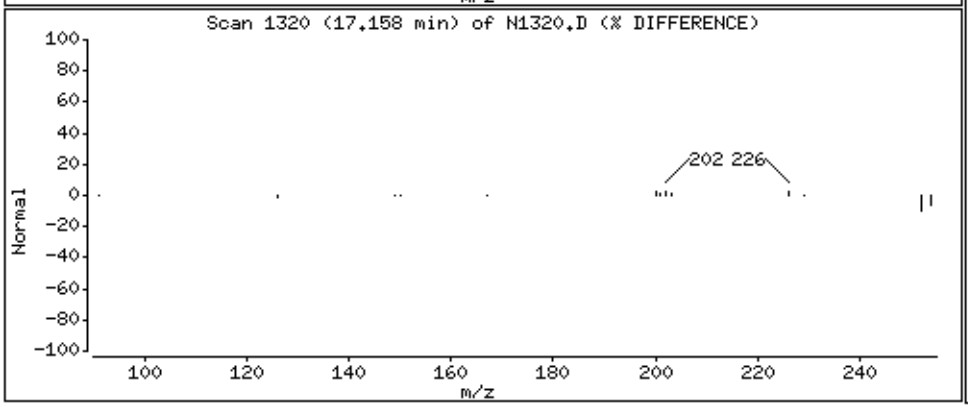
Column phase: ZB5-MS Column diameter: 0.25

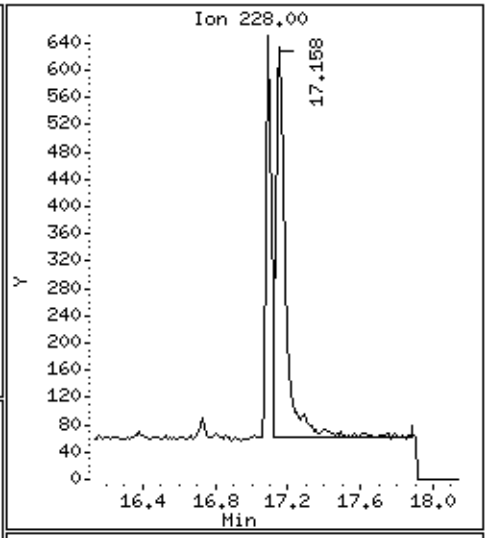
78 Chrysene Concentration: 0.0439 ug/L

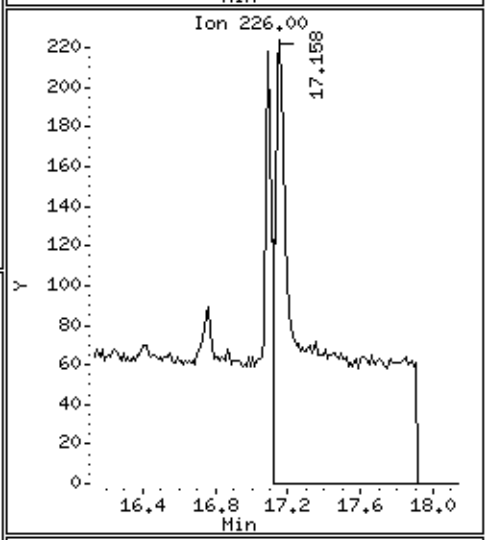


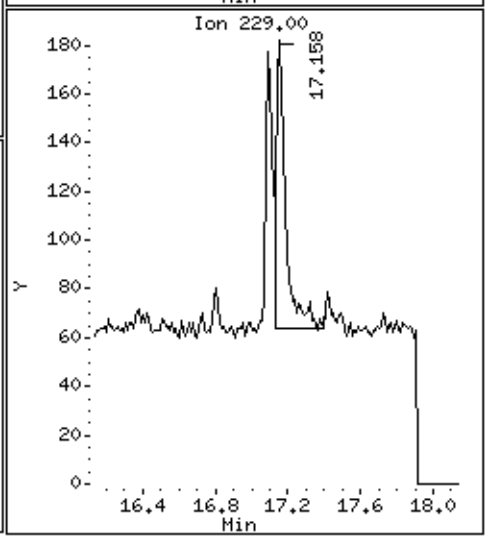












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-8
Client ID: MW-02-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1295.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.093	ug/L	1	.2	0.19	0.060	0.093
2-Methylnaphthalene	U	0.093	ug/L	1	.2	0.19	0.072	0.093
1-Methylnaphthalene	U	0.093	ug/L	1	.2	0.19	0.064	0.093
Acenaphthylene	U	0.093	ug/L	1	.2	0.19	0.050	0.093
Acenaphthene	U	0.093	ug/L	1	.2	0.19	0.060	0.093
Fluorene	U	0.093	ug/L	1	.2	0.19	0.057	0.093
Phenanthrene	U	0.093	ug/L	1	.2	0.19	0.048	0.093
Anthracene	U	0.093	ug/L	1	.2	0.19	0.041	0.093
Fluoranthene	U	0.093	ug/L	1	.2	0.19	0.068	0.093
Pyrene	U	0.093	ug/L	1	.2	0.19	0.055	0.093
Benzo(a)anthracene	U	0.093	ug/L	1	.2	0.19	0.043	0.093
Chrysene	U	0.093	ug/L	1	.2	0.19	0.034	0.093
Benzo(b)Fluoranthene	U	0.093	ug/L	1	.2	0.19	0.083	0.093
Benzo(k)fluoranthene	U	0.093	ug/L	1	.2	0.19	0.046	0.093
Benzo(a)pyrene	U	0.093	ug/L	1	.2	0.19	0.062	0.093
Indeno(1,2,3-cd)pyrene	U	0.093	ug/L	1	.2	0.19	0.048	0.093
Dibenzo(a,h)anthracene	U	0.093	ug/L	1	.2	0.19	0.065	0.093
Benzo(g,h,i)perylene	U	0.093	ug/L	1	.2	0.19	0.061	0.093
2-Methylnaphthalene-D10		78.1	%					
Fluorene-D10		72.9	%					
Pyrene-D10		87.2	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1295.D
Report Date: 15-Jan-2021 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1295.D
Lab Smp Id: TN0377-8 Client Smp ID: MW-02-WINTER2020
Inj Date : 08-JAN-2021 16:04
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-8
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.070	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

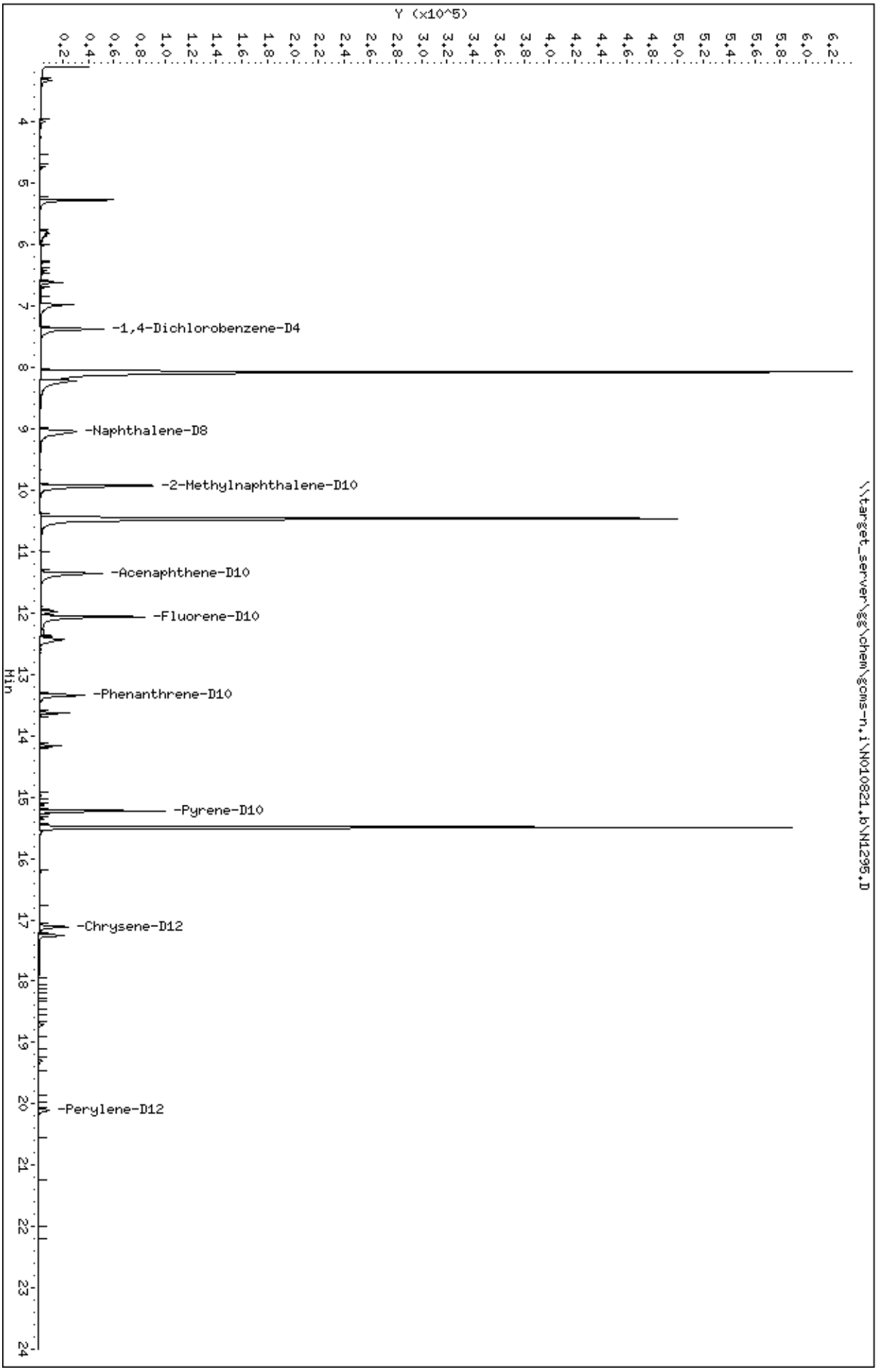
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.365	7.374	(1.000)	39265	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.044	9.012	(1.000)	107208	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.929	9.919	(1.098)	101614	1.56224	1.46	
* 48 Acenaphthene-D10	164	11.349	11.349	(1.000)	58698	0.80000	(a)	
$ 56 Fluorene-D10	174	12.058	12.057	(1.062)	91500	1.45856	1.36	
* 66 Phenanthrene-D10	188	13.335	13.335	(1.000)	76612	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	90433	1.74467	1.63	
* 77 Chrysene-D12	240	17.113	17.124	(1.000)	30178	0.80000	(a)	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	18472	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1295,D
Date : 08-JAN-2021 16:04
Client ID: MW-02-WINTER2020
Sample Info: TN0377-8
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25



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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-9
Client ID: MW-03-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1296.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.094	ug/L	1	.2	0.19	0.060	0.094
2-Methylnaphthalene	U	0.094	ug/L	1	.2	0.19	0.073	0.094
1-Methylnaphthalene	U	0.094	ug/L	1	.2	0.19	0.064	0.094
Acenaphthylene	U	0.094	ug/L	1	.2	0.19	0.051	0.094
Acenaphthene	U	0.094	ug/L	1	.2	0.19	0.060	0.094
Fluorene	U	0.094	ug/L	1	.2	0.19	0.058	0.094
Phenanthrene	U	0.094	ug/L	1	.2	0.19	0.048	0.094
Anthracene	U	0.094	ug/L	1	.2	0.19	0.042	0.094
Fluoranthene	U	0.094	ug/L	1	.2	0.19	0.069	0.094
Pyrene	U	0.094	ug/L	1	.2	0.19	0.056	0.094
Benzo(a)anthracene	U	0.094	ug/L	1	.2	0.19	0.043	0.094
Chrysene	U	0.094	ug/L	1	.2	0.19	0.034	0.094
Benzo(b)Fluoranthene	U	0.094	ug/L	1	.2	0.19	0.084	0.094
Benzo(k)fluoranthene	U	0.094	ug/L	1	.2	0.19	0.046	0.094
Benzo(a)pyrene	U	0.094	ug/L	1	.2	0.19	0.062	0.094
Indeno(1,2,3-cd)pyrene	U	0.094	ug/L	1	.2	0.19	0.049	0.094
Dibenzo(a,h)anthracene	U	0.094	ug/L	1	.2	0.19	0.066	0.094
Benzo(g,h,i)perylene	U	0.094	ug/L	1	.2	0.19	0.061	0.094
2-Methylnaphthalene-D10		86.6	%					
Fluorene-D10		78.8	%					
Pyrene-D10		97.6	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1296.D
Report Date: 15-Jan-2021 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1296.D
Lab Smp Id: TN0377-9 Client Smp ID: MW-03-WINTER2020
Inj Date : 08-JAN-2021 16:37
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-9
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

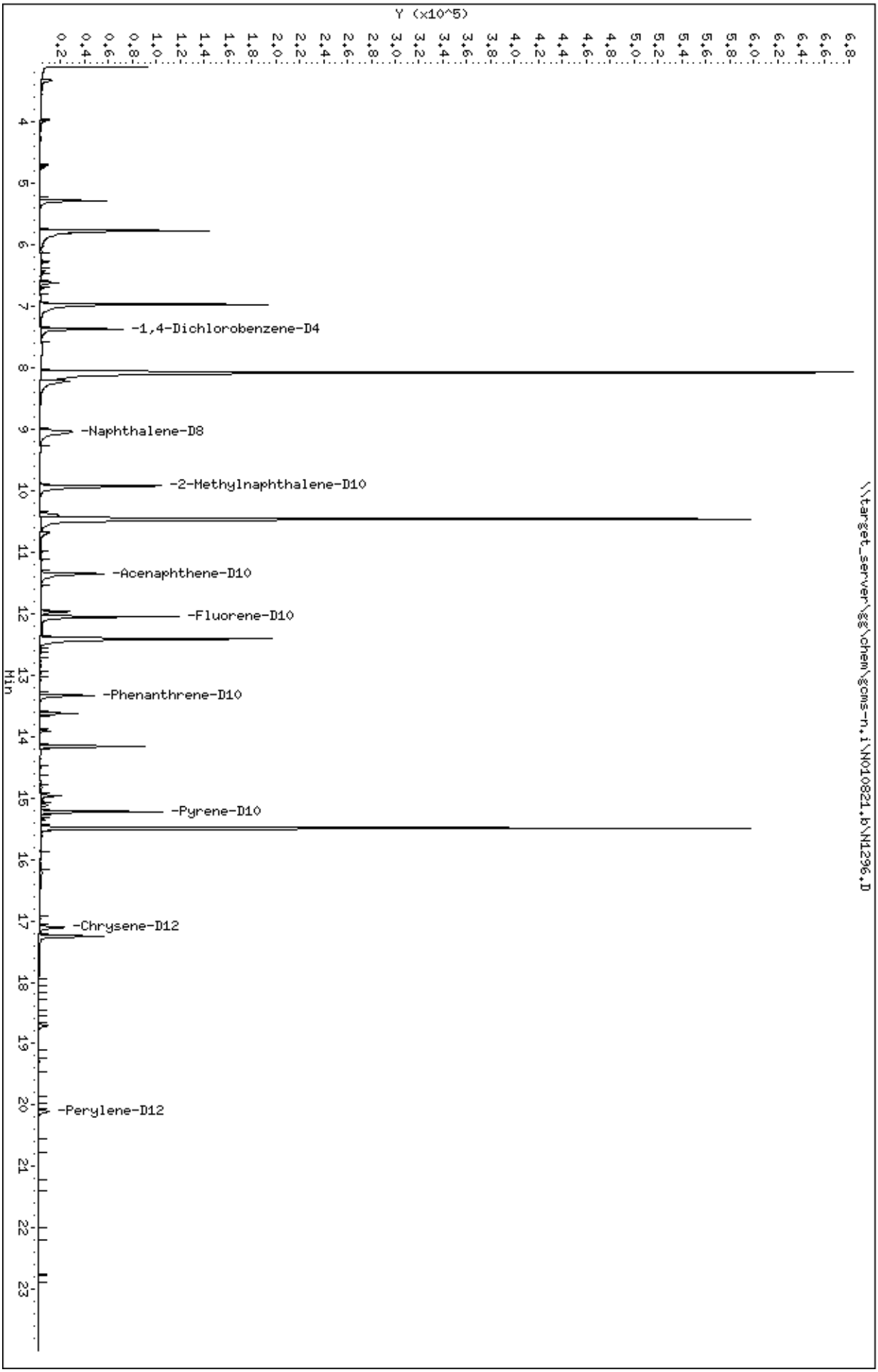
Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.060	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.374	(1.000)	35443	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.033	9.012	(1.000)	103757	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.098)	109064	1.73255	1.63	
* 48 Acenaphthene-D10	164	11.349	11.349	(1.000)	56471	0.80000	(a)	
$ 56 Fluorene-D10	174	12.046	12.057	(1.061)	95060	1.57507	1.48	
* 66 Phenanthrene-D10	188	13.334	13.335	(1.000)	75217	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	87372	1.95228	1.84	
* 77 Chrysene-D12	240	17.113	17.124	(1.000)	26056	0.80000	(a)	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	18027	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.


Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1296,D
Date : 08-JAN-2021 16:37
Client ID: MW-03-WINTER2020
Sample Info: TN0377-9
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010821,b\N1296,D
Y (x10^5)
Min
-1,4-Dichlorobenzene-D4
-Naphthalene-D8
-2-Methylnaphthalene-D10
-Acenaphthene-D10
-Fluorene-D10
-Phenanthrene-D10
-Pyrene-D10
-Chrysene-D12
-Perylene-D12

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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-10
Client ID: MW-04-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1297.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
2-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.077	0.10
1-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.068	0.10
Acenaphthylene	U	0.10	ug/L	1	.2	0.20	0.054	0.10
Acenaphthene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
Fluorene	U	0.10	ug/L	1	.2	0.20	0.061	0.10
Phenanthrene	U	0.10	ug/L	1	.2	0.20	0.051	0.10
Anthracene	U	0.10	ug/L	1	.2	0.20	0.044	0.10
Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.073	0.10
Pyrene	U	0.10	ug/L	1	.2	0.20	0.059	0.10
Benzo(a)anthracene	U	0.10	ug/L	1	.2	0.20	0.046	0.10
Chrysene	U	0.10	ug/L	1	.2	0.20	0.036	0.10
Benzo(b)Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.089	0.10
Benzo(k)fluoranthene	U	0.10	ug/L	1	.2	0.20	0.049	0.10
Benzo(a)pyrene	U	0.10	ug/L	1	.2	0.20	0.066	0.10
Indeno(1,2,3-cd)pyrene	U	0.10	ug/L	1	.2	0.20	0.052	0.10
Dibenzo(a,h)anthracene	U	0.10	ug/L	1	.2	0.20	0.070	0.10
Benzo(g,h,i)perylene	U	0.10	ug/L	1	.2	0.20	0.065	0.10
2-Methylnaphthalene-D10		80.4	%					
Fluorene-D10		74.3	%					
Pyrene-D10		95.6	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1297.D
Report Date: 15-Jan-2021 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1297.D
Lab Smp Id: TN0377-10 Client Smp ID: MW-04-WINTER2020
Inj Date : 08-JAN-2021 17:14
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-10
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

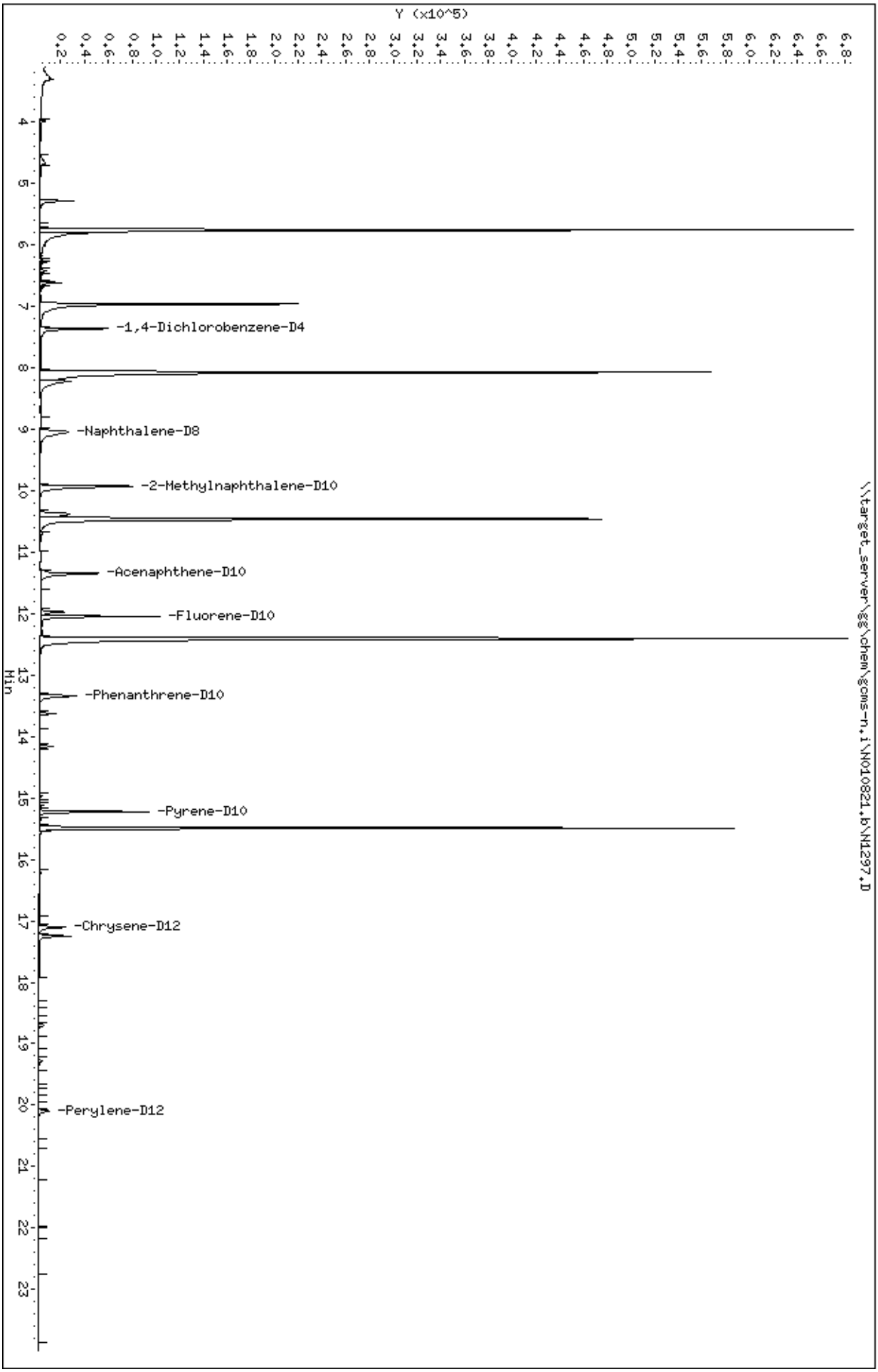
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.374	(1.000)	31303	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.044	9.012	(1.000)	92308	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.929	9.919	(1.098)	90097	1.60877	1.61	
* 48 Acenaphthene-D10	164	11.338	11.349	(1.000)	50937	0.80000	(a)	
$ 56 Fluorene-D10	174	12.046	12.057	(1.062)	80901	1.48610	1.49	
* 66 Phenanthrene-D10	188	13.346	13.335	(1.000)	71613	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	85794	1.91159	1.91	
* 77 Chrysene-D12	240	17.102	17.124	(1.000)	26130	0.80000	(a)	
* 84 Perylene-D12	264	20.102	20.135	(1.000)	18098	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1297.D
Date : 08-JAN-2021 17:14
Client ID: MW-04-WINTER2020
Sample Info: TN0377-10
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25



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ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-11
Client ID: MW-05-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1298.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
2-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.077	0.10
1-Methylnaphthalene	J	0.072	ug/L	1	.2	0.20	0.068	0.10
Acenaphthylene	U	0.10	ug/L	1	.2	0.20	0.054	0.10
Acenaphthene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
Fluorene	J	0.077	ug/L	1	.2	0.20	0.061	0.10
Phenanthrene	U	0.10	ug/L	1	.2	0.20	0.051	0.10
Anthracene	U	0.10	ug/L	1	.2	0.20	0.044	0.10
Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.073	0.10
Pyrene	U	0.10	ug/L	1	.2	0.20	0.059	0.10
Benzo(a)anthracene	U	0.10	ug/L	1	.2	0.20	0.046	0.10
Chrysene	U	0.10	ug/L	1	.2	0.20	0.036	0.10
Benzo(b)Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.089	0.10
Benzo(k)fluoranthene	U	0.10	ug/L	1	.2	0.20	0.049	0.10
Benzo(a)pyrene	U	0.10	ug/L	1	.2	0.20	0.066	0.10
Indeno(1,2,3-cd)pyrene	U	0.10	ug/L	1	.2	0.20	0.052	0.10
Dibenzo(a,h)anthracene	U	0.10	ug/L	1	.2	0.20	0.070	0.10
Benzo(g,h,i)perylene	U	0.10	ug/L	1	.2	0.20	0.065	0.10
2-Methylnaphthalene-D10		67.7	%					
Fluorene-D10		72.8	%					
Pyrene-D10		94.2	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1298.D
Report Date: 15-Jan-2021 16:00

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Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1298.D
Lab Smp Id: TN0377-11 Client Smp ID: MW-05-WINTER2020
Inj Date : 08-JAN-2021 17:53
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-11
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

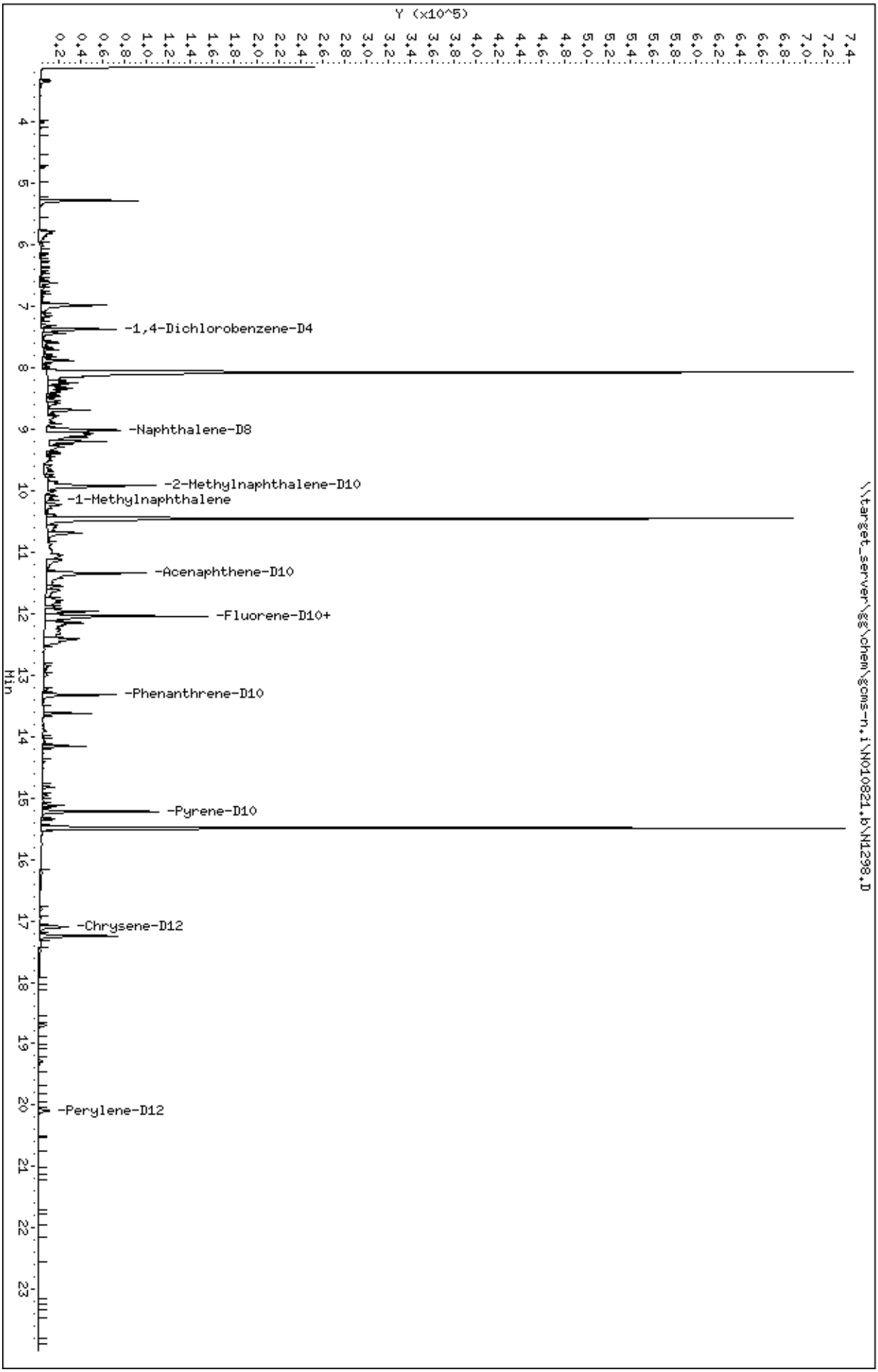
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.374	(1.000)	38675	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.001	9.012	(1.000)	115576	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.909	9.919	(1.101)	94937	1.35391	1.35	
35 1-Methylnaphthalene	142	10.077	10.097	(1.119)	4842	0.07204	0.0720(aQH)	
* 48 Acenaphthene-D10	164	11.338	11.349	(1.000)	63774	0.80000	(a)	
$ 56 Fluorene-D10	174	12.035	12.057	(1.062)	99185	1.45522	1.46	
57 Fluorene	166	12.079	12.090	(1.065)	7017	0.07719	0.0772(aQ)	
* 66 Phenanthrene-D10	188	13.323	13.335	(1.000)	89881	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	104298	1.88458	1.88	
* 77 Chrysene-D12	240	17.102	17.124	(1.000)	32221	0.80000	(a)	
* 84 Perylene-D12	264	20.101	20.135	(1.000)	20274	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
H - Operator selected an alternate compound hit.

Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1298.D
Date : 08-JAN-2021 17:53
Client ID: MW-05-WINTER2020
Sample Info: TN0377-11
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25



Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1298.D

Date : 08-JAN-2021 17:53

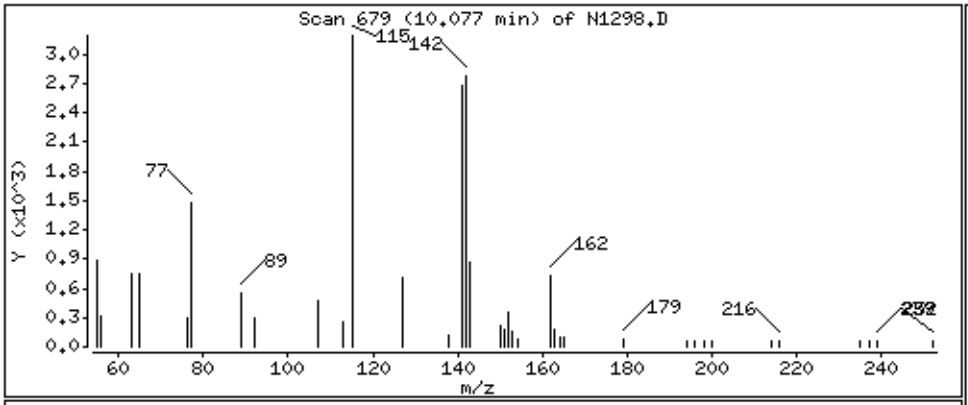
Client ID: MW-05-WINTER2020 Instrument: gcms-n.i

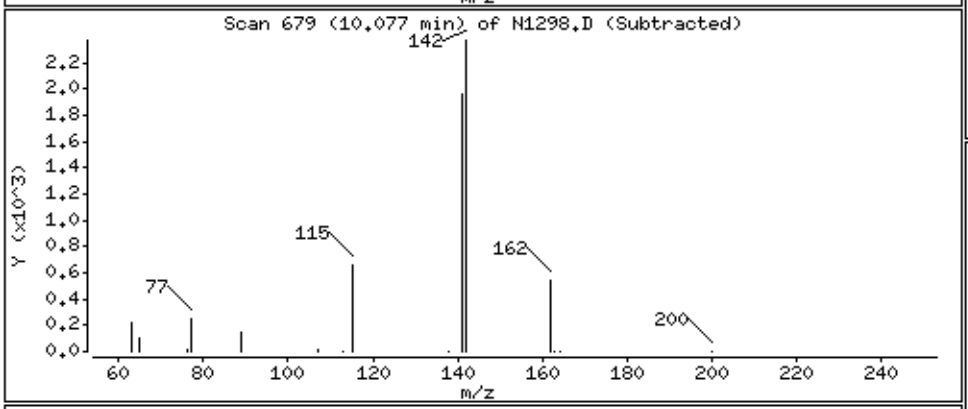
Sample Info: TN0377-11

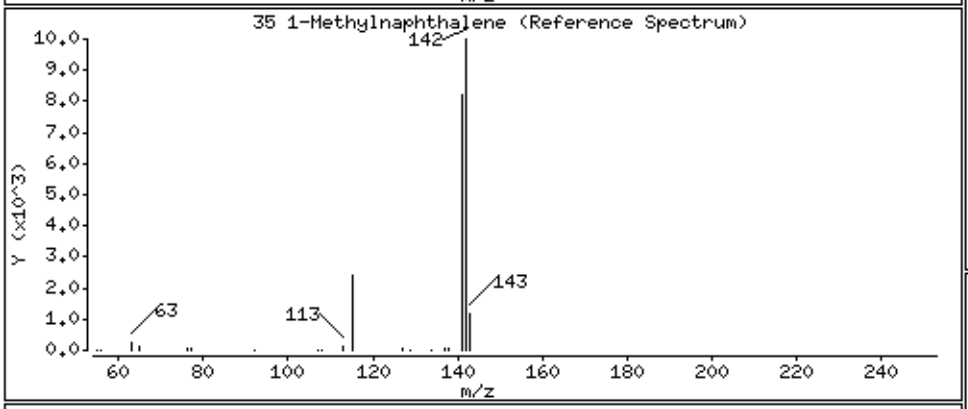
Volume Injected (uL): 1.0 Operator: JCG

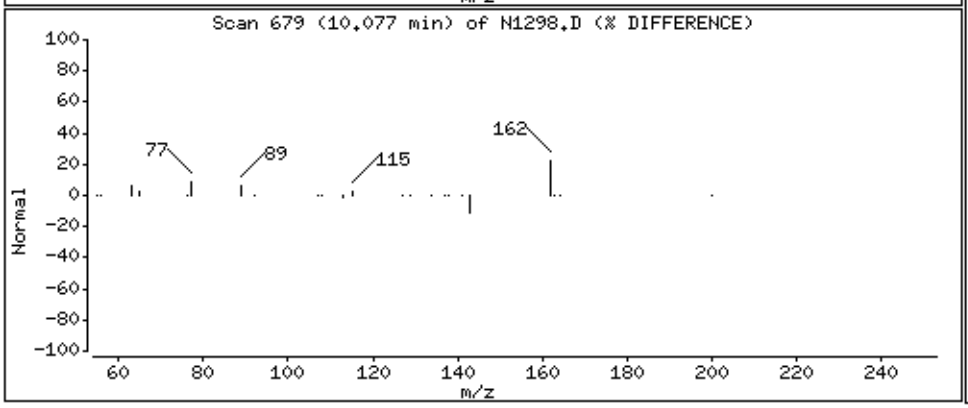
Column phase: ZB5-MS Column diameter: 0.25

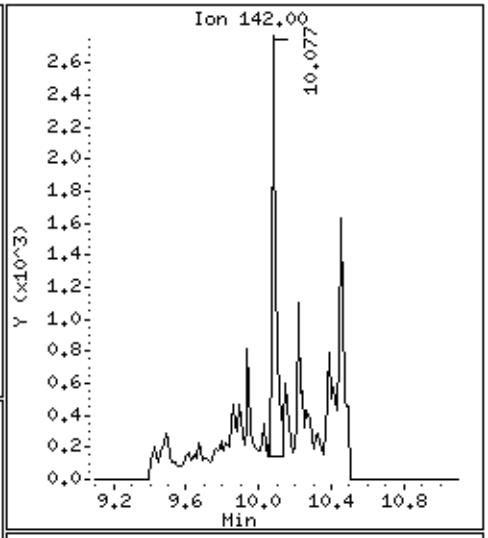
35 1-Methylnaphthalene Concentration: 0.0720 ug/L

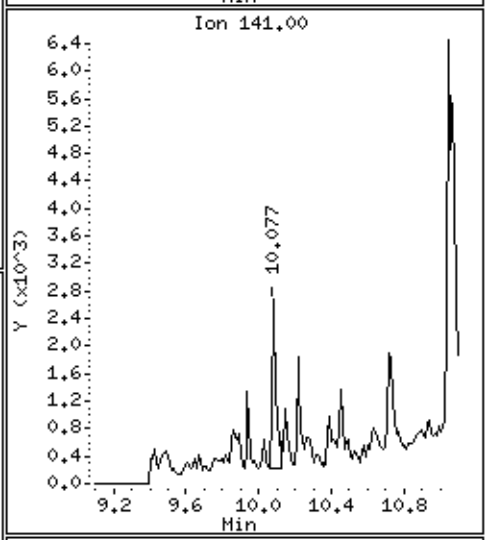


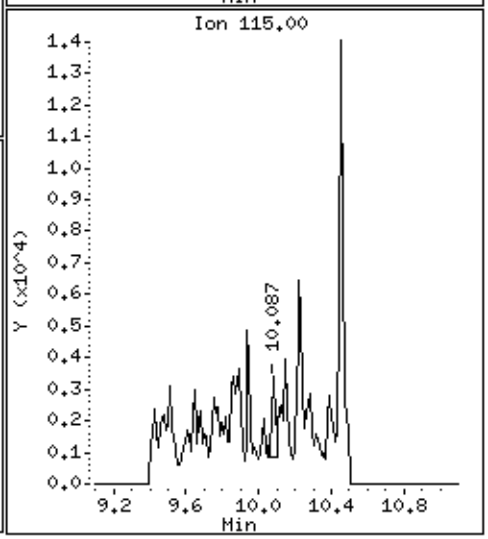












Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1298.D

Date : 08-JAN-2021 17:53

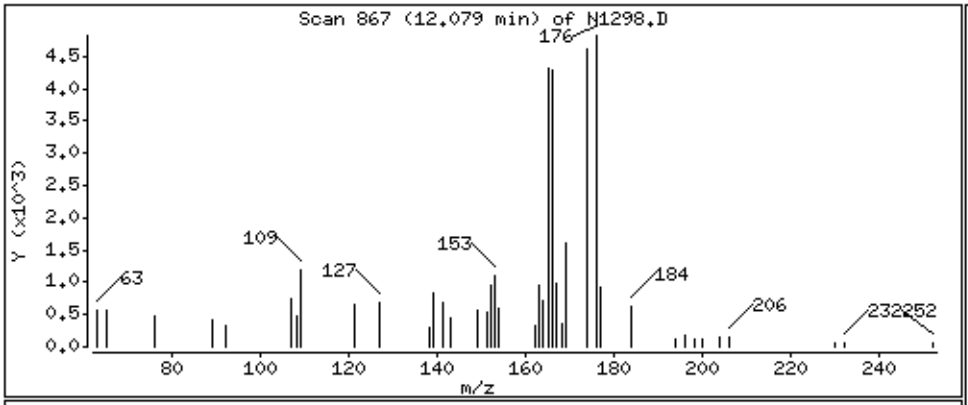
Client ID: MW-05-WINTER2020 Instrument: gcms-n.i

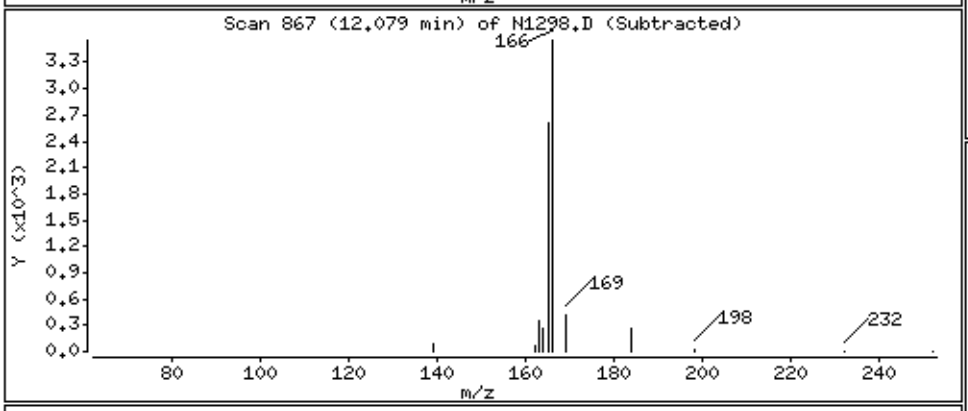
Sample Info: TN0377-11

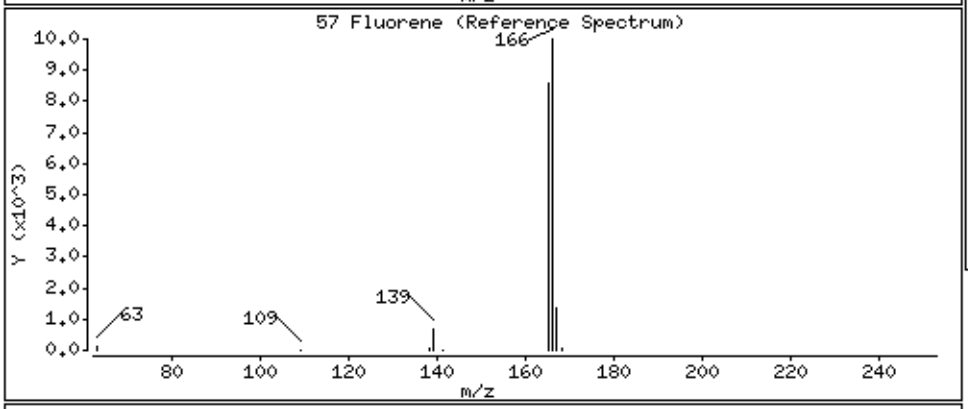
Volume Injected (uL): 1.0 Operator: JCG

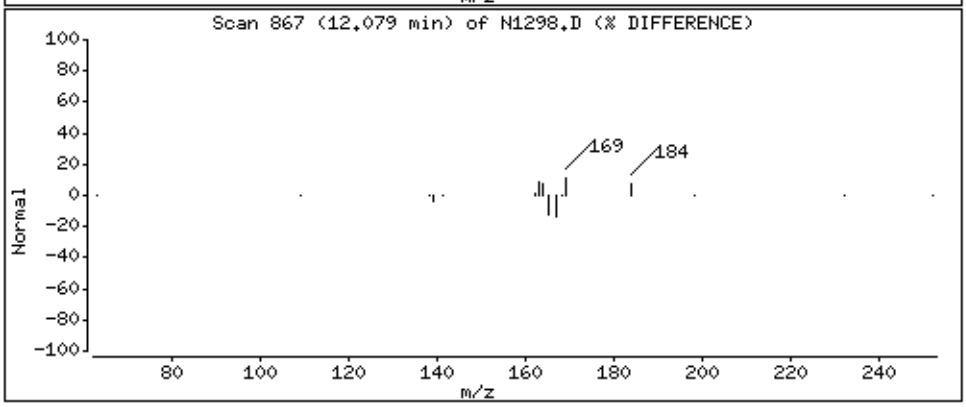
Column phase: ZB5-MS Column diameter: 0.25

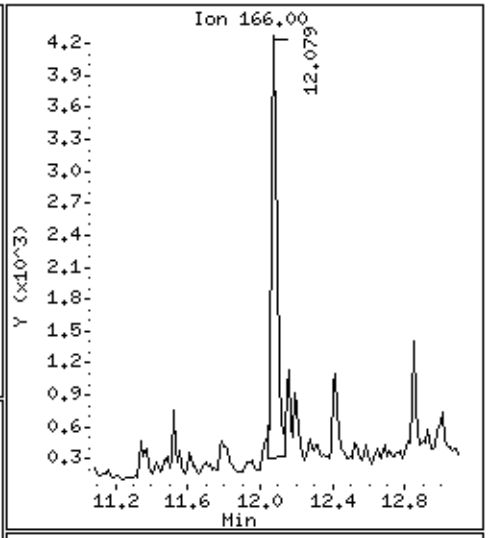
57 Fluorene Concentration: 0.0772 ug/L

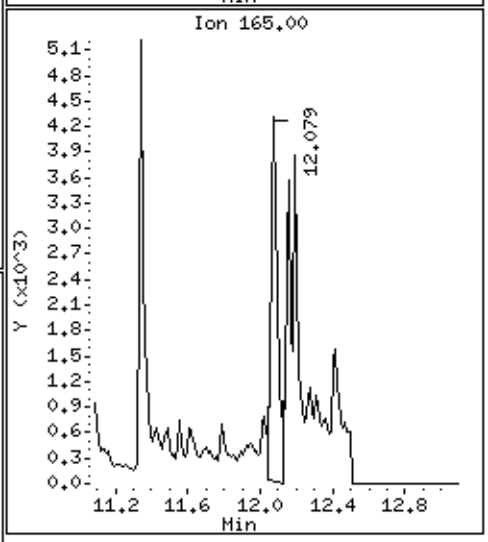












Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-12
Client ID: MW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1299.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.098	ug/L	1	.2	0.20	0.063	0.098
2-Methylnaphthalene	U	0.098	ug/L	1	.2	0.20	0.075	0.098
1-Methylnaphthalene	U	0.098	ug/L	1	.2	0.20	0.067	0.098
Acenaphthylene	U	0.098	ug/L	1	.2	0.20	0.053	0.098
Acenaphthene	U	0.098	ug/L	1	.2	0.20	0.063	0.098
Fluorene	U	0.098	ug/L	1	.2	0.20	0.060	0.098
Phenanthrene	U	0.098	ug/L	1	.2	0.20	0.050	0.098
Anthracene	U	0.098	ug/L	1	.2	0.20	0.043	0.098
Fluoranthene	U	0.098	ug/L	1	.2	0.20	0.072	0.098
Pyrene	U	0.098	ug/L	1	.2	0.20	0.058	0.098
Benzo(a)anthracene	U	0.098	ug/L	1	.2	0.20	0.045	0.098
Chrysene	U	0.098	ug/L	1	.2	0.20	0.035	0.098
Benzo(b)Fluoranthene	U	0.098	ug/L	1	.2	0.20	0.087	0.098
Benzo(k)fluoranthene	U	0.098	ug/L	1	.2	0.20	0.048	0.098
Benzo(a)pyrene	U	0.098	ug/L	1	.2	0.20	0.065	0.098
Indeno(1,2,3-cd)pyrene	U	0.098	ug/L	1	.2	0.20	0.051	0.098
Dibenzo(a,h)anthracene	U	0.098	ug/L	1	.2	0.20	0.069	0.098
Benzo(g,h,i)perylene	U	0.098	ug/L	1	.2	0.20	0.064	0.098
2-Methylnaphthalene-D10		76.4	%					
Fluorene-D10		70.1	%					
Pyrene-D10		91.0	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1299.D
Report Date: 15-Jan-2021 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1299.D
Lab Smp Id: TN0377-12 Client Smp ID: MW-FD-WINTER2020
Inj Date : 08-JAN-2021 18:30
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-12
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

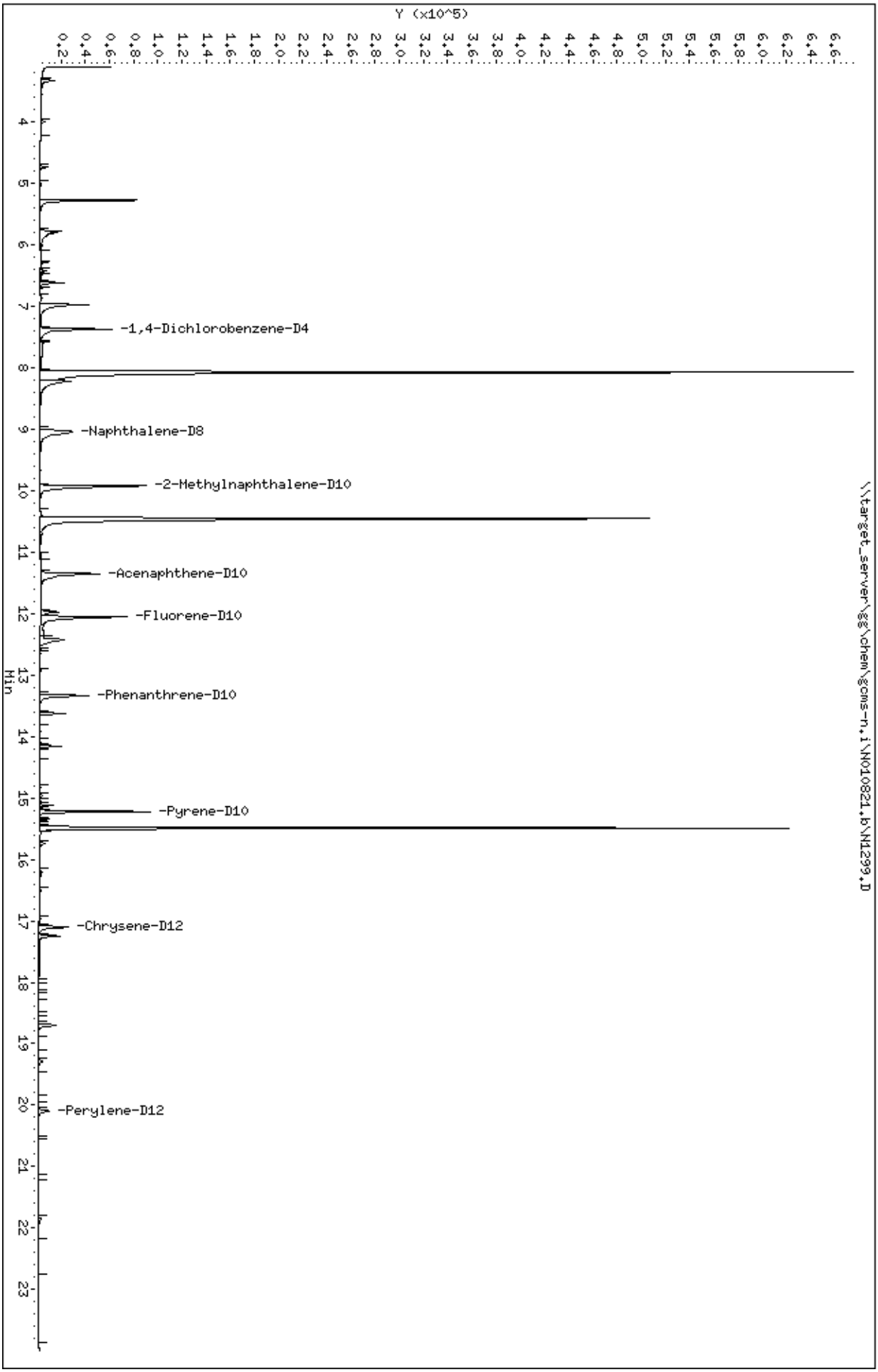
Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.020	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.374	(1.000)	35841	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.033	9.012	(1.000)	105221	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.098)	97579	1.52854	1.50	
* 48 Acenaphthene-D10	164	11.349	11.349	(1.000)	57118	0.80000	(a)	
$ 56 Fluorene-D10	174	12.046	12.057	(1.061)	85644	1.40298	1.38	
* 66 Phenanthrene-D10	188	13.334	13.335	(1.000)	77833	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	87717	1.81930	1.78	
* 77 Chrysene-D12	240	17.101	17.124	(1.000)	28071	0.80000	(a)	
* 84 Perylene-D12	264	20.101	20.135	(1.000)	17738	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.


Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1299,D
Date : 08-JAN-2021 18:30
Client ID: MW-FD-WINTER2020
Sample Info: TN0377-12
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010821,b\N1299,D
Y (x10^5)
Min
-1,4-Dichlorobenzene-D4
-Naphthalene-D8
-2-Methylnaphthalene-D10
-Acenaphthene-D10
-Fluorene-D10
-Phenanthrene-D10
-Pyrene-D10
-Chrysene-D12
-Perylene-D12

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-13
Client ID: GW-EB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: N1300.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.097	ug/L	1	.2	0.19	0.062	0.097
2-Methylnaphthalene	U	0.097	ug/L	1	.2	0.19	0.075	0.097
1-Methylnaphthalene	U	0.097	ug/L	1	.2	0.19	0.066	0.097
Acenaphthylene	U	0.097	ug/L	1	.2	0.19	0.052	0.097
Acenaphthene	U	0.097	ug/L	1	.2	0.19	0.062	0.097
Fluorene	U	0.097	ug/L	1	.2	0.19	0.059	0.097
Phenanthrene	U	0.097	ug/L	1	.2	0.19	0.050	0.097
Anthracene	U	0.097	ug/L	1	.2	0.19	0.043	0.097
Fluoranthene	U	0.097	ug/L	1	.2	0.19	0.071	0.097
Pyrene	U	0.097	ug/L	1	.2	0.19	0.057	0.097
Benzo(a)anthracene	U	0.097	ug/L	1	.2	0.19	0.045	0.097
Chrysene	U	0.097	ug/L	1	.2	0.19	0.035	0.097
Benzo(b)Fluoranthene	U	0.097	ug/L	1	.2	0.19	0.086	0.097
Benzo(k)fluoranthene	U	0.097	ug/L	1	.2	0.19	0.048	0.097
Benzo(a)pyrene	U	0.097	ug/L	1	.2	0.19	0.064	0.097
Indeno(1,2,3-cd)pyrene	U	0.097	ug/L	1	.2	0.19	0.050	0.097
Dibenzo(a,h)anthracene	U	0.097	ug/L	1	.2	0.19	0.068	0.097
Benzo(g,h,i)perylene	U	0.097	ug/L	1	.2	0.19	0.063	0.097
2-Methylnaphthalene-D10		88.6	%					
Fluorene-D10		79.8	%					
Pyrene-D10		102.	%					

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1300.D
Report Date: 15-Jan-2021 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1300.D
Lab Smp Id: TN0377-13 Client Smp ID: GW-EB-WINTER2020
Inj Date : 08-JAN-2021 19:07
Operator : JCG Inst ID: gcms-n.i
Smp Info : TN0377-13
Misc Info : WG293131,WG292336,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.030	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

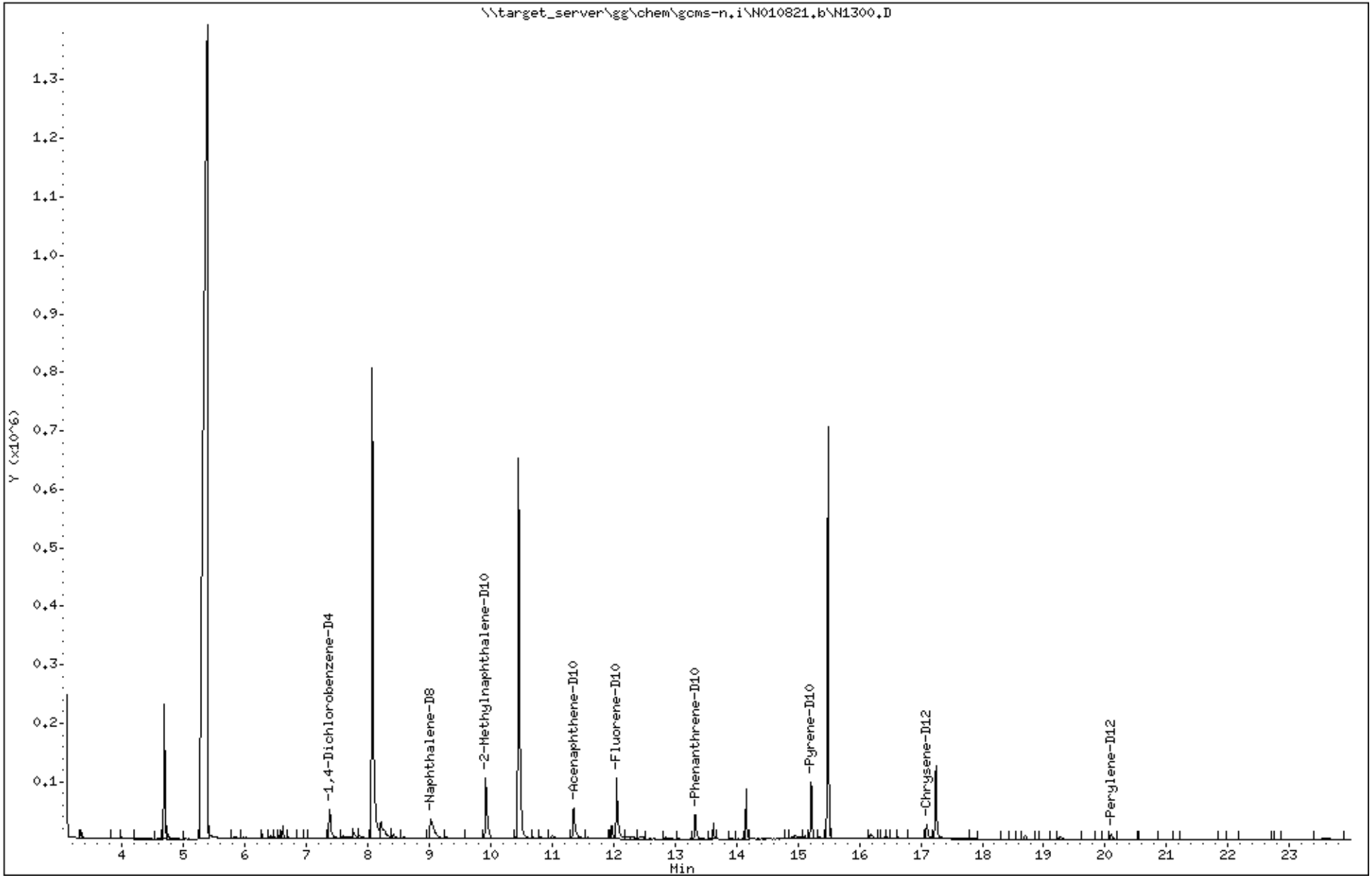
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.374	7.374	(1.000)	39230	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.023	9.012	(1.000)	105467	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.099)	113381	1.77193	1.72	
* 48 Acenaphthene-D10	164	11.349	11.349	(1.000)	57771	0.80000	(a)	
$ 56 Fluorene-D10	174	12.046	12.057	(1.061)	98547	1.59610	1.55	
* 66 Phenanthrene-D10	188	13.335	13.335	(1.000)	77166	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	97824	2.05069	1.99	
* 77 Chrysene-D12	240	17.102	17.124	(1.000)	27773	0.80000	(a)	
* 84 Perylene-D12	264	20.101	20.135	(1.000)	17955	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1300.D
Date : 08-JAN-2021 19:07
Client ID: GW-EB-WINTER2020
Sample Info: TN0377-13
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n.i
Operator: JCG
Column diameter: 0.25



Katahdin Analytical Services 3000064

Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** TN0377
Project : LO-58 Nike Missile Battery Launch Site **Instrument ID:** GCMS-N
Lab File IDs : N1240.D N1241.D N1239.D N1242.D N1243.D N1244.D **Column ID:**
Calibration Date(s): 06-JAN-21 13:20 06-JAN-21 16:03

	0.200000(Level 1	0.500000(Level 2	2.0000 Level 3	7.0000 Level 4	10.0000 Level 5	15.0000 Level 6	New Crv	b	m1	m2	%RSD	Max %RSD	
Naphthalene	1.20327	0.84098	0.92813	0.97834	0.89154	0.96719	AVG		0.96824		12.9844:	15.00000	O
2-Methylnaphthalene	18189	48675	125788	468395	622595	1321812	QUA	0.000e+00	1.96883	-0.03590	0.99821	0.99000	O
1-Methylnaphthalene	17059	40786	114727	423417	572198	1196177	QUA	0.000e+00	2.15124	-0.04176	0.99856	0.99000	O
Acenaphthylene	1.71538	1.70812	1.72147	1.79953	1.74040	1.78314	AVG		1.74467		2.18109	15.00000	O
Acenaphthene	1.10144	1.12347	1.10522	1.14881	1.10115	1.10560	AVG		1.11428		1.68917	15.00000	O
Fluorene	1.14634	1.12841	1.11574	1.17206	1.13617	1.14363	AVG		1.14039		1.67183	15.00000	O
Phenanthrene	0.97037	0.95260	0.97892	1.02293	0.99499	0.99207	AVG		0.98531		2.43929	15.00000	O
Anthracene	1.33274	1.01245	1.02647	1.04482	1.01014	0.98868	AVG		1.06922		12.19923	15.00000	O
Fluoranthene	0.91261	0.83521	0.89267	0.95172	0.94419	0.93277	AVG		0.91153		4.73506	15.00000	O
Pyrene	2.39412	2.45256	2.14060	1.81998	1.91968	1.86348	AVG		2.09840		13.12563	15.00000	O
Benzo(a)anthracene	1.12288	1.20783	1.06607	1.10646	1.22133	1.22943	AVG		1.15900		5.96931	15.00000	O
Chrysene	9752	24063	75157	306703	443529	971550	LNR	0.000e+00	1.20995		0.99882	0.99000	O
Benzo(b)fluoranthene	1.32420	1.18530	1.18349	1.29630	1.18380	1.29906	AVG		1.24536		5.43641	15.00000	O
Benzo(k)fluoranthene	1.39176	1.37606	1.29454	1.33890	1.18746	1.35196	AVG		1.32345		5.63582	15.00000	O
Benzo(a)pyrene	1.03094	0.91437	0.93576	1.00507	0.91202	1.04132	AVG		0.97325		6.09528	15.00000	O
Indeno(1,2,3-cd)pyrene	0.73098	0.68733	0.46784	0.52037	0.68087	0.55515	AVG		0.60709		17.56266	15.00000	W(
Dibenzo(a,h)anthracene	0.85067	0.68657	0.70069	0.75704	0.78686	0.75443	AVG		0.75604		7.89151	15.00000	O
Benzo(g,h,i)perylene	0.98442	0.88171	0.86319	0.90554	0.95299	0.87172	AVG		0.90993		5.35314	15.00000	O
2-Methylnaphthalene-D10	0.50936	0.50972	0.50179	0.44712	0.44427	0.49992	AVG		0.48536		6.38485	15.00000	
Fluorene-D10	1.00521	0.81642	0.81573	0.83668	0.80353	0.85239	AVG		0.85499		8.84349	15.00000	
Pyrene-D10	1.44552	1.55770	1.43086	1.24181	1.28272	1.28589	AVG		1.37408		8.95254	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1245.D
Report Date: 07-Jan-2021 11:29

Katahdin Analytical Services

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: WG292998-8
Level: LOW
Data Type: MS DATA
SpikeList File: SIM_IND_CHK5.spk
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-n.i\N010621.b\NSPSIM41.m
Misc Info: WG292998,WG292998,WG292998-4

Client SDG: 021497
Fraction: SV

Operator: JCG
SampleType: INDCHECK
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
2 1,4-Dioxane	5.00	4.46	89.19	80-120
3 N-Nitrosodimethyla	5.00	4.54	90.72	80-120
4 Pyridine	5.00	5.20	104.07	80-120
5 Benzaldehyde	5.00	0.854	17.08*	80-120
7 Bis(2-Chloroethyl)	5.00	4.85	96.96	80-120
6 Phenol	5.00	5.17	103.36	80-120
8 2-Chlorophenol	5.00	4.98	99.71	80-120
9 1,3-Dichlorobenzen	5.00	4.65	93.07	80-120
11 1,4-Dichlorobenzen	5.00	4.78	95.55	80-120
12 1,2-Dichlorobenzen	5.00	4.60	92.01	80-120
13 2,2'-Oxybis(1-chlo	5.00	2.97	59.43*	80-120
14 2-Methylphenol	5.00	5.00	100.03	80-120
15 Acetophenone	5.00	4.71	94.18	80-120
16 N-Nitroso-di-n-pro	5.00	4.39	87.83	80-120
18 Hexachloroethane	5.00	4.39	87.80	80-120
17 3&4-Methylphenol	5.00	4.68	93.54	80-120
19 Nitrobenzene	5.00	4.86	97.16	80-120
20 Isophorone	5.00	4.04	80.83	80-120
21 2-Nitrophenol	5.00	5.12	102.43	80-120
22 2,4-Dimethylphenol	5.00	4.65	93.10	80-120
23 bis(2-Chloroethoxy	5.00	4.92	98.30	80-120
24 Benzoic acid	5.00	4.67	93.45	80-120
25 2,4-Dichlorophenol	5.00	5.16	103.26	80-120
26 1,2,4-Trichloroben	5.00	5.01	100.15	80-120
28 Naphthalene	5.00	4.84	96.83	80-120
29 4-Chloroaniline	5.00	10.8	216.47*	80-120
30 Hexachlorobutadien	5.00	5.03	100.59	80-120
31 Caprolactam	5.00	5.81	116.29	80-120
34 2-Methylnaphthalen	5.00	7.18	143.64*	80-120
32 4-Chloro-3-Methylp	5.00	5.32	106.41	80-120
35 1-Methylnaphthalen	5.00	5.81	116.16	80-120
37 1,2,4,5-Tetrachlor	5.00	5.01	100.27	80-120
36 Hexachlorocyclopen	5.00	3.07	61.44*	80-120
39 2,4,6-Trichlorophe	5.00	4.91	98.26	80-120
40 2,4,5-Trichlorophe	5.00	4.64	92.79	80-120
42 2-Chloronaphthalen	5.00	4.76	95.13	80-120
41 1,1'-Biphenyl	5.00	4.63	92.68	80-120
43 2-Nitroaniline	5.00	5.96	119.17	80-120
44 Dimethyl Phthalate	5.00	4.84	96.82	80-120
46 Acenaphthylene	5.00	3.94	78.88*	80-120

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1245.D
Report Date: 07-Jan-2021 11:29

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
45 2,6-Dinitrotoluene	5.00	4.88	97.68	80-120
49 Acenaphthene	5.00	4.71	94.30	80-120
47 3-Nitroaniline	5.00	7.71	154.30*	80-120
50 2,4-Dinitrophenol	5.00	5.13	102.66	80-120
51 Dibenzofuran	5.00	6.03	120.59*	80-120
52 2,4-Dinitrotoluene	5.00	5.07	101.42	80-120
54 2,3,4,6-Tetrachlor	5.00	4.40	87.96	80-120
53 4-Nitrophenol	5.00	5.31	106.21	80-120
55 Diethylphthalate	5.00	5.12	102.31	80-120
57 Fluorene	5.00	4.79	95.90	80-120
58 4-Chlorophenyl-phe	5.00	4.99	99.85	80-120
60 4,6-Dinitro-2-Meth	5.00	5.68	113.63	80-120
59 4-Nitroaniline	5.00	5.89	117.87	80-120
61 N-Nitrosodiphenyla	5.00	4.06	81.30	80-120
62 4-Bromophenyl-phen	5.00	4.91	98.22	80-120
63 Hexachlorobenzene	5.00	4.90	97.97	80-120
64 Atrazine	5.00	4.82	96.50	80-120
65 Pentachlorophenol	5.00	4.37	87.32	80-120
67 Phenanthrene	5.00	4.84	96.78	80-120
68 Anthracene	5.00	4.55	90.95	80-120
69 Carbazole	5.00	6.14	122.86*	80-120
70 Di-n-butylphthalat	5.00	4.78	95.71	80-120
71 Fluoranthene	5.00	4.98	99.63	80-120
73 Pyrene	5.00	4.15	83.09	80-120
74 Butylbenzylphthala	5.00	4.20	83.97	80-120
76 Benzo(a)anthracene	5.00	4.48	89.71	80-120
78 Chrysene	5.00	4.72	94.39	80-120
75 3,3'-Dichlorobenzi	5.00	3.95	78.92*	80-120
79 bis(2-Ethylhexyl)p	5.00	4.23	84.65	80-120
80 Di-n-octylphthalat	5.00	4.39	87.89	80-120
81 Benzo(b)fluoranthe	5.00	5.05	101.06	80-120
82 Benzo(k)fluoranthe	5.00	5.07	101.39	80-120
83 Benzo(a)pyrene	5.00	5.04	100.91	80-120
85 Indeno(1,2,3-cd)py	5.00	5.12	102.49	80-120
86 Dibenzo(a,h)anthra	5.00	4.27	85.47	80-120
87 Benzo(g,h,i)peryle	5.00	4.38	87.66	80-120

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 1 1,4-Dioxane-d8	2.00	0.000	*	26-115
$ 33 2-Methylnaphthale	2.00	0.000	*	43-92
$ 38 2,4-Dibromophenol	4.00	0.000	*	10-130
$ 56 Fluorene-D10	2.00	0.000	*	29-101
$ 72 Pyrene-D10	2.00	0.000	*	53-166

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1239.D
Report Date: 07-Jan-2021 15:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010621.b\N1239.D
Lab Smp Id: WG292998-4
Inj Date : 06-JAN-2021 13:20
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292998-4
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010621.b\NSPSIM41.m
Meth Date : 07-Jan-2021 11:22 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 13:20 Cal File: N1239.D
Als bottle: 2 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.327	3.328	(0.451)	30939	2.00000	2.39	
2 1,4-Dioxane	88	3.380	3.380	(0.458)	34237	2.00000	2.40	
3 N-Nitrosodimethylamine	74	3.863	3.842	(0.524)	44703	2.00000	2.28	
4 Pyridine	79	3.905	3.863	(0.530)	71076	2.00000	2.15	
5 Benzaldehyde	77	6.821	6.811	(0.925)	38406	2.00000	3.29	
6 Phenol	94	6.992	6.992	(0.948)	225639	4.50000	5.48	
7 Bis(2-Chloroethyl)ether	93	7.052	7.052	(0.956)	91771	2.00000	2.52	
8 2-Chlorophenol	128	7.123	7.123	(0.966)	211557	4.50000	5.14	
9 1,3-Dichlorobenzene	146	7.304	7.294	(0.990)	90440	2.00000	1.84	
* 10 1,4-Dichlorobenzene-D4	152	7.374	7.374	(1.000)	27301	0.80000	(a)	
11 1,4-Dichlorobenzene	146	7.394	7.395	(1.003)	103229	2.00000	1.96	
12 1,2-Dichlorobenzene	146	7.586	7.586	(1.029)	94624	2.00000	1.90	
13 2,2'-Oxybis(1-chloropropane)	45	7.747	7.747	(1.050)	46572	2.00000	1.69(Q)	
14 2-Methylphenol	108	7.747	7.747	(1.050)	156660	4.50000	4.32	
15 Acetophenone	105	7.898	7.898	(0.876)	100120	2.00000	2.02	
16 N-Nitroso-di-n-propylamine	70	7.918	7.918	(1.074)	45404	2.00000	2.11	
17 3&4-Methylphenol	108	7.958	7.958	(1.079)	164524	4.50000	4.94	
18 Hexachloroethane	117	8.008	8.009	(1.086)	22842	2.00000	1.26	
19 Nitrobenzene	77	8.109	8.109	(0.900)	75641	2.00000	2.12	
20 Isophorone	82	8.423	8.424	(0.935)	96837	2.00000	1.61	
21 2-Nitrophenol	139	8.530	8.531	(0.947)	90005	4.50000	4.66	

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1239.D
Report Date: 07-Jan-2021 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.637	8.627	(0.958)	157928	4.50000	4.77	
	23 bis(2-Chloroethoxy)methane	93	8.734	8.723	(0.969)	76973	2.00000	2.05	
	24 Benzoic acid	105	8.776	8.841	(0.974)	88566	4.50000	4.58	
	25 2,4-Dichlorophenol	162	8.883	8.873	(0.986)	150287	4.50000	4.71	
	26 1,2,4-Trichlorobenzene	180	8.958	8.958	(0.994)	67921	2.00000	2.03	
*	27 Naphthalene-D8	136	9.012	9.012	(1.000)	76750	0.80000	(a)	
	28 Naphthalene	128	9.044	9.044	(1.004)	178085	2.00000	1.92	
	29 4-Chloroaniline	127	9.161	9.215	(1.017)	56081	2.00000	2.98	
	30 Hexachlorobutadiene	225	9.236	9.236	(1.025)	25494	2.00000	1.79	
	31 Caprolactam	113	9.594	9.624	(1.065)	17391	2.00000	2.28	
	32 4-Chloro-3-Methylphenol	107	9.840	9.831	(1.092)	125227	4.50000	4.79	
$	33 2-Methylnaphthalene-D10	152	9.929	9.919	(1.102)	96280	2.00000	2.07	
	34 2-Methylnaphthalene	142	9.968	9.969	(1.106)	125788	2.00000	2.50	
	35 1-Methylnaphthalene	142	10.096	10.097	(1.120)	114727	2.00000	2.50	
	36 Hexachlorocyclopentadiene	237	10.195	10.195	(0.898)	16197	2.00000	1.56	
	37 1,2,4,5-Tetrachlorobenzene	216	10.214	10.205	(0.900)	51048	2.00000	1.94	
$	38 2,4-Dibromophenol	252	10.372	10.352	(0.914)	28017	2.00000	1.94	
	39 2,4,6-Trichlorophenol	196	10.382	10.372	(0.915)	84760	4.50000	4.81	
	40 2,4,5-Trichlorophenol	196	10.451	10.441	(0.921)	116696	4.50000	4.52	
	41 1,1'-Biphenyl	154	10.608	10.597	(0.935)	143339	2.00000	1.98	
	42 2-Chloronaphthalene	164	10.619	10.608	(0.936)	36923	2.00000	1.95	
	43 2-Nitroaniline	65	10.782	10.771	(0.950)	25431	2.00000	1.93	
	44 Dimethyl Phthalate	163	11.033	11.033	(0.972)	293348	4.50000	4.50	
	45 2,6-Dinitrotoluene	165	11.109	11.109	(0.979)	29545	2.00000	1.99	
	46 Acenaphthylene	152	11.163	11.153	(0.984)	170236	2.00000	1.97	
	47 3-Nitroaniline	138	11.338	11.338	(0.999)	16591	2.00000	2.63	
*	48 Acenaphthene-D10	164	11.349	11.349	(1.000)	39556	0.80000	(a)	
	49 Acenaphthene	153	11.392	11.393	(1.004)	109295	2.00000	1.98	
	50 2,4-Dinitrophenol	184	11.512	11.491	(1.014)	22723	4.50000	4.31	
	51 Dibenzofuran	168	11.632	11.632	(1.025)	138384	2.00000	1.95	
	52 2,4-Dinitrotoluene	165	11.665	11.654	(1.028)	34054	2.00000	1.96(Q)	
	53 4-Nitrophenol	109	11.665	11.632	(1.028)	23530	4.50000	4.40(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.839	11.828	(1.043)	63664	4.50000	4.47	
	55 Diethylphthalate	149	11.981	11.981	(1.056)	322097	4.50000	4.62	
$	56 Fluorene-D10	174	12.057	12.057	(1.062)	80668	2.00000	1.91	
	57 Fluorene	166	12.090	12.090	(1.065)	110336	2.00000	1.96	
	58 4-Chlorophenyl-phenylether	204	12.111	12.112	(1.067)	55713	2.00000	1.96	
	59 4-Nitroaniline	138	12.166	12.177	(1.072)	18034	2.00000	2.04	
	60 4,6-Dinitro-2-Methylphenol	198	12.231	12.221	(0.916)	34594	4.50000	4.02	
	61 N-Nitrosodiphenylamine	169	12.275	12.275	(0.920)	90153	2.00000	1.76	
	62 4-Bromophenyl-phenylether	248	12.758	12.758	(0.956)	30623	2.00000	1.71	
	63 Hexachlorobenzene	284	12.850	12.850	(0.963)	31432	2.00000	1.83	
	64 Atrazine	200	13.011	13.023	(0.975)	31868	2.00000	2.03	
	65 Pentachlorophenol	266	13.138	13.127	(0.984)	48758	4.50000	4.92	
*	66 Phenanthrene-D10	188	13.346	13.335	(1.000)	62702	0.80000	(a)	
	67 Phenanthrene	178	13.381	13.369	(1.003)	153451	2.00000	1.99	
	68 Anthracene	178	13.450	13.438	(1.008)	160904	2.00000	1.92	
	69 Carbazole	167	13.681	13.669	(1.025)	122162	2.00000	2.06	
	70 Di-n-butylphthalate	149	14.192	14.181	(1.063)	592036	4.50000	4.68	
	71 Fluoranthene	202	14.981	14.970	(1.122)	139930	2.00000	1.96	
$	72 Pyrene-D10	212	15.247	15.247	(0.890)	95338	2.00000	2.08	
	73 Pyrene	202	15.269	15.270	(0.892)	142628	2.00000	2.04	
	74 Butylbenzylphthalate	149	16.235	16.236	(0.948)	210105	4.50000	4.83	
	75 3,3'-Dichlorobenzidine	252	17.113	17.113	(0.999)	17388	2.00000	2.28(Q)	

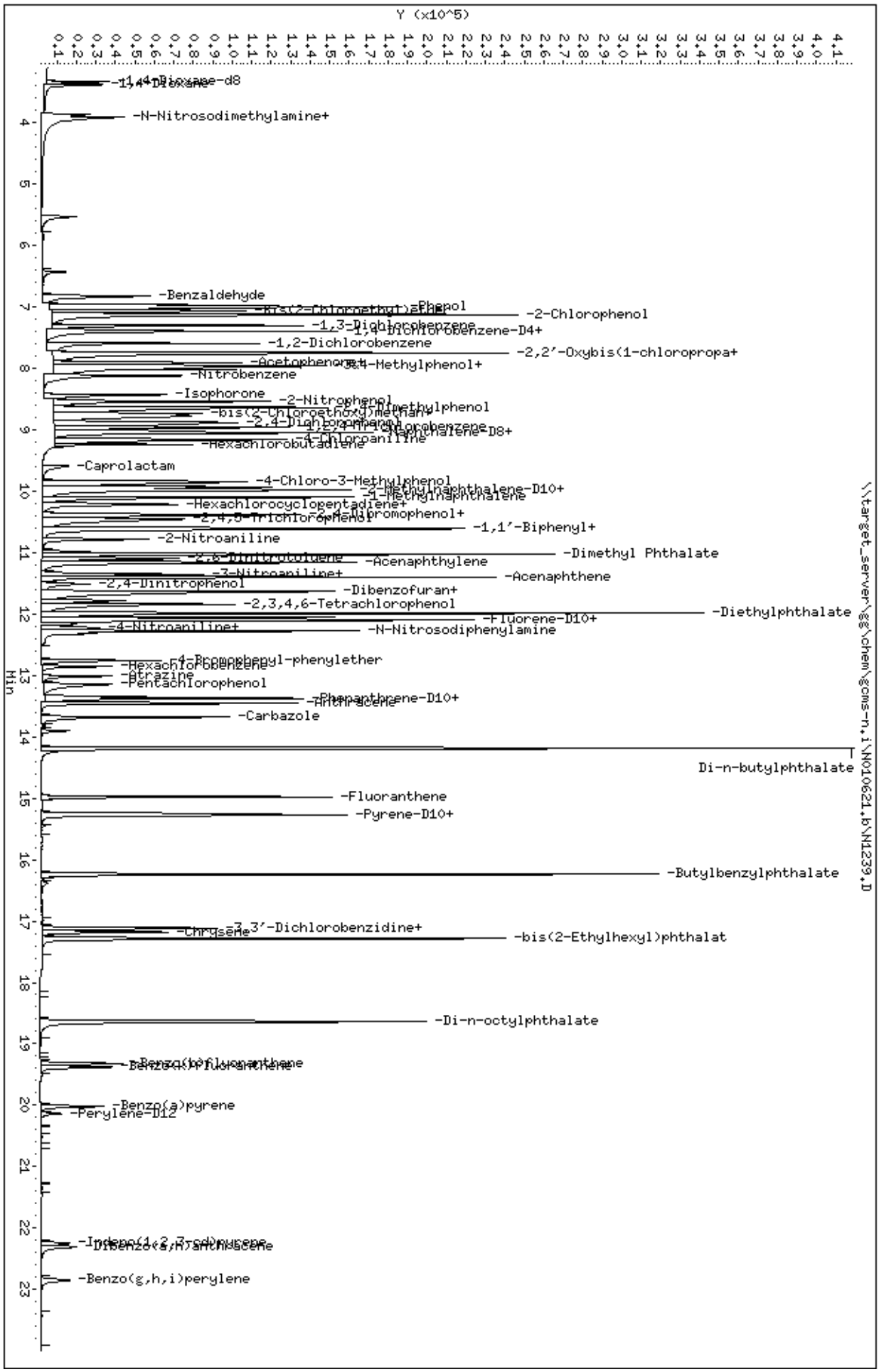
Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1239.D
Report Date: 07-Jan-2021 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.113	17.113	(0.999)	71032	2.00000	1.84	
*	77 Chrysene-D12	240	17.124	17.124	(1.000)	26652	0.80000	(a)	
	78 Chrysene	228	17.179	17.179	(1.003)	75157	2.00000	1.86	
	79 bis(2-Ethylhexyl)phthalate	149	17.279	17.279	(1.009)	274203	4.50000	4.40	
	80 Di-n-octylphthalate	149	18.642	18.642	(1.089)	386495	4.50000	4.42	
	81 Benzo(b)fluoranthene	252	19.315	19.327	(0.959)	56559	2.00000	1.90	
	82 Benzo(k)fluoranthene	252	19.383	19.383	(0.962)	61866	2.00000	1.96(H)	
	83 Benzo(a)pyrene	252	20.023	20.023	(0.994)	44720	2.00000	1.92	
*	84 Perylene-D12	264	20.146	20.135	(1.000)	19116	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.246	22.257	(1.299)	31172	2.00000	1.54(M)	M3
	86 Dibenzo(a,h)anthracene	278	22.313	22.313	(1.108)	33486	2.00000	1.85	
	87 Benzo(g,h,i)perylene	276	22.852	22.852	(1.134)	41252	2.00000	1.90	
M	88 Total PAHs	100				1820624	36.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

1:41 pm, Jan 18, 2021



Data File: \\target_server\gs\chem\gcms-n.i\N010621.b\N1239.D
Date : 06-JAN-2021 13:20
Client ID:
Sample Info: WG292998-4
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n.i
Operator: JCG
Column diameter: 0.25

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1240.D
Report Date: 07-Jan-2021 15:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010621.b\N1240.D
Lab Smp Id: WG292998-2
Inj Date : 06-JAN-2021 13:53
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292998-2
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010621.b\NSPSIM41.m
Meth Date : 07-Jan-2021 11:22 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 13:53 Cal File: N1240.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

JCG
1:41 pm, Jan 18, 2021

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.349	3.328	(0.452)	2184	0.20000	0.134(a)	
2 1,4-Dioxane	88	3.391	3.380	(0.457)	2849	0.20000	0.159(a)	
3 N-Nitrosodimethylamine	74	3.978	3.842	(0.537)	3695	0.20000	0.150(aM)	M9
4 Pyridine	79	4.094	3.863	(0.552)	5289	0.20000	0.128(aM)	M9
5 Benzaldehyde	77	6.881	6.811	(0.928)	3430	0.20000	0.235	
6 Phenol	94	7.042	6.992	(0.950)	47775	1.00000	0.926(a)	
7 Bis(2-Chloroethyl)ether	93	7.143	7.052	(0.963)	13151	0.20000	0.288(QM)	M6
8 2-Chlorophenol	128	7.163	7.123	(0.966)	46847	1.00000	0.909(a)	
9 1,3-Dichlorobenzene	146	7.324	7.294	(0.988)	5281	0.20000	0.0858(a)	
* 10 1,4-Dichlorobenzene-D4	152	7.415	7.374	(1.000)	34202	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.425	7.395	(1.001)	14096	0.20000	0.214(M)	M9
12 1,2-Dichlorobenzene	146	7.606	7.586	(1.026)	14527	0.20000	0.233(M)	M9
13 2,2'-Oxybis(1-chloropropane)	45	7.757	7.747	(1.046)	2987	0.20000	0.0865(aQ)	
14 2-Methylphenol	108	7.797	7.747	(1.052)	29424	1.00000	0.648(a)	
15 Acetophenone	105	8.008	7.898	(0.886)	11198	0.20000	0.198(a)	
16 N-Nitroso-di-n-propylamine	70	7.948	7.918	(1.072)	5203	0.20000	0.193(aQ)	
17 3&4-Methylphenol	108	8.029	7.958	(1.083)	40482	1.00000	0.971(a)	
18 Hexachloroethane	117	8.019	8.009	(1.081)	1130	0.20000	0.0498(a)	
19 Nitrobenzene	77	8.180	8.109	(0.904)	14813	0.20000	0.364(M)	M6
20 Isophorone	82	8.445	8.424	(0.934)	12199	0.20000	0.177(aM)	M9
21 2-Nitrophenol	139	8.595	8.531	(0.950)	21318	1.00000	0.966(a)	

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1240.D
Report Date: 07-Jan-2021 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.712	8.627	(0.963)	37975	1.00000	1.00	
	23 bis(2-Chloroethoxy)methane	93	8.841	8.723	(0.978)	8921	0.20000	0.208	
	24 Benzoic acid	105	8.851	8.841	(0.979)	15277	1.00000	0.722(aQH)	
	25 2,4-Dichlorophenol	162	8.980	8.873	(0.993)	34439	1.00000	0.944	
	26 1,2,4-Trichlorobenzene	180	9.023	8.958	(0.998)	7857	0.20000	0.205	
*	27 Naphthalene-D8	136	9.044	9.012	(1.000)	87741	0.80000	(a)	
	28 Naphthalene	128	9.076	9.044	(1.004)	26394	0.20000	0.248	
	29 4-Chloroaniline	127	9.236	9.215	(1.021)	7264	0.20000	0.346(a)	
	30 Hexachlorobutadiene	225	9.236	9.236	(1.021)	3355	0.20000	0.206	
	31 Caprolactam	113	9.644	9.624	(1.066)	1461	0.20000	0.172(aQ)	
	32 4-Chloro-3-Methylphenol	107	9.909	9.831	(1.096)	29838	1.00000	0.998(a)	
$	33 2-Methylnaphthalene-D10	152	9.988	9.919	(1.104)	11173	0.20000	0.210(a)	
	34 2-Methylnaphthalene	142	10.028	9.969	(1.109)	18189	0.20000	0.325(H)	
	35 1-Methylnaphthalene	142	10.126	10.097	(1.120)	17059	0.20000	0.333	
	36 Hexachlorocyclopentadiene	237	10.205	10.195	(0.897)	1902	0.20000	0.198(a)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.254	10.205	(0.902)	5776	0.20000	0.234	
$	38 2,4-Dibromophenol	252	10.451	10.352	(0.919)	3375	0.20000	0.249(aQ)	
	39 2,4,6-Trichlorophenol	196	10.421	10.372	(0.917)	13221	1.00000	0.797(a)	
	40 2,4,5-Trichlorophenol	196	10.500	10.441	(0.923)	26912	1.00000	1.11(M)	M6
	41 1,1'-Biphenyl	154	10.652	10.597	(0.937)	13975	0.20000	0.205	
	42 2-Chloronaphthalene	164	10.662	10.608	(0.938)	3715	0.20000	0.208	
	43 2-Nitroaniline	65	10.826	10.771	(0.952)	2375	0.20000	0.191(a)	
	44 Dimethyl Phthalate	163	11.044	11.033	(0.971)	60482	1.00000	0.986(a)	
	45 2,6-Dinitrotoluene	165	11.142	11.109	(0.980)	2451	0.20000	0.176(aQ)	
	46 Acenaphthylene	152	11.175	11.153	(0.983)	15971	0.20000	0.197(a)	
	47 3-Nitroaniline	138	11.393	11.338	(1.002)	1867	0.20000	0.315	
*	48 Acenaphthene-D10	164	11.371	11.349	(1.000)	37242	0.80000	(a)	
	49 Acenaphthene	153	11.403	11.393	(1.003)	10255	0.20000	0.198(a)	
	50 2,4-Dinitrophenol	184	11.589	11.491	(1.019)	2027	1.00000	0.437(a)	
	51 Dibenzofuran	168	11.676	11.632	(1.027)	13223	0.20000	0.198(a)	
	52 2,4-Dinitrotoluene	165	11.719	11.654	(1.031)	2939	0.20000	0.180(a)	
	53 4-Nitrophenol	109	11.752	11.632	(1.034)	3815	1.00000	0.800(aQM)	M6
	54 2,3,4,6-Tetrachlorophenol	232	11.872	11.828	(1.044)	12411	1.00000	0.926(aH)	
	55 Diethylphthalate	149	11.992	11.981	(1.055)	65095	1.00000	0.991(a)	
$	56 Fluorene-D10	174	12.079	12.057	(1.062)	9359	0.20000	0.235(a)	
	57 Fluorene	166	12.123	12.090	(1.066)	10673	0.20000	0.201	
	58 4-Chlorophenyl-phenylether	204	12.144	12.112	(1.068)	5429	0.20000	0.203	
	59 4-Nitroaniline	138	12.210	12.177	(1.074)	1738	0.20000	0.209(Q)	
	60 4,6-Dinitro-2-Methylphenol	198	12.264	12.221	(0.917)	4190	1.00000	0.643(aQ)	
	61 N-Nitrosodiphenylamine	169	12.308	12.275	(0.921)	8472	0.20000	0.209	
	62 4-Bromophenyl-phenylether	248	12.792	12.758	(0.957)	3003	0.20000	0.211(Q)	
	63 Hexachlorobenzene	284	12.862	12.850	(0.962)	4158	0.20000	0.305	
	64 Atrazine	200	13.035	13.023	(0.975)	2346	0.20000	0.189(a)	
	65 Pentachlorophenol	266	13.185	13.127	(0.986)	9838	1.00000	1.25	
*	66 Phenanthrene-D10	188	13.369	13.335	(1.000)	49717	0.80000	(a)	
	67 Phenanthrene	178	13.392	13.369	(1.002)	12061	0.20000	0.197(a)	
	68 Anthracene	178	13.473	13.438	(1.008)	16565	0.20000	0.249	
	69 Carbazole	167	13.715	13.669	(1.026)	10122	0.20000	0.215	
	70 Di-n-butylphthalate	149	14.193	14.181	(1.062)	101835	1.00000	1.02	
	71 Fluoranthene	202	14.992	14.970	(1.121)	11343	0.20000	0.200	
$	72 Pyrene-D10	212	15.270	15.247	(0.891)	7473	0.20000	0.210(a)	
	73 Pyrene	202	15.292	15.270	(0.892)	12377	0.20000	0.228	
	74 Butylbenzylphthalate	149	16.247	16.236	(0.948)	34207	1.00000	1.01	
	75 3,3'-Dichlorobenzidine	252	17.135	17.113	(0.999)	1634	0.20000	0.270(Q)	

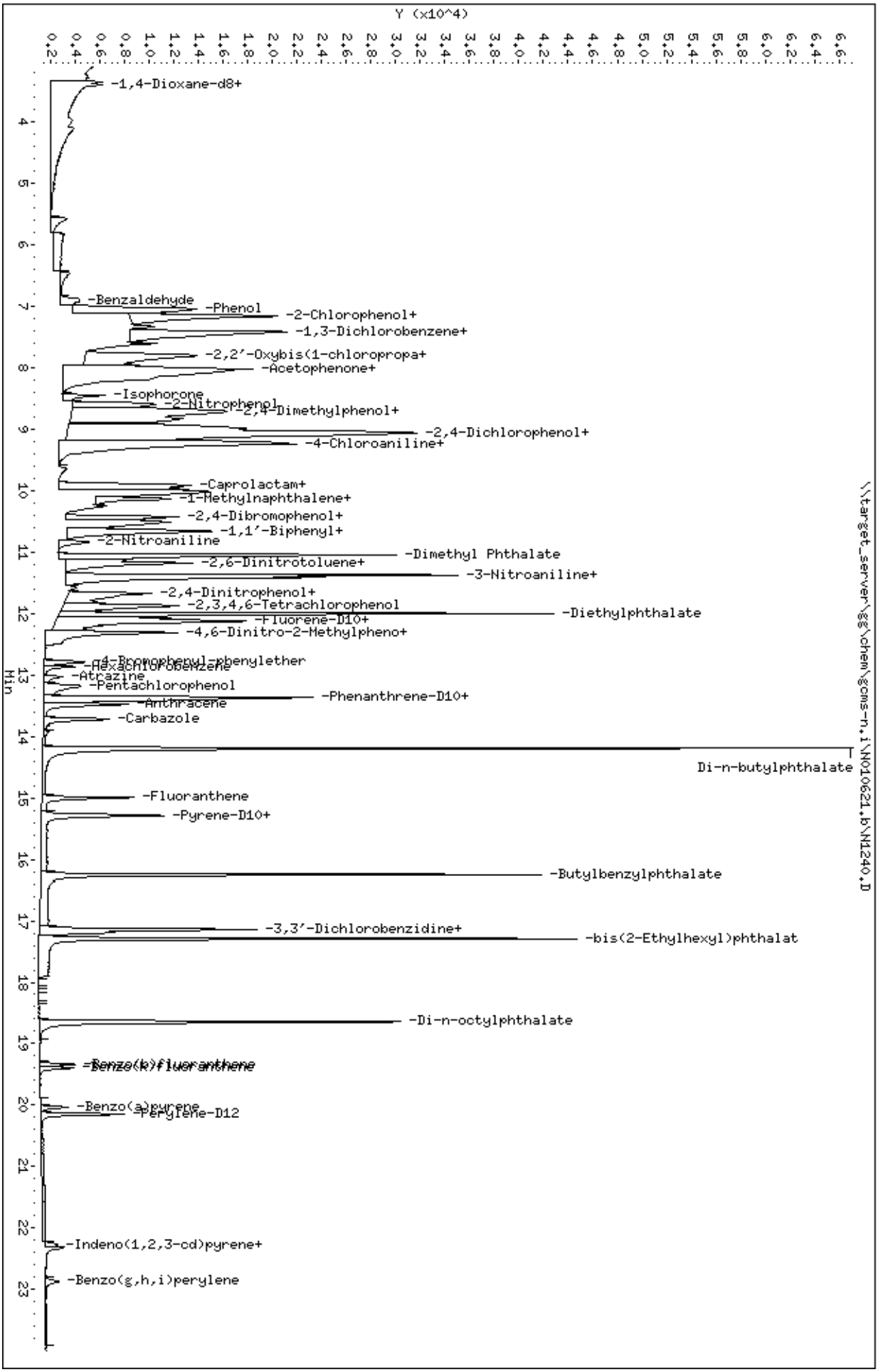
1:41 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1240.D
Report Date: 07-Jan-2021 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.124	17.113	(0.999)	5805	0.20000	0.194(a)	
*	77 Chrysene-D12	240	17.146	17.124	(1.000)	20679	0.80000	(a)	
	78 Chrysene	228	17.190	17.179	(1.003)	9752	0.20000	0.312	
	79 bis(2-Ethylhexyl)phthalate	149	17.290	17.279	(1.008)	52937	1.00000	1.10	
	80 Di-n-octylphthalate	149	18.642	18.642	(1.087)	69557	1.00000	1.03	
	81 Benzo(b)fluoranthene	252	19.338	19.327	(0.959)	4782	0.20000	0.213	
	82 Benzo(k)fluoranthene	252	19.394	19.383	(0.962)	5026	0.20000	0.210(H)	
	83 Benzo(a)pyrene	252	20.034	20.023	(0.994)	3723	0.20000	0.212	
*	84 Perylene-D12	264	20.158	20.135	(1.000)	14445	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.268	22.257	(1.299)	3779	0.20000	0.241	
	86 Dibenzo(a,h)anthracene	278	22.336	22.313	(1.108)	3072	0.20000	0.225	
	87 Benzo(g,h,i)perylene	276	22.863	22.852	(1.134)	3555	0.20000	0.216	
M	88 Total PAHs	100				190381	3.60000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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Date : 06-JAN-2021 13:53
Client ID:
Sample Info: WG292998-2
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010621,b\N1240,D
Y (x10^4)
Min
-1,4-Dioxane-d8+
-Benzaldehyde
-Phenol
-2-Chlorophenol+
-1,3-Dichlorobenzene+
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol+
-2,4-Dichlorophenol+
-4-Chloroaniline+
-Caprolactam+
-1-Methylnaphthalene+
-2,4-Dibromophenol+
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-3-Nitroaniline+
-2,4-Dinitrophenol+
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-Fluorene-D10+
-4,6-Dinitro-2-Methylpheno+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1241.D
Report Date: 07-Jan-2021 15:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010621.b\N1241.D
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Inj Date : 06-JAN-2021 14:25
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292998-3
Misc Info :
Comment :
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Meth Date : 07-Jan-2021 11:22 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 14:25 Cal File: N1241.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.338	3.328	(0.452)	6108	0.50000	0.352(a)	
2 1,4-Dioxane	88	3.380	3.380	(0.458)	6791	0.50000	0.355(a)	
3 N-Nitrosodimethylamine	74	3.926	3.842	(0.532)	9672	0.50000	0.368	
4 Pyridine	79	3.999	3.863	(0.542)	12907	0.50000	0.292	
5 Benzaldehyde	77	6.851	6.811	(0.928)	11380	0.50000	0.730(Q)	
6 Phenol	94	7.012	6.992	(0.950)	103465	2.00000	1.88	
7 Bis(2-Chloroethyl)ether	93	7.083	7.052	(0.959)	29089	0.50000	0.597(Q)	
8 2-Chlorophenol	128	7.133	7.123	(0.966)	102595	2.00000	1.86	
9 1,3-Dichlorobenzene	146	7.314	7.294	(0.990)	20321	0.50000	0.309	
* 10 1,4-Dichlorobenzene-D4	152	7.385	7.374	(1.000)	36530	0.80000	(a)	
11 1,4-Dichlorobenzene	146	7.405	7.395	(1.003)	34295	0.50000	0.488	
12 1,2-Dichlorobenzene	146	7.596	7.586	(1.029)	30853	0.50000	0.464	
13 2,2'-Oxybis(1-chloropropane)	45	7.747	7.747	(1.049)	10190	0.50000	0.276(Q)	
14 2-Methylphenol	108	7.767	7.747	(1.052)	72553	2.00000	1.50	
15 Acetophenone	105	7.928	7.898	(0.879)	30112	0.50000	0.476(Q)	
16 N-Nitroso-di-n-propylamine	70	7.928	7.918	(1.074)	12913	0.50000	0.448	
17 3&4-Methylphenol	108	7.978	7.958	(1.080)	88901	2.00000	2.00(Q)	
18 Hexachloroethane	117	8.009	8.009	(1.084)	3914	0.50000	0.161(a)	
19 Nitrobenzene	77	8.139	8.109	(0.902)	27912	0.50000	0.614(H)	
20 Isophorone	82	8.434	8.424	(0.935)	23117	0.50000	0.301	
21 2-Nitrophenol	139	8.552	8.531	(0.948)	48368	2.00000	1.96	

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1241.D
Report Date: 07-Jan-2021 15:08

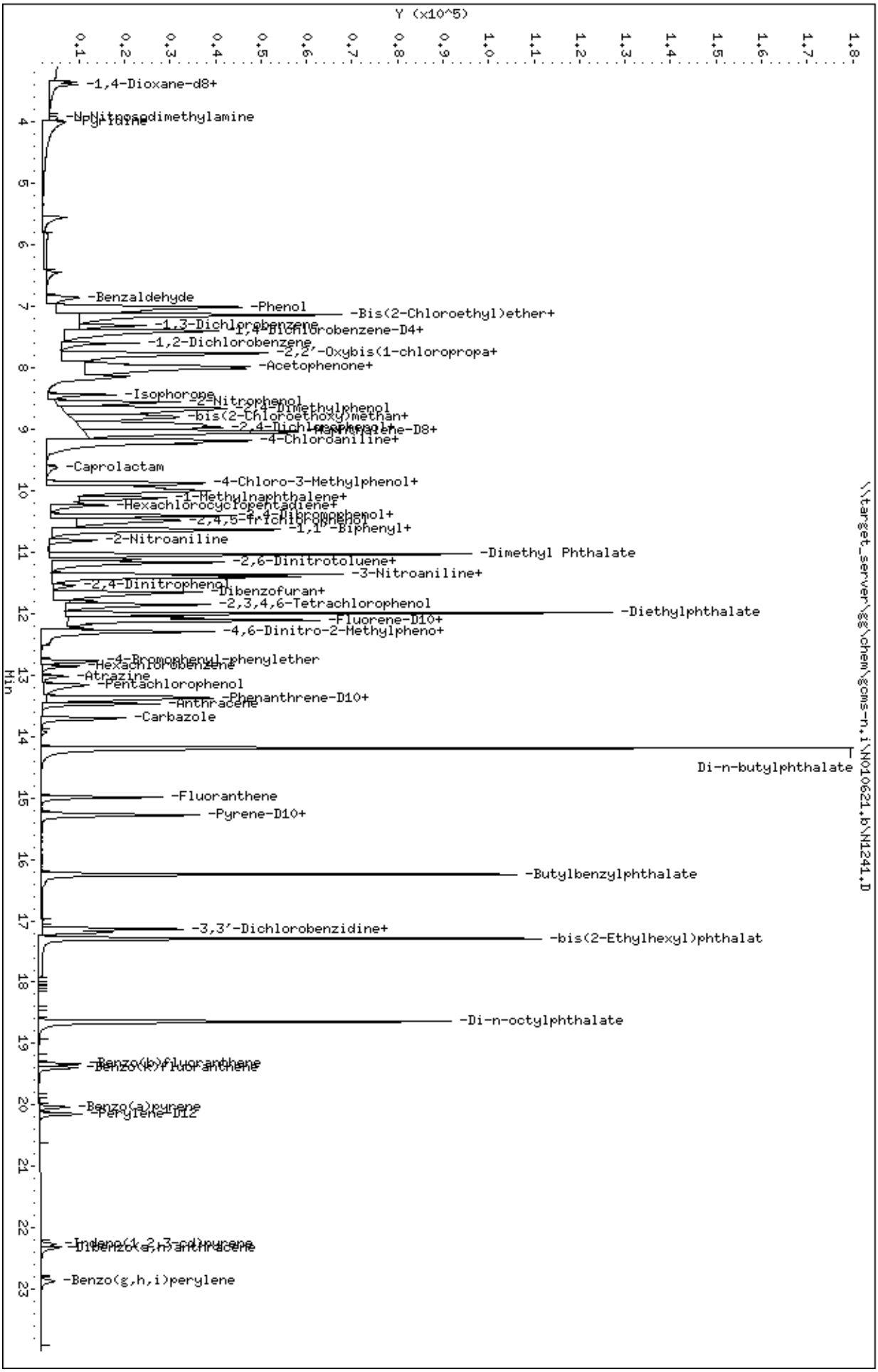
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.659	8.627	(0.960)	87900	2.00000	2.08	
	23 bis(2-Chloroethoxy)methane	93	8.798	8.723	(0.975)	23573	0.50000	0.493(Q)	
	24 Benzoic acid	105	8.809	8.841	(0.976)	46393	2.00000	1.94(Q)	
	25 2,4-Dichlorophenol	162	8.937	8.873	(0.991)	82077	2.00000	2.01	
	26 1,2,4-Trichlorobenzene	180	8.980	8.958	(0.995)	21025	0.50000	0.492	
*	27 Naphthalene-D8	136	9.023	9.012	(1.000)	97992	0.80000	(a)	
	28 Naphthalene	128	9.055	9.044	(1.004)	51506	0.50000	0.434	
	29 4-Chloroaniline	127	9.194	9.215	(1.019)	20877	0.50000	0.886(a)	
	30 Hexachlorobutadiene	225	9.236	9.236	(1.024)	5529	0.50000	0.304(Q)	
	31 Caprolactam	113	9.614	9.624	(1.066)	4567	0.50000	0.481	
	32 4-Chloro-3-Methylphenol	107	9.870	9.831	(1.094)	70550	2.00000	2.11	
$	33 2-Methylnaphthalene-D10	152	9.959	9.919	(1.104)	31218	0.50000	0.525(a)	
	34 2-Methylnaphthalene	142	10.008	9.969	(1.109)	48675	0.50000	0.775(H)	
	35 1-Methylnaphthalene	142	10.106	10.097	(1.120)	40786	0.50000	0.710	
	36 Hexachlorocyclopentadiene	237	10.205	10.195	(0.898)	4145	0.50000	0.319(Q)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.234	10.205	(0.901)	16351	0.50000	0.490	
$	38 2,4-Dibromophenol	252	10.412	10.352	(0.917)	8303	0.50000	0.454(aQ)	
	39 2,4,6-Trichlorophenol	196	10.402	10.372	(0.916)	38260	2.00000	1.71	
	40 2,4,5-Trichlorophenol	196	10.480	10.441	(0.923)	75198	2.00000	2.30(H)	
	41 1,1'-Biphenyl	154	10.630	10.597	(0.936)	45505	0.50000	0.496	
	42 2-Chloronaphthalene	164	10.641	10.608	(0.937)	12146	0.50000	0.506	
	43 2-Nitroaniline	65	10.804	10.771	(0.951)	7784	0.50000	0.465	
	44 Dimethyl Phthalate	163	11.033	11.033	(0.971)	165285	2.00000	2.00	
	45 2,6-Dinitrotoluene	165	11.120	11.109	(0.979)	8827	0.50000	0.469	
	46 Acenaphthylene	152	11.164	11.153	(0.983)	53588	0.50000	0.490	
	47 3-Nitroaniline	138	11.360	11.338	(1.000)	6112	0.50000	0.764	
*	48 Acenaphthene-D10	164	11.360	11.349	(1.000)	50196	0.80000	(a)	
	49 Acenaphthene	153	11.403	11.393	(1.004)	35246	0.50000	0.504	
	50 2,4-Dinitrophenol	184	11.545	11.491	(1.016)	8033	2.00000	1.27	
	51 Dibenzofuran	168	11.654	11.632	(1.026)	44714	0.50000	0.496	
	52 2,4-Dinitrotoluene	165	11.698	11.654	(1.030)	9777	0.50000	0.444(Q)	
	53 4-Nitrophenol	109	11.698	11.632	(1.030)	13042	2.00000	2.00(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.850	11.828	(1.043)	35477	2.00000	1.96(H)	
	55 Diethylphthalate	149	11.981	11.981	(1.055)	176060	2.00000	1.99	
$	56 Fluorene-D10	174	12.068	12.057	(1.062)	25613	0.50000	0.477(a)	
	57 Fluorene	166	12.101	12.090	(1.065)	35401	0.50000	0.495	
	58 4-Chlorophenyl-phenylether	204	12.123	12.112	(1.067)	17858	0.50000	0.495	
	59 4-Nitroaniline	138	12.188	12.177	(1.073)	6810	0.50000	0.607(Q)	
	60 4,6-Dinitro-2-Methylphenol	198	12.253	12.221	(0.917)	15468	2.00000	1.67	
	61 N-Nitrosodiphenylamine	169	12.297	12.275	(0.921)	28620	0.50000	0.503	
	62 4-Bromophenyl-phenylether	248	12.781	12.758	(0.957)	10159	0.50000	0.510(Q)	
	63 Hexachlorobenzene	284	12.862	12.850	(0.963)	10925	0.50000	0.571	
	64 Atrazine	200	13.023	13.023	(0.975)	7698	0.50000	0.442	
	65 Pentachlorophenol	266	13.162	13.127	(0.985)	19193	2.00000	1.74(Q)	
*	66 Phenanthrene-D10	188	13.358	13.335	(1.000)	69729	0.80000	(a)	
	67 Phenanthrene	178	13.392	13.369	(1.003)	41515	0.50000	0.483	
	68 Anthracene	178	13.462	13.438	(1.008)	44123	0.50000	0.473	
	69 Carbazole	167	13.704	13.669	(1.026)	32712	0.50000	0.496	
	70 Di-n-butylphthalate	149	14.193	14.181	(1.062)	274715	2.00000	1.95	
	71 Fluoranthene	202	14.992	14.970	(1.122)	36399	0.50000	0.458	
$	72 Pyrene-D10	212	15.259	15.247	(0.890)	24229	0.50000	0.567(a)	
	73 Pyrene	202	15.281	15.270	(0.892)	38148	0.50000	0.584	
	74 Butylbenzylphthalate	149	16.247	16.236	(0.948)	95822	2.00000	2.36	
	75 3,3'-Dichlorobenzidine	252	17.124	17.113	(0.999)	4088	0.50000	0.563(Q)	

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1241.D
Report Date: 07-Jan-2021 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.124	17.113	(0.999)	18787	0.50000	0.521	
*	77 Chrysene-D12	240	17.135	17.124	(1.000)	24887	0.80000	(a)	
	78 Chrysene	228	17.191	17.179	(1.003)	24063	0.50000	0.639(Q)	
	79 bis(2-Ethylhexyl)phthalate	149	17.290	17.279	(1.009)	140079	2.00000	2.41	
	80 Di-n-octylphthalate	149	18.642	18.642	(1.088)	187976	2.00000	2.30	
	81 Benzo(b)fluoranthene	252	19.327	19.327	(0.959)	13825	0.50000	0.476	
	82 Benzo(k)fluoranthene	252	19.394	19.383	(0.963)	16050	0.50000	0.520(H)	
	83 Benzo(a)pyrene	252	20.034	20.023	(0.994)	10665	0.50000	0.470	
*	84 Perylene-D12	264	20.146	20.135	(1.000)	18662	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.268	22.257	(1.300)	10691	0.50000	0.566	
	86 Dibenzo(a,h)anthracene	278	22.325	22.313	(1.108)	8008	0.50000	0.454	
	87 Benzo(g,h,i)perylene	276	22.863	22.852	(1.135)	10284	0.50000	0.484	
M	88 Total PAHs	100				537760	9.00000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
H - Operator selected an alternate compound hit.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Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
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Y (x10^5)
Min
-1,4-Dioxane-d8+
-N-Nitrosodimethylamine
-Benzaldehyde
-Phenol
-Bis(2-Chloroethyl)ether+
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan+
-2,4-Dichlorophenol
-Naphthalene-D8+
-4-Chloroaniline+
-Caprolactam
-4-Chloro-3-Methylphenol+
-1-Methylnaphthalene+
-Hexachlorocyclopentadiene+
-2,4,6-Tribromophenol+
-2,4,5-Trichlorophenol
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-Fluorene-D10+
-4,6-Dinitro-2-Methylpheno+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1242.D
Report Date: 07-Jan-2021 15:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010621.b\N1242.D
Lab Smp Id: WG292998-5
Inj Date : 06-JAN-2021 14:58
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292998-5
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010621.b\NSPSIM41.m
Meth Date : 07-Jan-2021 11:22 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 14:58 Cal File: N1242.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.327	3.328	(0.451)	107799	7.00000	7.03	
2 1,4-Dioxane	88	3.369	3.380	(0.457)	118312	7.00000	7.00	
3 N-Nitrosodimethylamine	74	3.852	3.842	(0.522)	168007	7.00000	7.23	
4 Pyridine	79	3.873	3.863	(0.525)	279911	7.00000	7.16	
5 Benzaldehyde	77	6.821	6.811	(0.925)	50992	7.00000	3.70	
6 Phenol	94	6.992	6.992	(0.948)	359503	7.00000	7.38	
7 Bis(2-Chloroethyl)ether	93	7.052	7.052	(0.956)	314327	7.00000	7.29(Q)	
8 2-Chlorophenol	128	7.123	7.123	(0.966)	346010	7.00000	7.11	
9 1,3-Dichlorobenzene	146	7.294	7.294	(0.989)	408832	7.00000	7.03	
* 10 1,4-Dichlorobenzene-D4	152	7.374	7.374	(1.000)	32313	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.394	7.395	(1.003)	441326	7.00000	7.10	
12 1,2-Dichlorobenzene	146	7.586	7.586	(1.029)	413554	7.00000	7.02	
13 2,2'-Oxybis(1-chloropropane)	45	7.737	7.747	(1.049)	230628	7.00000	7.07(Q)	
14 2-Methylphenol	108	7.747	7.747	(1.050)	312353	7.00000	7.28	
15 Acetophenone	105	7.898	7.898	(0.876)	434275	7.00000	7.12(Q)	
16 N-Nitroso-di-n-propylamine	70	7.908	7.918	(1.072)	180780	7.00000	7.09	
17 3&4-Methylphenol	108	7.958	7.958	(1.079)	280118	7.00000	7.11	
18 Hexachloroethane	117	8.008	8.009	(1.086)	147562	7.00000	6.88	
19 Nitrobenzene	77	8.109	8.109	(0.900)	312158	7.00000	7.11(H)	
20 Isophorone	82	8.424	8.424	(0.935)	528313	7.00000	7.12	
21 2-Nitrophenol	139	8.530	8.531	(0.947)	166678	7.00000	7.01	

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1242.D
Report Date: 07-Jan-2021 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.627	8.627	(0.957)	292082	7.00000	7.16	
	23 bis(2-Chloroethoxy)methane	93	8.723	8.723	(0.968)	327008	7.00000	7.08	
	24 Benzoic acid	105	8.787	8.841	(0.975)	187640	7.00000	7.59(Q)	
	25 2,4-Dichlorophenol	162	8.883	8.873	(0.986)	280670	7.00000	7.14	
	26 1,2,4-Trichlorobenzene	180	8.958	8.958	(0.994)	298377	7.00000	7.23	
*	27 Naphthalene-D8	136	9.012	9.012	(1.000)	94574	0.80000	(a)	
	28 Naphthalene	128	9.044	9.044	(1.004)	809602	7.00000	7.07	
	29 4-Chloroaniline	127	9.161	9.215	(1.017)	171742	7.00000	7.14(M)	M9
	30 Hexachlorobutadiene	225	9.236	9.236	(1.025)	128307	7.00000	7.30(Q)	
	31 Caprolactam	113	9.585	9.624	(1.064)	71249	7.00000	7.02	
	32 4-Chloro-3-Methylphenol	107	9.840	9.831	(1.092)	205159	7.00000	6.37	
$	33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.101)	370005	7.00000	6.45	
	34 2-Methylnaphthalene	142	9.968	9.969	(1.106)	468395	7.00000	7.10	
	35 1-Methylnaphthalene	142	10.096	10.097	(1.120)	423417	7.00000	7.04	
	36 Hexachlorocyclopentadiene	237	10.195	10.195	(0.898)	86345	7.00000	7.19	
	37 1,2,4,5-Tetrachlorobenzene	216	10.205	10.205	(0.899)	194675	7.00000	6.90	
$	38 2,4-Dibromophenol	252	10.362	10.352	(0.913)	104538	7.00000	6.75	
	39 2,4,6-Trichlorophenol	196	10.372	10.372	(0.914)	144688	7.00000	7.65	
	40 2,4,5-Trichlorophenol	196	10.441	10.441	(0.920)	179038	7.00000	6.46(H)	
	41 1,1'-Biphenyl	154	10.597	10.597	(0.934)	548786	7.00000	7.06	
	42 2-Chloronaphthalene	164	10.608	10.608	(0.935)	143833	7.00000	7.07	
	43 2-Nitroaniline	65	10.771	10.771	(0.949)	104170	7.00000	7.34	
	44 Dimethyl Phthalate	163	11.022	11.033	(0.971)	491734	7.00000	7.03	
	45 2,6-Dinitrotoluene	165	11.098	11.109	(0.978)	117362	7.00000	7.37	
	46 Acenaphthylene	152	11.153	11.153	(0.983)	669169	7.00000	7.22	
	47 3-Nitroaniline	138	11.338	11.338	(0.999)	31444	7.00000	4.65	
*	48 Acenaphthene-D10	164	11.349	11.349	(1.000)	42498	0.80000	(a)	
	49 Acenaphthene	153	11.392	11.393	(1.004)	427193	7.00000	7.22	
	50 2,4-Dinitrophenol	184	11.501	11.491	(1.013)	43479	7.00000	7.21	
	51 Dibenzofuran	168	11.632	11.632	(1.025)	547072	7.00000	7.16(Q)	
	52 2,4-Dinitrotoluene	165	11.654	11.654	(1.027)	137402	7.00000	7.37(Q)	
	53 4-Nitrophenol	109	11.643	11.632	(1.026)	42736	7.00000	7.10(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.828	11.828	(1.042)	112671	7.00000	7.36(H)	
	55 Diethylphthalate	149	11.981	11.981	(1.056)	529551	7.00000	7.06	
$	56 Fluorene-D10	174	12.046	12.057	(1.061)	311127	7.00000	6.85	
	57 Fluorene	166	12.090	12.090	(1.065)	435838	7.00000	7.19	
	58 4-Chlorophenyl-phenylether	204	12.101	12.112	(1.066)	214576	7.00000	7.03	
	59 4-Nitroaniline	138	12.166	12.177	(1.072)	62037	7.00000	6.53(Q)	
	60 4,6-Dinitro-2-Methylphenol	198	12.220	12.221	(0.916)	62348	7.00000	7.38	
	61 N-Nitrosodiphenylamine	169	12.275	12.275	(0.921)	352870	7.00000	7.40	
	62 4-Bromophenyl-phenylether	248	12.758	12.758	(0.957)	122327	7.00000	7.32	
	63 Hexachlorobenzene	284	12.850	12.850	(0.964)	115473	7.00000	7.20	
	64 Atrazine	200	13.011	13.023	(0.976)	109163	7.00000	7.47	
	65 Pentachlorophenol	266	13.138	13.127	(0.985)	59739	7.00000	6.46	
*	66 Phenanthrene-D10	188	13.334	13.335	(1.000)	58484	0.80000	(a)	
	67 Phenanthrene	178	13.369	13.369	(1.003)	523469	7.00000	7.27	
	68 Anthracene	178	13.438	13.438	(1.008)	534669	7.00000	6.84	
	69 Carbazole	167	13.669	13.669	(1.025)	421436	7.00000	7.63	
	70 Di-n-butylphthalate	149	14.181	14.181	(1.064)	832797	7.00000	7.06	
	71 Fluoranthene	202	14.970	14.970	(1.123)	487027	7.00000	7.31	
$	72 Pyrene-D10	212	15.247	15.247	(0.890)	332234	7.00000	6.33	
	73 Pyrene	202	15.269	15.270	(0.892)	486918	7.00000	6.07	
	74 Butylbenzylphthalate	149	16.235	16.236	(0.948)	308706	7.00000	6.18	
	75 3,3'-Dichlorobenzidine	252	17.113	17.113	(0.999)	52961	7.00000	6.33	

1:41 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1242.D
Report Date: 07-Jan-2021 15:08

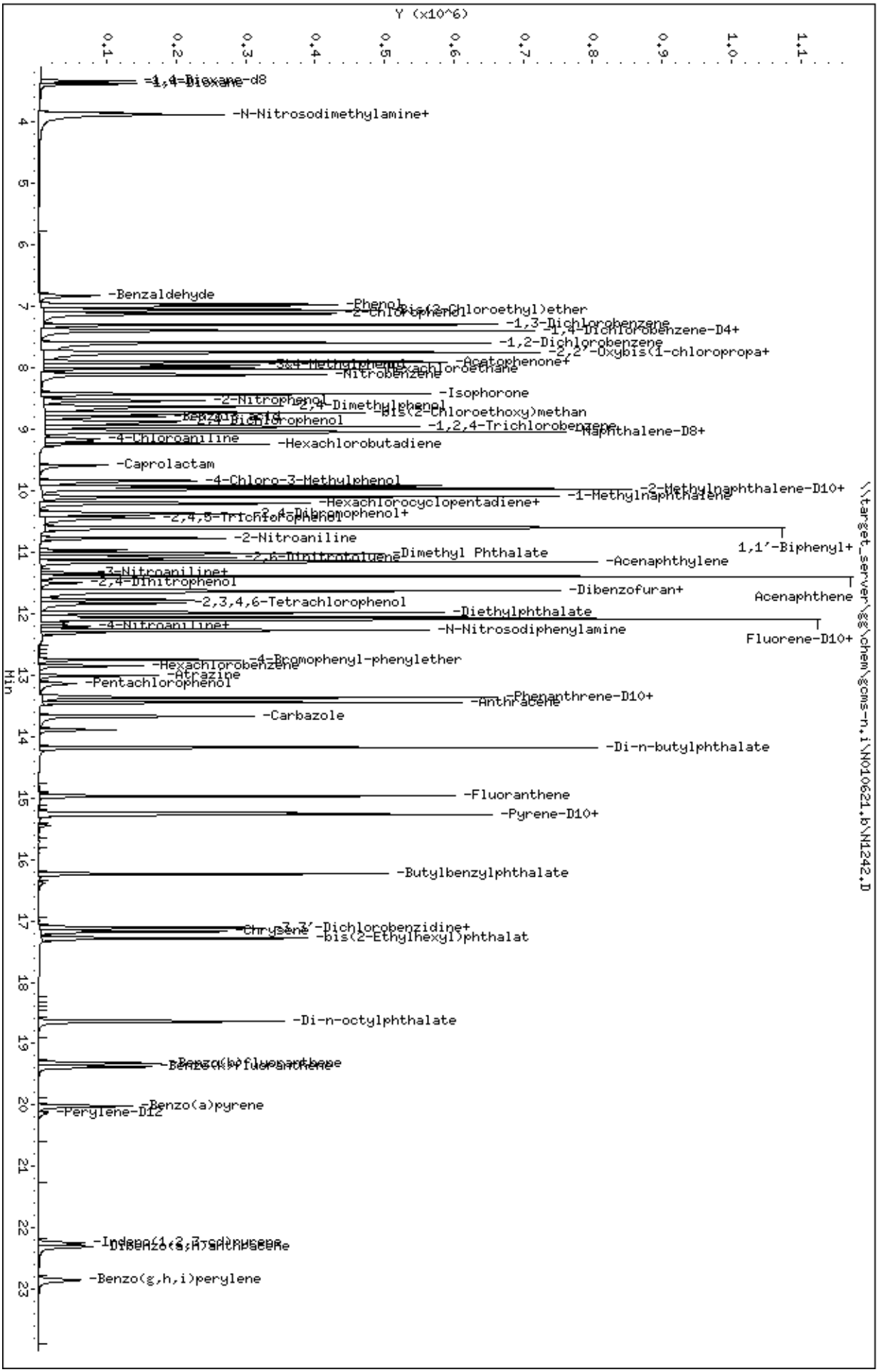
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.113	17.113	(0.999)	296021	7.00000	6.68	
*	77 Chrysene-D12	240	17.124	17.124	(1.000)	30576	0.80000	(a)	
	78 Chrysene	228	17.168	17.179	(1.003)	306703	7.00000	6.63	
	79 bis(2-Ethylhexyl)phthalate	149	17.279	17.279	(1.009)	440442	7.00000	6.16	
	80 Di-n-octylphthalate	149	18.642	18.642	(1.089)	636114	7.00000	6.35	
	81 Benzo(b)fluoranthene	252	19.315	19.327	(0.959)	239863	7.00000	7.29	
	82 Benzo(k)fluoranthene	252	19.372	19.383	(0.962)	247745	7.00000	7.08(H)	
	83 Benzo(a)pyrene	252	20.023	20.023	(0.994)	185974	7.00000	7.23	
*	84 Perylene-D12	264	20.135	20.135	(1.000)	21147	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.246	22.257	(1.299)	139220	7.00000	6.00(M)	M3
	86 Dibenzo(a,h)anthracene	278	22.313	22.313	(1.108)	140079	7.00000	7.01	
	87 Benzo(g,h,i)perylene	276	22.841	22.852	(1.134)	167558	7.00000	6.97	
M	88 Total PAHs	100				6988860	126.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

LCG

1:41 pm, Jan 18, 2021


Data File: \\target_server\gg\chem\gcms-n,i\N010621,b\N1242,D
Date : 06-JAN-2021 14:58
Client ID:
Sample Info: WG292998-5
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010621,b\N1242,D
Y (x10^6)
Min
-1,4-Dioxane-d8
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-bis(2-Chloroethyl)ether
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-3&4-Methylphenol
-Acetophenone+
-Hexachloroethane
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan
-Benzoic acid
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-4-Chloroaniline
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4-Dibromophenol+
-2,4,5-Trichlorophenol
-2-Nitroaniline
1,1'-Biphenyl+
-2,6-Dinitrotoluene
-Dimethyl Phthalate
-Acenaphthylene
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
Acenaphthene
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline+
-N-Nitrosodiphenylamine
Fluorene-D10+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1243.D
Report Date: 07-Jan-2021 15:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010621.b\N1243.D
Lab Smp Id: WG292998-6
Inj Date : 06-JAN-2021 15:31
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292998-6
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010621.b\NSPSIM41.m
Meth Date : 07-Jan-2021 11:22 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 15:31 Cal File: N1243.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.317	3.328	(0.450)	152005	10.0000	10.2	
2 1,4-Dioxane	88	3.359	3.380	(0.456)	167368	10.0000	10.1	
3 N-Nitrosodimethylamine	74	3.831	3.842	(0.520)	232407	10.0000	10.2	
4 Pyridine	79	3.863	3.863	(0.524)	355613	10.0000	9.33	
5 Benzaldehyde	77	6.821	6.811	(0.925)	79089	10.0000	5.88	
6 Phenol	94	6.992	6.992	(0.948)	491602	10.0000	10.3	
7 Bis(2-Chloroethyl)ether	93	7.052	7.052	(0.956)	410563	10.0000	9.76	
8 2-Chlorophenol	128	7.113	7.123	(0.965)	474595	10.0000	9.99	
9 1,3-Dichlorobenzene	146	7.294	7.294	(0.989)	559460	10.0000	9.87	
* 10 1,4-Dichlorobenzene-D4	152	7.374	7.374	(1.000)	31525	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.395	7.395	(1.003)	592774	10.0000	9.77	
12 1,2-Dichlorobenzene	146	7.586	7.586	(1.029)	560981	10.0000	9.77	
13 2,2'-Oxybis(1-chloropropane)	45	7.737	7.747	(1.049)	318136	10.0000	9.99	
14 2-Methylphenol	108	7.747	7.747	(1.050)	420289	10.0000	10.0	
15 Acetophenone	105	7.898	7.898	(0.876)	586024	10.0000	10.2	
16 N-Nitroso-di-n-propylamine	70	7.908	7.918	(1.072)	253223	10.0000	10.2	
17 3&4-Methylphenol	108	7.958	7.958	(1.079)	372651	10.0000	9.69	
18 Hexachloroethane	117	8.009	8.009	(1.086)	209793	10.0000	10.0	
19 Nitrobenzene	77	8.099	8.109	(0.899)	423002	10.0000	10.2(H)	
20 Isophorone	82	8.424	8.424	(0.935)	686664	10.0000	9.85	
21 2-Nitrophenol	139	8.531	8.531	(0.947)	219702	10.0000	9.82	

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1243.D
Report Date: 07-Jan-2021 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.627	8.627	(0.957)	378794	10.0000	9.87	
	23 bis(2-Chloroethoxy)methane	93	8.723	8.723	(0.968)	424096	10.0000	9.76	
	24 Benzoic acid	105	8.809	8.841	(0.977)	224228	10.0000	9.41	
	25 2,4-Dichlorophenol	162	8.873	8.873	(0.985)	353112	10.0000	9.55	
	26 1,2,4-Trichlorobenzene	180	8.958	8.958	(0.994)	357189	10.0000	9.21	
*	27 Naphthalene-D8	136	9.012	9.012	(1.000)	88935	0.80000	(a)	
	28 Naphthalene	128	9.033	9.044	(1.002)	991109	10.0000	9.21	
	29 4-Chloroaniline	127	9.194	9.215	(1.020)	212745	10.0000	9.21(M)	M9
	30 Hexachlorobutadiene	225	9.236	9.236	(1.025)	157602	10.0000	9.54	
	31 Caprolactam	113	9.595	9.624	(1.065)	99850	10.0000	9.87	
	32 4-Chloro-3-Methylphenol	107	9.831	9.831	(1.091)	277935	10.0000	9.17	
$	33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.101)	493889	10.0000	9.15	
	34 2-Methylnaphthalene	142	9.969	9.969	(1.106)	622595	10.0000	9.62	
	35 1-Methylnaphthalene	142	10.097	10.097	(1.120)	572198	10.0000	9.69	
	36 Hexachlorocyclopentadiene	237	10.195	10.195	(0.898)	122569	10.0000	9.96	
	37 1,2,4,5-Tetrachlorobenzene	216	10.205	10.205	(0.899)	262262	10.0000	9.48	
$	38 2,4-Dibromophenol	252	10.352	10.352	(0.912)	143190	10.0000	9.43	
	39 2,4,6-Trichlorophenol	196	10.372	10.372	(0.914)	197724	10.0000	10.7	
	40 2,4,5-Trichlorophenol	196	10.441	10.441	(0.920)	242785	10.0000	8.94(H)	
	41 1,1'-Biphenyl	154	10.597	10.597	(0.934)	751591	10.0000	9.87	
	42 2-Chloronaphthalene	164	10.608	10.608	(0.935)	194673	10.0000	9.76	
	43 2-Nitroaniline	65	10.771	10.771	(0.949)	143189	10.0000	10.3	
	44 Dimethyl Phthalate	163	11.033	11.033	(0.972)	674238	10.0000	9.83	
	45 2,6-Dinitrotoluene	165	11.098	11.109	(0.978)	160505	10.0000	10.3	
	46 Acenaphthylene	152	11.153	11.153	(0.983)	906443	10.0000	9.98	
	47 3-Nitroaniline	138	11.338	11.338	(0.999)	32149	10.0000	4.84	
*	48 Acenaphthene-D10	164	11.349	11.349	(1.000)	41666	0.80000	(a)	
	49 Acenaphthene	153	11.393	11.393	(1.004)	573505	10.0000	9.88	
	50 2,4-Dinitrophenol	184	11.491	11.491	(1.012)	64900	10.0000	10.1	
	51 Dibenzofuran	168	11.632	11.632	(1.025)	742766	10.0000	9.92	
	52 2,4-Dinitrotoluene	165	11.654	11.654	(1.027)	190896	10.0000	10.4	
	53 4-Nitrophenol	109	11.632	11.632	(1.025)	62678	10.0000	10.0(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.828	11.828	(1.042)	150788	10.0000	10.0(H)	
	55 Diethylphthalate	149	11.981	11.981	(1.056)	731652	10.0000	9.95	
$	56 Fluorene-D10	174	12.046	12.057	(1.061)	418496	10.0000	9.40	
	57 Fluorene	166	12.090	12.090	(1.065)	591744	10.0000	9.96	
	58 4-Chlorophenyl-phenylether	204	12.101	12.112	(1.066)	292859	10.0000	9.79	
	59 4-Nitroaniline	138	12.177	12.177	(1.073)	83376	10.0000	8.96	
	60 4,6-Dinitro-2-Methylphenol	198	12.221	12.221	(0.916)	89903	10.0000	10.1	
	61 N-Nitrosodiphenylamine	169	12.275	12.275	(0.921)	480661	10.0000	10.0	
	62 4-Bromophenyl-phenylether	248	12.758	12.758	(0.957)	166972	10.0000	9.97	
	63 Hexachlorobenzene	284	12.850	12.850	(0.964)	160637	10.0000	9.99	
	64 Atrazine	200	13.012	13.023	(0.976)	152521	10.0000	10.4	
	65 Pentachlorophenol	266	13.127	13.127	(0.984)	84121	10.0000	9.08	
*	66 Phenanthrene-D10	188	13.335	13.335	(1.000)	58603	0.80000	(a)	
	67 Phenanthrene	178	13.369	13.369	(1.003)	728864	10.0000	10.1	
	68 Anthracene	178	13.439	13.438	(1.008)	739968	10.0000	9.45	
	69 Carbazole	167	13.669	13.669	(1.025)	546495	10.0000	9.87	
	70 Di-n-butylphthalate	149	14.181	14.181	(1.064)	1176256	10.0000	9.95	
	71 Fluoranthene	202	14.970	14.970	(1.123)	691656	10.0000	10.4	
$	72 Pyrene-D10	212	15.247	15.247	(0.890)	468801	10.0000	9.34	
	73 Pyrene	202	15.270	15.270	(0.892)	701595	10.0000	9.15	
	74 Butylbenzylphthalate	149	16.236	16.236	(0.948)	448045	10.0000	9.38	
	75 3,3'-Dichlorobenzidine	252	17.113	17.113	(0.999)	81851	10.0000	10.6	

1:41 pm, Jan 18, 2021

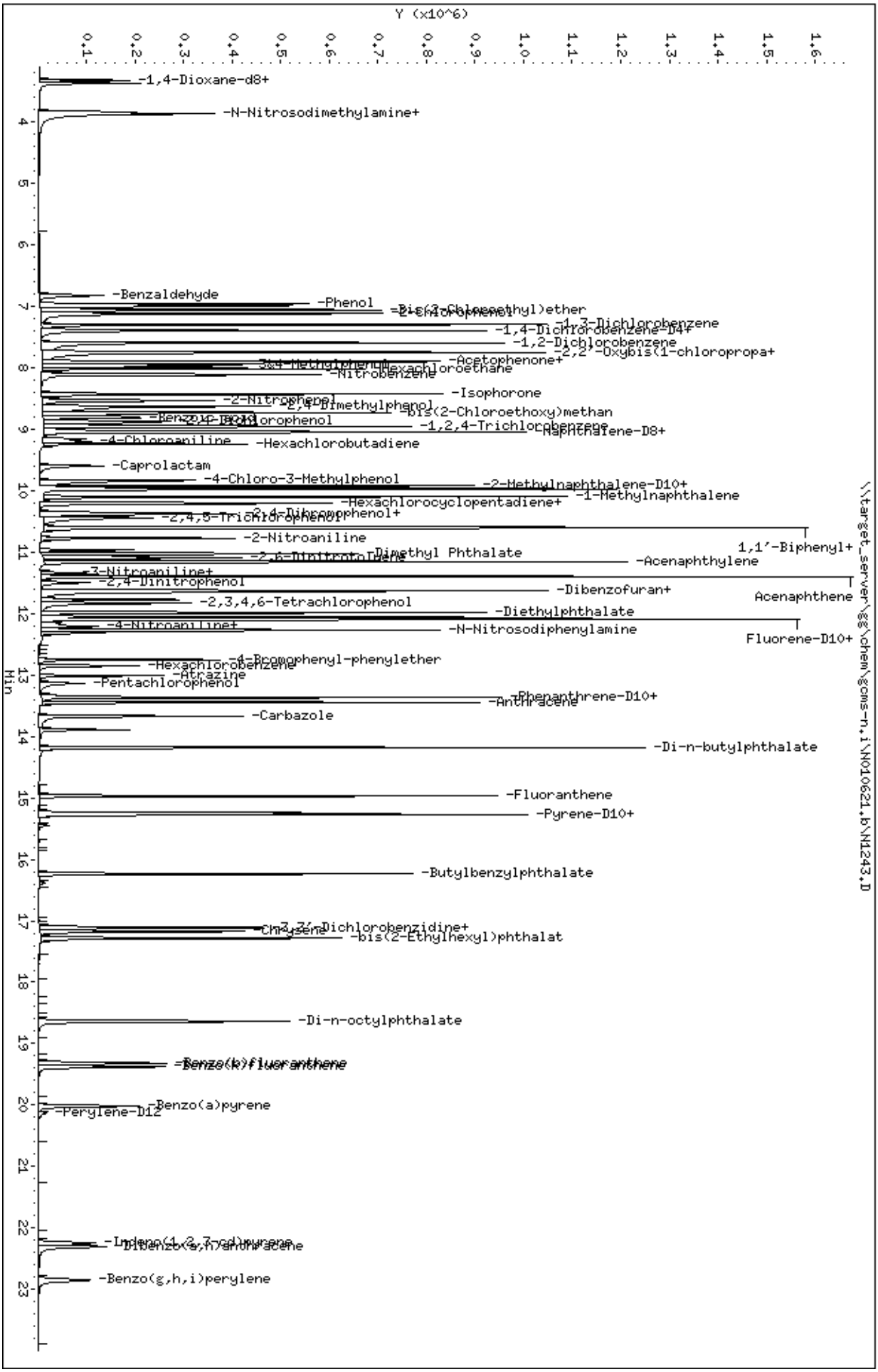
Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1243.D
Report Date: 07-Jan-2021 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.113	17.113	(0.999)	446367	10.0000	10.5	
*	77 Chrysene-D12	240	17.124	17.124	(1.000)	29238	0.80000	(a)	
	78 Chrysene	228	17.168	17.179	(1.003)	443529	10.0000	10.0	
	79 bis(2-Ethylhexyl)phthalate	149	17.279	17.279	(1.009)	639697	10.0000	9.36	
	80 Di-n-octylphthalate	149	18.642	18.642	(1.089)	945358	10.0000	9.87	
	81 Benzo(b)fluoranthene	252	19.316	19.327	(0.959)	366254	10.0000	9.50	
	82 Benzo(k)fluoranthene	252	19.372	19.383	(0.962)	367384	10.0000	8.97(H)	
	83 Benzo(a)pyrene	252	20.023	20.023	(0.994)	282169	10.0000	9.37	
*	84 Perylene-D12	264	20.135	20.135	(1.000)	24751	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.246	22.257	(1.299)	248841	10.0000	11.2(M)	M3
	86 Dibenzo(a,h)anthracene	278	22.313	22.313	(1.108)	243444	10.0000	10.4	
	87 Benzo(g,h,i)perylene	276	22.852	22.852	(1.135)	294843	10.0000	10.5	
M	88 Total PAHs	100				9812508	180.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

1:41 pm, Jan 18, 2021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Client ID:
Sample Info: WG292998-6
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010621,b\N1243,D
Y (x10^6)
Min
-1,4-Dioxane-d8+
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-Bis(2-Chloroethyl)ether
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
3&4-Methylphenol
-Hexachloroethane
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan
-Benzoic Acid
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-4-Chloroaniline
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4-Dinitrophenol+
-2,4,5-Trichlorophenol
-2-Nitroaniline
1,1'-Biphenyl+
-Dimethyl Phthalate
-2,6-Dinitrotoluene
-Acenaphthylene
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
Acenaphthene
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline+
-N-Nitrosodiphenylamine
Fluorene-D10+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1244.D
Report Date: 07-Jan-2021 15:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010621.b\N1244.D
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Inj Date : 06-JAN-2021 16:03
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292998-7
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010621.b\NSPSIM41.m
Meth Date : 07-Jan-2021 11:22 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.328	3.328	(0.451)	255023	15.0000	14.8	
2 1,4-Dioxane	88	3.380	3.380	(0.458)	281588	15.0000	14.8	
3 N-Nitrosodimethylamine	74	3.842	3.842	(0.521)	382276	15.0000	14.7	
4 Pyridine	79	3.863	3.863	(0.524)	671397	15.0000	15.3(A)	
5 Benzaldehyde	77	6.811	6.811	(0.924)	140209	15.0000	9.06	
6 Phenol	94	6.992	6.992	(0.948)	678219	15.0000	12.4	
7 Bis(2-Chloroethyl)ether	93	7.052	7.052	(0.956)	722035	15.0000	14.9	
8 2-Chlorophenol	128	7.123	7.123	(0.966)	819117	15.0000	15.0(A)	
9 1,3-Dichlorobenzene	146	7.294	7.294	(0.989)	984167	15.0000	15.1(A)	
* 10 1,4-Dichlorobenzene-D4	152	7.374	7.374	(1.000)	36245	0.80000	(a)	
11 1,4-Dichlorobenzene	146	7.395	7.395	(1.003)	1023809	15.0000	14.7	
12 1,2-Dichlorobenzene	146	7.586	7.586	(1.029)	966593	15.0000	14.6	
13 2,2'-Oxybis(1-chloropropane)	45	7.747	7.747	(1.050)	549403	15.0000	15.0(A)	
14 2-Methylphenol	108	7.747	7.747	(1.050)	719162	15.0000	14.9	
15 Acetophenone	105	7.898	7.898	(0.876)	1042253	15.0000	15.1(A)	
16 N-Nitroso-di-n-propylamine	70	7.918	7.918	(1.074)	452696	15.0000	15.8(A)	
17 3&4-Methylphenol	108	7.958	7.958	(1.079)	628806	15.0000	14.2	
18 Hexachloroethane	117	8.009	8.009	(1.086)	363234	15.0000	15.1(A)	
19 Nitrobenzene	77	8.109	8.109	(0.900)	730828	15.0000	14.7	
20 Isophorone	82	8.424	8.424	(0.935)	1262942	15.0000	15.1(A)	
21 2-Nitrophenol	139	8.531	8.531	(0.947)	415865	15.0000	15.5(A)	

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1244.D
Report Date: 07-Jan-2021 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.627	8.627	(0.957)	612439	15.0000	13.3	
	23 bis(2-Chloroethoxy)methane	93	8.723	8.723	(0.968)	749807	15.0000	14.4	
	24 Benzoic acid	105	8.841	8.841	(0.981)	474603	15.0000	15.1(AQ)	
	25 2,4-Dichlorophenol	162	8.873	8.873	(0.985)	685197	15.0000	15.4(A)	
	26 1,2,4-Trichlorobenzene	180	8.958	8.958	(0.994)	712578	15.0000	15.3(A)	
*	27 Naphthalene-D8	136	9.012	9.012	(1.000)	106770	0.80000	(a)	
	28 Naphthalene	128	9.044	9.044	(1.004)	1936250	15.0000	15.0	
	29 4-Chloroaniline	127	9.215	9.215	(1.023)	452326	15.0000	15.2(AM)	M9
	30 Hexachlorobutadiene	225	9.236	9.236	(1.025)	300916	15.0000	15.2(A)	
	31 Caprolactam	113	9.624	9.624	(1.068)	212017	15.0000	15.0(A)	
	32 4-Chloro-3-Methylphenol	107	9.831	9.831	(1.091)	575753	15.0000	15.8(A)	
$	33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.101)	1000803	15.0000	15.4	
	34 2-Methylnaphthalene	142	9.969	9.969	(1.106)	1321812	15.0000	15.1(A)	
	35 1-Methylnaphthalene	142	10.097	10.097	(1.120)	1196177	15.0000	15.1(A)	
	36 Hexachlorocyclopentadiene	237	10.195	10.195	(1.000)	280629	15.0000	15.0	
	37 1,2,4,5-Tetrachlorobenzene	216	10.205	10.205	(1.000)	538879	15.0000	14.2	
$	38 2,4-Dibromophenol	252	10.352	10.352	(1.000)	303556	15.0000	14.6	
	39 2,4,6-Trichlorophenol	196	10.372	10.372	(1.000)	427222	15.0000	16.8(A)	
	40 2,4,5-Trichlorophenol	196	10.441	10.441	(1.000)	515540	15.0000	13.8	
	41 1,1'-Biphenyl	154	10.597	10.597	(1.000)	1558734	15.0000	14.9	
	42 2-Chloronaphthalene	164	10.608	10.608	(1.000)	404833	15.0000	14.8	
	43 2-Nitroaniline	65	10.771	10.771	(1.000)	307277	15.0000	16.1(A)	
	44 Dimethyl Phthalate	163	11.033	11.033	(1.000)	1451653	15.0000	15.4(A)	
	45 2,6-Dinitrotoluene	165	11.109	11.109	(1.000)	355516	15.0000	16.6(A)	
	46 Acenaphthylene	152	11.153	11.153	(1.000)	1913017	15.0000	15.3(A)	
	47 3-Nitroaniline	138	11.338	11.338	(1.000)	59007	15.0000	6.48	
*	48 Acenaphthene-D10	164	11.349	11.349	(1.000)	57218	0.80000	(aM)	M6
	49 Acenaphthene	153	11.393	11.393	(1.000)	1186126	15.0000	14.9	
	50 2,4-Dinitrophenol	184	11.491	11.491	(1.000)	166858	15.0000	14.9	
	51 Dibenzofuran	168	11.632	11.632	(1.000)	1594328	15.0000	15.5(A)	
	52 2,4-Dinitrotoluene	165	11.654	11.654	(1.000)	426477	15.0000	17.0(A)	
	53 4-Nitrophenol	109	11.632	11.632	(1.000)	149809	15.0000	15.0(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.828	11.828	(1.000)	322087	15.0000	15.6(A)	
	55 Diethylphthalate	149	11.981	11.981	(1.000)	1491133	15.0000	14.8	
$	56 Fluorene-D10	174	12.057	12.057	(1.000)	914477	15.0000	15.0(A)	
	57 Fluorene	166	12.090	12.090	(1.000)	1226928	15.0000	15.0(A)	
	58 4-Chlorophenyl-phenylether	204	12.112	12.112	(1.000)	635163	15.0000	15.4(A)	
	59 4-Nitroaniline	138	12.177	12.177	(1.000)	171148	15.0000	13.4(Q)	
	60 4,6-Dinitro-2-Methylphenol	198	12.221	12.221	(0.916)	215311	15.0000	14.9	
	61 N-Nitrosodiphenylamine	169	12.275	12.275	(0.921)	1038736	15.0000	15.1(A)	
	62 4-Bromophenyl-phenylether	248	12.758	12.758	(0.957)	372422	15.0000	15.4(A)	
	63 Hexachlorobenzene	284	12.850	12.850	(0.964)	345737	15.0000	14.9	
	64 Atrazine	200	13.023	13.023	(0.977)	331139	15.0000	15.7(A)	
	65 Pentachlorophenol	266	13.127	13.127	(0.984)	190297	15.0000	14.3	
*	66 Phenanthrene-D10	188	13.335	13.335	(1.000)	84442	0.80000	(a)	
	67 Phenanthrene	178	13.369	13.369	(1.003)	1570735	15.0000	15.1(A)	
	68 Anthracene	178	13.438	13.438	(1.008)	1565365	15.0000	13.9	
	69 Carbazole	167	13.669	13.669	(1.025)	984150	15.0000	12.3	
	70 Di-n-butylphthalate	149	14.181	14.181	(1.064)	2459348	15.0000	14.4	
	71 Fluoranthene	202	14.970	14.970	(1.123)	1476840	15.0000	15.3(A)	
$	72 Pyrene-D10	212	15.247	15.247	(0.890)	1022327	15.0000	14.0(A)	
	73 Pyrene	202	15.270	15.270	(0.892)	1481534	15.0000	13.3	
	74 Butylbenzylphthalate	149	16.236	16.236	(0.948)	950494	15.0000	13.7	
	75 3,3'-Dichlorobenzidine	252	17.113	17.113	(0.999)	159066	15.0000	14.8	

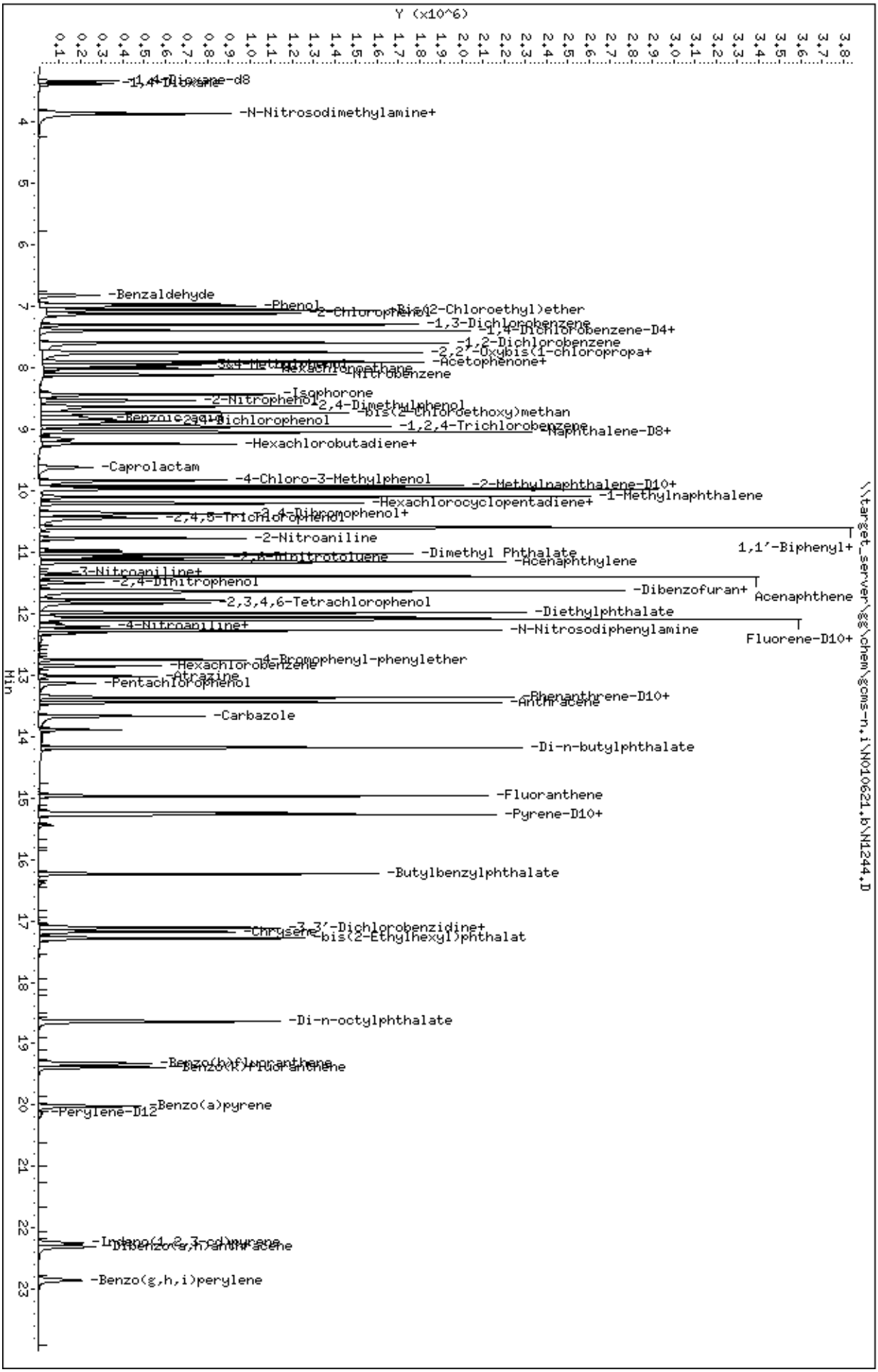
1:41 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1244.D
Report Date: 07-Jan-2021 15:08

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.113	17.113	(0.999)	977442	15.0000	15.9(A)	
*	77 Chrysene-D12	240	17.124	17.124	(1.000)	42402	0.80000	(a)	
	78 Chrysene	228	17.179	17.179	(1.003)	971550	15.0000	15.1(A)	
	79 bis(2-Ethylhexyl)phthalate	149	17.279	17.279	(1.009)	1346135	15.0000	13.6	
	80 Di-n-octylphthalate	149	18.642	18.642	(1.089)	1965929	15.0000	14.2	
	81 Benzo(b)fluoranthene	252	19.327	19.327	(0.960)	752398	15.0000	15.6(A)	
	82 Benzo(k)fluoranthene	252	19.383	19.383	(0.963)	783040	15.0000	15.3(AH)	
	83 Benzo(a)pyrene	252	20.023	20.023	(0.994)	603121	15.0000	16.0(A)	
*	84 Perylene-D12	264	20.135	20.135	(1.000)	30890	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.257	22.257	(1.300)	441368	15.0000	13.7	
	86 Dibenzo(a,h)anthracene	278	22.313	22.313	(1.108)	436957	15.0000	15.0	
	87 Benzo(g,h,i)perylene	276	22.852	22.852	(1.135)	504892	15.0000	14.4	
M	88 Total PAHs	100				20345552	270.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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Client ID:
Sample Info: WG292998-7
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
Y (x10^6)
Min
-1,4-Dioxane-d8
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-2-Chlorophenol
-Bis(2-Chloroethyl)ether
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-Hexachloroethane
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan
-Benzoic acid
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-Hexachlorobutadiene+
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4,6-Trichlorophenol+
-2,4-Dibromophenol+
-2-Nitroaniline
-Dimethyl Phthalate
1,1'-Biphenyl+
-2,6-Dinitrotoluene
-Acenaphthylene
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
Acenaphthene
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline+
-N-Nitrosodiphenylamine
Fluorene-D10+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Perylene-D12
-Benzo(a)pyrene
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene
\\target_server\gg\chem\gcms-n,i\N010621,b\N1244,D

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1245.D
Report Date: 07-Jan-2021 11:28

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010621.b\N1245.D
Lab Smp Id: WG292998-8
Inj Date : 06-JAN-2021 16:36
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292998-8
Misc Info : WG292998,WG292998,WG292998-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010621.b\NSPSIM41.m
Meth Date : 07-Jan-2021 11:22 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 8 QC Sample: INDCHECK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
2 1,4-Dioxane	88	3.359	3.380	(0.456)	82806	4.45946	4.46	
3 N-Nitrosodimethylamine	74	3.842	3.842	(0.521)	115701	4.53586	4.54	
4 Pyridine	79	3.873	3.863	(0.525)	223258	5.20333	5.20	
5 Benzaldehyde	77	6.821	6.811	(0.925)	12936	0.85389	0.854(R)	
6 Phenol	94	6.992	6.992	(0.948)	276440	5.16822	5.17	
7 Bis(2-Chloroethyl)ether	93	7.052	7.052	(0.956)	229573	4.84804	4.85	
8 2-Chlorophenol	128	7.123	7.123	(0.966)	266436	4.98566	4.98	
9 1,3-Dichlorobenzene	146	7.294	7.294	(0.989)	296953	4.65327	4.65	
* 10 1,4-Dichlorobenzene-D4	152	7.374	7.374	(1.000)	35478	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.395	7.395	(1.003)	326109	4.77769	4.78	
12 1,2-Dichlorobenzene	146	7.586	7.586	(1.029)	297371	4.60053	4.60	
13 2,2'-Oxybis(1-chloropropane)	45	7.737	7.747	(1.049)	106456	2.97162	2.97(R)	
14 2-Methylphenol	108	7.747	7.747	(1.050)	235516	5.00146	5.00	
15 Acetophenone	105	7.898	7.898	(0.876)	319675	4.70899	4.71	
16 N-Nitroso-di-n-propylamine	70	7.908	7.918	(1.072)	122940	4.39167	4.39	
17 3&4-Methylphenol	108	7.958	7.958	(1.079)	202339	4.67689	4.68	
18 Hexachloroethane	117	8.009	8.009	(1.086)	103362	4.39014	4.39	
19 Nitrobenzene	77	8.109	8.109	(0.900)	237270	4.85792	4.86	
20 Isophorone	82	8.424	8.424	(0.935)	333454	4.04150	4.04	
21 2-Nitrophenol	139	8.531	8.531	(0.947)	135536	5.12173	5.12	

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1245.D
Report Date: 07-Jan-2021 11:28

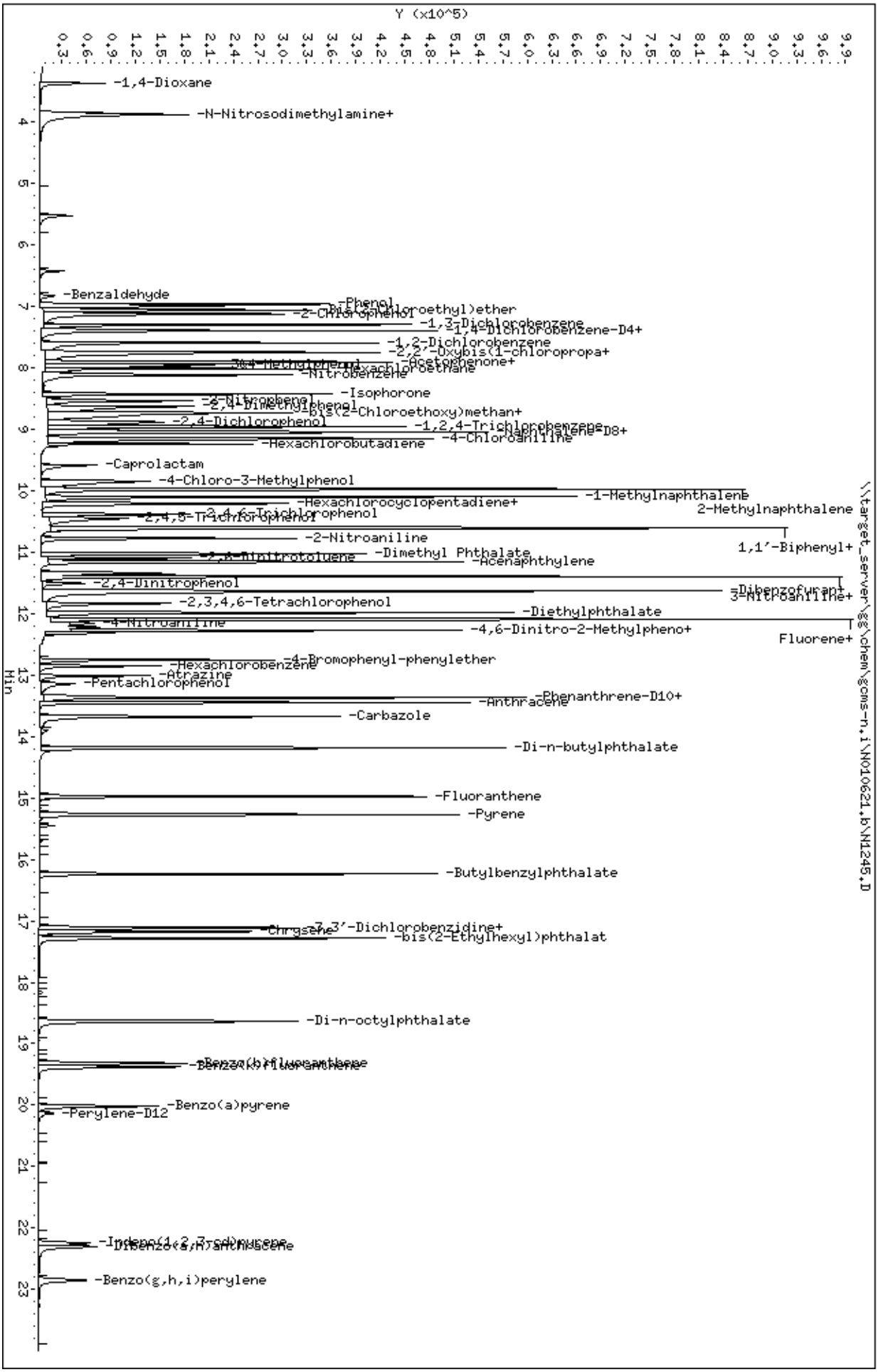
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.627	8.627	(0.957)	211292	4.65484	4.65	
	23 bis(2-Chloroethoxy)methane	93	8.723	8.723	(0.968)	252569	4.91502	4.92	
	24 Benzoic acid	105	8.766	8.841	(0.973)	123891	4.67237	4.67	
	25 2,4-Dichlorophenol	162	8.884	8.873	(0.986)	225960	5.16315	5.16	
	26 1,2,4-Trichlorobenzene	180	8.958	8.958	(0.994)	229795	5.00733	5.01	
*	27 Naphthalene-D8	136	9.012	9.012	(1.000)	105232	0.80000	(a)	
	28 Naphthalene	128	9.044	9.044	(1.004)	616637	4.84159	4.84	
	29 4-Chloroaniline	127	9.151	9.215	(1.015)	301156	10.8234	10.8(R)	
	30 Hexachlorobutadiene	225	9.236	9.236	(1.025)	98320	5.02972	5.03	
	31 Caprolactam	113	9.585	9.624	(1.064)	64302	5.81466	5.81	
	32 4-Chloro-3-Methylphenol	107	9.841	9.831	(1.092)	190786	5.32052	5.32	
	34 2-Methylnaphthalene	142	9.969	9.969	(1.106)	528192	7.18211	7.18(R)	
	35 1-Methylnaphthalene	142	10.097	10.097	(1.120)	382073	5.80810	5.81	
	36 Hexachlorocyclopentadiene	237	10.195	10.195	(0.898)	48392	3.07206	3.07(R)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.215	10.205	(0.900)	196267	5.01337	5.01	
	39 2,4,6-Trichlorophenol	196	10.382	10.372	(0.915)	128952	4.91307	4.91	
	40 2,4,5-Trichlorophenol	196	10.451	10.441	(0.921)	178370	4.63944	4.64	
	41 1,1'-Biphenyl	154	10.597	10.597	(0.934)	499350	4.63398	4.63	
	42 2-Chloronaphthalene	164	10.619	10.608	(0.936)	134233	4.75658	4.76	
	43 2-Nitroaniline	65	10.771	10.771	(0.949)	117240	5.95853	5.96	
	44 Dimethyl Phthalate	163	11.033	11.033	(0.972)	470028	4.84081	4.84	
	45 2,6-Dinitrotoluene	165	11.098	11.109	(0.978)	107896	4.88392	4.88	
	46 Acenaphthylene	152	11.153	11.153	(0.983)	507125	3.94397	3.94(R)	
	47 3-Nitroaniline	138	11.327	11.338	(0.998)	72439	7.71493	7.71(R)	
*	48 Acenaphthene-D10	164	11.349	11.349	(1.000)	58960	0.80000	(a)	
	49 Acenaphthene	153	11.393	11.393	(1.004)	387204	4.71496	4.71	
	50 2,4-Dinitrophenol	184	11.501	11.491	(1.013)	41038	5.13322	5.13	
	51 Dibenzofuran	168	11.632	11.632	(1.025)	639009	6.02931	6.03(R)	
	52 2,4-Dinitrotoluene	165	11.665	11.654	(1.028)	131136	5.07117	5.07	
	53 4-Nitrophenol	109	11.654	11.632	(1.027)	42935	5.31071	5.31(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.839	11.828	(1.043)	93356	4.39784	4.40	
	55 Diethylphthalate	149	11.981	11.981	(1.056)	532047	5.11529	5.12	
	57 Fluorene	166	12.090	12.090	(1.065)	402997	4.79491	4.79	
	58 4-Chlorophenyl-phenylether	204	12.112	12.112	(1.067)	211382	4.99228	4.99	
	59 4-Nitroaniline	138	12.155	12.177	(1.071)	77644	5.89353	5.89	
	60 4,6-Dinitro-2-Methylphenol	198	12.221	12.221	(0.916)	68284	5.68147	5.68	
	61 N-Nitrosodiphenylamine	169	12.275	12.275	(0.920)	283684	4.06512	4.06	
	62 4-Bromophenyl-phenylether	248	12.758	12.758	(0.956)	120122	4.91109	4.91	
	63 Hexachlorobenzene	284	12.850	12.850	(0.963)	114966	4.89865	4.90	
	64 Atrazine	200	13.012	13.023	(0.975)	103144	4.82492	4.82	
	65 Pentachlorophenol	266	13.138	13.127	(0.984)	59020	4.36606	4.37	
*	66 Phenanthrene-D10	188	13.346	13.335	(1.000)	85555	0.80000	(a)	
	67 Phenanthrene	178	13.369	13.369	(1.002)	509927	4.83925	4.84	
	68 Anthracene	178	13.438	13.438	(1.007)	519990	4.54751	4.55	
	69 Carbazole	167	13.681	13.669	(1.025)	496585	6.14283	6.14(R)	
	70 Di-n-butylphthalate	149	14.181	14.181	(1.063)	825623	4.78544	4.78	
	71 Fluoranthene	202	14.981	14.970	(1.122)	485611	4.98154	4.98	
	73 Pyrene	202	15.270	15.270	(0.892)	489992	4.15456	4.15	
	74 Butylbenzylphthalate	149	16.236	16.236	(0.948)	308349	4.19844	4.20	
	75 3,3'-Dichlorobenzidine	252	17.113	17.113	(0.999)	49788	3.94622	3.95(R)	
	76 Benzo(a)anthracene	228	17.113	17.113	(0.999)	292208	4.48574	4.48	
*	77 Chrysene-D12	240	17.124	17.124	(1.000)	44964	0.80000	(a)	
	78 Chrysene	228	17.179	17.179	(1.003)	320947	4.71946	4.72	
	79 bis(2-Ethylhexyl)phthalate	149	17.279	17.279	(1.009)	444772	4.23245	4.23	

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1245.D
Report Date: 07-Jan-2021 11:28

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
	80 Di-n-octylphthalate	149	18.642	18.642	(1.089)	647445	4.39466	4.39	
	81 Benzo(b)fluoranthene	252	19.316	19.327	(0.959)	251115	5.05302	5.05	
	82 Benzo(k)fluoranthene	252	19.372	19.383	(0.962)	267740	5.06967	5.07(H)	
	83 Benzo(a)pyrene	252	20.023	20.023	(0.994)	195962	5.04569	5.04	
*	84 Perylene-D12	264	20.146	20.135	(1.000)	31924	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.246	22.257	(1.299)	174852	5.12439	5.12	
	86 Dibenzo(a,h)anthracene	278	22.302	22.313	(1.107)	128934	4.27359	4.27	
	87 Benzo(g,h,i)perylene	276	22.852	22.852	(1.134)	159152	4.38306	4.38	
M	88 Total PAHs	100				6620658	87.9631	88.0	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.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Date : 06-JAN-2021 16:36
Client ID:
Sample Info: WG292998-8
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010621,b\N1245,D
Y (x10^5)
Min
-1,4-Dioxane
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-Nitrobenzene
-Hexachloroethane
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan+
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-4-Chloroaniline
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
2-Methylnaphthalene
-2,4,6-Trichlorophenol
-2,4,5-Trichlorophenol
-2-Nitroaniline
1,1'-Biphenyl+
-2,6-Dinitrotoluene
-Dimethyl Phthalate
-Acenaphthylene
-2,4-Dinitrophenol
-Dibenzofuran+
3-Nitroaniline+
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline
-4,6-Dinitro-2-Methylpheno+
Fluorene+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene

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Injection Date: 06-JAN-2021 13:20
Instrument: gcms-n.i
Client Sample ID:

Compound: Indeno(1,2,3-cd)pyrene
CAS Number: 193-39-5

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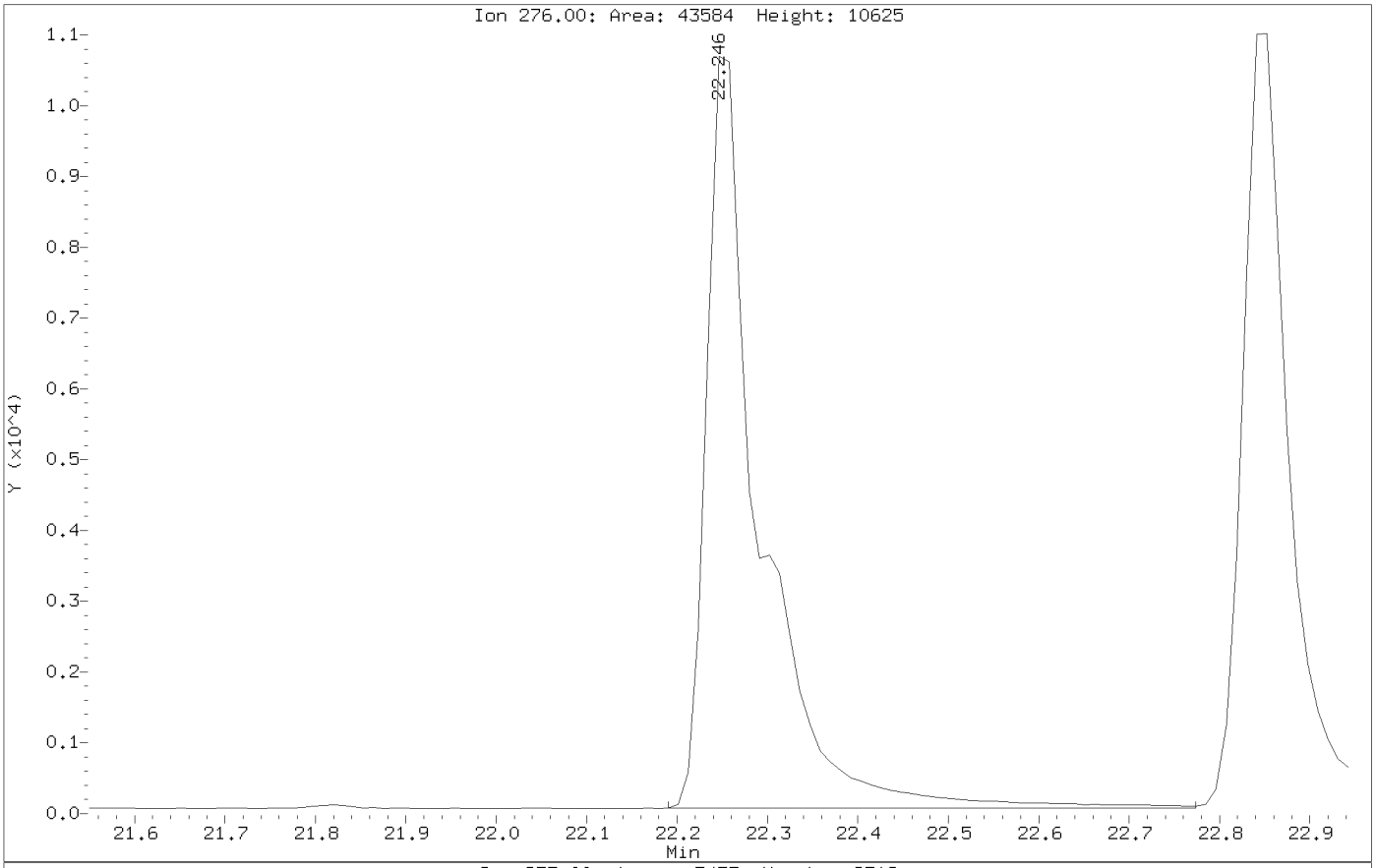

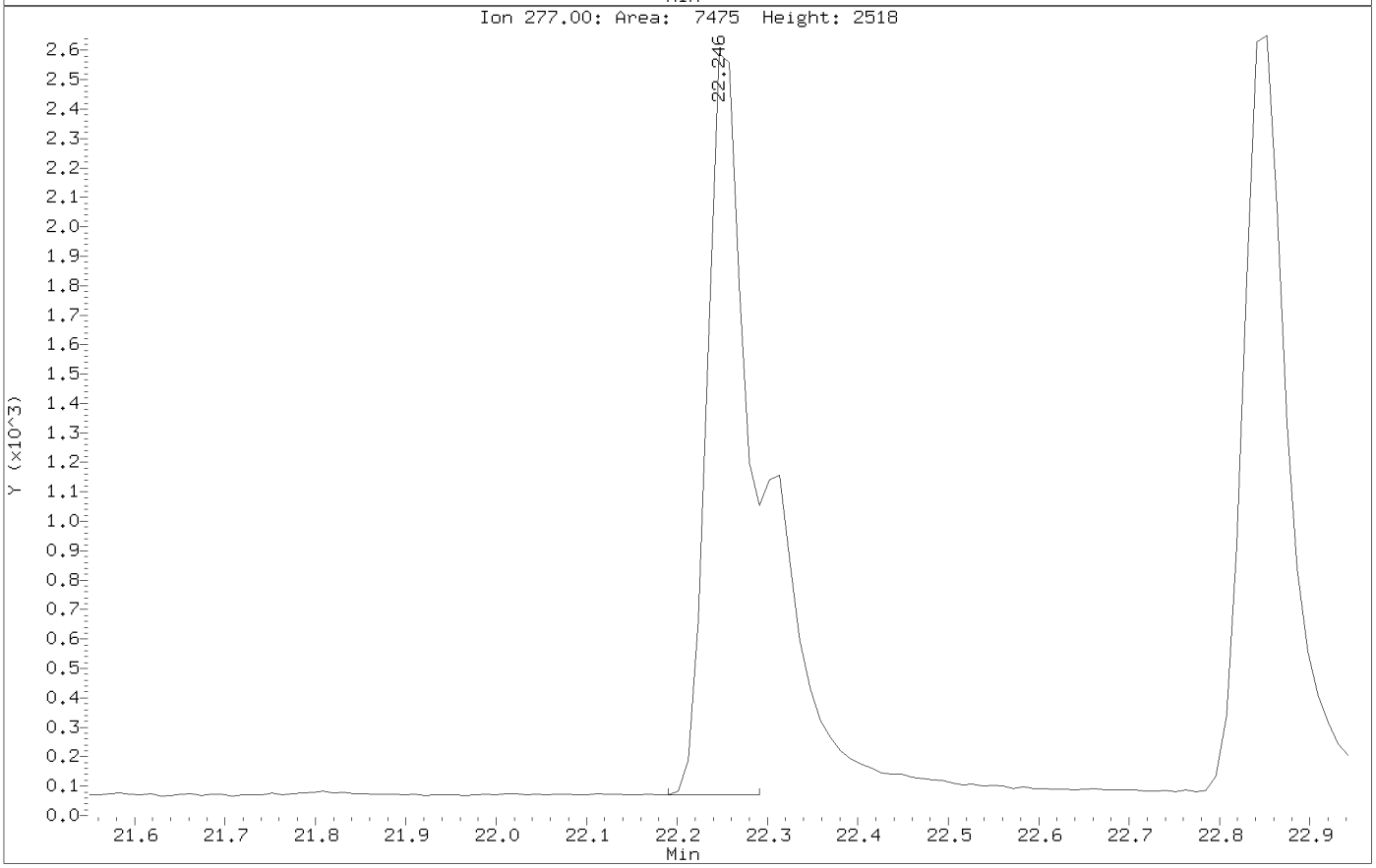

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Instrument: gcms-n.i
Client Sample ID:

Compound: Indeno(1,2,3-cd)pyrene
CAS Number: 193-39-5

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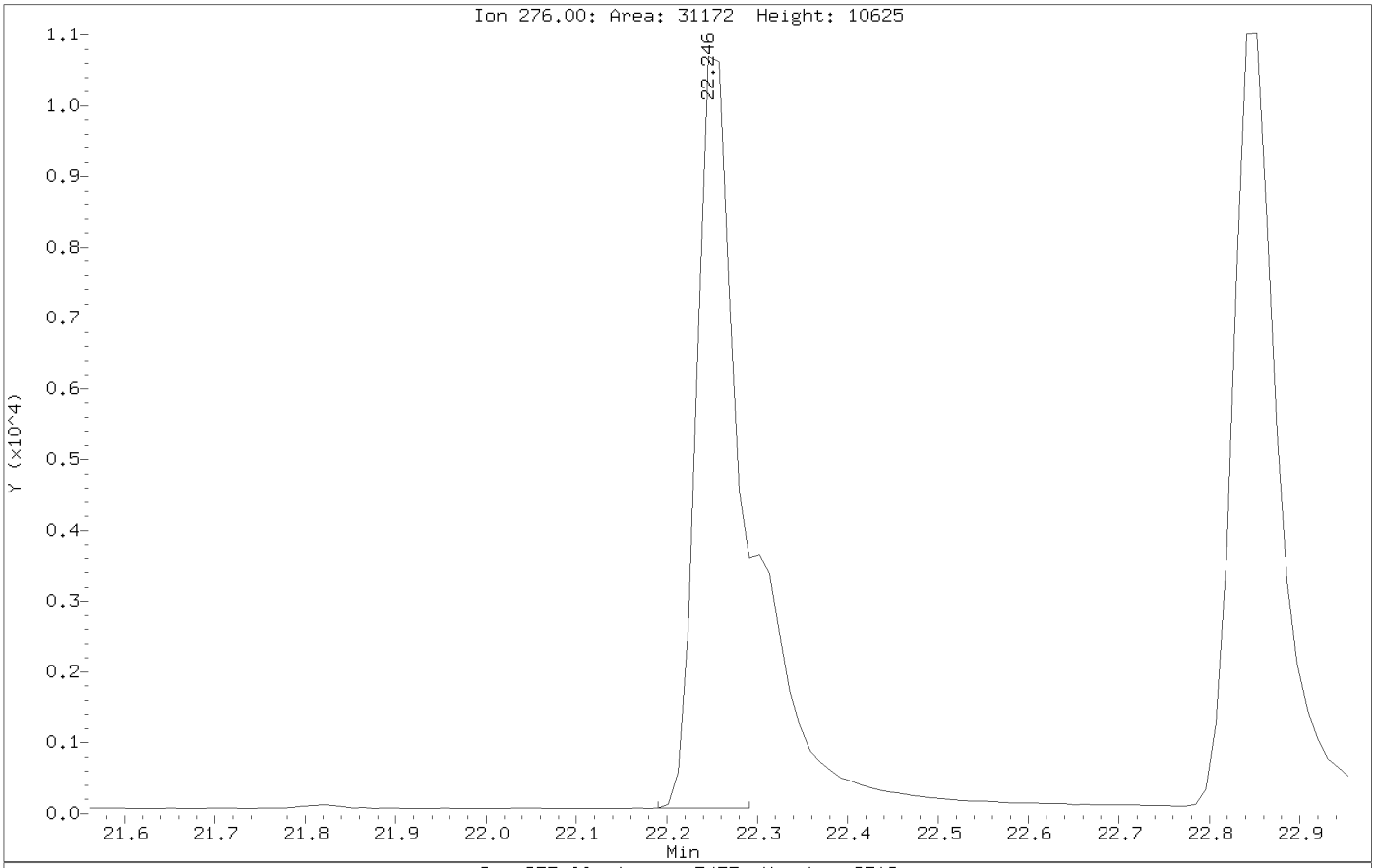

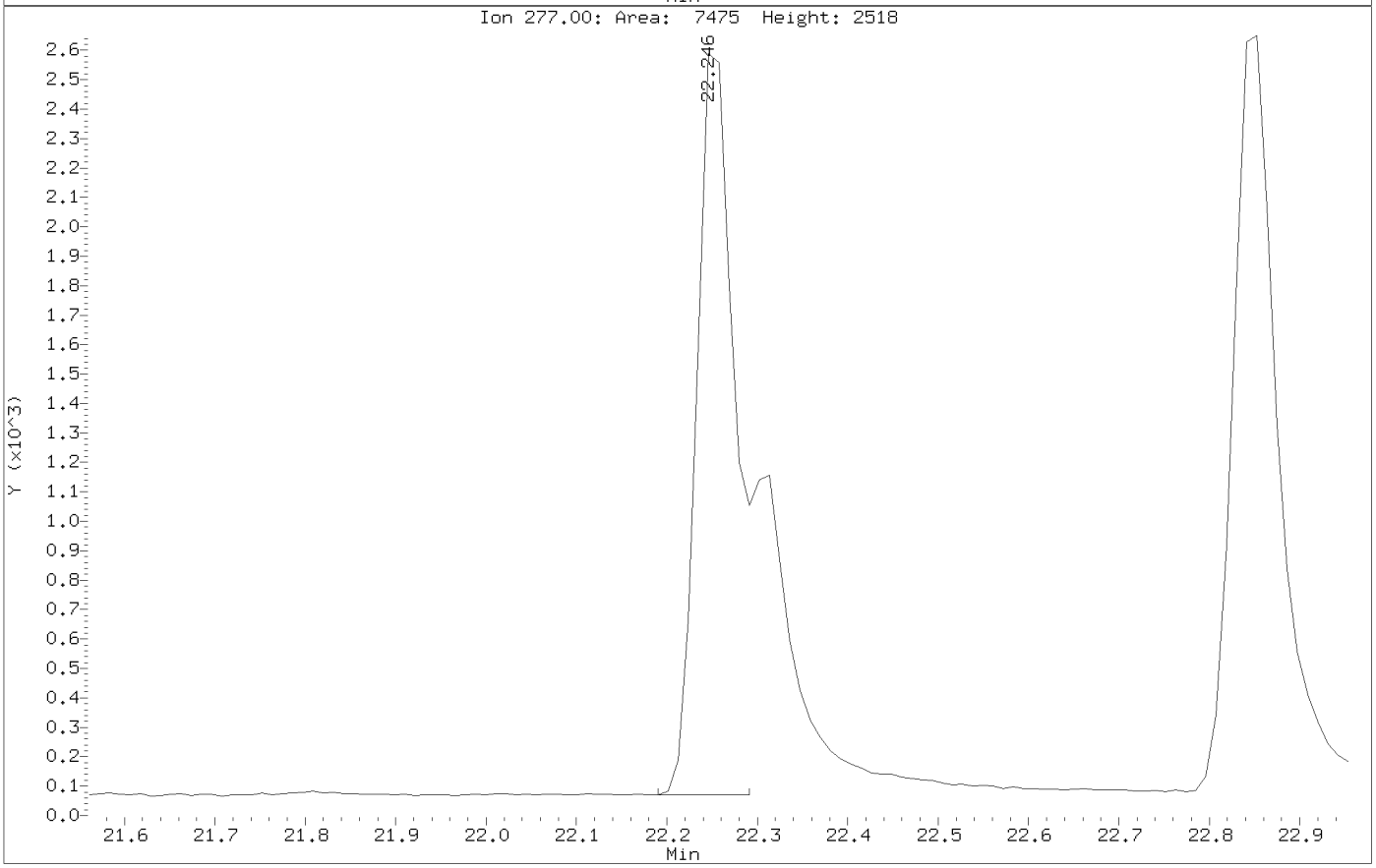

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Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: N-Nitrosodimethylamine
CAS Number: 62-75-9

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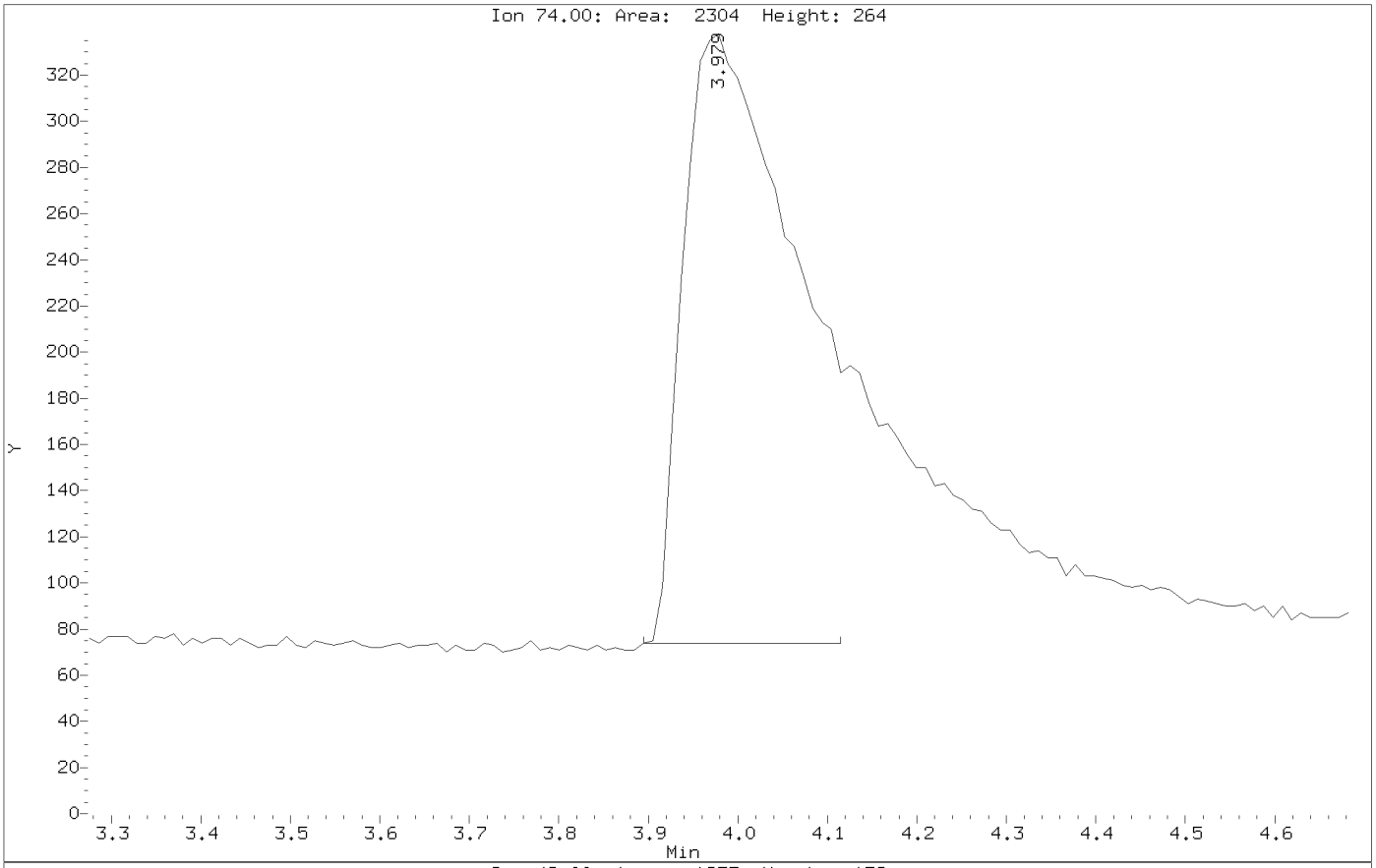

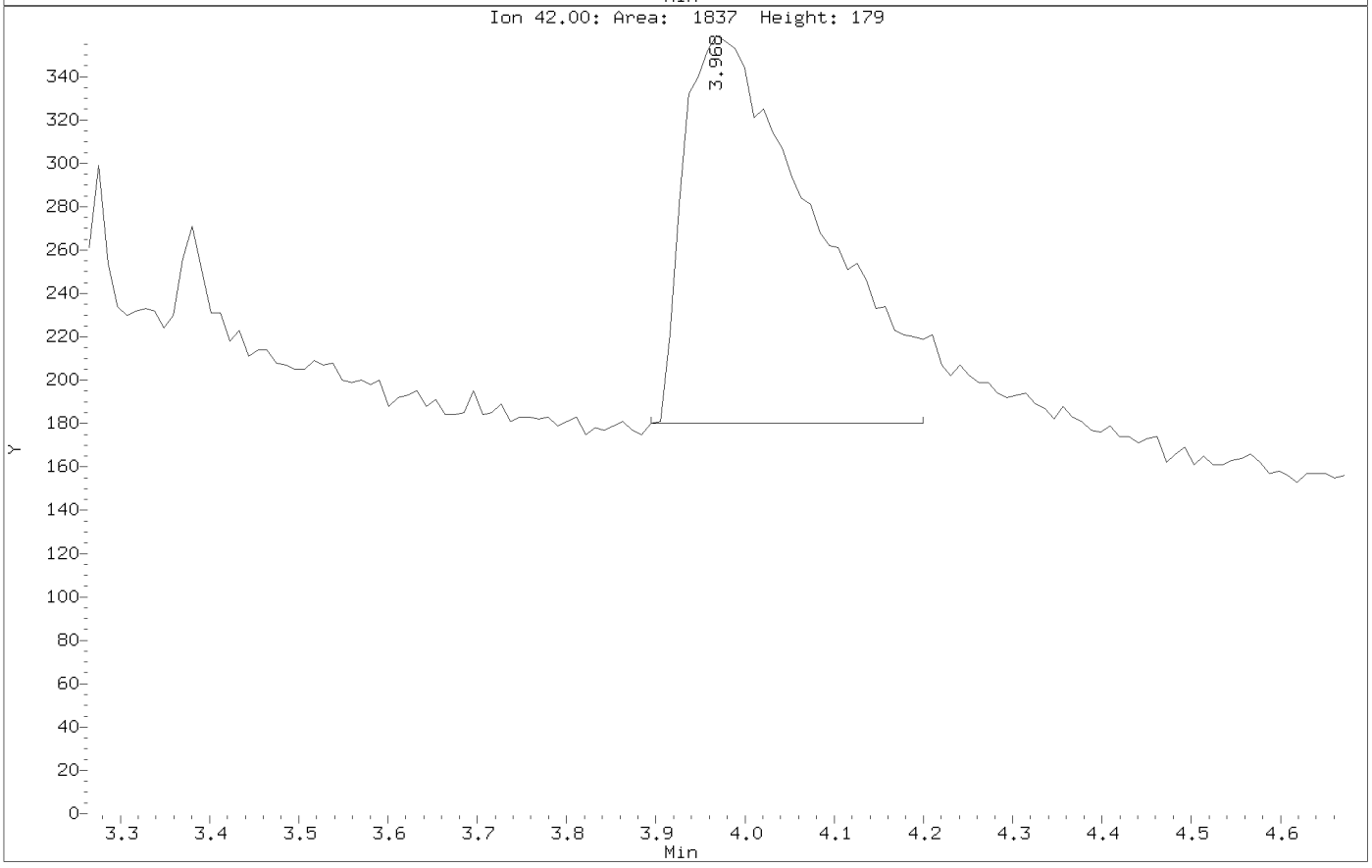

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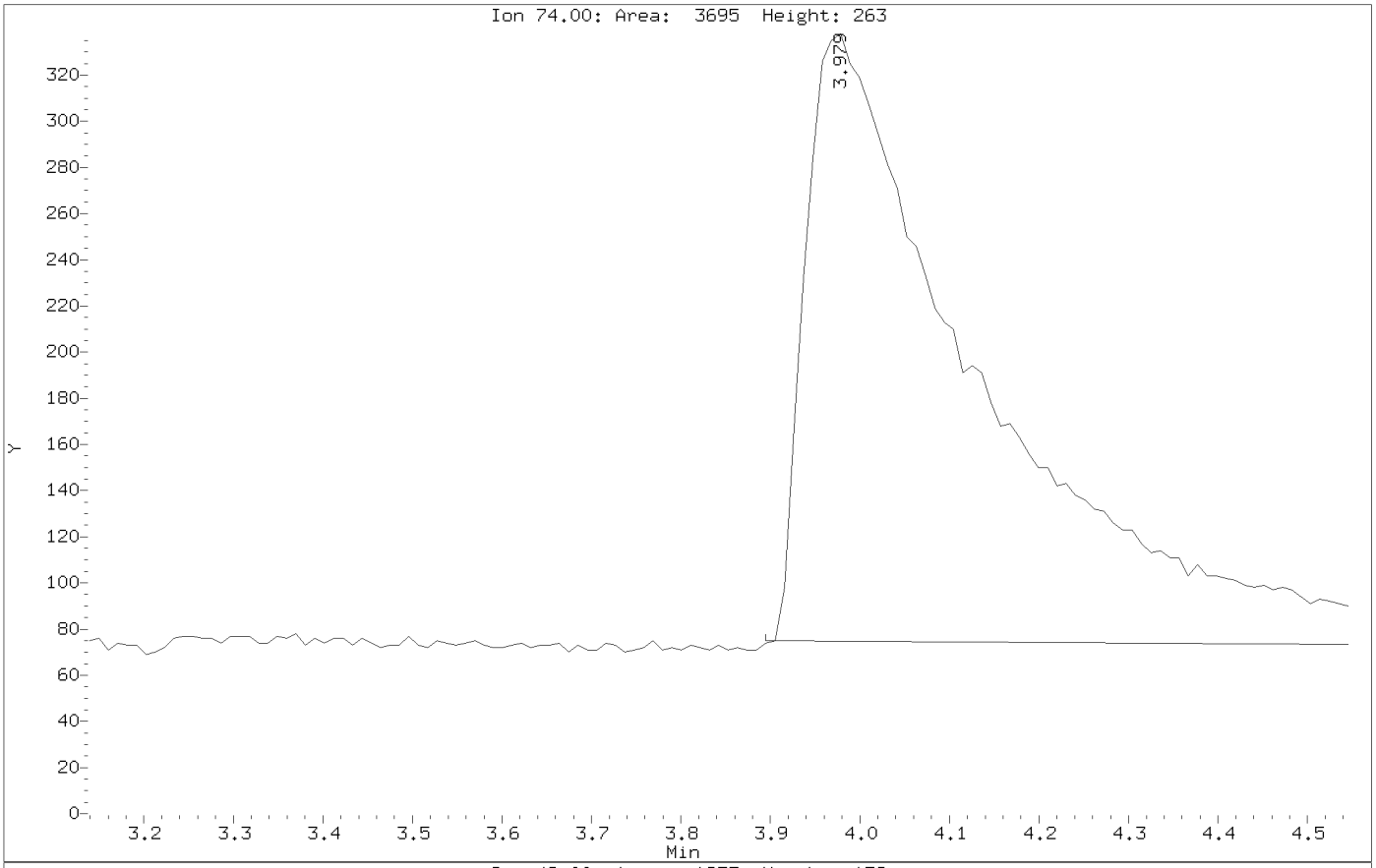
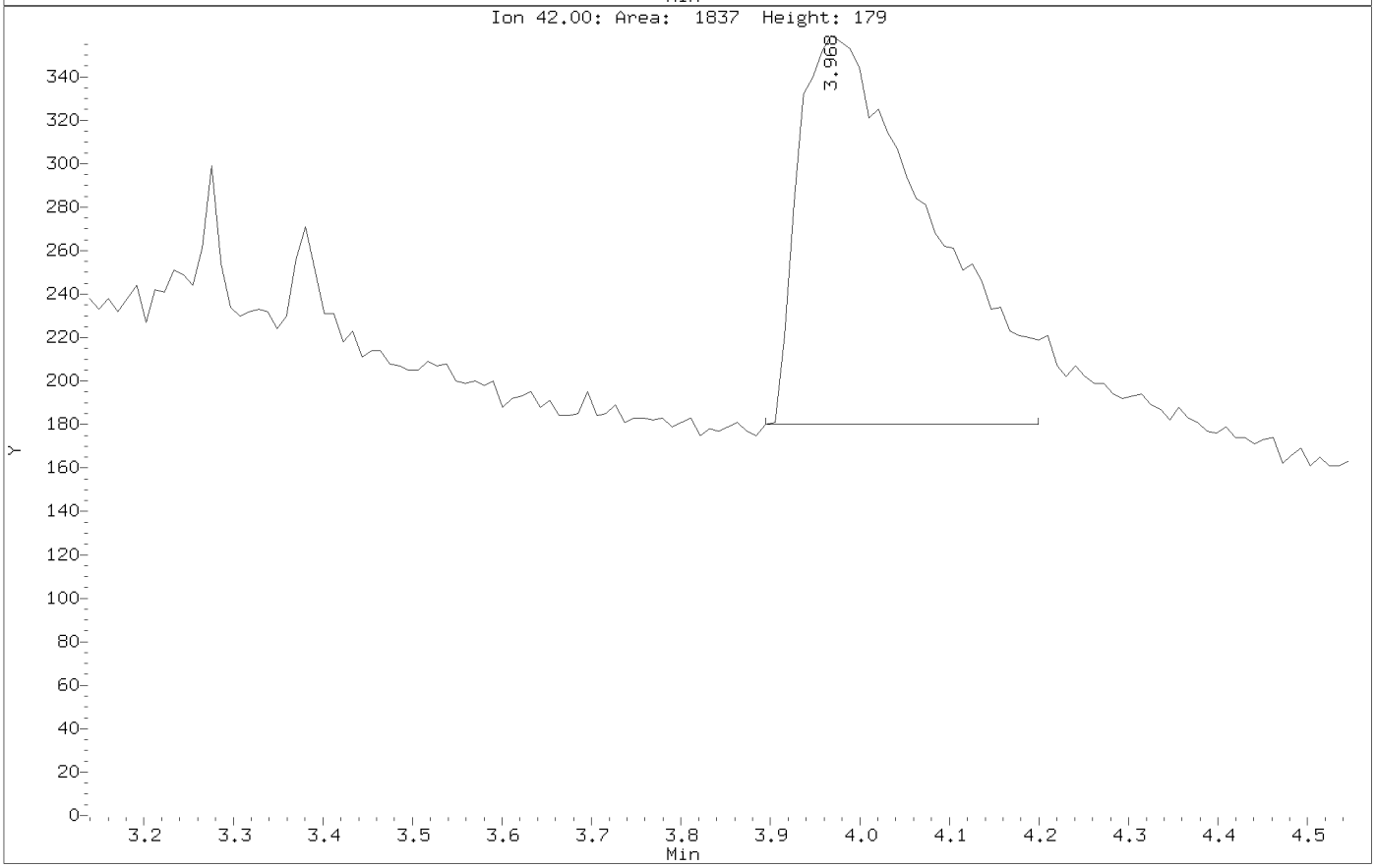
Instrument: gcms-n.i
Client Sample ID:

Compound: N-Nitrosodimethylamine
CAS Number: 62-75-9





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Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: Pyridine
CAS Number: 110-86-1

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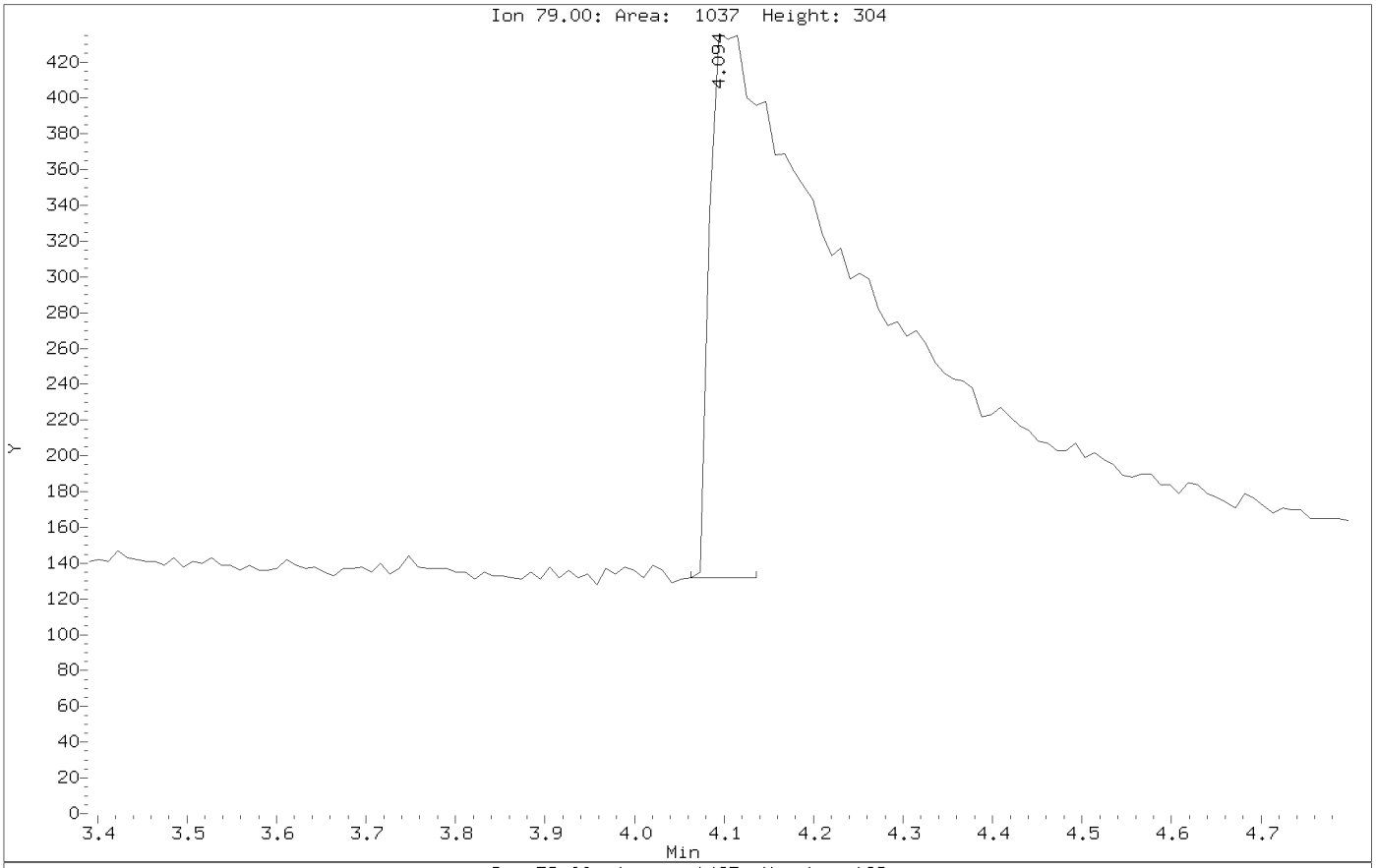

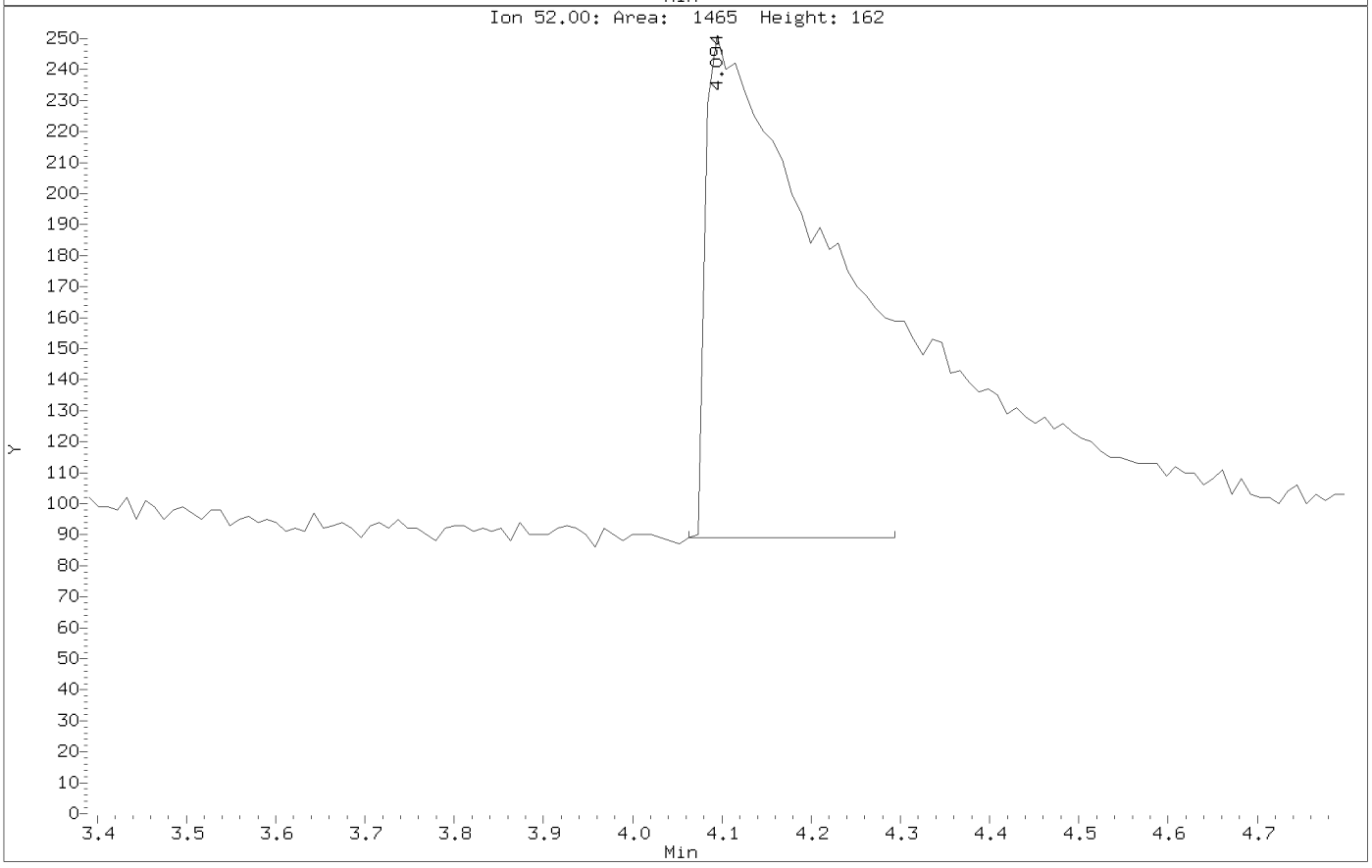

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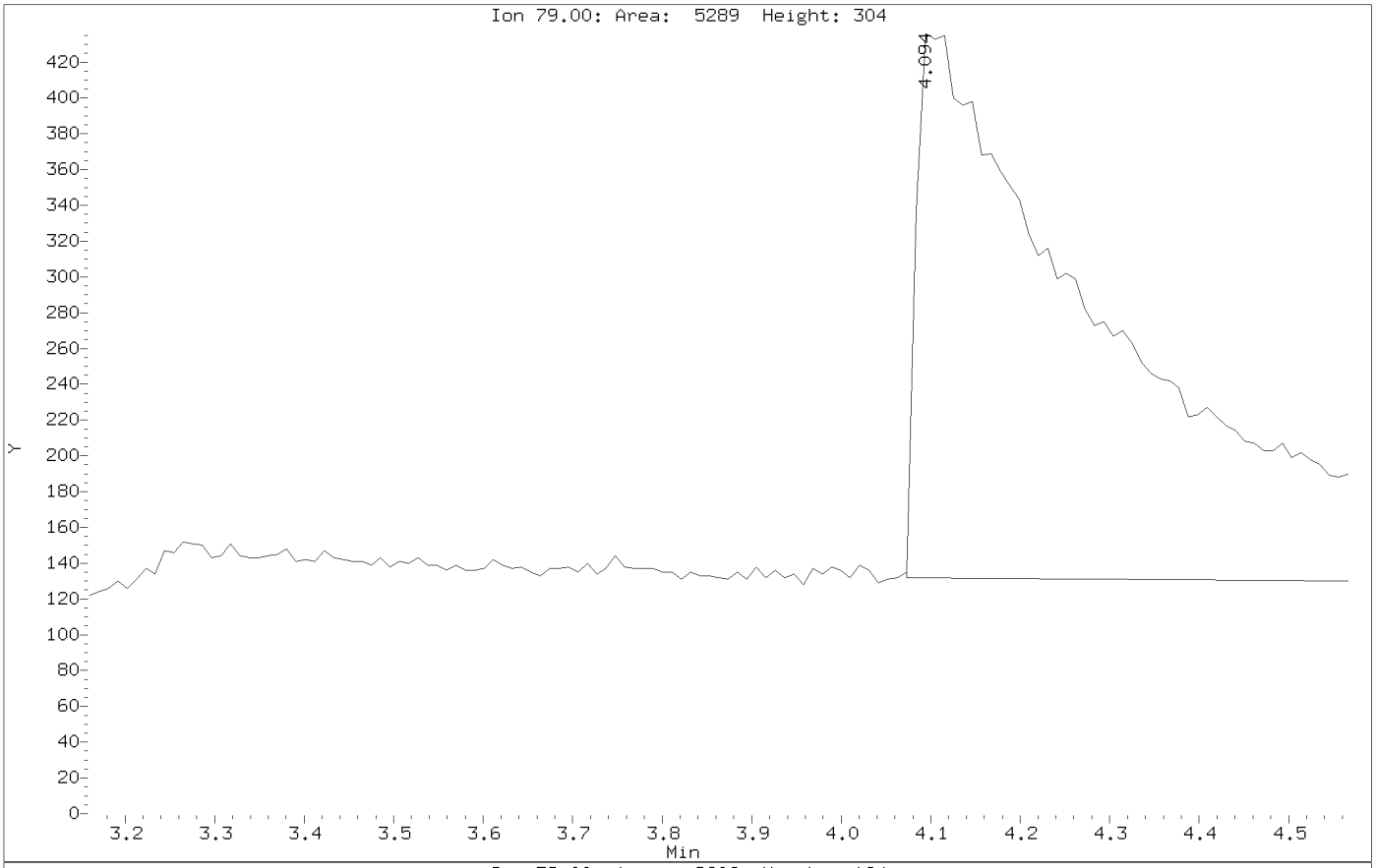
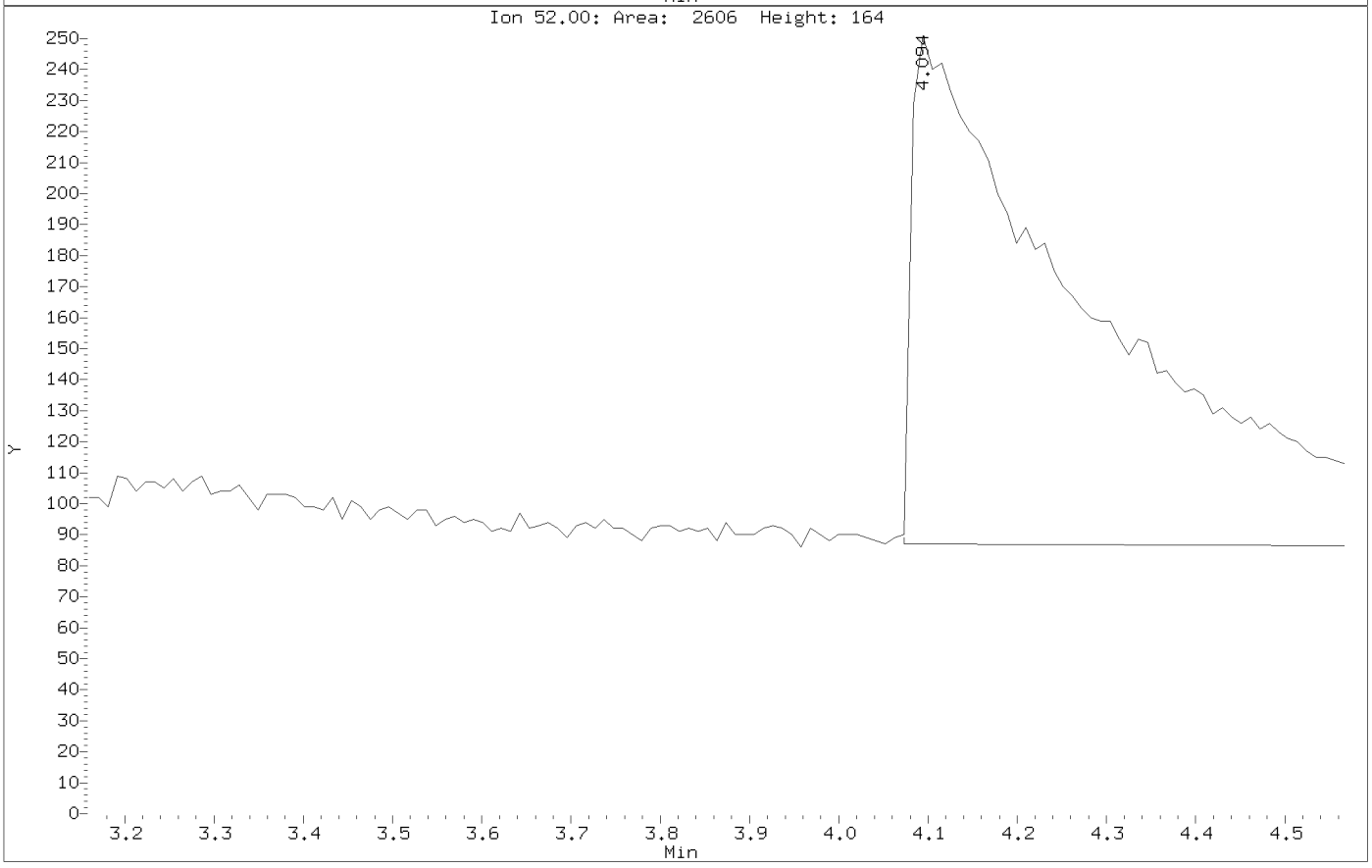
Instrument: gcms-n.i
Client Sample ID:

Compound: Pyridine
CAS Number: 110-86-1





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Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: Bis(2-Chloroethyl)ether
CAS Number: 111-44-4

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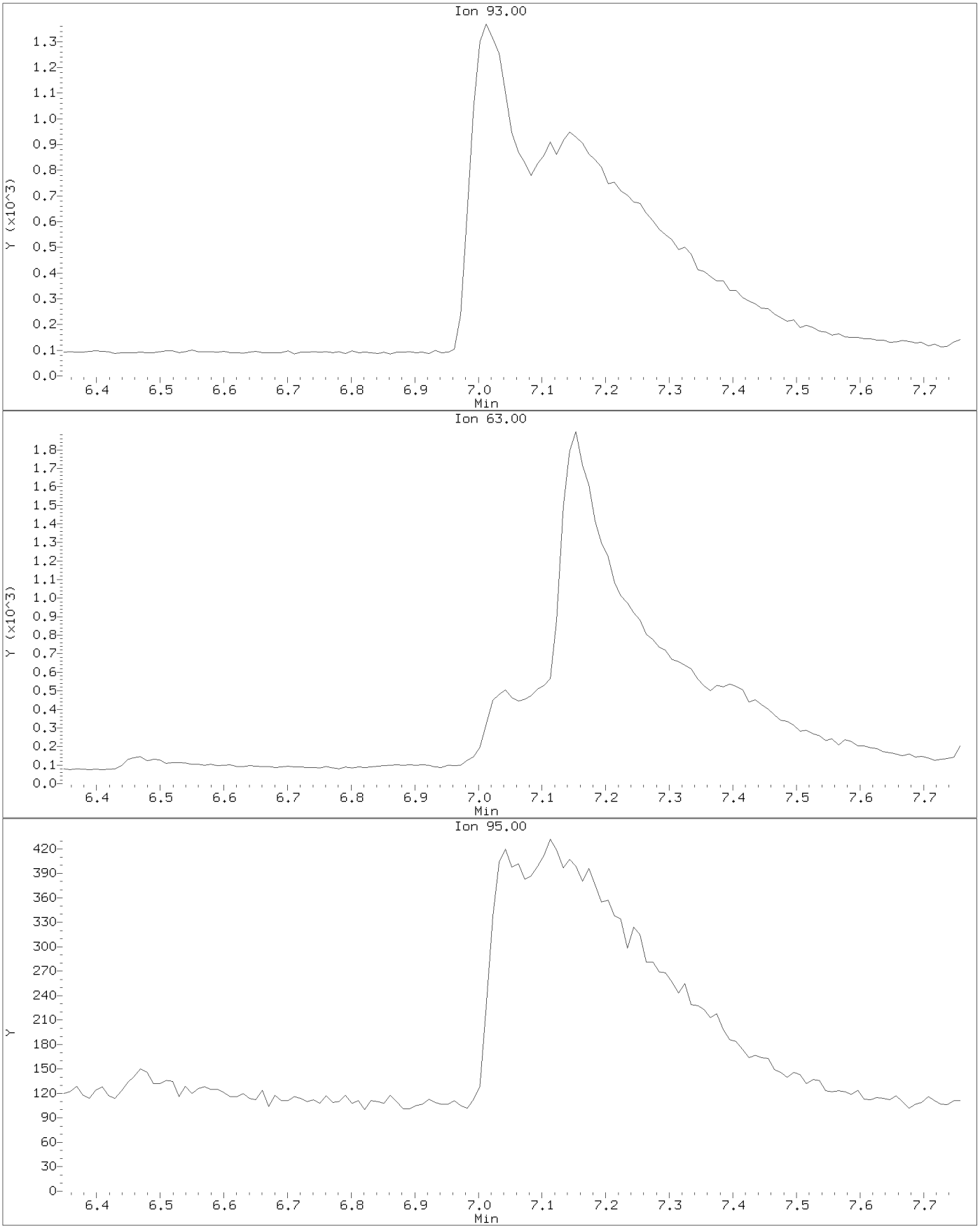

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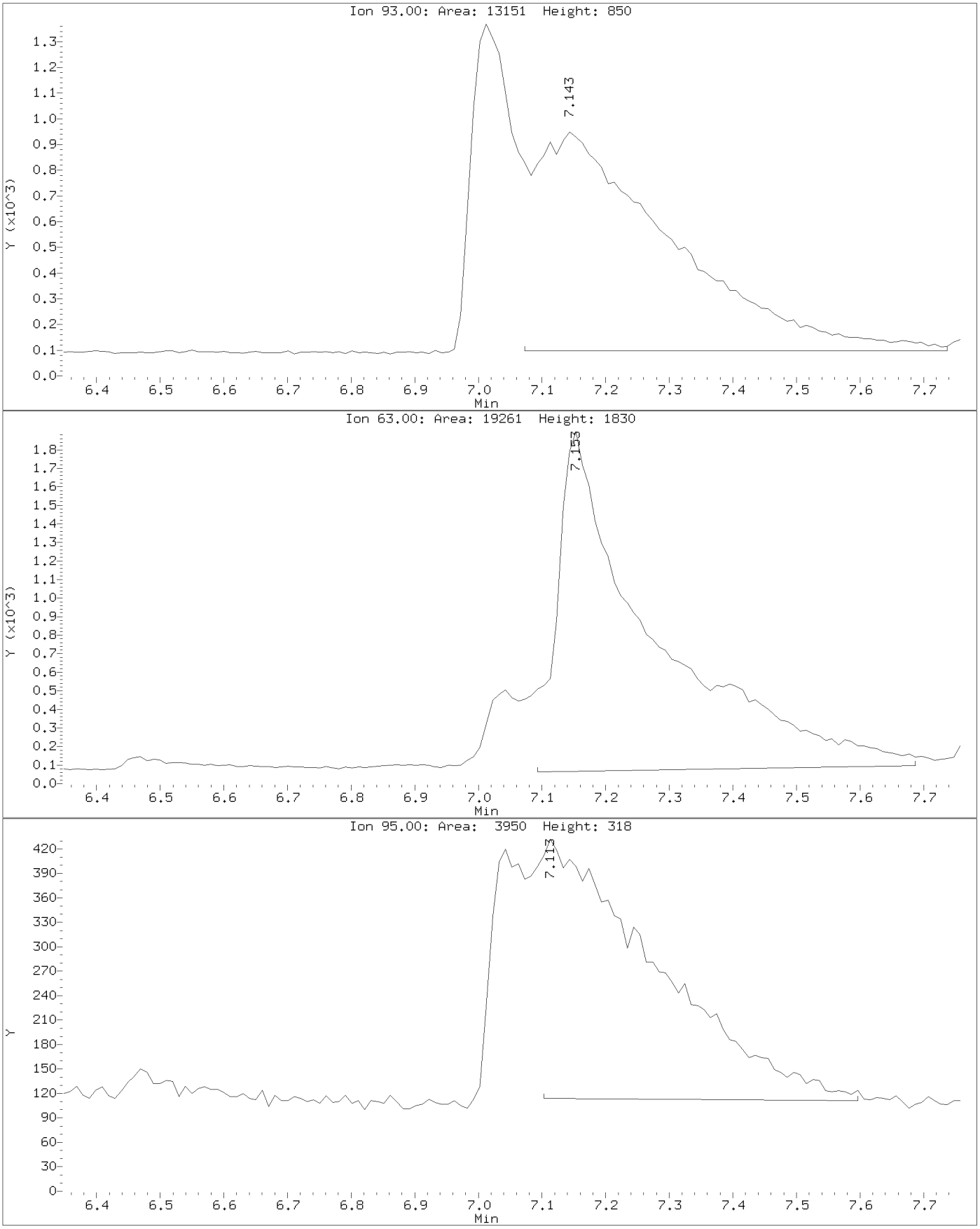
Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: Bis(2-Chloroethyl)ether
CAS Number: 111-44-4

AFTER MANUAL INTEGRATION



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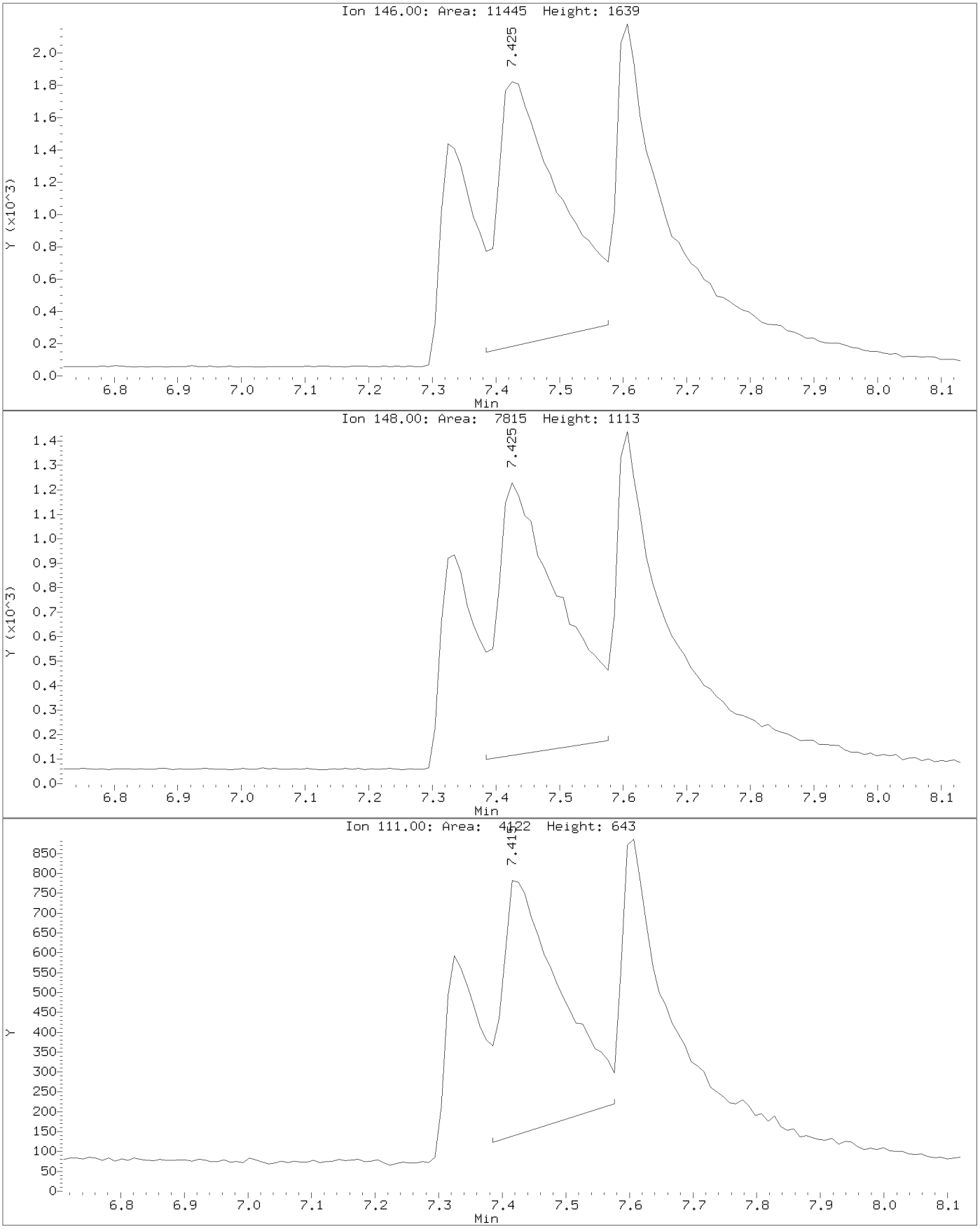
Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-1

BEFORE MANUAL INTEGRATION



AFTER MANUAL INTEGRATION

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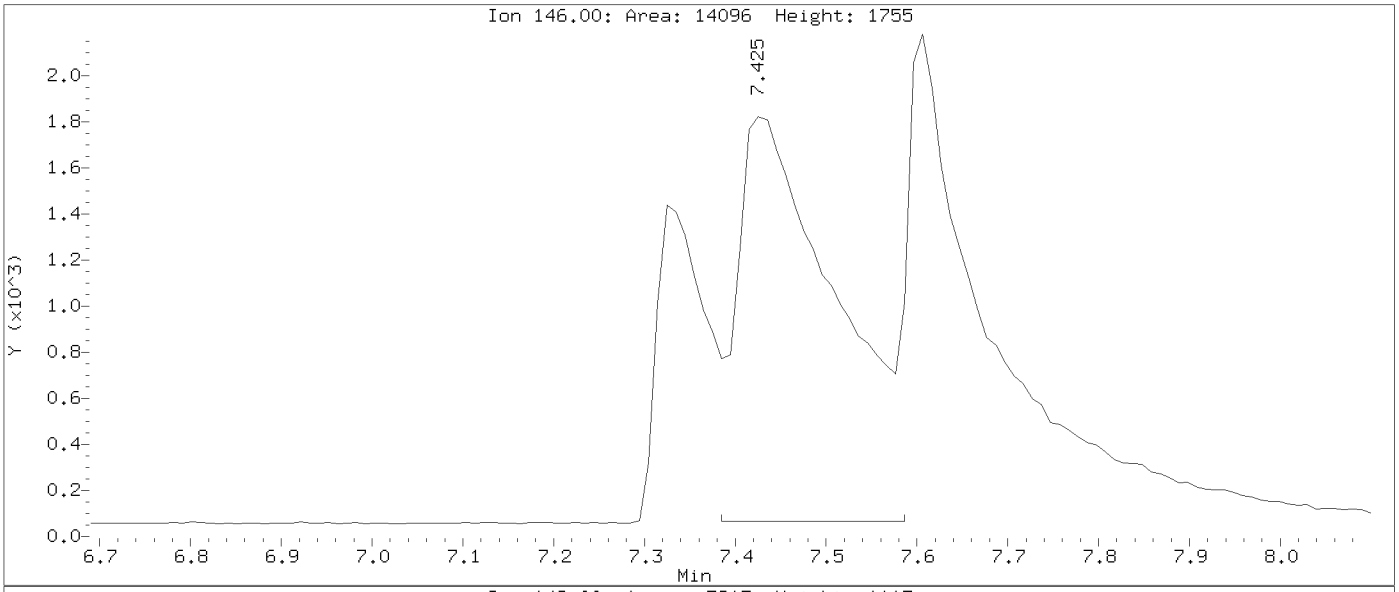
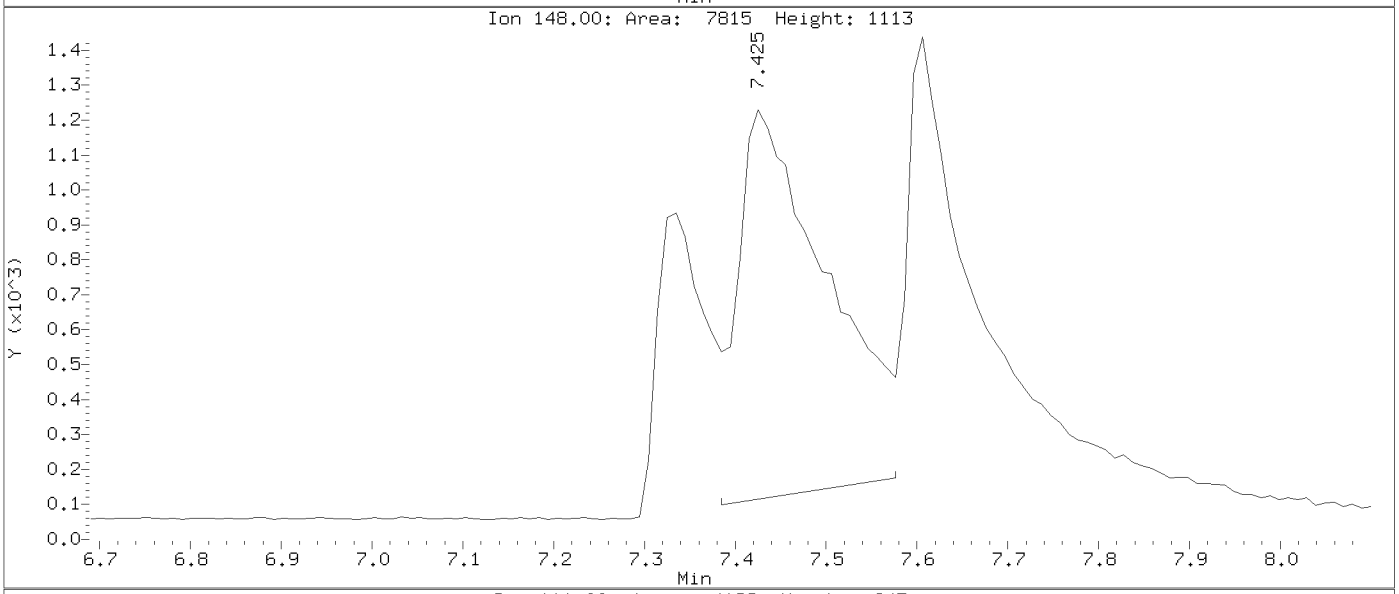
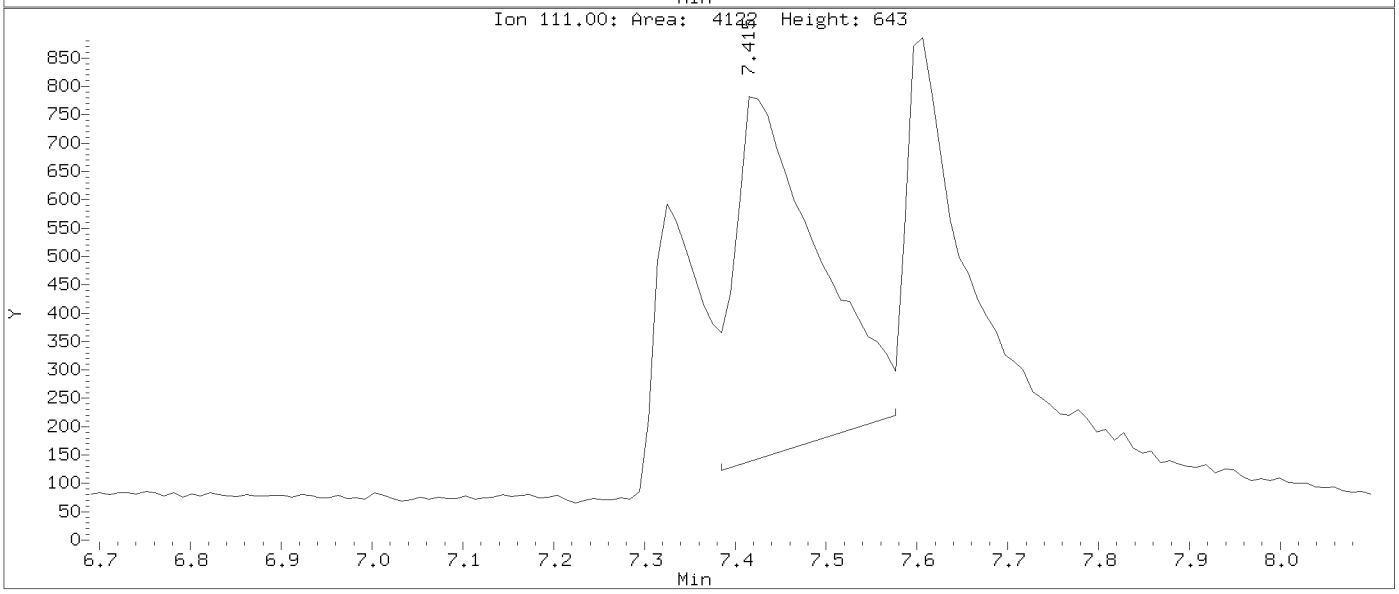
Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-1







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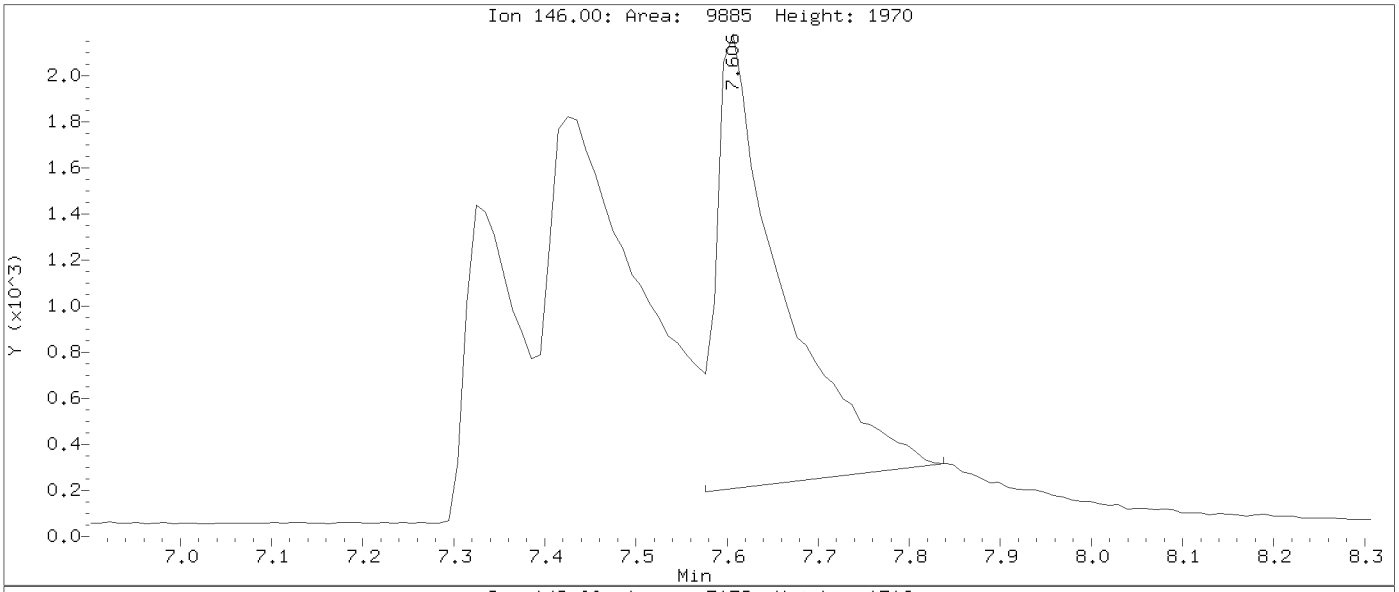
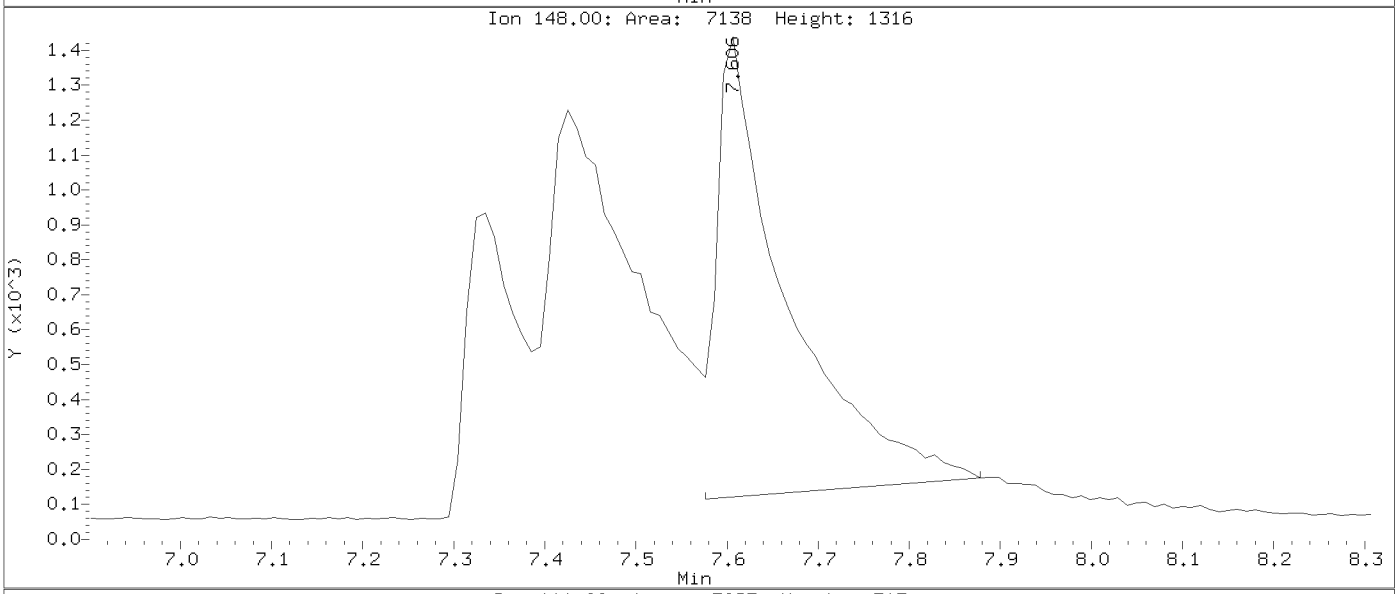
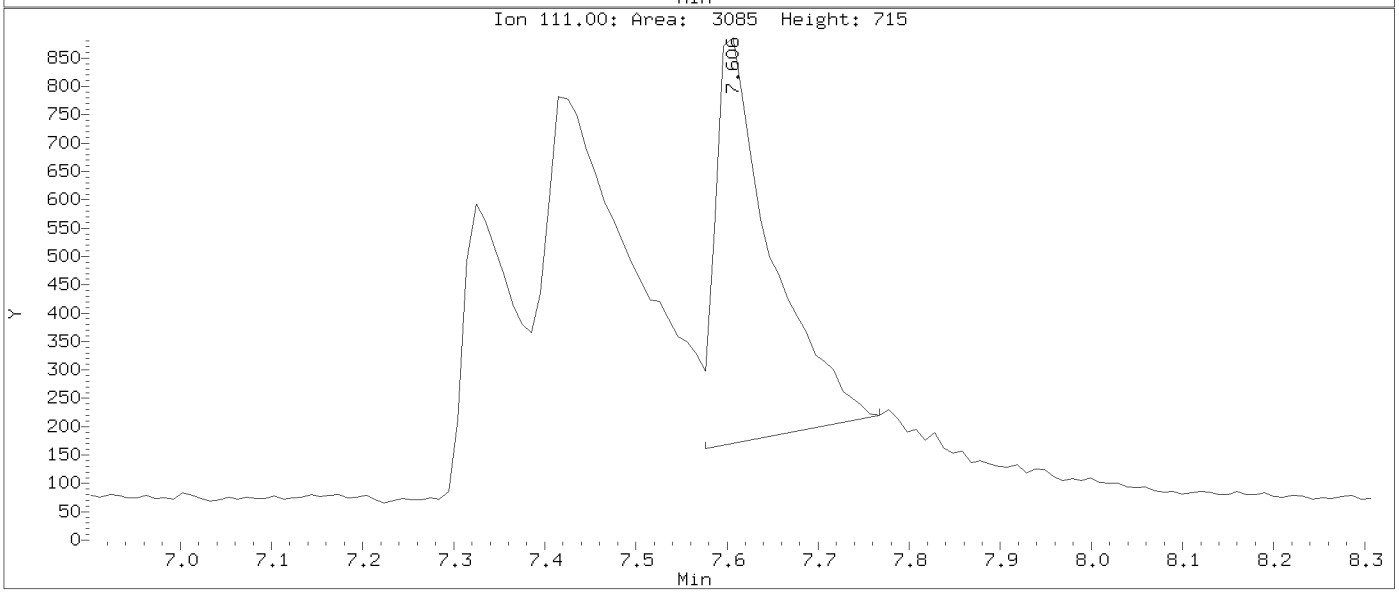
Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: 1,2-Dichlorobenzene
CAS Number: 95-50-1

BEFORE MANUAL INTEGRATION







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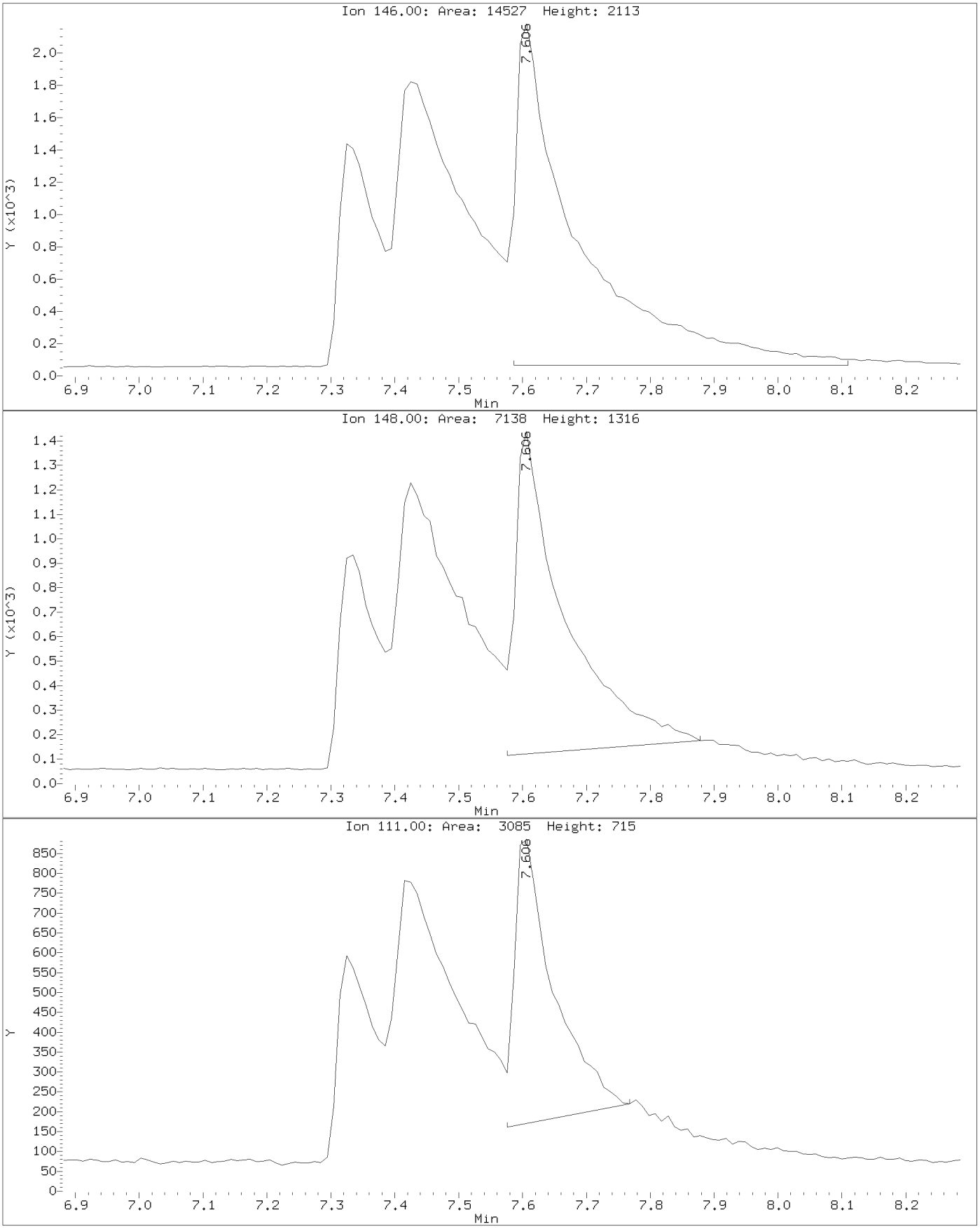
Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: 1,2-Dichlorobenzene
CAS Number: 95-50-1

AFTER MANUAL INTEGRATION



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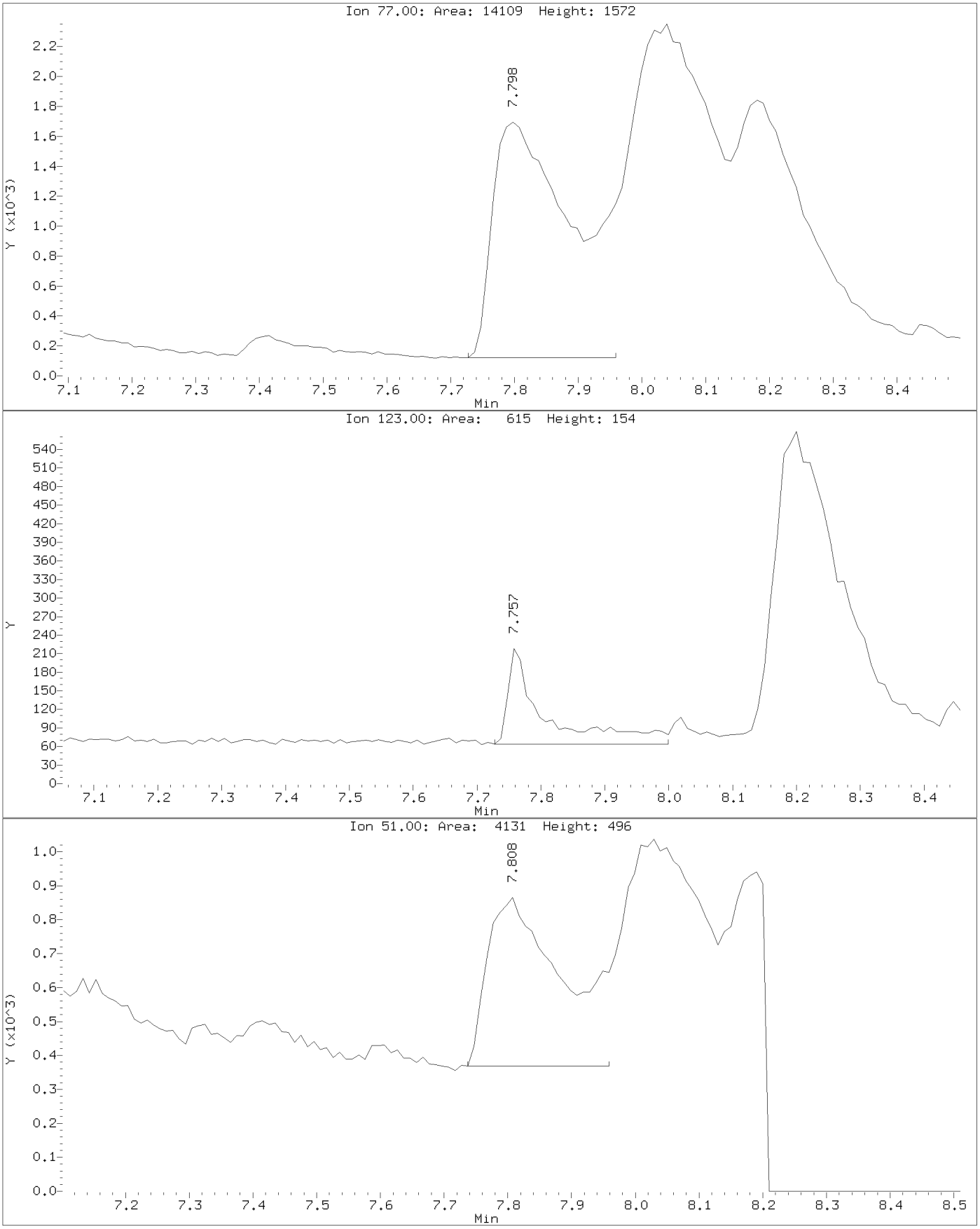
Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: Nitrobenzene
CAS Number: 98-95-3

BEFORE MANUAL INTEGRATION



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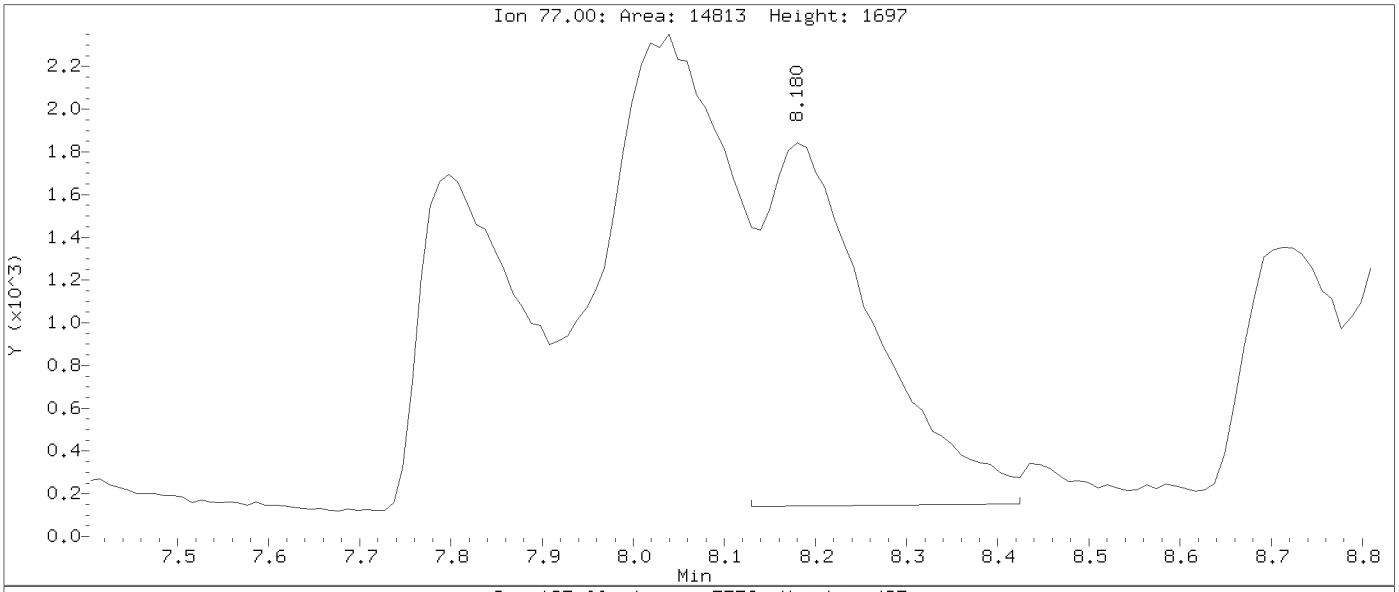
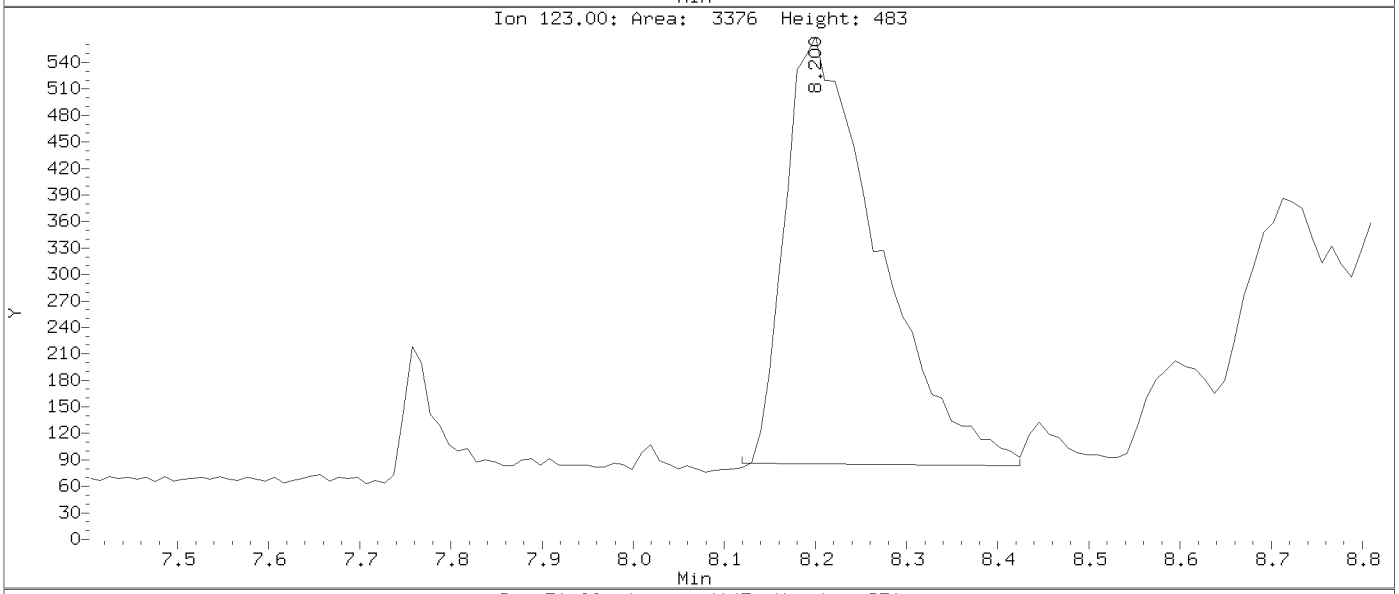
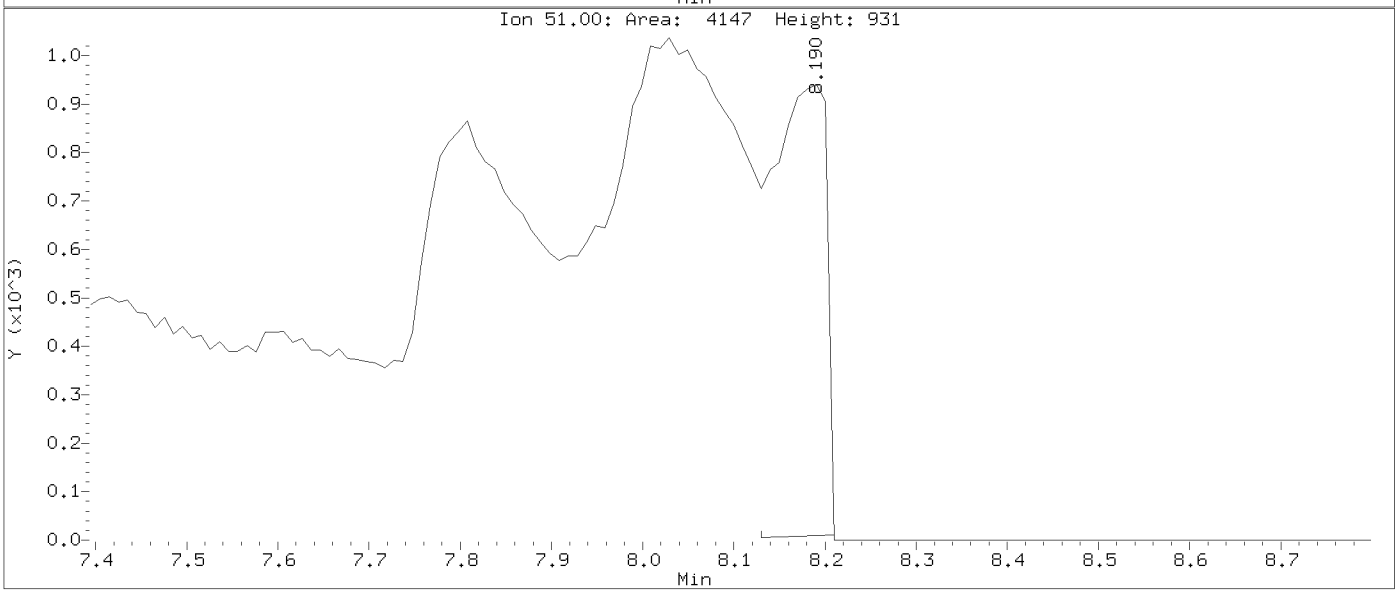
Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: Nitrobenzene
CAS Number: 98-95-3

AFTER MANUAL INTEGRATION







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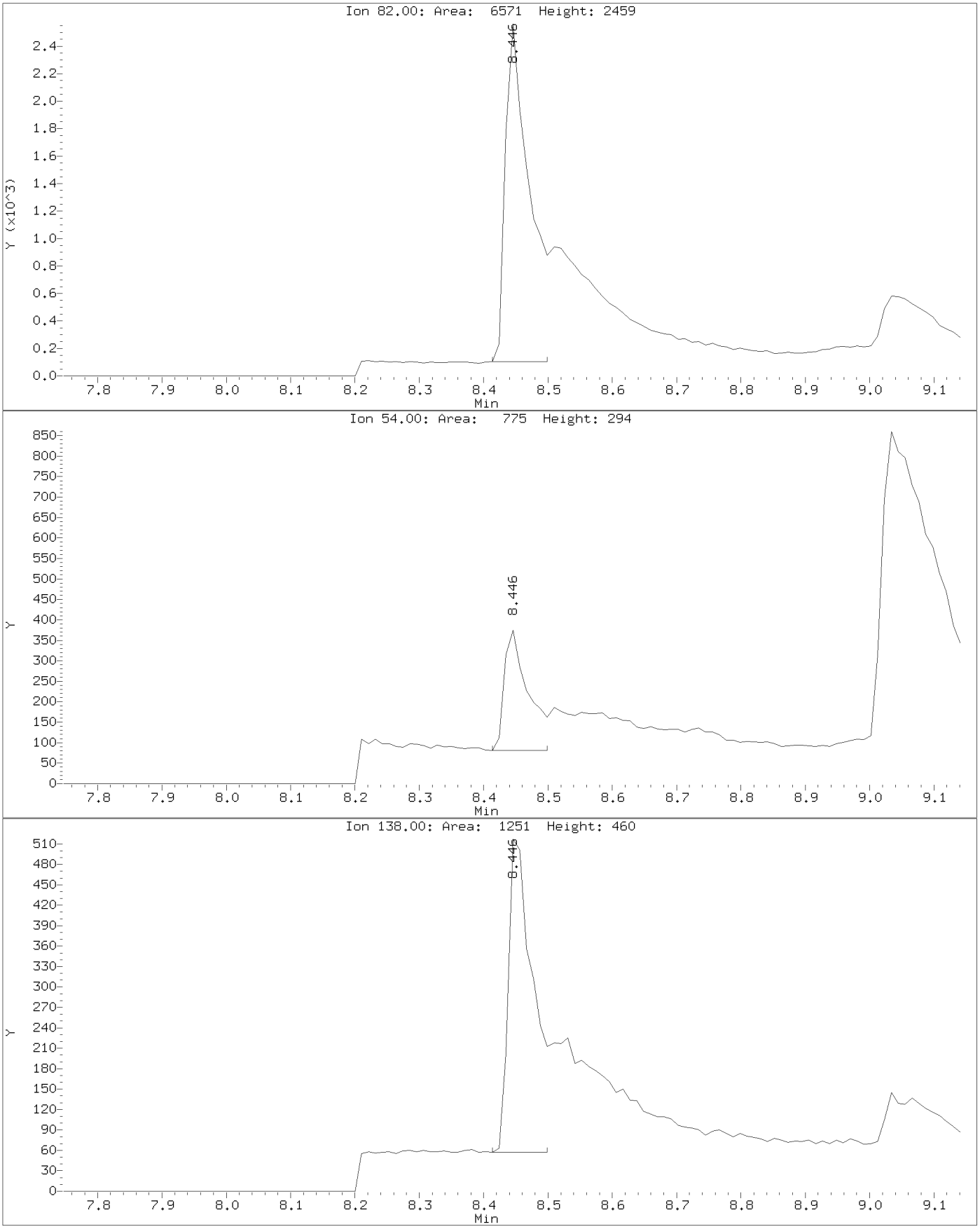
Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: Isophorone
CAS Number: 78-59-1

BEFORE MANUAL INTEGRATION



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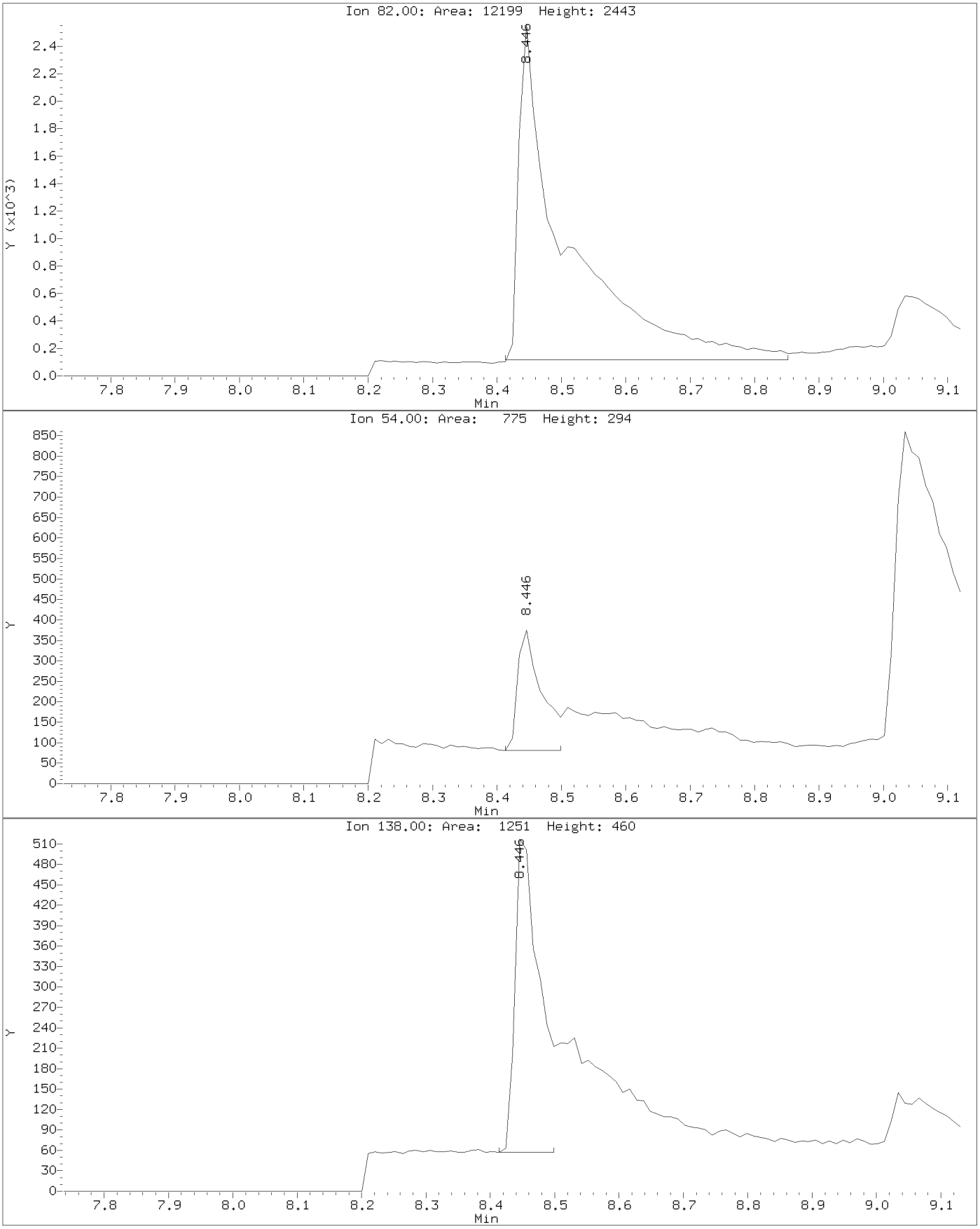
Instrument: gcms-n.i
Client Sample ID:

Compound: Isophorone
CAS Number: 78-59-1

AFTER MANUAL INTEGRATION



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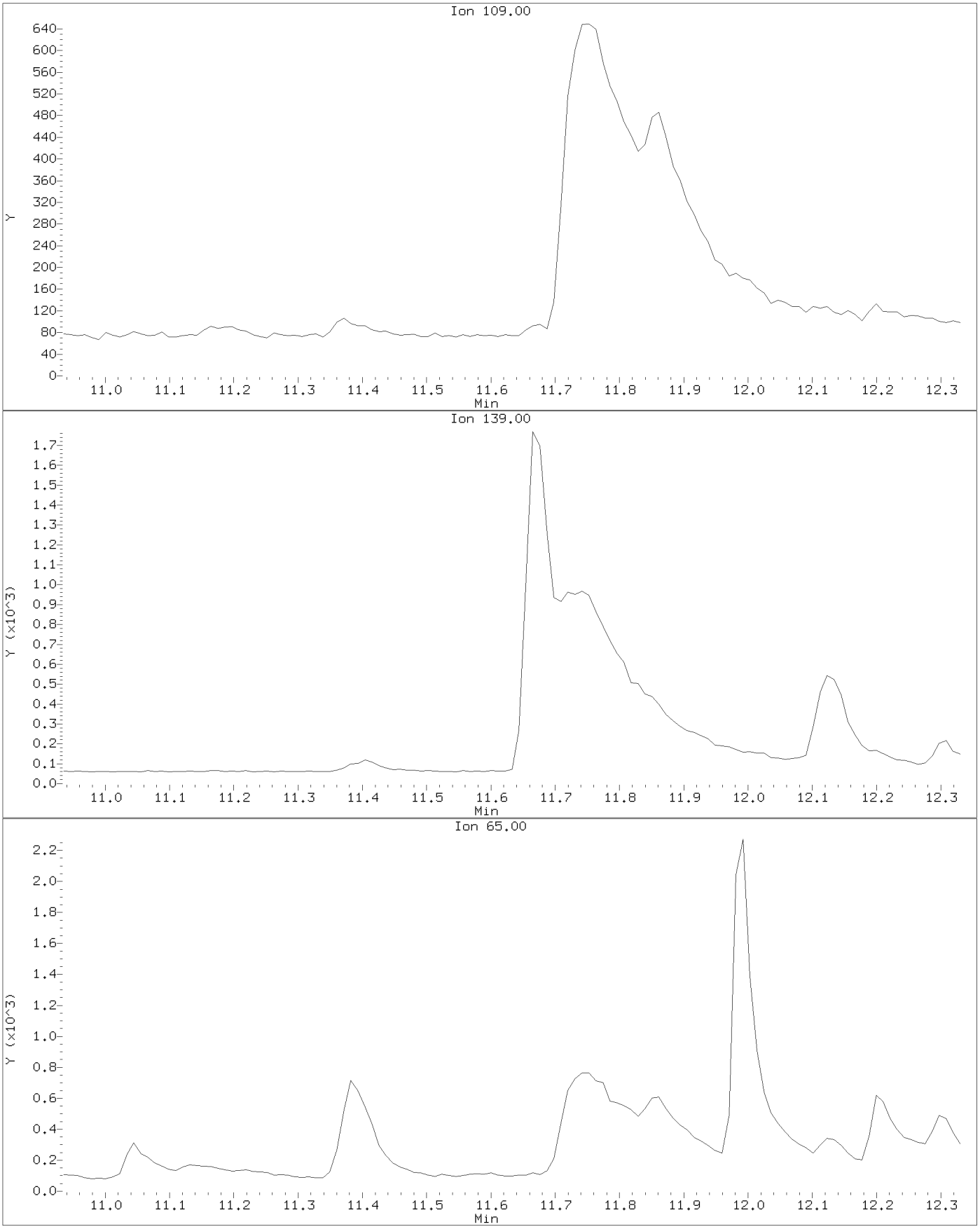
Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: 4-Nitrophenol
CAS Number: 100-02-7

BEFORE MANUAL INTEGRATION



AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1240.D
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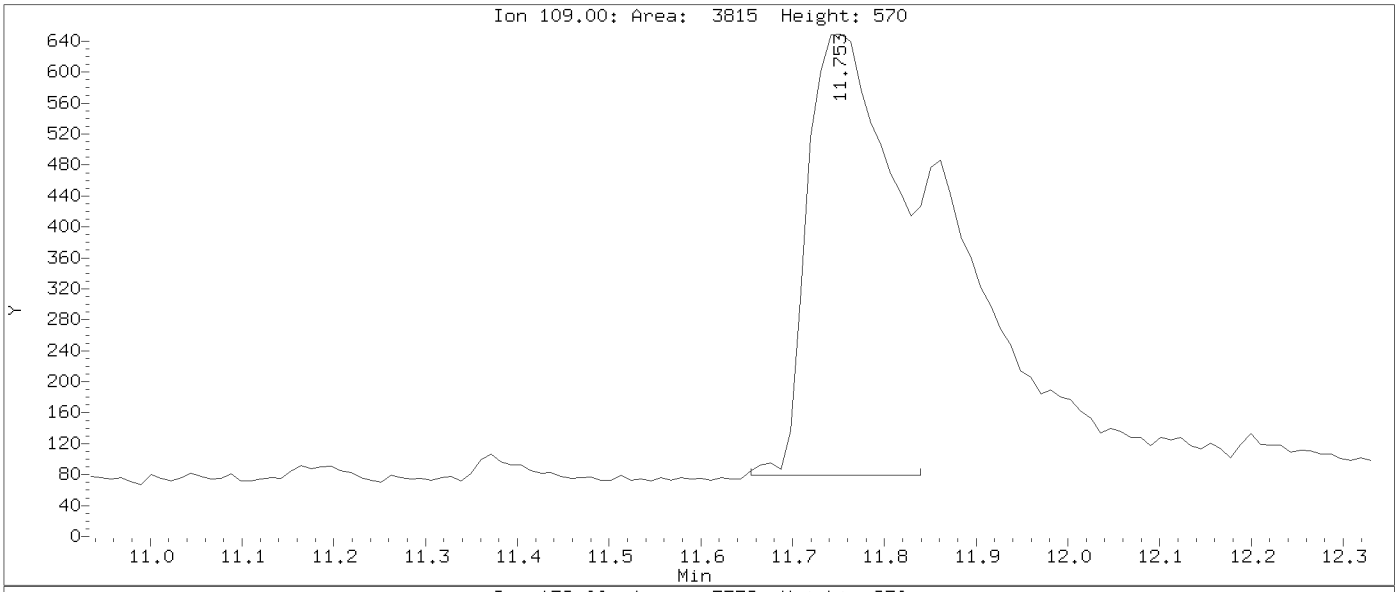
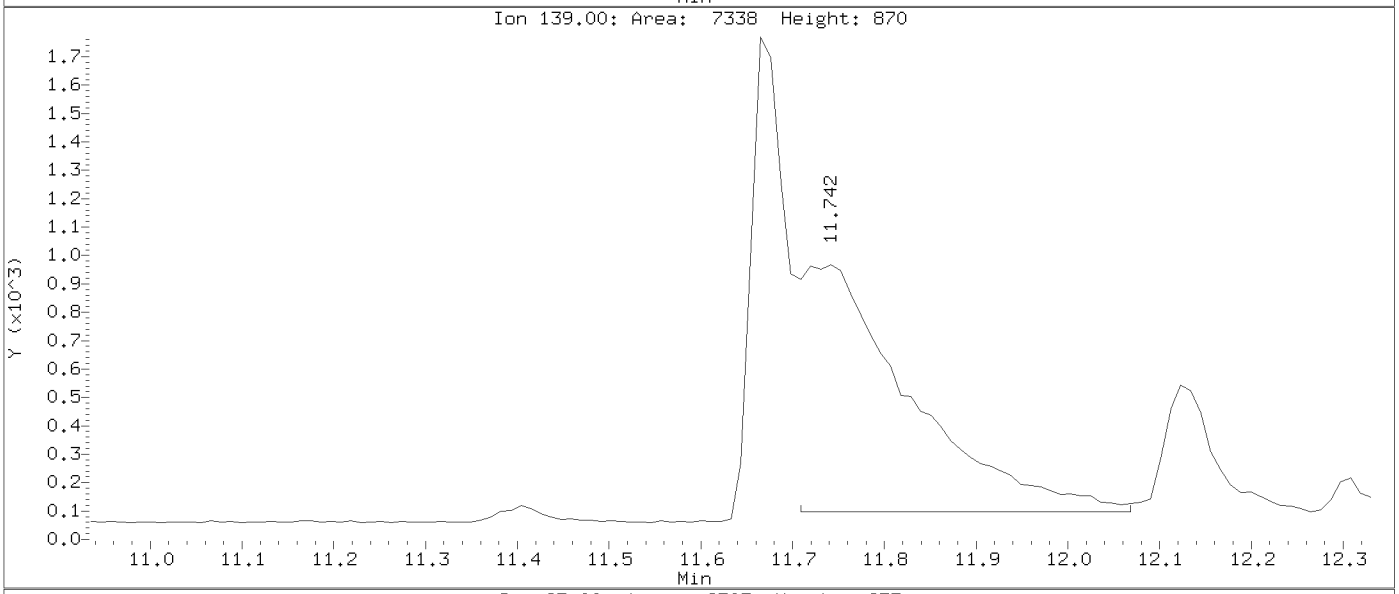
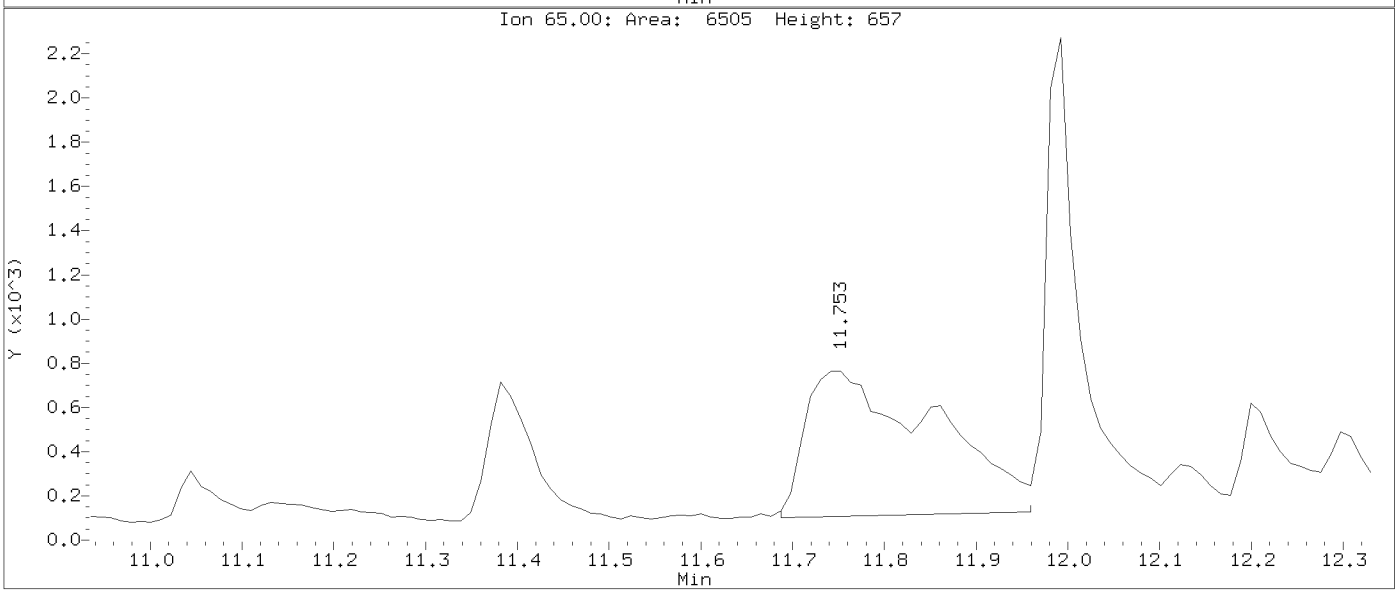
Instrument: gcms-n.i
Client Sample ID:

Compound: 4-Nitrophenol
CAS Number: 100-02-7







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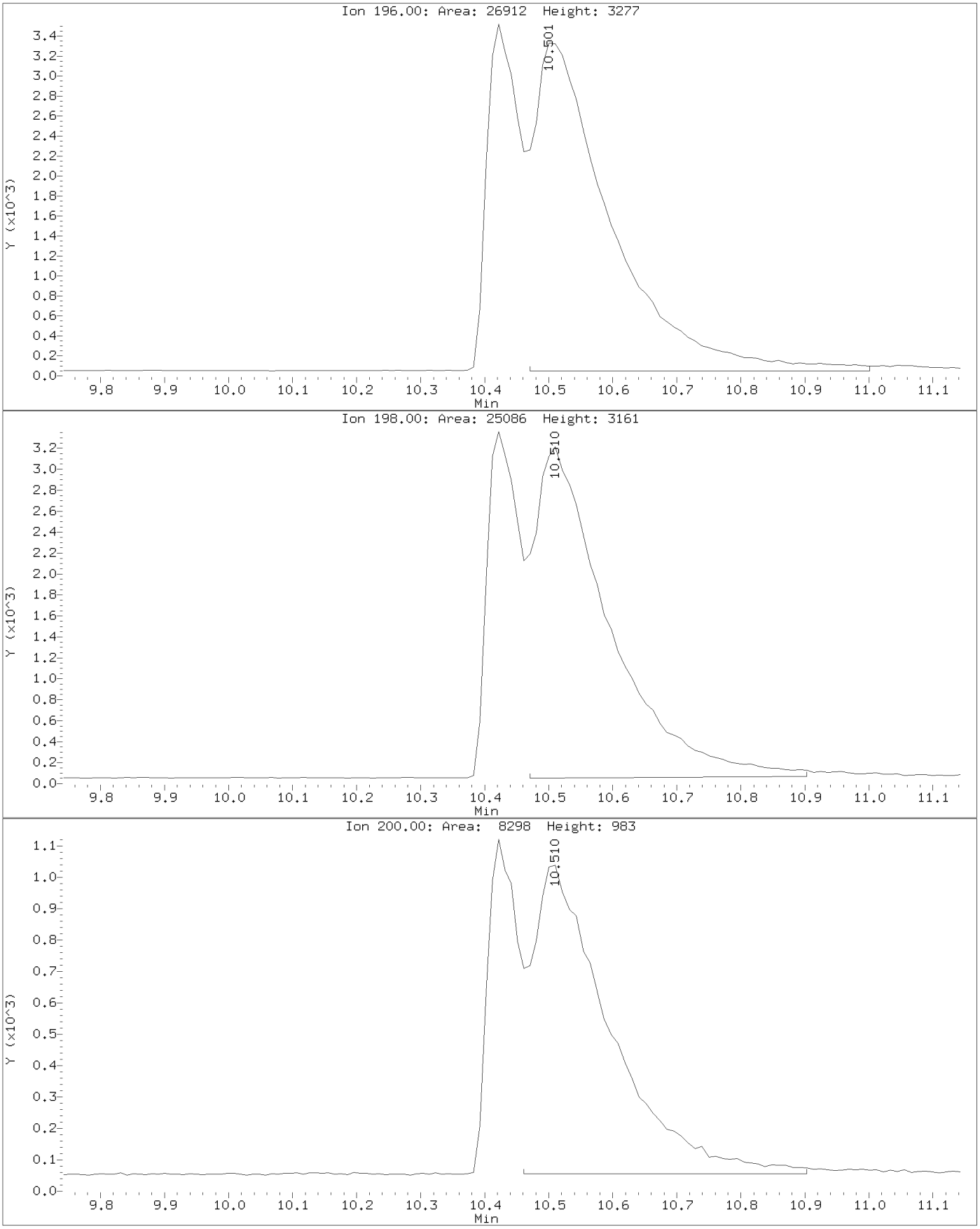
Injection Date: 06-JAN-2021 13:53
Instrument: gcms-n.i
Client Sample ID:

Compound: 2,4,5-Trichlorophenol
CAS Number: 95-95-4

BEFORE MANUAL INTEGRATION



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Injection Date: 06-JAN-2021 13:53
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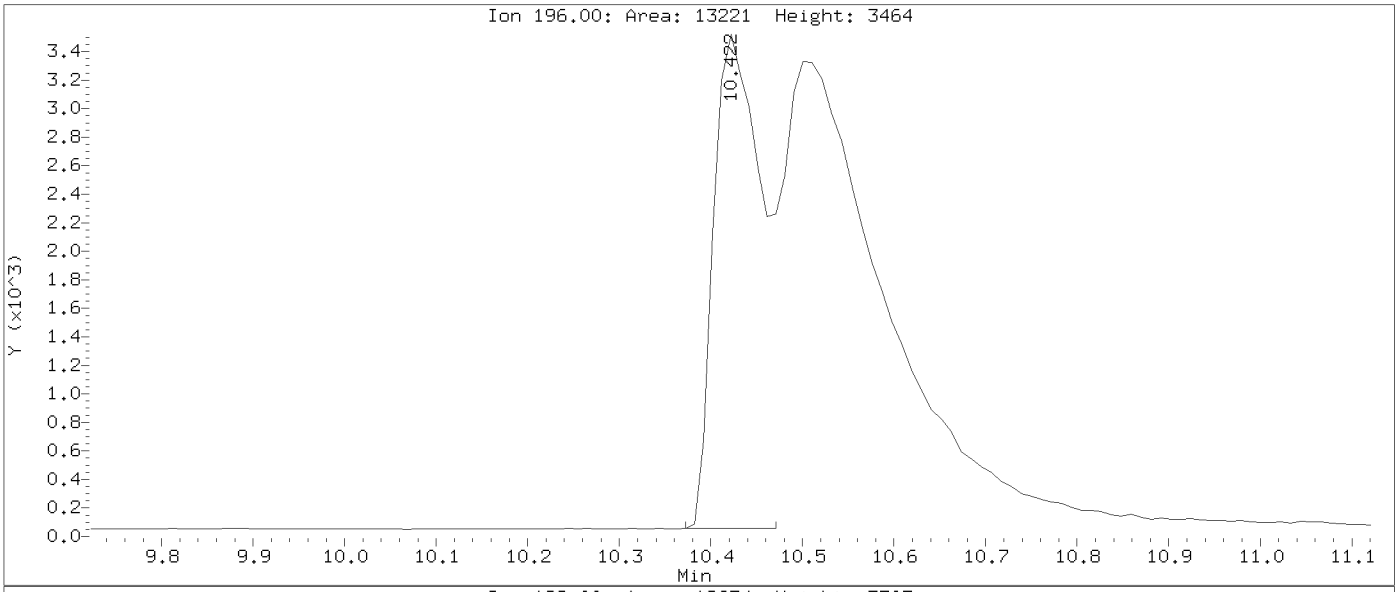
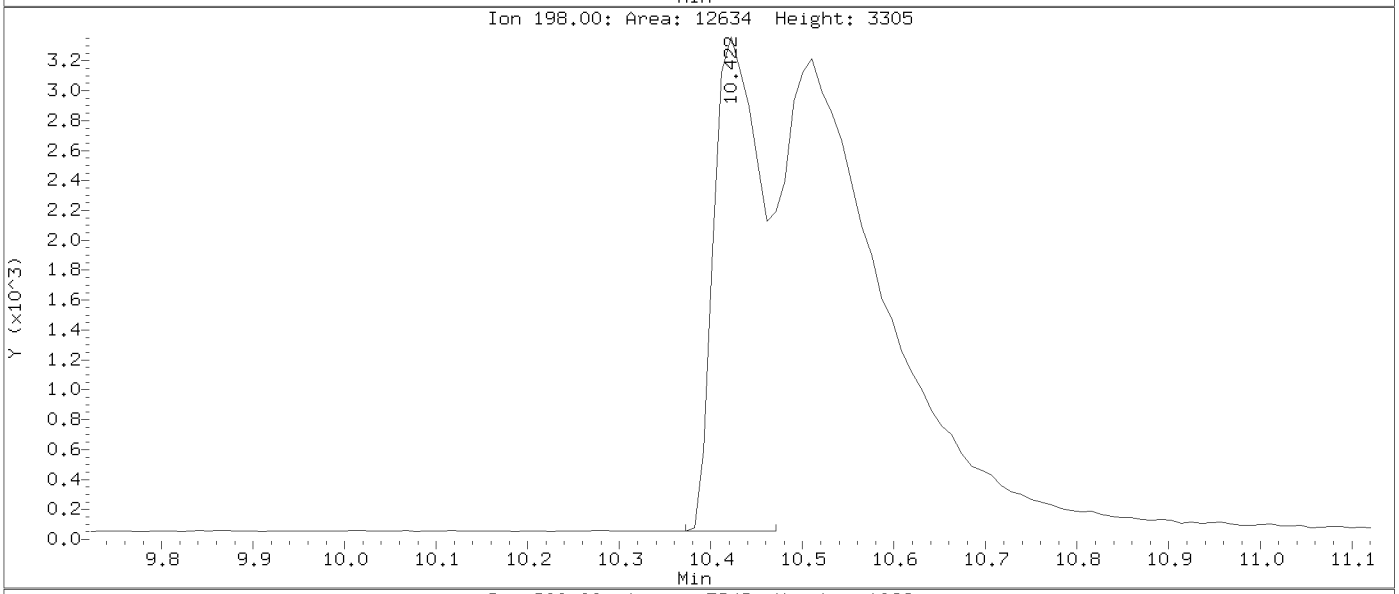
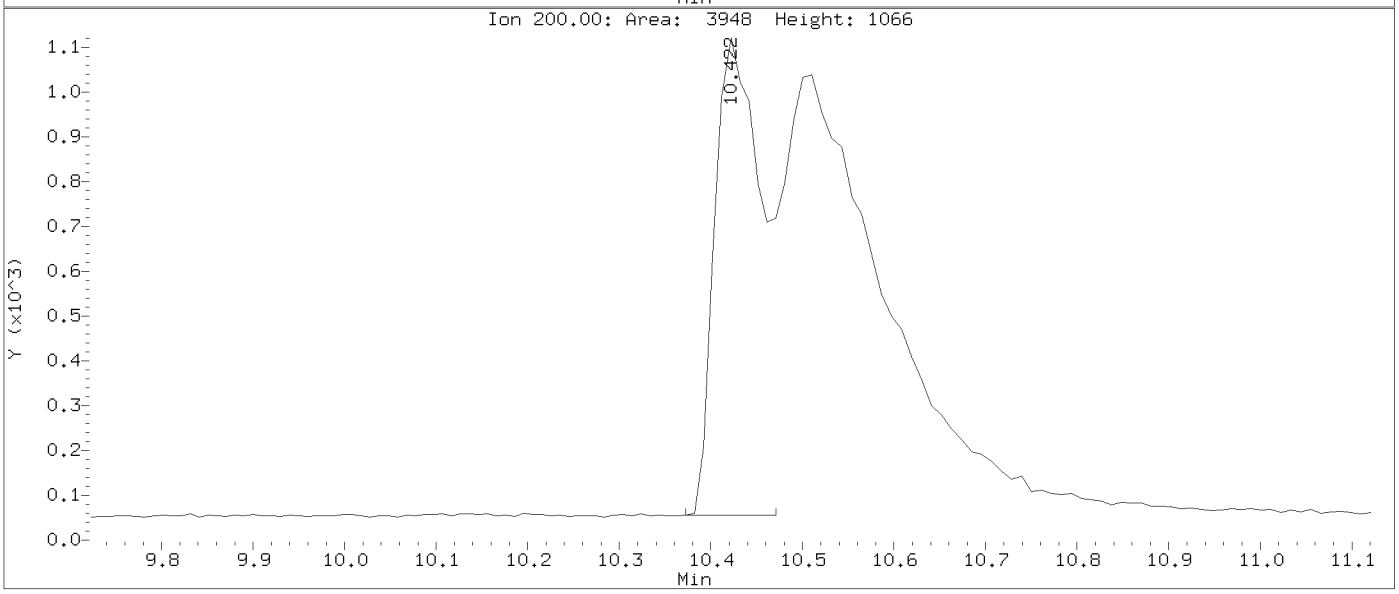
Client Sample ID:

Compound: 2,4,5-Trichlorophenol
CAS Number: 95-95-4

AFTER MANUAL INTEGRATION



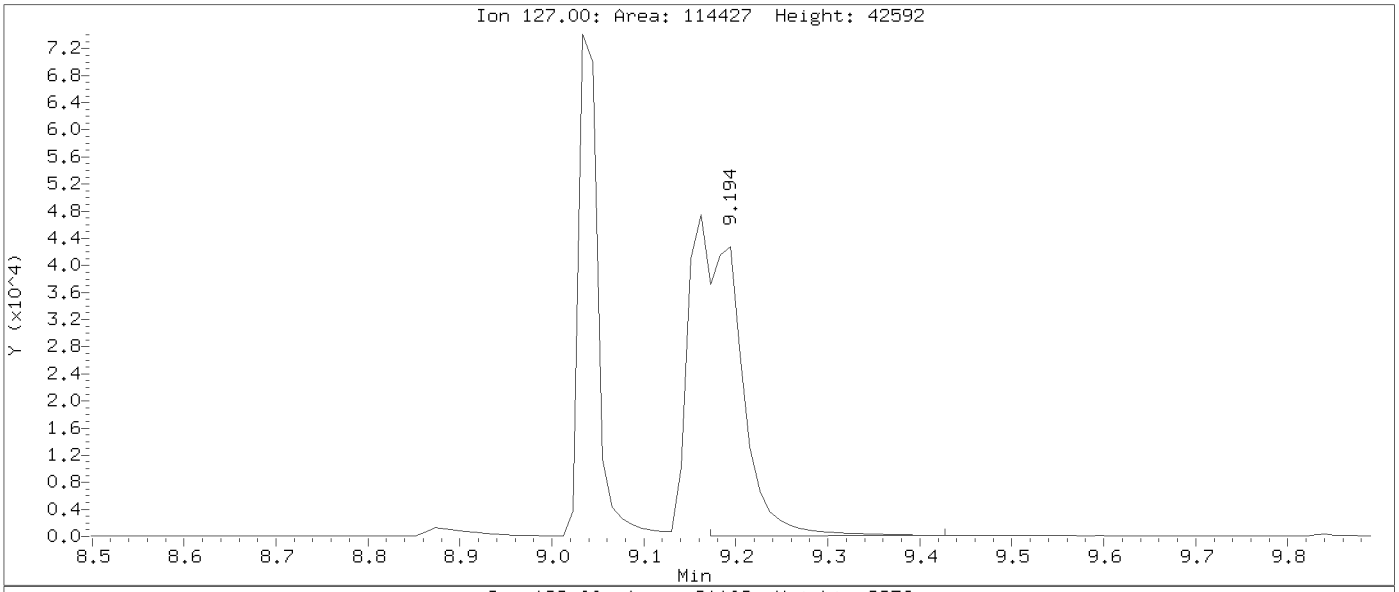


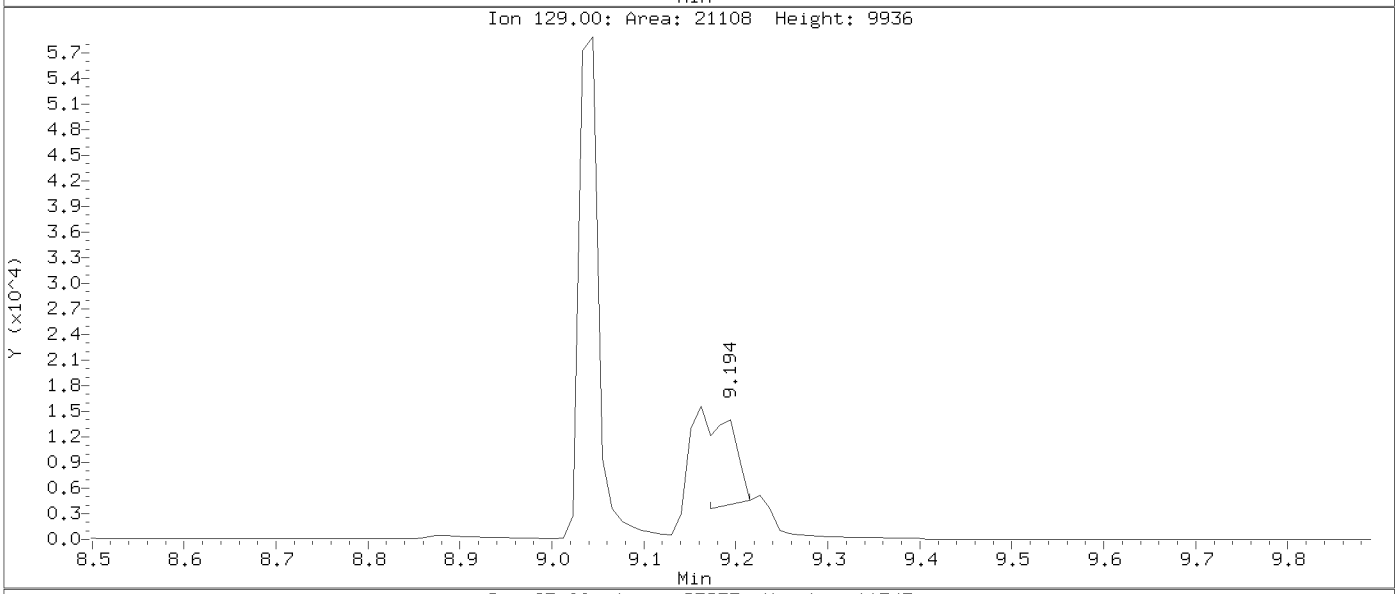


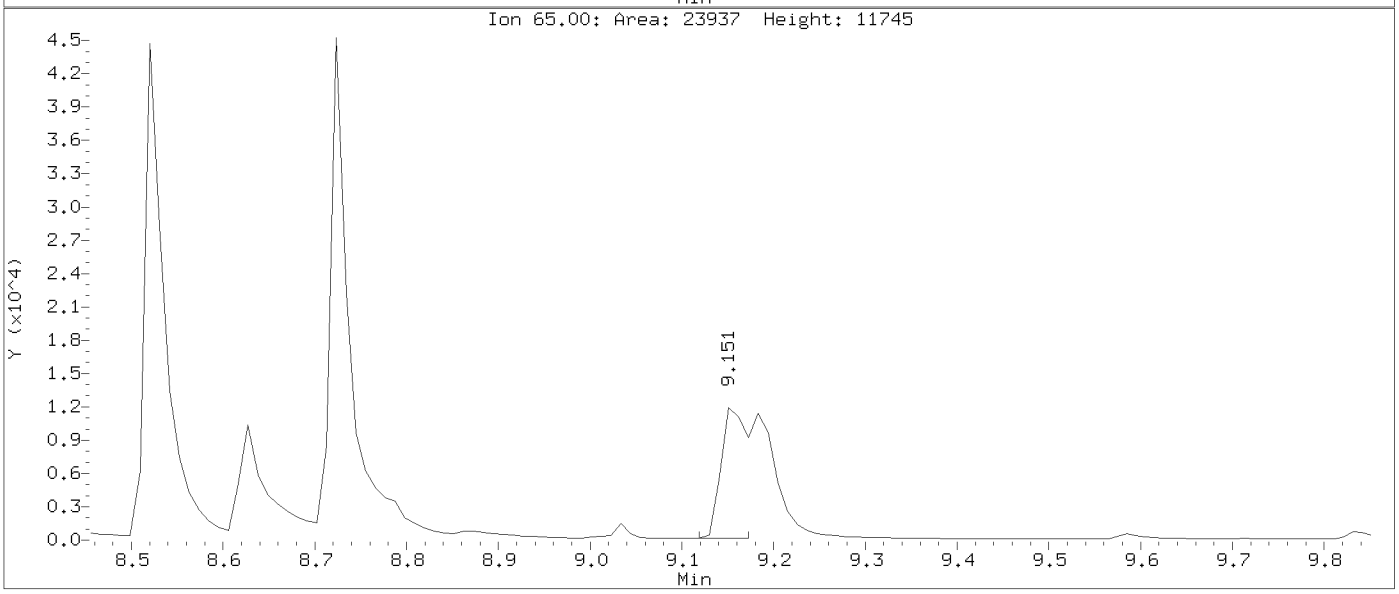
Data File: \\Target_server\gg\chem\gcms-n.i\N010621.b\N1242.D
Injection Date: 06-JAN-2021 14:58
Instrument: gcms-n.i
Client Sample ID:

Compound: 4-Chloroaniline
CAS Number: 106-47-8

BEFORE MANUAL INTEGRATION



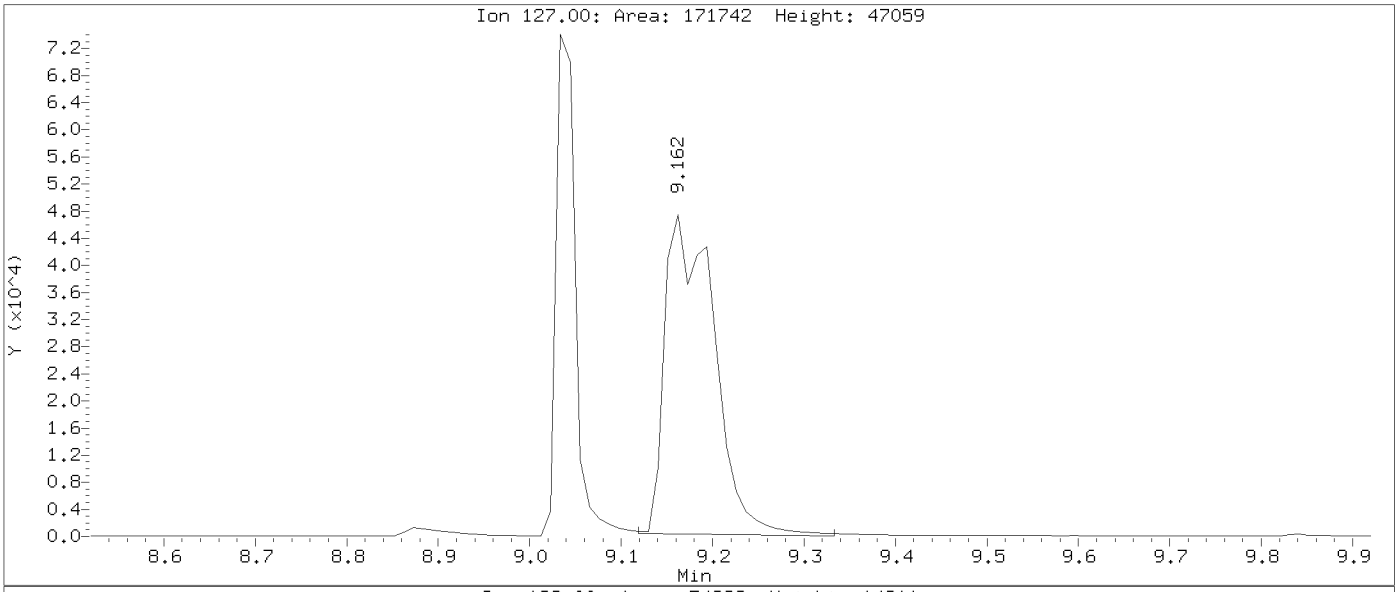


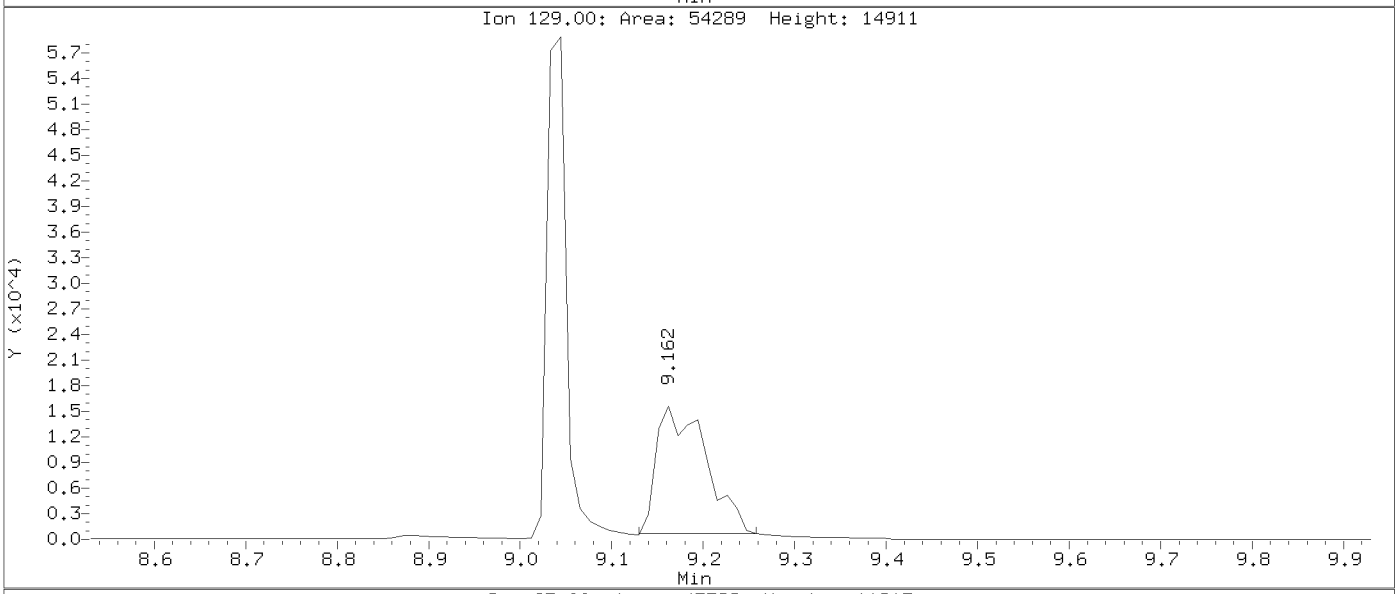


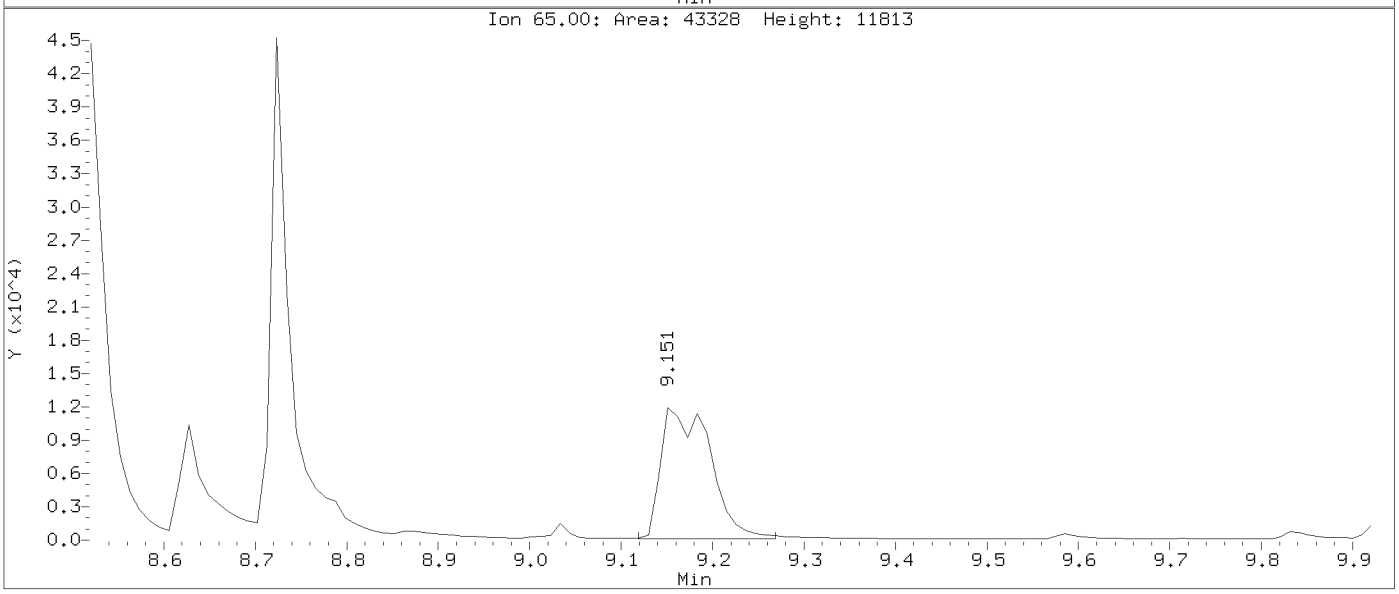
Data File: \\Target_server\gg\chem\gcms-n.i\N010621.b\N1242.D
Injection Date: 06-JAN-2021 14:58
Instrument: gcms-n.i
Client Sample ID:

Compound: 4-Chloroaniline
CAS Number: 106-47-8

AFTER MANUAL INTEGRATION







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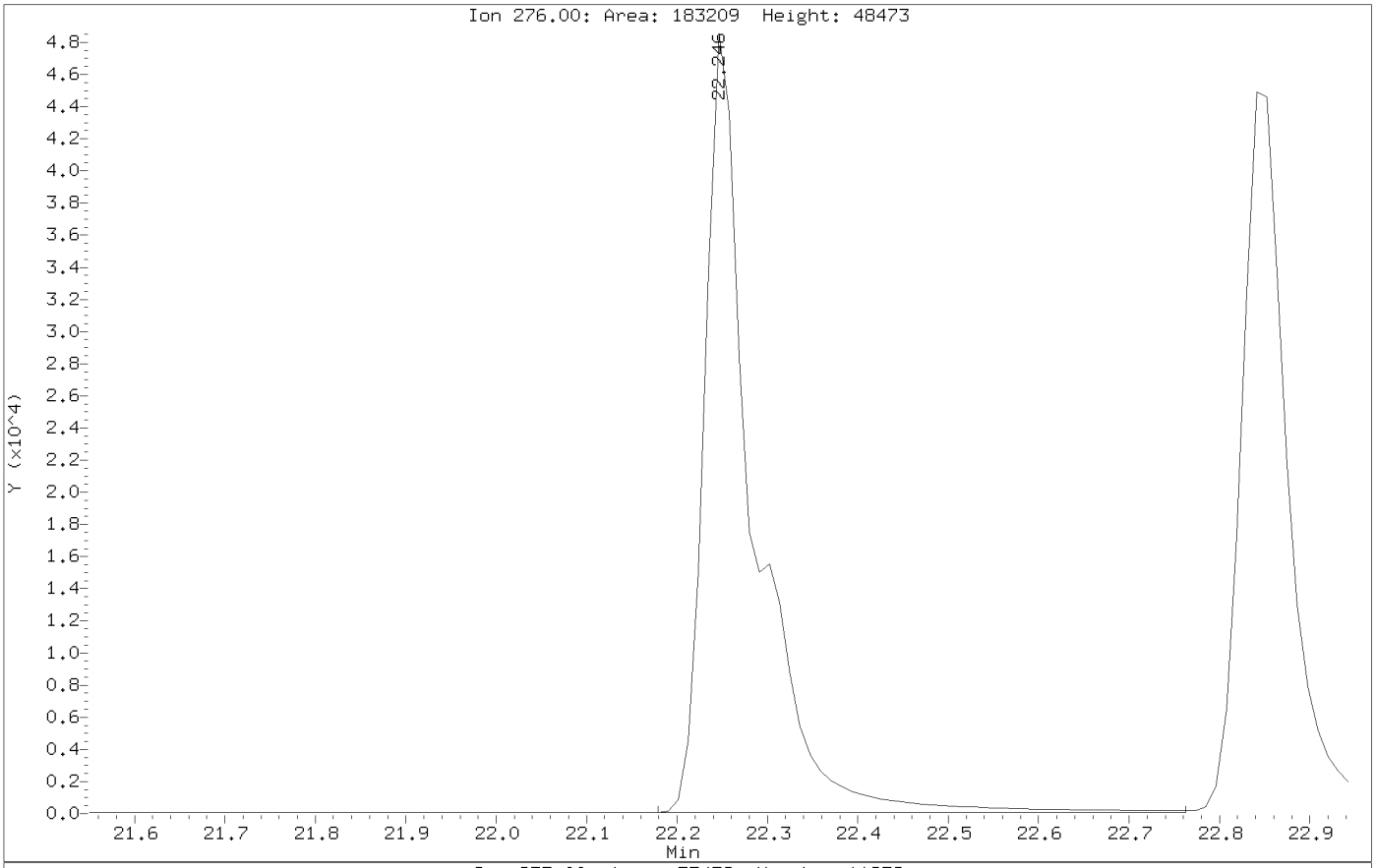
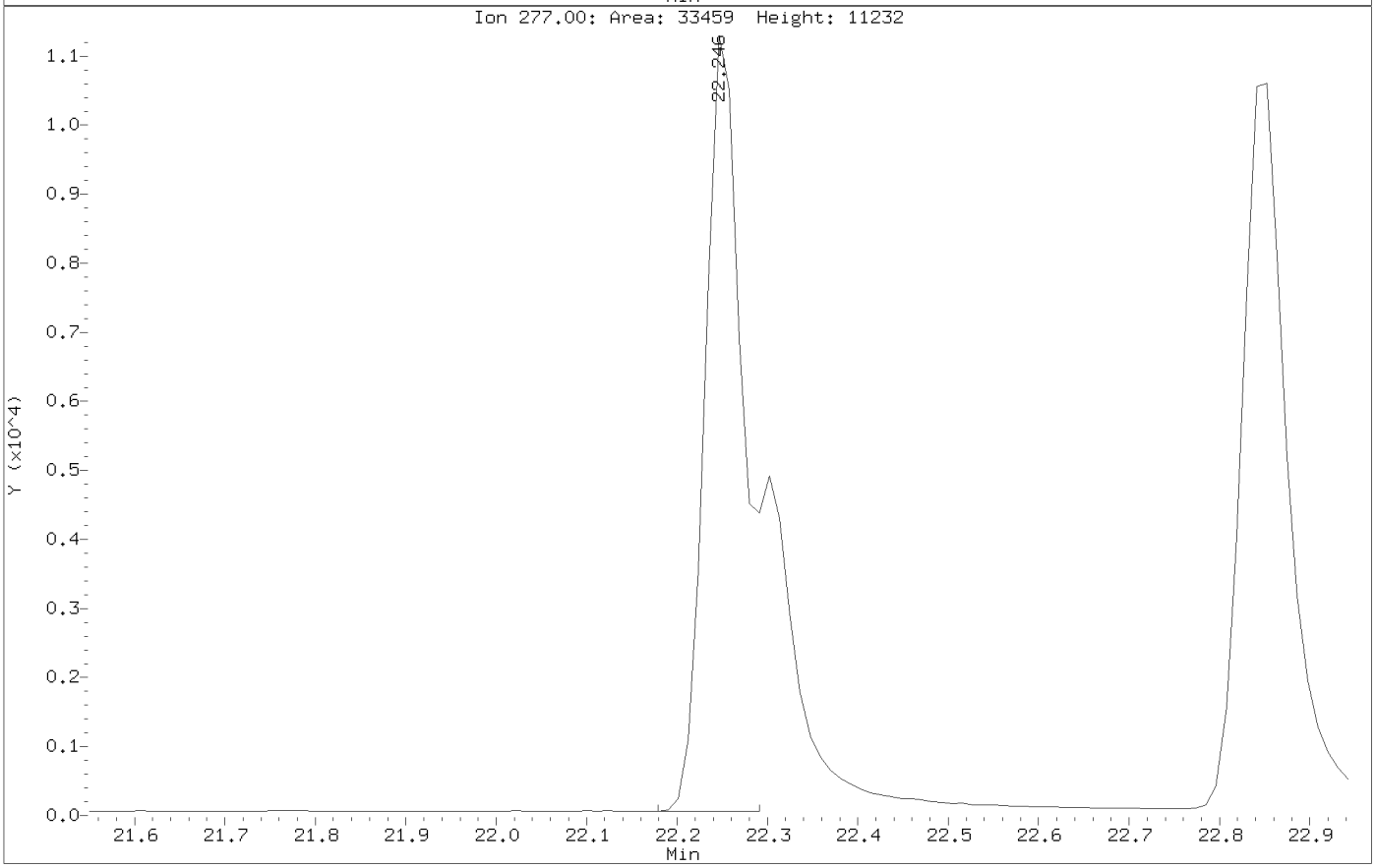
Injection Date: 06-JAN-2021 14:58
Instrument: gcms-n.i
Client Sample ID:

Compound: Indeno(1,2,3-cd)pyrene
CAS Number: 193-39-5

BEFORE MANUAL INTEGRATION

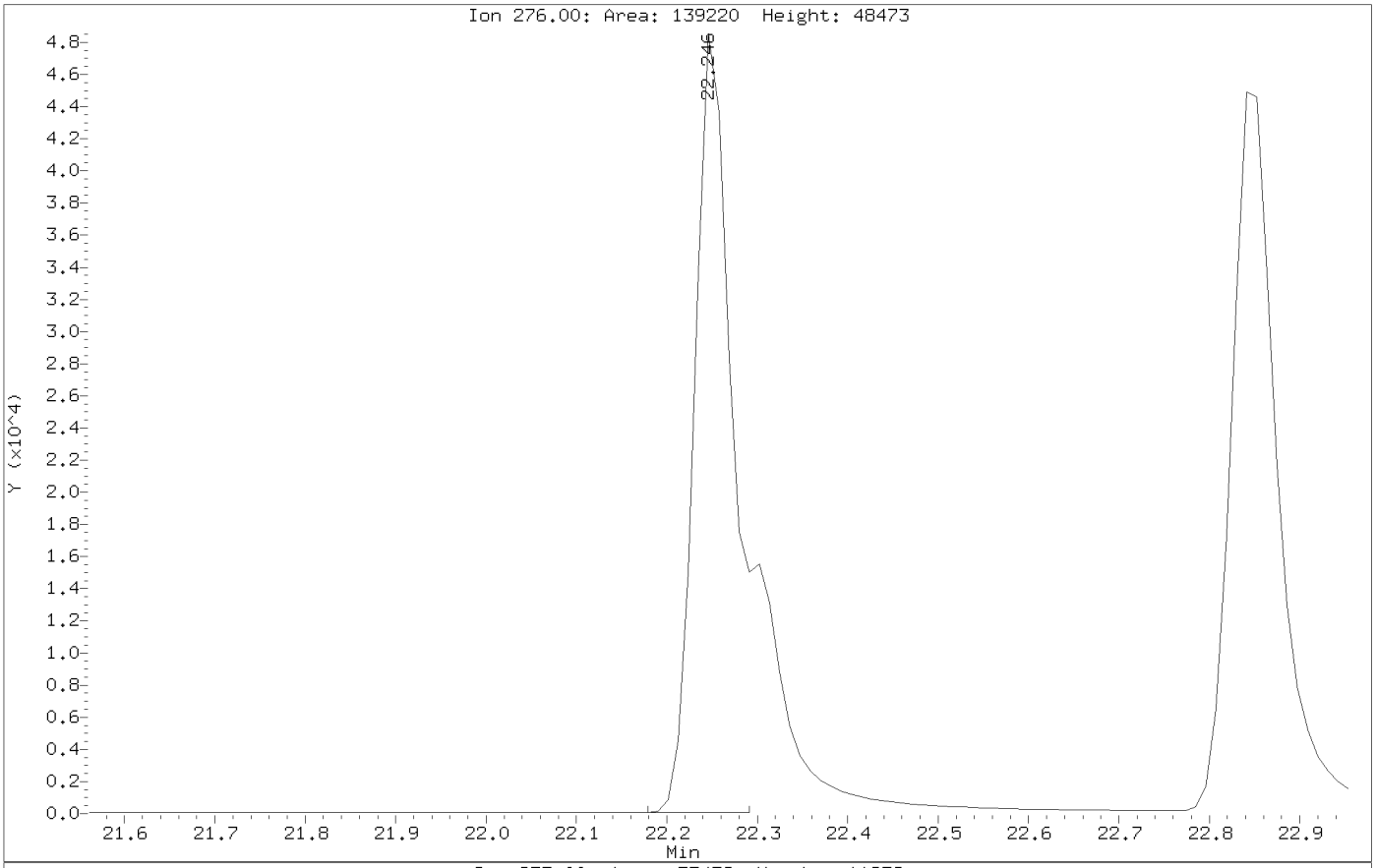


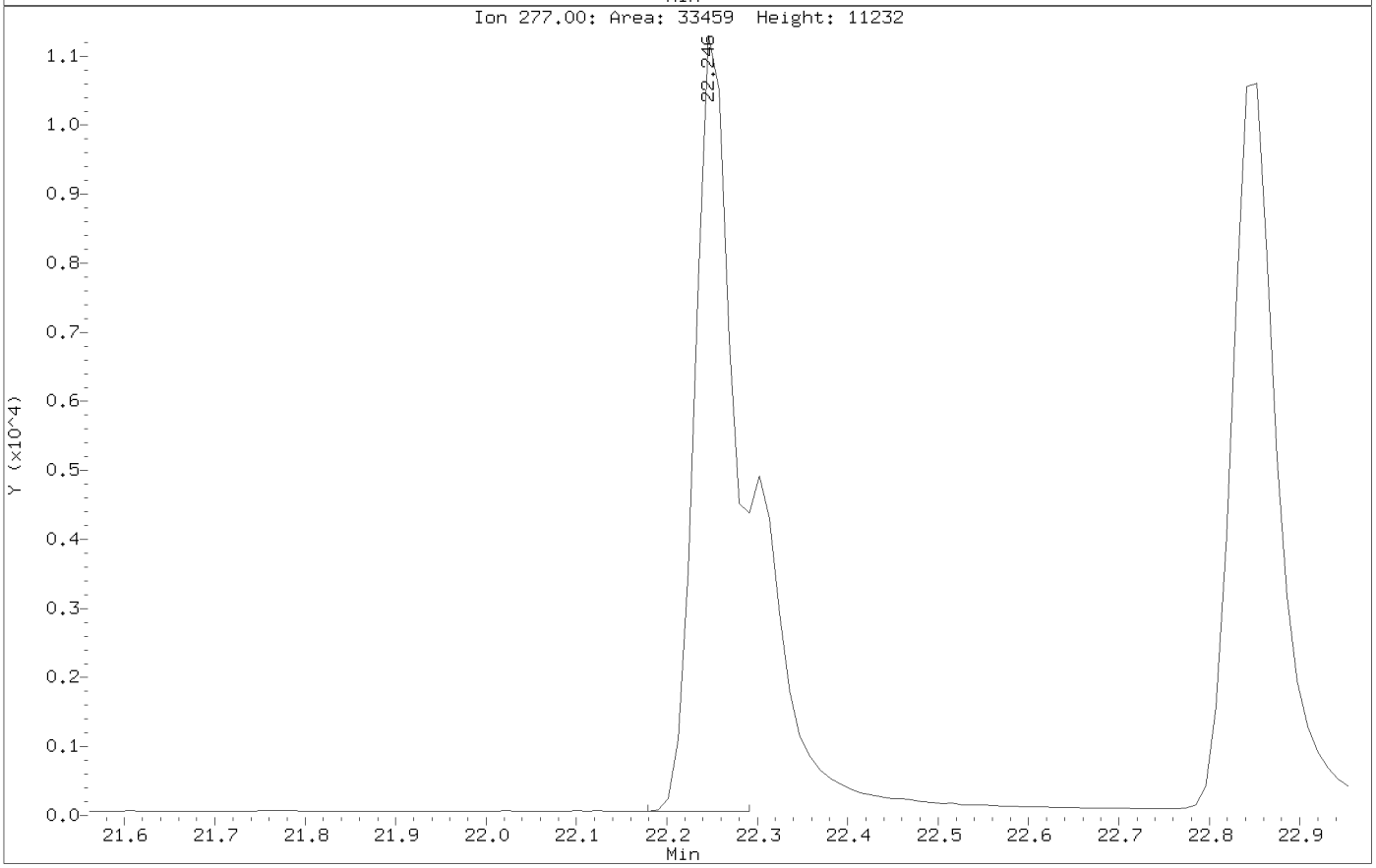


Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1242.D
Injection Date: 06-JAN-2021 14:58
Instrument: gcms-n.i
Client Sample ID:

Compound: Indeno(1,2,3-cd)pyrene
CAS Number: 193-39-5

AFTER MANUAL INTEGRATION

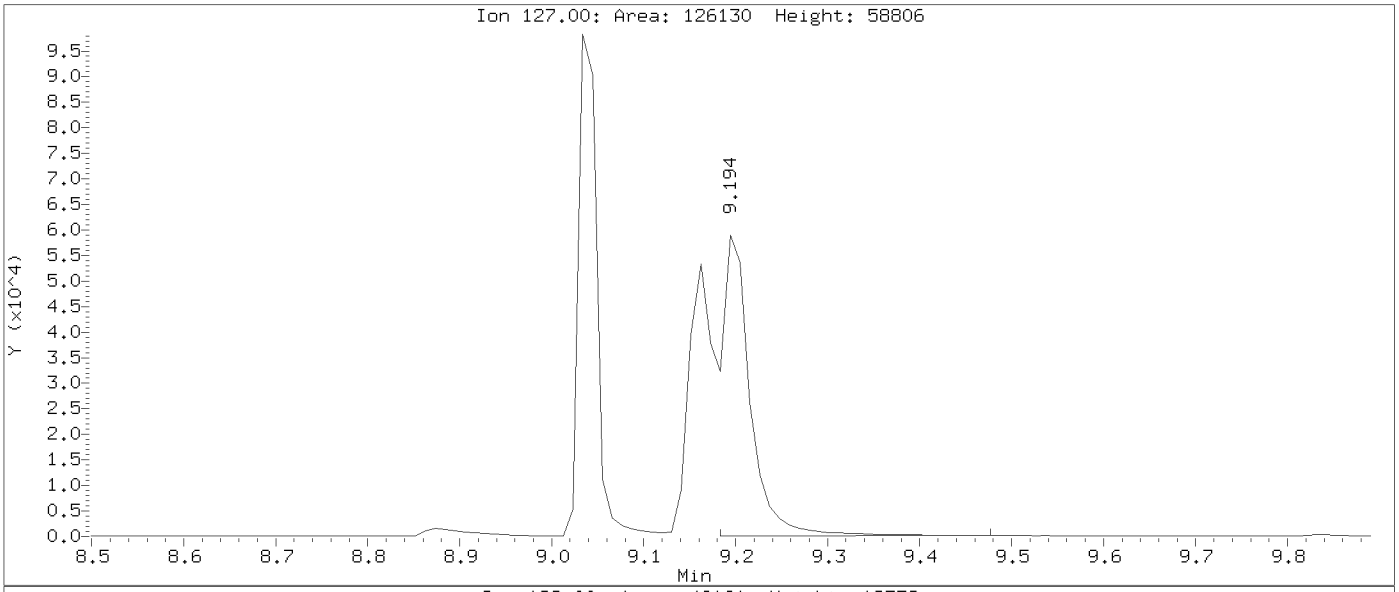


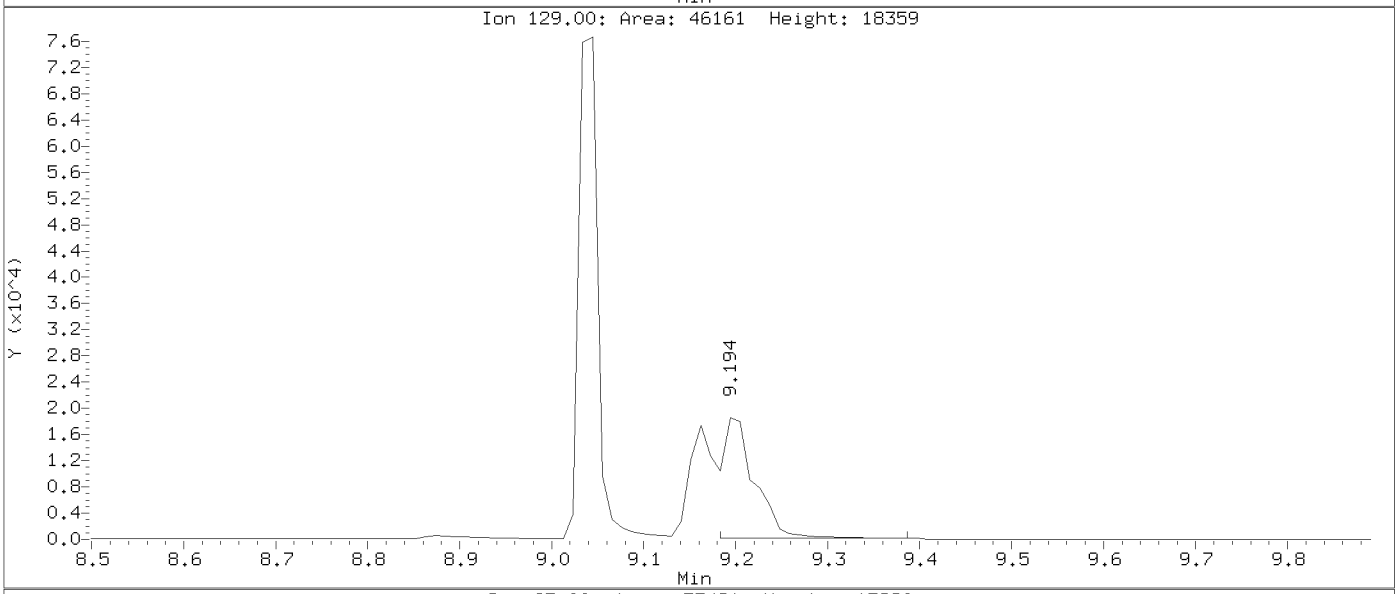


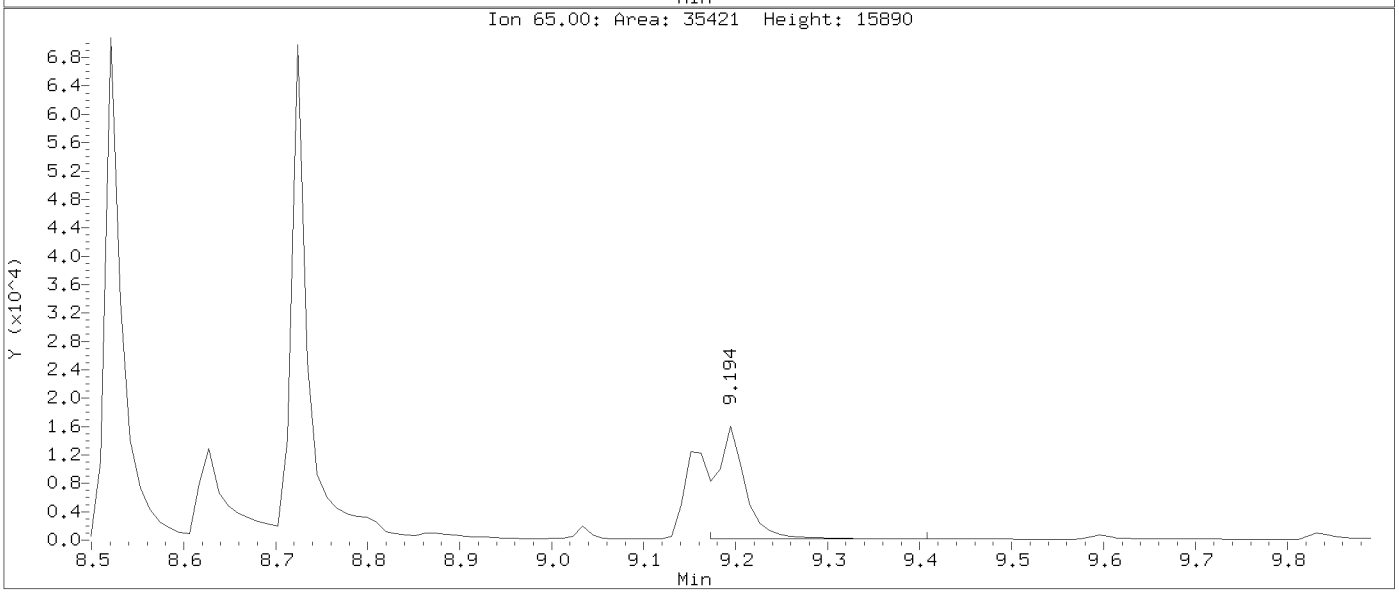
Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1243.D
Injection Date: 06-JAN-2021 15:31
Instrument: gcms-n.i
Client Sample ID:

Compound: 4-Chloroaniline
CAS Number: 106-47-8

BEFORE MANUAL INTEGRATION



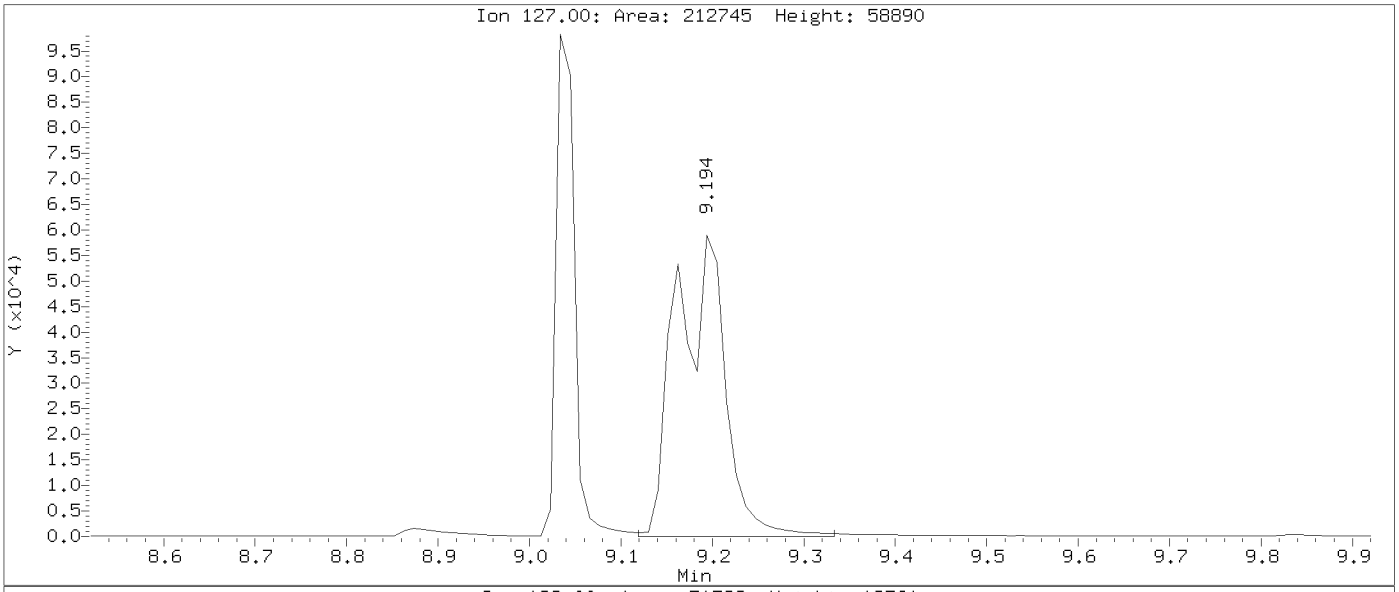


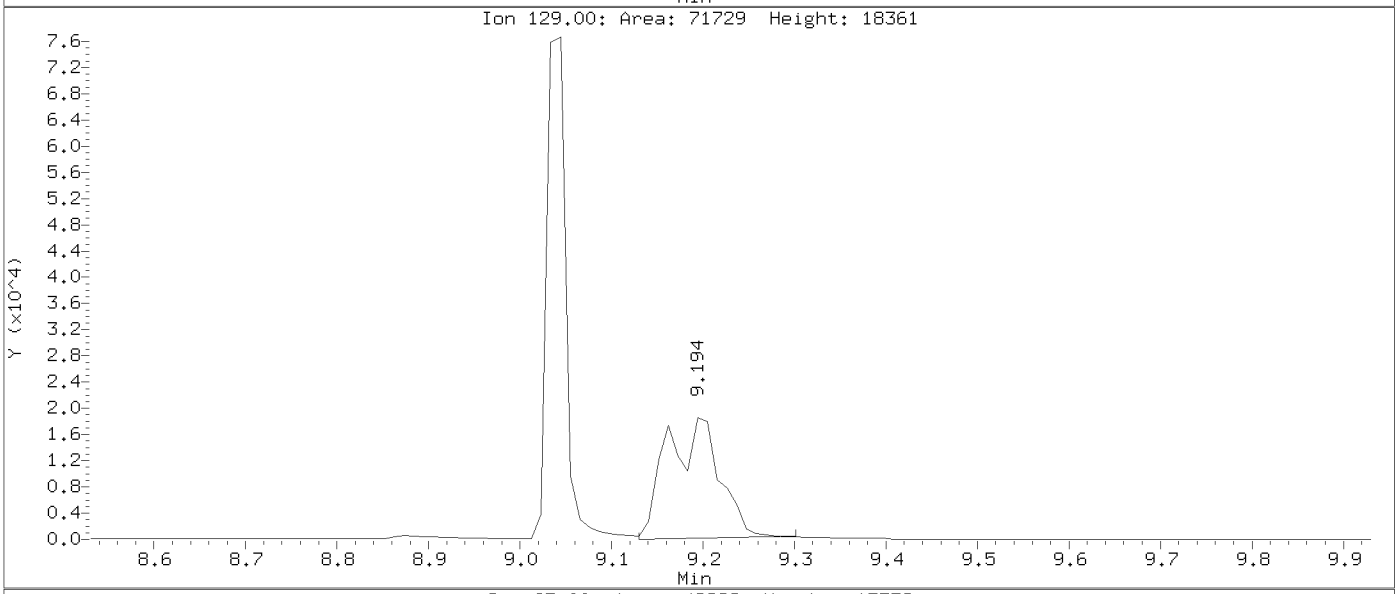


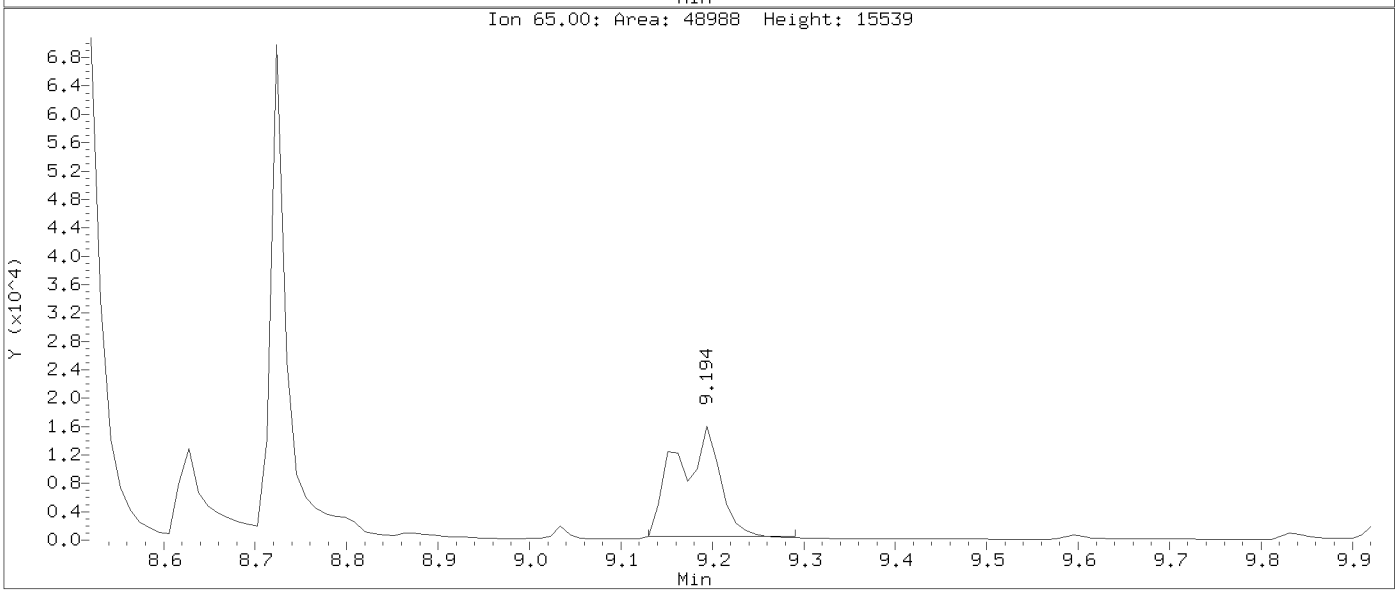
Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1243.D
Injection Date: 06-JAN-2021 15:31
Instrument: gcms-n.i
Client Sample ID:

Compound: 4-Chloroaniline
CAS Number: 106-47-8

AFTER MANUAL INTEGRATION



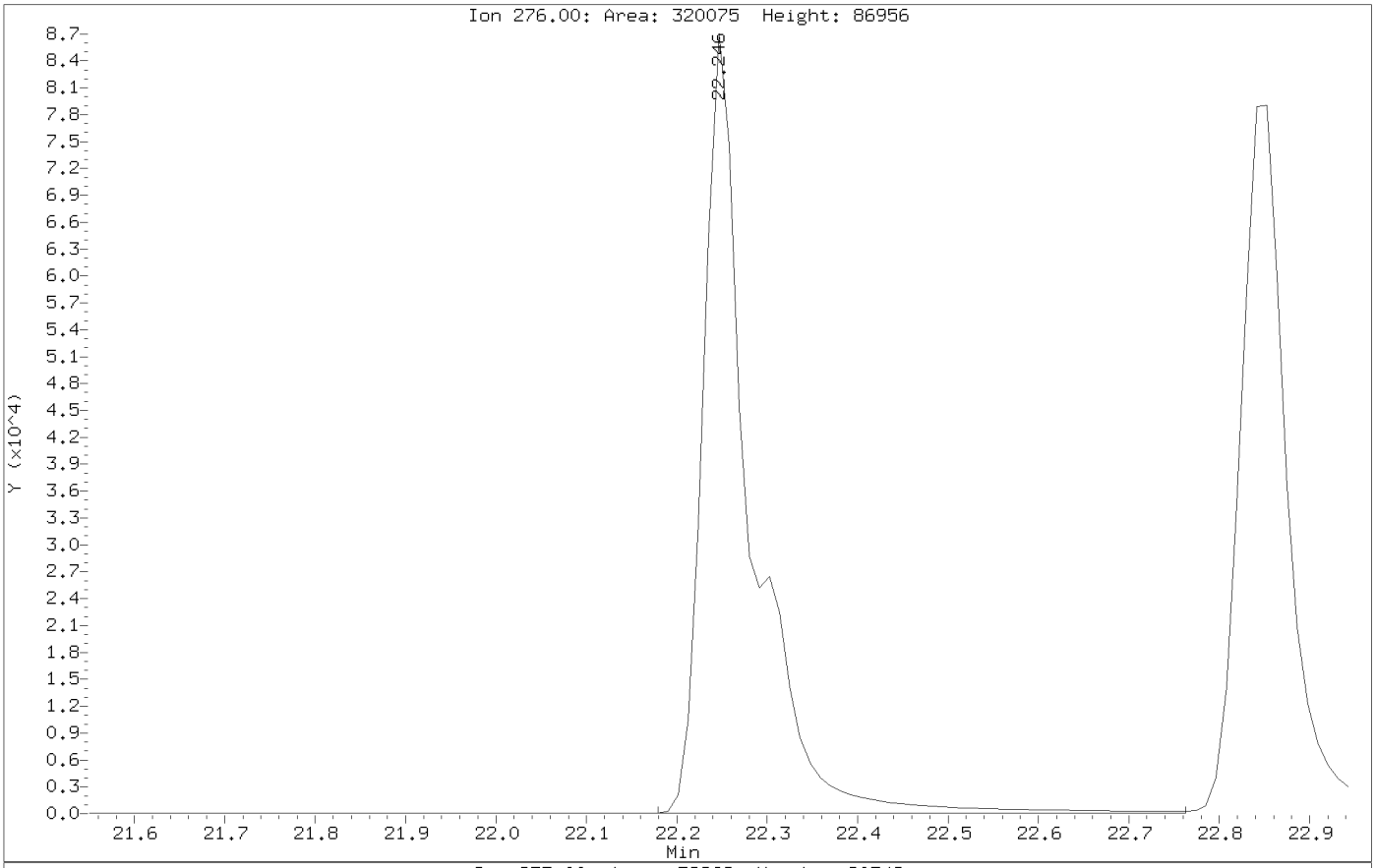


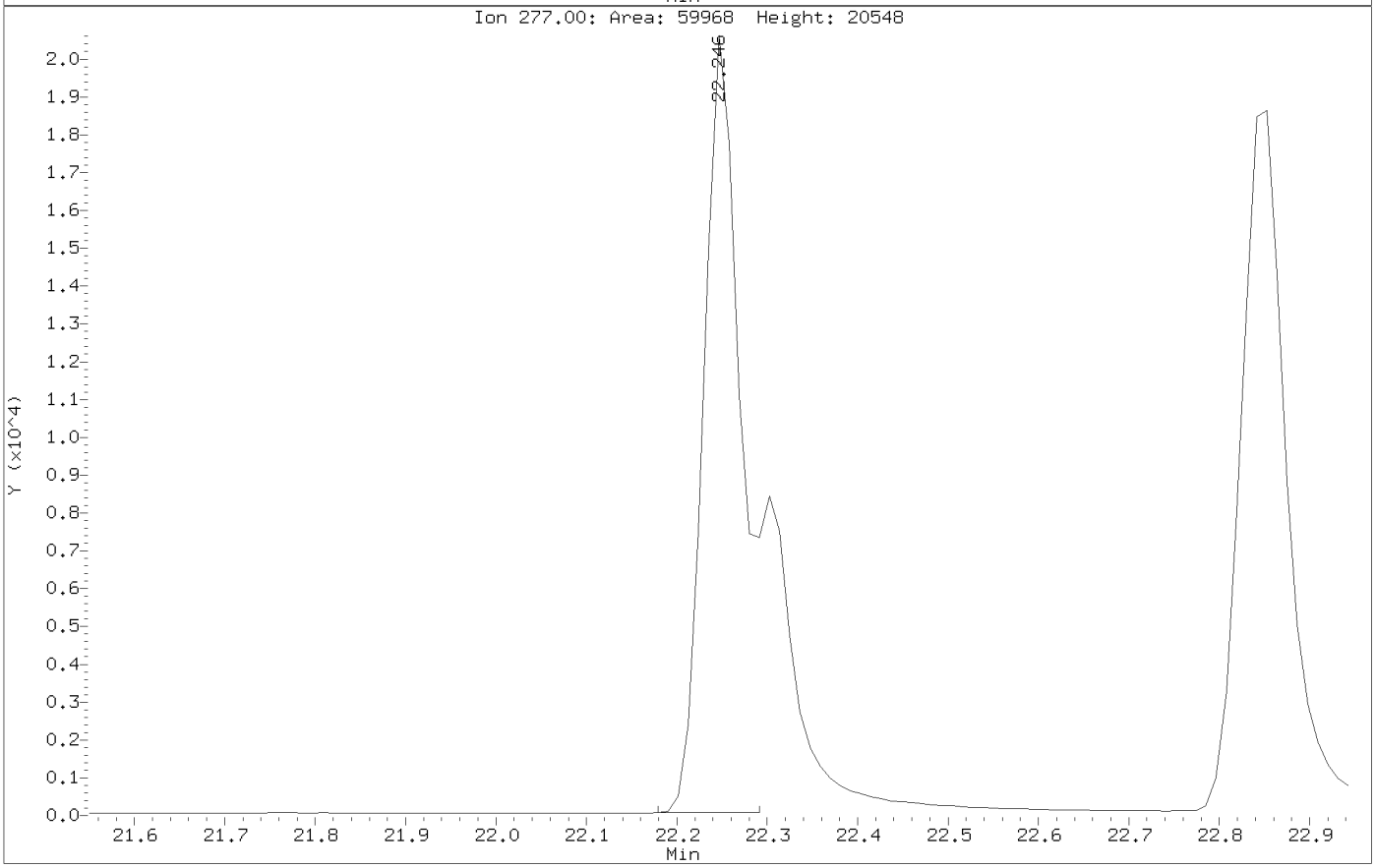


Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1243.D
Injection Date: 06-JAN-2021 15:31
Instrument: gcms-n.i
Client Sample ID:

Compound: Indeno(1,2,3-cd)pyrene
CAS Number: 193-39-5

BEFORE MANUAL INTEGRATION

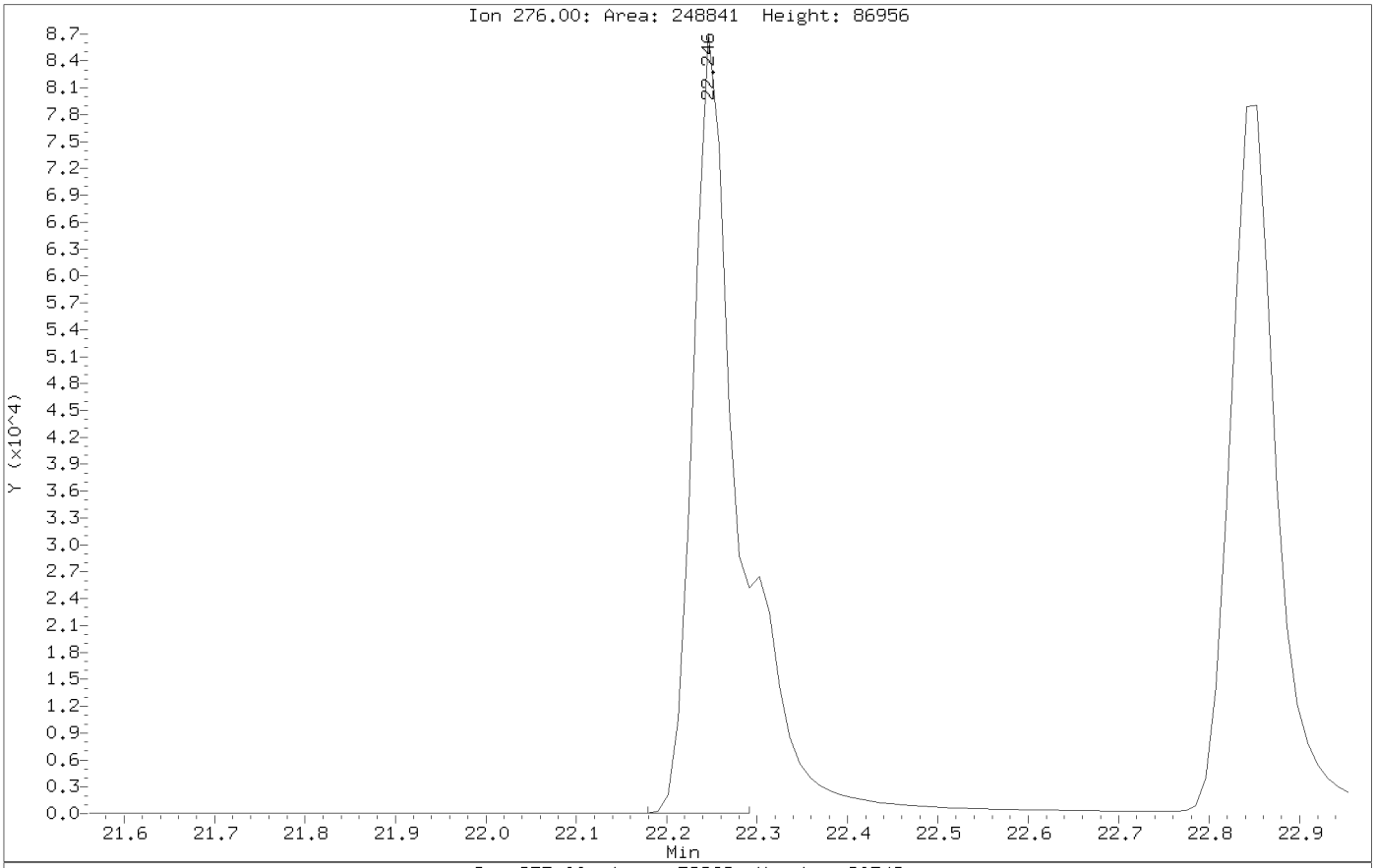


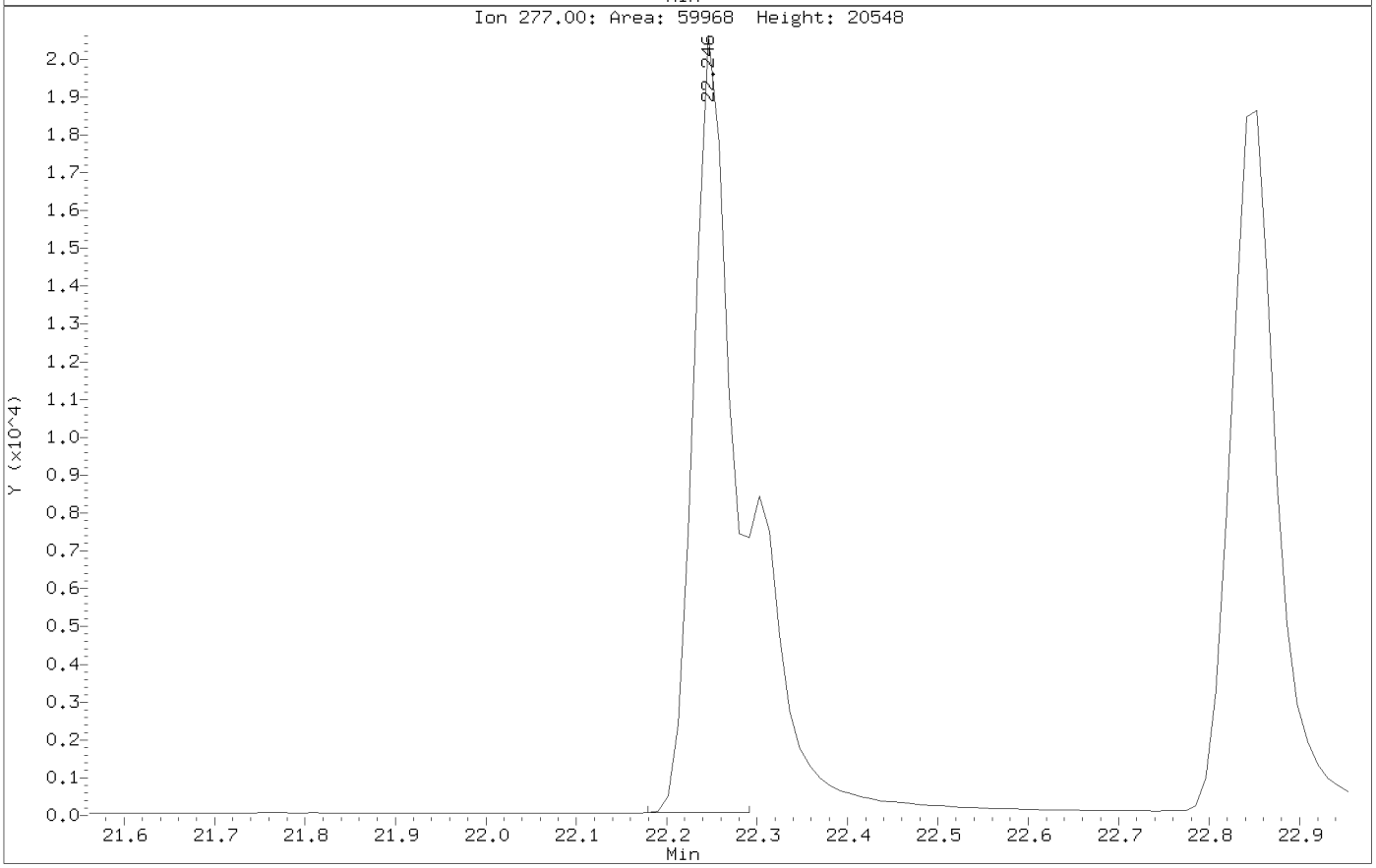


AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1243.D
Injection Date: 06-JAN-2021 15:31
Instrument: gcms-n.i
Client Sample ID:

Compound: Indeno(1,2,3-cd)pyrene
CAS Number: 193-39-5

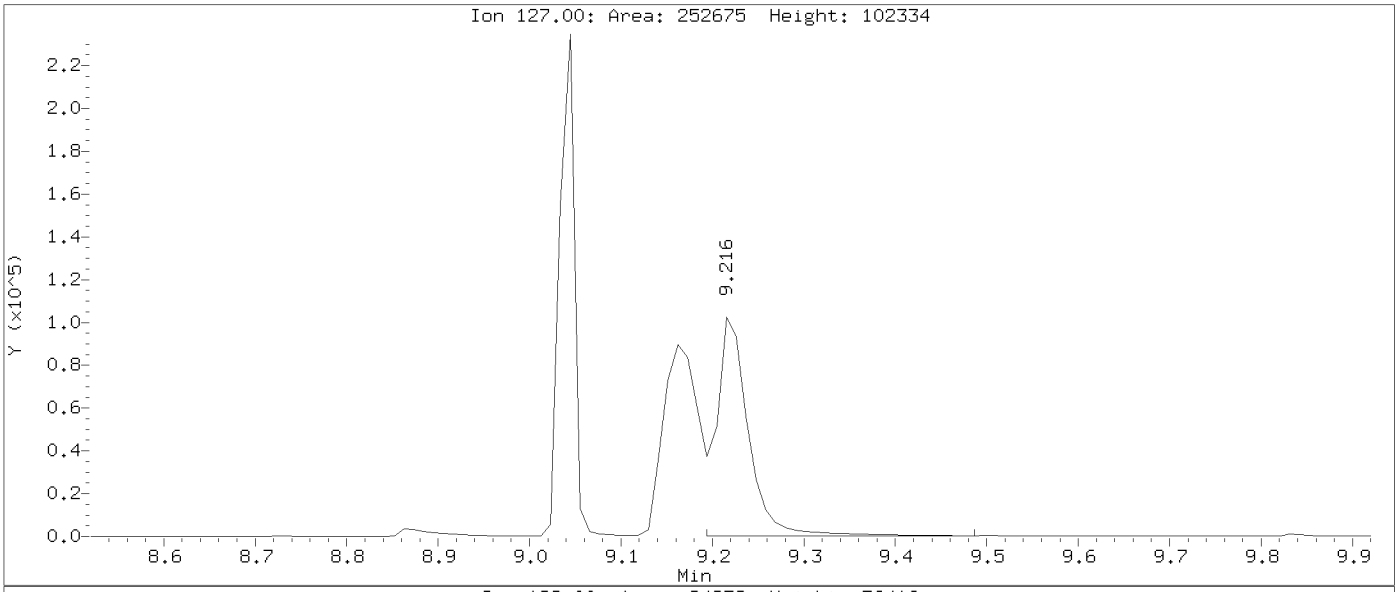


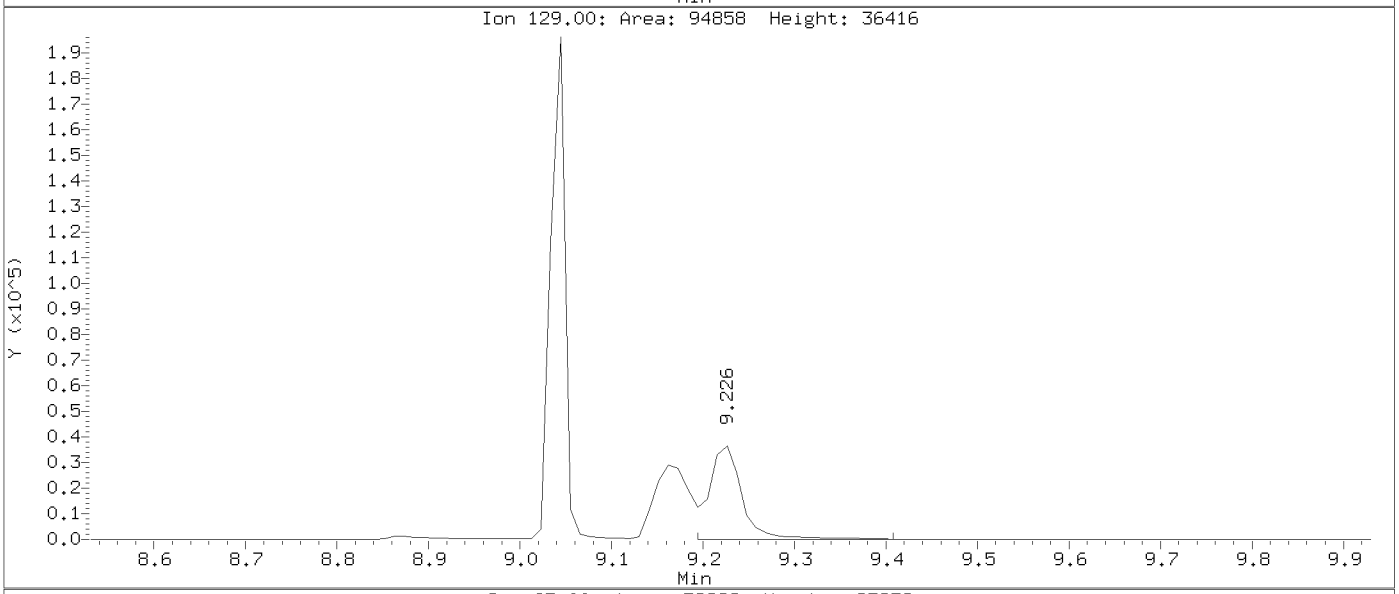


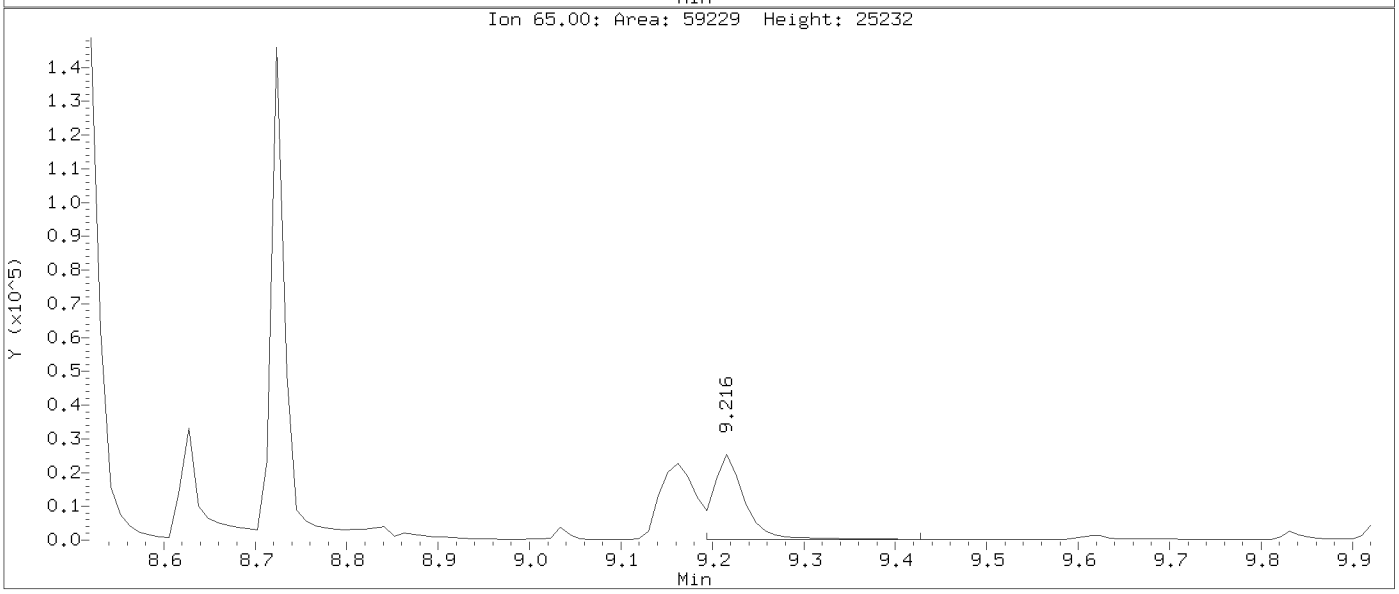
Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1244.D
Injection Date: 06-JAN-2021 16:03
Instrument: gcms-n.i
Client Sample ID:

Compound: 4-Chloroaniline
CAS Number: 106-47-8

BEFORE MANUAL INTEGRATION



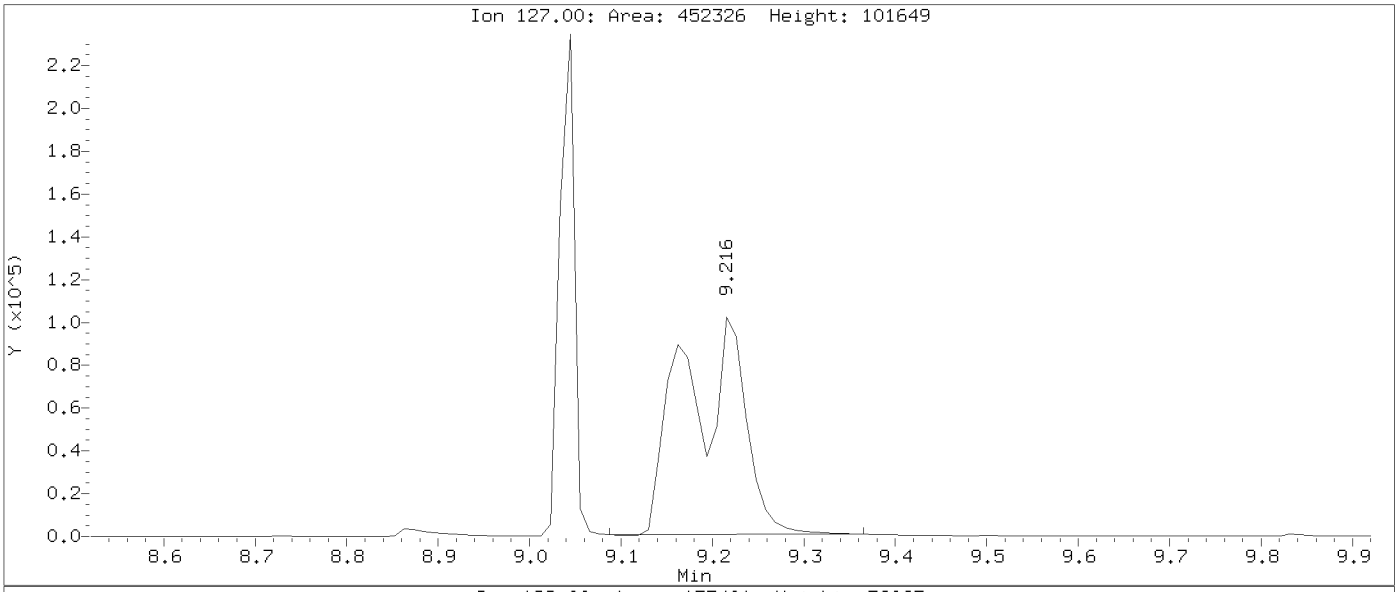


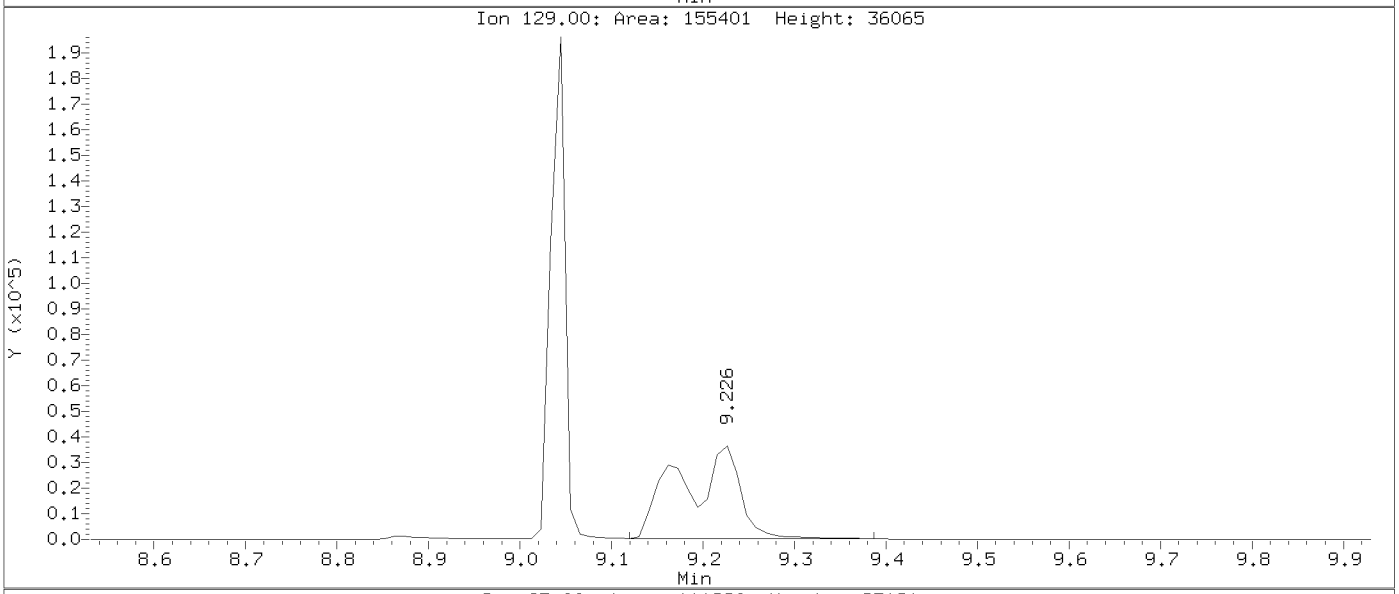


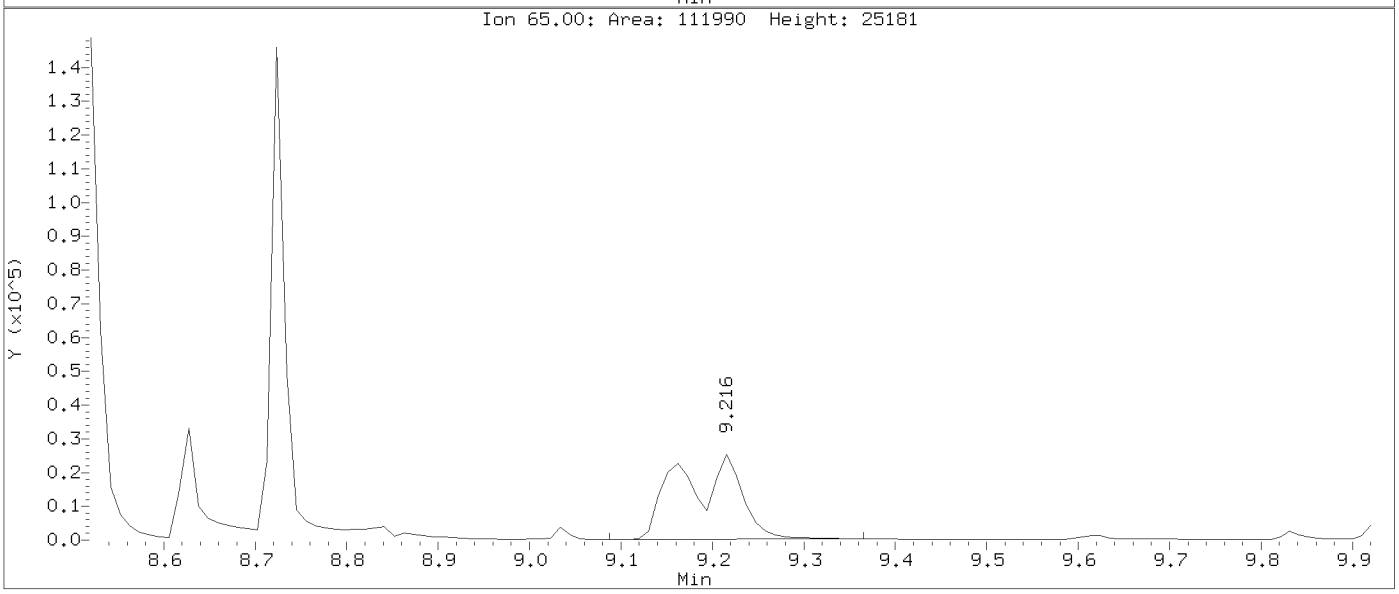
Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1244.D
Injection Date: 06-JAN-2021 16:03
Instrument: gcms-n.i
Client Sample ID:

Compound: 4-Chloroaniline
CAS Number: 106-47-8

AFTER MANUAL INTEGRATION







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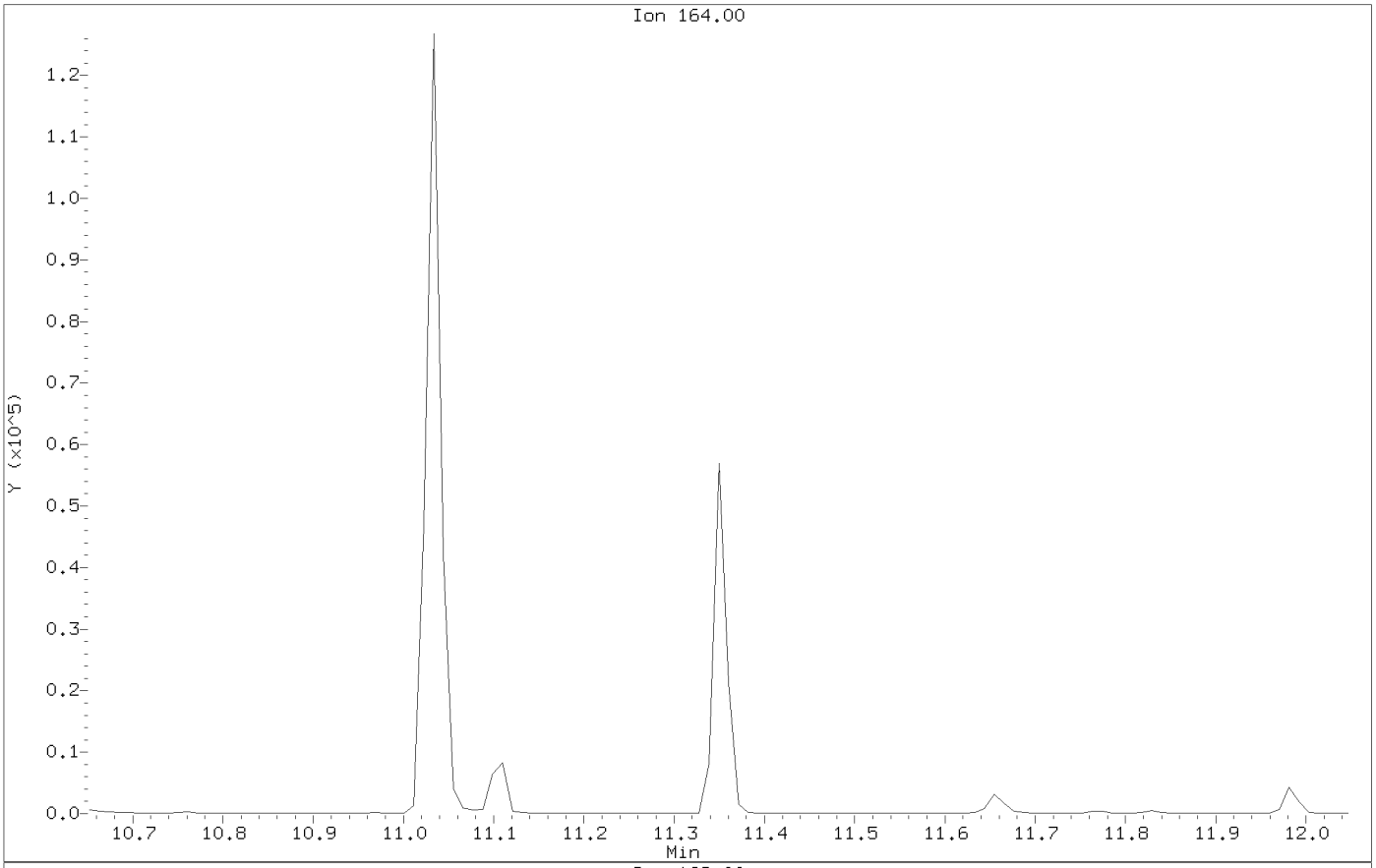
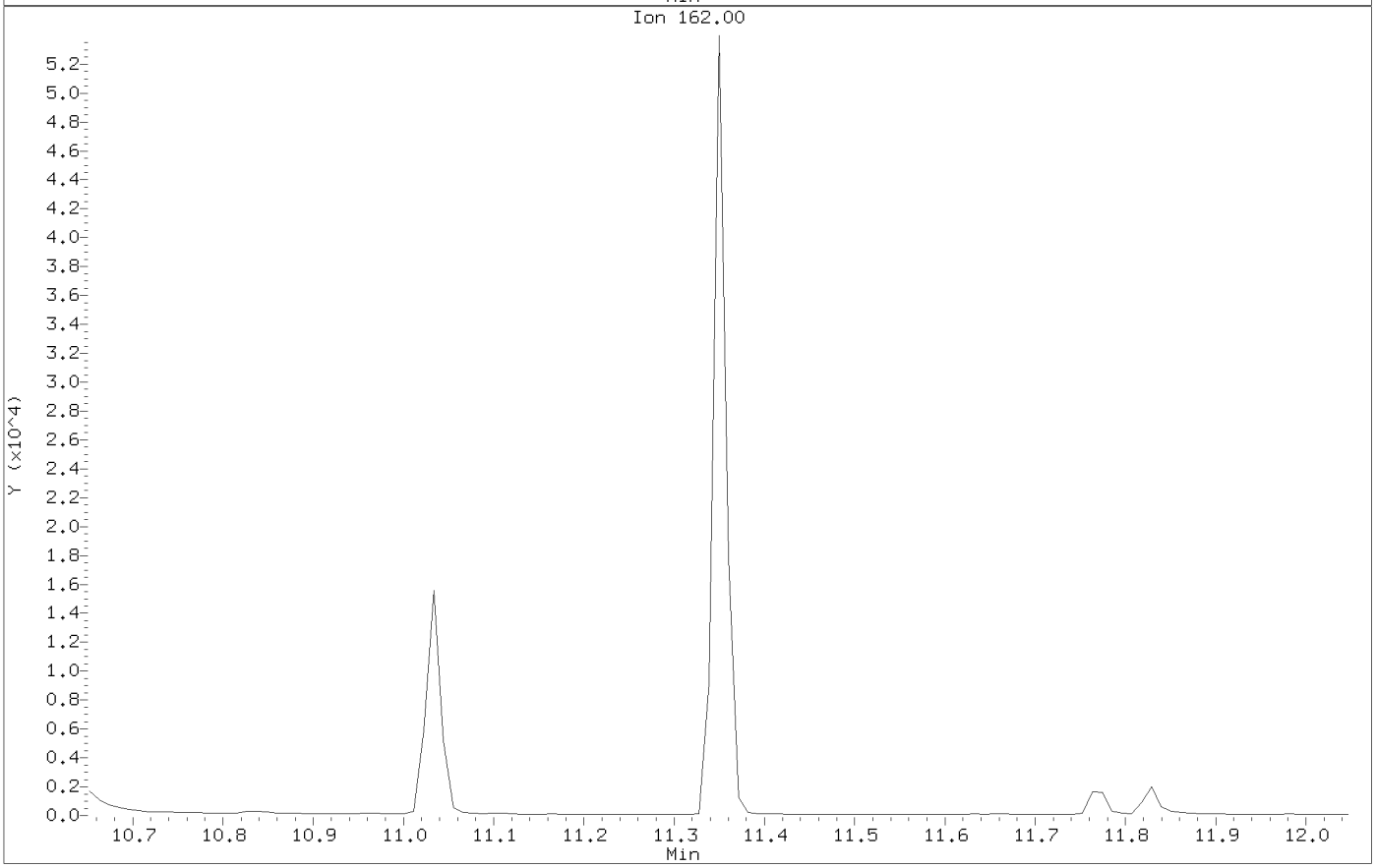
Injection Date: 06-JAN-2021 16:03
Instrument: gcms-n.i
Client Sample ID:

Compound: Acenaphthene-D10
CAS Number: 15067-26-2

BEFORE MANUAL INTEGRATION

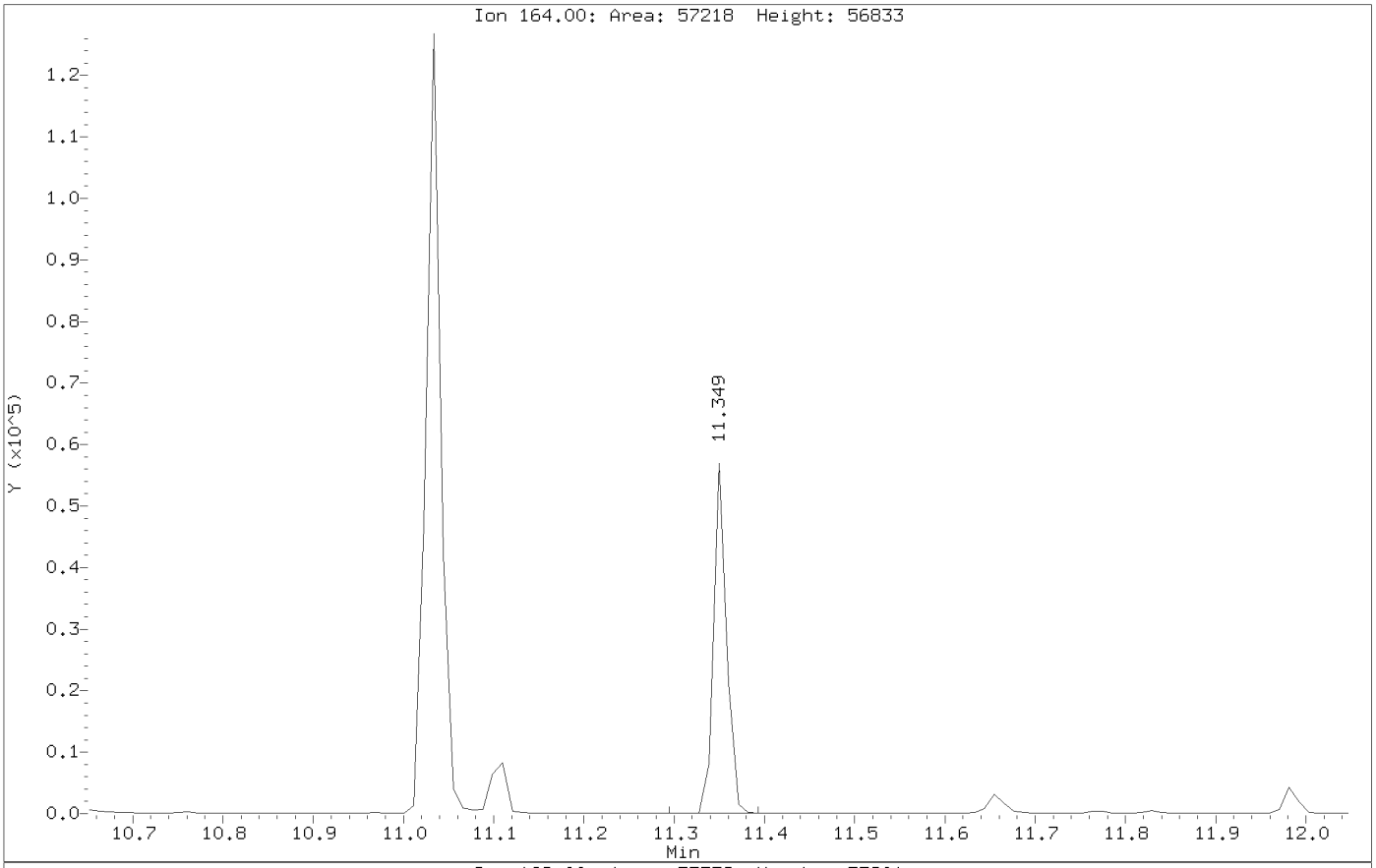


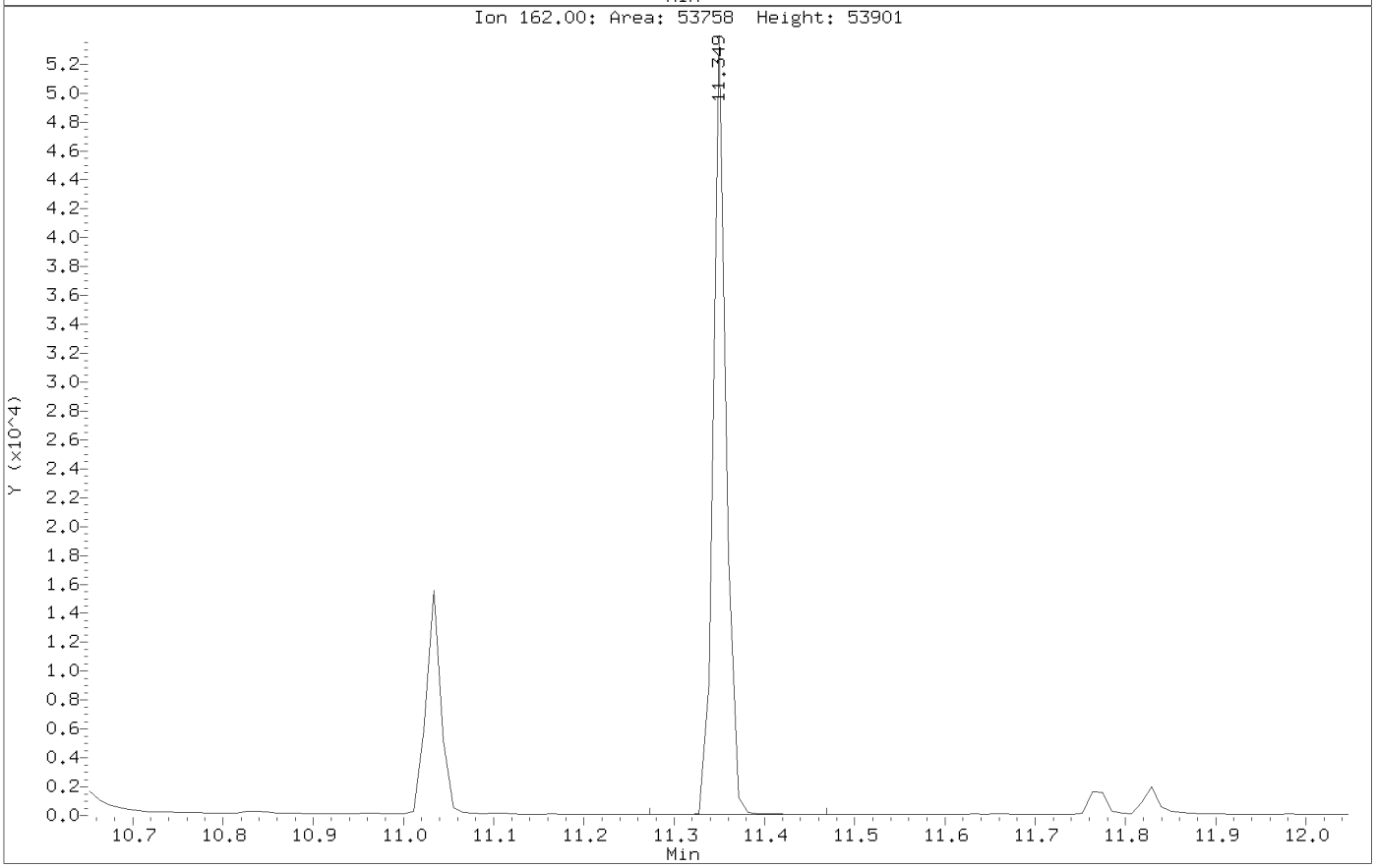


Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\N1244.D
Injection Date: 06-JAN-2021 16:03
Instrument: gcms-n.i
Client Sample ID:

Compound: Acenaphthene-D10
CAS Number: 15067-26-2

AFTER MANUAL INTEGRATION





Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** TN0377
Project : LO-58 Nike Missile Battery Launch Site **Instrument ID:** GCMS-N
Lab File IDs : N1312.D N1313.D N1311.D N1314.D N1315.D N1316.D **Column ID:**
Calibration Date(s): 11-JAN-21 11:09 11-JAN-21 13:52

	0.200000(Level 1	0.500000(Level 2	2.0000 Level 3	7.0000 Level 4	10.0000 Level 5	15.0000 Level 6	New Crv	b	m1	m2	%RSD	Max %RSD	
Naphthalene	1.35185	1.25256	1.04361	1.07371	1.04562	1.02540	AVG		1.13212		12.04042	15.00000	O
2-Methylnaphthalene	0.89811	0.83190	0.73534	0.71989	0.70493	0.68977	AVG		0.76332		10.86004	15.00000	O
1-Methylnaphthalene	15882	33975	116726	391707	573367	898240	LNR	0.000e+00	0.63879		0.99947	0.99000	O
Acenaphthylene	1.83038	1.91246	1.91889	2.02157	1.95908	1.86067	AVG		1.91717		3.56875	15.00000	O
Acenaphthene	1.24349	1.29491	1.22962	1.26639	1.24822	1.17308	AVG		1.24262		3.28582	15.00000	O
Fluorene	1.22880	1.30706	1.20703	1.29208	1.28712	1.21346	AVG		1.25593		3.52944	15.00000	O
Phenanthrene	1.05764	1.08097	1.08989	1.12306	1.13968	1.08588	AVG		1.09619		2.72981	15.00000	O
Anthracene	16003	36178	125390	474490	726267	1124534	LNR	0.000e+00	1.12093		0.99863	0.99000	O
Fluoranthene	1.02069	0.99898	0.94174	0.93358	0.97457	1.00063	AVG		0.97836		3.56223	15.00000	O
Pyrene	10502	28828	102549	377799	614613	1032176	LNR	0.000e+00	2.12230		0.99663	0.99000	O
Benzo(a)anthracene	1.38162	1.15371	1.12130	1.28654	1.15361	1.25829	AVG		1.22585		8.18644	15.00000	O
Chrysene	6700	17677	65068	239299	360721	675917	QUA	0.000e+00	0.75482	-0.00059	0.99348	0.99000	O
Benzo(b)fluoranthene	1.29589	1.30254	1.23844	1.38729	1.43966	1.29632	AVG		1.32669		5.50569	15.00000	O
Benzo(k)fluoranthene	2.10124	1.89376	1.64948	1.63611	1.62251	1.63846	AVG		1.75693		11.25533	15.00000	O
Benzo(a)pyrene	1.35205	1.24381	1.01231	1.13603	1.11083	1.08504	AVG		1.15668		10.53664	15.00000	O
Indeno(1,2,3-cd)pyrene	0.89024	0.66829	0.65712	0.90773	0.64063	0.71211	AVG		0.74602		16.21329	15.00000	W(
Dibenzo(a,h)anthracene	0.82254	0.66304	0.74864	0.87623	0.78862	0.74566	AVG		0.77412		9.45370	15.00000	O
Benzo(g,h,i)perylene	1.19885	1.09607	0.99741	1.09852	0.99846	0.92820	AVG		1.05292		9.19251	15.00000	O
2-Methylnaphthalene-D10	0.53055	0.59934	0.54262	0.56236	0.55355	0.53632	AVG		0.55412		4.50613	15.00000	
Fluorene-D10	0.89638	0.95671	0.88884	0.92491	0.90601	0.86180	AVG		0.90577		3.58423	15.00000	
Pyrene-D10	1.89519	1.55268	1.37873	1.56381	1.40833	1.37593	AVG		1.52911		12.96249	15.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1317.D
Report Date: 12-Jan-2021 10:46

Katahdin Analytical Services

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: WG293230-8
Level: LOW
Data Type: MS DATA
SpikeList File: SIM_IND_CHK5.spk
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Misc Info: WG293230,WG293230,WG293230-4

Client SDG: 021497
Fraction: SV

Operator: JCG
SampleType: INDCHECK
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
2 1,4-Dioxane	5.00	4.71	94.27	80-120
3 N-Nitrosodimethyla	5.00	4.88	97.71	80-120
4 Pyridine	5.00	5.21	104.15	80-120
5 Benzaldehyde	5.00	1.45	28.94*	80-120
7 Bis(2-Chloroethyl)	5.00	4.56	91.21	80-120
6 Phenol	5.00	5.33	106.68	80-120
8 2-Chlorophenol	5.00	5.27	105.38	80-120
9 1,3-Dichlorobenzen	5.00	4.88	97.67	80-120
11 1,4-Dichlorobenzen	5.00	4.93	98.61	80-120
12 1,2-Dichlorobenzen	5.00	4.66	93.27	80-120
13 2,2'-Oxybis(1-chlo	5.00	3.26	65.22*	80-120
14 2-Methylphenol	5.00	5.27	105.44	80-120
15 Acetophenone	5.00	4.81	96.29	80-120
16 N-Nitroso-di-n-pro	5.00	4.96	99.11	80-120
18 Hexachloroethane	5.00	4.77	95.42	80-120
17 3&4-Methylphenol	5.00	5.32	106.49	80-120
19 Nitrobenzene	5.00	5.07	101.39	80-120
20 Isophorone	5.00	4.90	98.11	80-120
21 2-Nitrophenol	5.00	5.17	103.35	80-120
22 2,4-Dimethylphenol	5.00	4.21	84.13	80-120
23 bis(2-Chloroethoxy	5.00	4.98	99.69	80-120
24 Benzoic acid	5.00	4.78	95.71	80-120
25 2,4-Dichlorophenol	5.00	5.24	104.73	80-120
26 1,2,4-Trichloroben	5.00	4.99	99.74	80-120
28 Naphthalene	5.00	4.60	91.99	80-120
29 4-Chloroaniline	5.00	2.77	55.46*	80-120
30 Hexachlorobutadien	5.00	4.88	97.64	80-120
31 Caprolactam	5.00	4.83	96.62	80-120
34 2-Methylnaphthalen	5.00	5.71	114.29	80-120
32 4-Chloro-3-Methylp	5.00	5.26	105.19	80-120
35 1-Methylnaphthalen	5.00	5.26	105.32	80-120
37 1,2,4,5-Tetrachlor	5.00	4.87	97.43	80-120
36 Hexachlorocyclopen	5.00	2.73	54.63*	80-120
39 2,4,6-Trichlorophe	5.00	4.68	93.71	80-120
40 2,4,5-Trichlorophe	5.00	4.68	93.60	80-120
42 2-Chloronaphthalen	5.00	4.66	93.10	80-120
41 1,1'-Biphenyl	5.00	4.63	92.54	80-120
43 2-Nitroaniline	5.00	6.25	124.95*	80-120
44 Dimethyl Phthalate	5.00	4.79	95.78	80-120
46 Acenaphthylene	5.00	3.91	78.23*	80-120

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1317.D
Report Date: 12-Jan-2021 10:46

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
45 2,6-Dinitrotoluene	5.00	4.80	95.96	80-120
49 Acenaphthene	5.00	4.58	91.64	80-120
47 3-Nitroaniline	5.00	12.3	246.73*	80-120
50 2,4-Dinitrophenol	5.00	5.46	109.27	80-120
51 Dibenzofuran	5.00	6.06	121.17*	80-120
52 2,4-Dinitrotoluene	5.00	4.59	91.85	80-120
54 2,3,4,6-Tetrachlor	5.00	4.50	90.06	80-120
53 4-Nitrophenol	5.00	5.86	117.16	80-120
55 Diethylphthalate	5.00	4.93	98.55	80-120
57 Fluorene	5.00	4.79	95.80	80-120
58 4-Chlorophenyl-phe	5.00	4.94	98.85	80-120
60 4,6-Dinitro-2-Meth	5.00	5.61	112.21	80-120
59 4-Nitroaniline	5.00	6.92	138.36*	80-120
61 N-Nitrosodiphenyla	5.00	3.68	73.66*	80-120
62 4-Bromophenyl-phen	5.00	4.77	95.37	80-120
63 Hexachlorobenzene	5.00	4.80	96.08	80-120
64 Atrazine	5.00	4.90	98.08	80-120
65 Pentachlorophenol	5.00	4.61	92.18	80-120
67 Phenanthrene	5.00	4.83	96.65	80-120
68 Anthracene	5.00	4.84	96.73	80-120
69 Carbazole	5.00	6.09	121.78*	80-120
70 Di-n-butylphthalat	5.00	4.88	97.67	80-120
71 Fluoranthene	5.00	5.22	104.51	80-120
73 Pyrene	5.00	4.60	92.05	80-120
74 Butylbenzylphthala	5.00	4.41	88.17	80-120
76 Benzo(a)anthracene	5.00	4.43	88.60	80-120
78 Chrysene	5.00	4.69	93.89	80-120
75 3,3'-Dichlorobenzi	5.00	3.49	69.74*	80-120
79 bis(2-Ethylhexyl)p	5.00	4.22	84.51	80-120
80 Di-n-octylphthalat	5.00	4.36	87.15	80-120
81 Benzo(b)fluoranthe	5.00	5.39	107.84	80-120
82 Benzo(k)fluoranthe	5.00	4.65	93.04	80-120
83 Benzo(a)pyrene	5.00	4.74	94.81	80-120
85 Indeno(1,2,3-cd)py	5.00	4.01	80.23	80-120
86 Dibenzo(a,h)anthra	5.00	4.43	88.58	80-120
87 Benzo(g,h,i)peryle	5.00	4.28	85.52	80-120

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 1 1,4-Dioxane-d8	2.00	0.000	*	26-115
$ 33 2-Methylnaphthale	2.00	0.000	*	43-92
$ 38 2,4-Dibromophenol	4.00	0.000	*	10-130
$ 56 Fluorene-D10	2.00	0.000	*	29-101
$ 72 Pyrene-D10	2.00	0.000	*	53-166

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1311.D
Report Date: 18-Jan-2021 13:15

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1311.D
Lab Smp Id: WG293230-4
Inj Date : 11-JAN-2021 11:09
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293230-4
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 2 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.254	3.233	(0.443)	25676	2.00000	2.18	
2 1,4-Dioxane	88	3.306	3.285	(0.450)	26769	2.00000	2.02	
3 N-Nitrosodimethylamine	74	3.821	3.779	(0.520)	38494	2.00000	2.01	
4 Pyridine	79	3.863	3.800	(0.525)	61170	2.00000	1.63	
5 Benzaldehyde	77	6.811	6.791	(0.926)	40783	2.00000	2.32	
6 Phenol	94	6.982	6.972	(0.949)	197883	4.50000	4.76	
7 Bis(2-Chloroethyl)ether	93	7.042	7.032	(0.958)	83691	2.00000	1.99	
8 2-Chlorophenol	128	7.103	7.103	(0.966)	196323	4.50000	4.76	
9 1,3-Dichlorobenzene	146	7.284	7.274	(0.990)	94358	2.00000	1.87	
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.354	(1.000)	26444	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.374	7.374	(1.003)	111180	2.00000	2.05	
12 1,2-Dichlorobenzene	146	7.576	7.566	(1.030)	99487	2.00000	1.90	
13 2,2'-Oxybis(1-chloropropane)	45	7.727	7.727	(1.051)	53642	2.00000	1.94(Q)	
14 2-Methylphenol	108	7.737	7.737	(1.052)	156595	4.50000	4.38	
15 Acetophenone	105	7.888	7.878	(0.876)	102923	2.00000	2.05	
16 N-Nitroso-di-n-propylamine	70	7.908	7.898	(1.075)	45116	2.00000	2.00	
17 3&4-Methylphenol	108	7.958	7.948	(1.082)	160714	4.50000	4.89	
18 Hexachloroethane	117	7.988	7.988	(1.086)	32301	2.00000	1.76	
19 Nitrobenzene	77	8.099	8.089	(0.900)	75647	2.00000	2.22	
20 Isophorone	82	8.413	8.413	(0.935)	94011	2.00000	1.66	
21 2-Nitrophenol	139	8.520	8.509	(0.947)	90835	4.50000	4.72	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1311.D
Report Date: 18-Jan-2021 13:15

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.627	8.616	(0.958)	158403	4.50000	4.85	
	23 bis(2-Chloroethoxy)methane	93	8.734	8.712	(0.970)	79260	2.00000	2.09	
	24 Benzoic acid	105	8.787	8.809	(0.976)	75484	4.50000	4.14	
	25 2,4-Dichlorophenol	162	8.894	8.862	(0.988)	154313	4.50000	4.80	
	26 1,2,4-Trichlorobenzene	180	8.948	8.937	(0.994)	71228	2.00000	2.02	
*	27 Naphthalene-D8	136	9.001	8.990	(1.000)	71052	0.80000	(a)	
	28 Naphthalene	128	9.022	9.022	(1.002)	185376	2.00000	1.84	
	29 4-Chloroaniline	127	9.161	9.022	(1.018)	62041	2.00000	2.74(Q)	
	30 Hexachlorobutadiene	225	9.215	9.215	(1.024)	31653	2.00000	2.05	
	31 Caprolactam	113	9.594	9.594	(1.066)	16235	2.00000	1.74	
	32 4-Chloro-3-Methylphenol	107	9.840	9.821	(1.093)	124652	4.50000	4.66	
$	33 2-Methylnaphthalene-D10	152	9.919	9.900	(1.102)	96386	2.00000	1.96	
	34 2-Methylnaphthalene	142	9.959	9.949	(1.106)	130618	2.00000	1.93	
	35 1-Methylnaphthalene	142	10.087	10.077	(1.121)	116726	2.00000	2.06	
	36 Hexachlorocyclopentadiene	237	10.175	10.175	(0.897)	14364	2.00000	1.28	
	37 1,2,4,5-Tetrachlorobenzene	216	10.205	10.185	(0.900)	53188	2.00000	1.99	
$	38 2,4-Dibromophenol	252	10.372	10.342	(0.915)	27610	2.00000	2.04	
	39 2,4,6-Trichlorophenol	196	10.372	10.352	(0.915)	81323	4.50000	4.42	
	40 2,4,5-Trichlorophenol	196	10.451	10.421	(0.922)	114718	4.50000	4.68	
	41 1,1'-Biphenyl	154	10.586	10.575	(0.934)	143208	2.00000	2.04	
	42 2-Chloronaphthalene	164	10.608	10.586	(0.936)	38255	2.00000	2.04	
	43 2-Nitroaniline	65	10.771	10.749	(0.950)	24678	2.00000	2.06	
	44 Dimethyl Phthalate	163	11.011	11.011	(0.971)	280488	4.50000	4.48	
	45 2,6-Dinitrotoluene	165	11.098	11.087	(0.979)	28866	2.00000	2.05	
	46 Acenaphthylene	152	11.142	11.131	(0.983)	165653	2.00000	2.00	
	47 3-Nitroaniline	138	11.338	11.327	(1.000)	10536	2.00000	1.36	
*	48 Acenaphthene-D10	164	11.338	11.327	(1.000)	34531	0.80000	(a)	
	49 Acenaphthene	153	11.371	11.371	(1.003)	106150	2.00000	1.98	
	50 2,4-Dinitrophenol	184	11.523	11.480	(1.016)	16078	4.50000	3.96	
	51 Dibenzofuran	168	11.621	11.610	(1.025)	136060	2.00000	1.97	
	52 2,4-Dinitrotoluene	165	11.665	11.087	(1.029)	31250	2.00000	2.12	
	53 4-Nitrophenol	109	11.687	11.621	(1.031)	19237	4.50000	4.58(QM)	M9
	54 2,3,4,6-Tetrachlorophenol	232	11.828	11.806	(1.043)	59453	4.50000	4.52	
	55 Diethylphthalate	149	11.959	11.959	(1.055)	291472	4.50000	4.44	
$	56 Fluorene-D10	174	12.035	12.024	(1.062)	76731	2.00000	1.96	
	57 Fluorene	166	12.079	12.068	(1.065)	104200	2.00000	1.92	
	58 4-Chlorophenyl-phenylether	204	12.090	12.090	(1.066)	55404	2.00000	1.98	
	59 4-Nitroaniline	138	12.177	12.177	(1.074)	14484	2.00000	2.30(Q)	
	60 4,6-Dinitro-2-Methylphenol	198	12.231	12.199	(0.917)	26239	4.50000	4.39	
	61 N-Nitrosodiphenylamine	169	12.264	12.253	(0.920)	86481	2.00000	2.09	
	62 4-Bromophenyl-phenylether	248	12.746	12.735	(0.956)	32294	2.00000	2.28	
	63 Hexachlorobenzene	284	12.827	12.827	(0.962)	30246	2.00000	2.25	
	64 Atrazine	200	13.000	13.000	(0.975)	22356	2.00000	2.06	
	65 Pentachlorophenol	266	13.138	13.115	(0.985)	34160	4.50000	4.90	
*	66 Phenanthrene-D10	188	13.334	13.311	(1.000)	42404	0.80000	(a)	
	67 Phenanthrene	178	13.358	13.346	(1.002)	115539	2.00000	1.99	
	68 Anthracene	178	13.438	13.415	(1.008)	125390	2.00000	2.11	
	69 Carbazole	167	13.681	13.658	(1.026)	80690	2.00000	1.93	
	70 Di-n-butylphthalate	149	14.170	14.159	(1.063)	417126	4.50000	4.57	
	71 Fluoranthene	202	14.959	14.947	(1.122)	99834	2.00000	1.92	
$	72 Pyrene-D10	212	15.236	15.225	(0.891)	66803	2.00000	1.80	
	73 Pyrene	202	15.258	15.247	(0.892)	102549	2.00000	1.99	
	74 Butylbenzylphthalate	149	16.213	16.202	(0.948)	138306	4.50000	4.38	
	75 3,3'-Dichlorobenzidine	252	17.090	17.079	(0.999)	9658	2.00000	2.04	

LCG

1:44 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1311.D
Report Date: 18-Jan-2021 13:15

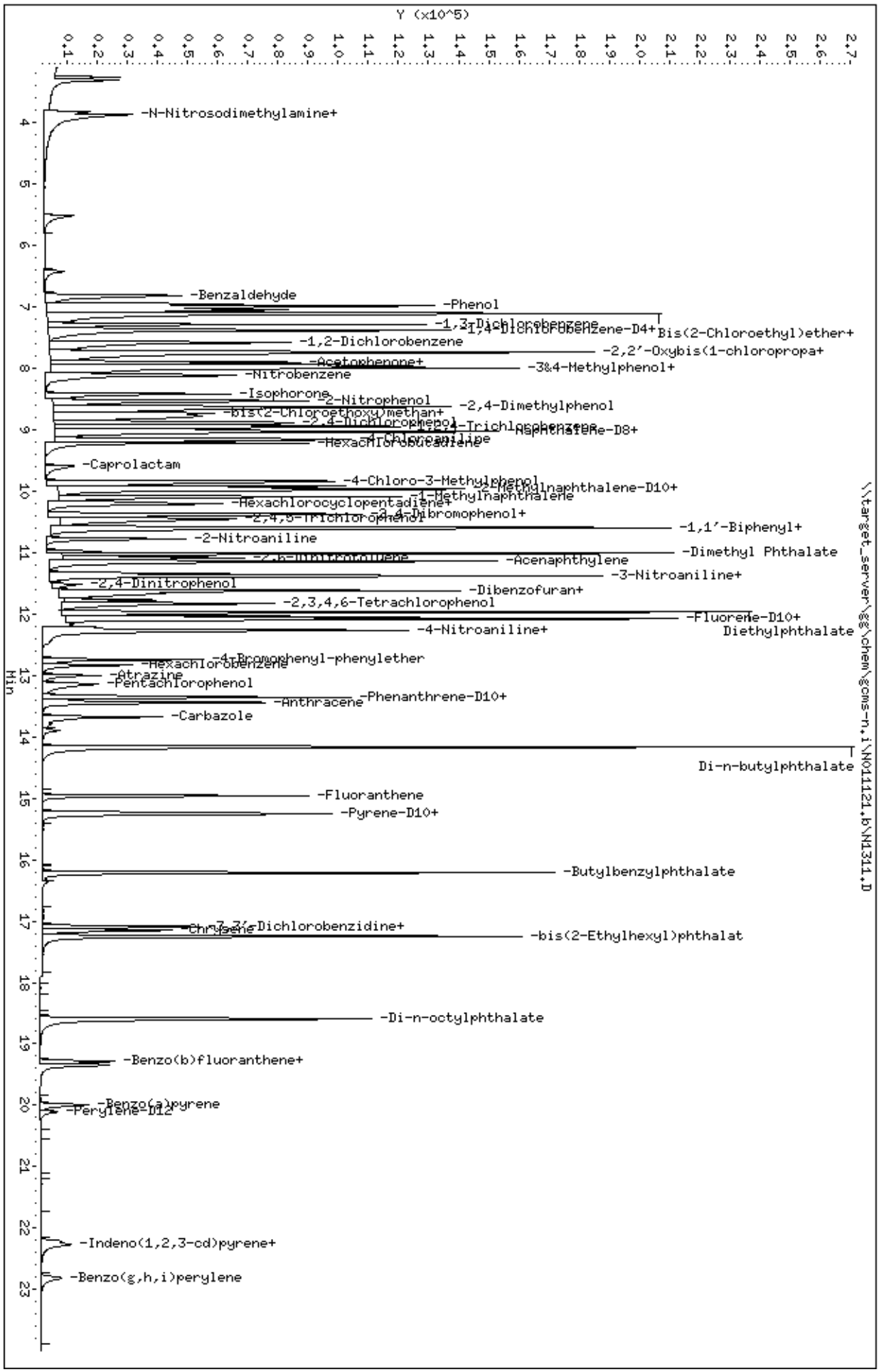
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.079	17.068	(0.999)	54330	2.00000	1.83(H)	
*	77 Chrysene-D12	240	17.101	17.090	(1.000)	19381	0.80000	(a)	
	78 Chrysene	228	17.146	17.135	(1.003)	65068	2.00000	2.02	
	79 bis(2-Ethylhexyl)phthalate	149	17.246	17.246	(1.008)	204416	4.50000	4.48	
	80 Di-n-octylphthalate	149	18.597	18.586	(1.087)	270029	4.50000	4.55	
	81 Benzo(b)fluoranthene	252	19.282	19.271	(0.959)	39497	2.00000	1.87	
	82 Benzo(k)fluoranthene	252	19.338	19.327	(0.961)	52606	2.00000	1.88(H)	
	83 Benzo(a)pyrene	252	20.000	19.978	(0.994)	32285	2.00000	1.75	
*	84 Perylene-D12	264	20.113	20.101	(1.000)	12757	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.223	22.190	(1.299)	31839	2.00000	1.76	
	86 Dibenzo(a,h)anthracene	278	22.279	22.246	(1.108)	23876	2.00000	1.93	
	87 Benzo(g,h,i)perylene	276	22.807	22.785	(1.134)	31810	2.00000	1.89	
M	88 Total PAHs	100				1583346	36.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1311.D
Date : 11-JAN-2021 11:09
Client ID:
Sample Info: WG293230-4
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n.i
Operator: JCG
Column diameter: 0.25



Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Report Date: 18-Jan-2021 13:15

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Lab Smp Id: WG293230-2
Inj Date : 11-JAN-2021 11:42
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293230-2
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 11:42 Cal File: N1312.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

JCG
1:45 pm, Jan 18, 2021

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.265	3.233	(0.437)	1846	0.20000	0.152(a)	
2 1,4-Dioxane	88	3.317	3.285	(0.444)	2291	0.20000	0.168(a)	
3 N-Nitrosodimethylamine	74	3.968	3.779	(0.531)	2698	0.20000	0.137(aM)	M9
4 Pyridine	79	4.188	3.800	(0.560)	3693	0.20000	0.0919(aM)	M9
5 Benzaldehyde	77	6.962	6.791	(0.931)	4699	0.20000	0.259(M)	M9
6 Phenol	94	7.133	6.972	(0.954)	37574	1.00000	0.879(aM)	M6
7 Bis(2-Chloroethyl)ether	93	7.274	7.032	(0.973)	9883	0.20000	0.228(QM)	M6
8 2-Chlorophenol	128	7.203	7.103	(0.964)	38301	1.00000	0.903(a)	
9 1,3-Dichlorobenzene	146	7.384	7.274	(0.988)	2852	0.20000	0.0550(a)	
* 10 1,4-Dichlorobenzene-D4	152	7.475	7.354	(1.000)	27210	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.485	7.374	(1.001)	10452	0.20000	0.188(aM)	M6
12 1,2-Dichlorobenzene	146	7.616	7.566	(1.019)	12776	0.20000	0.237	
13 2,2'-Oxybis(1-chloropropane)	45	7.757	7.727	(1.038)	1309	0.20000	0.0461(aQ)	
14 2-Methylphenol	108	7.857	7.737	(1.051)	24592	1.00000	0.668(a)	
15 Acetophenone	105	8.099	7.878	(0.891)	8998	0.20000	0.195(aQM)	M9
16 N-Nitroso-di-n-propylamine	70	8.089	7.898	(1.082)	2222	0.20000	0.0957(aM)	M6
17 3&4-Methylphenol	108	8.099	7.948	(1.083)	28751	1.00000	0.851(aQH)	
18 Hexachloroethane	117	7.998	7.988	(1.070)	2288	0.20000	0.121(aQ)	
19 Nitrobenzene	77	8.231	8.089	(0.906)	10038	0.20000	0.321(QM)	M6
20 Isophorone	82	8.445	8.413	(0.929)	9702	0.20000	0.187(a)	
21 2-Nitrophenol	139	8.648	8.509	(0.952)	16427	1.00000	0.930(a)	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Report Date: 18-Jan-2021 13:15

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.734	8.616	(0.961)	28732	1.00000	0.957	
	23 bis(2-Chloroethoxy)methane	93	8.905	8.712	(0.980)	6757	0.20000	0.194(aQM)	M6
	24 Benzoic acid	105	9.001	8.809	(0.991)	8565	1.00000	0.525(aQM)	M6
	25 2,4-Dichlorophenol	162	9.022	8.862	(0.993)	25331	1.00000	0.858	
	26 1,2,4-Trichlorobenzene	180	9.055	8.937	(0.996)	6308	0.20000	0.194(a)	
*	27 Naphthalene-D8	136	9.087	8.990	(1.000)	65306	0.80000	(a)	
	28 Naphthalene	128	9.108	9.022	(1.002)	22071	0.20000	0.239	
	29 4-Chloroaniline	127	9.258	9.022	(1.019)	5800	0.20000	0.279(aH)	
	30 Hexachlorobutadiene	225	9.226	9.215	(1.015)	2915	0.20000	0.205	
	31 Caprolactam	113	9.722	9.594	(1.070)	919	0.20000	0.107(aQM)	M9
	32 4-Chloro-3-Methylphenol	107	9.929	9.821	(1.093)	22669	1.00000	0.922(a)	
$	33 2-Methylnaphthalene-D10	152	10.008	9.900	(1.101)	8662	0.20000	0.191(a)	
	34 2-Methylnaphthalene	142	10.037	9.949	(1.105)	14663	0.20000	0.235(QM)	M6
	35 1-Methylnaphthalene	142	10.136	10.077	(1.115)	15882	0.20000	0.304(H)	
	36 Hexachlorocyclopentadiene	237	10.195	10.175	(0.897)	1410	0.20000	0.140(aQ)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.274	10.185	(0.904)	5695	0.20000	0.237	
$	38 2,4-Dibromophenol	252	10.470	10.342	(0.922)	2026	0.20000	0.167(aQM)	M6
	39 2,4,6-Trichlorophenol	196	10.431	10.352	(0.918)	10950	1.00000	0.662(a)	
	40 2,4,5-Trichlorophenol	196	10.543	10.421	(0.928)	23299	1.00000	1.06(M)	M6
	41 1,1'-Biphenyl	154	10.662	10.575	(0.939)	12730	0.20000	0.201	
	42 2-Chloronaphthalene	164	10.684	10.586	(0.941)	3401	0.20000	0.201	
	43 2-Nitroaniline	65	10.848	10.749	(0.955)	1865	0.20000	0.173(a)	
	44 Dimethyl Phthalate	163	11.044	11.011	(0.972)	53164	1.00000	0.946(a)	
	45 2,6-Dinitrotoluene	165	11.164	11.087	(0.983)	2096	0.20000	0.166(aQ)	
	46 Acenaphthylene	152	11.174	11.131	(0.984)	14206	0.20000	0.191(a)	
	47 3-Nitroaniline	138	11.414	11.327	(1.005)	1351	0.20000	0.0448(a)	
*	48 Acenaphthene-D10	164	11.360	11.327	(1.000)	31045	0.80000	(a)	
	49 Acenaphthene	153	11.392	11.371	(1.003)	9651	0.20000	0.200	
	50 2,4-Dinitrophenol	184	11.665	11.480	(1.027)	806	1.00000	0.234(aM)	M6
	51 Dibenzofuran	168	11.687	11.610	(1.029)	12175	0.20000	0.196(a)	
	52 2,4-Dinitrotoluene	165	11.360	11.087	(1.000)	4112	0.20000	0.311(Q)	
	53 4-Nitrophenol	109	11.806	11.621	(1.039)	1576	1.00000	0.440(aQ)	
	54 2,3,4,6-Tetrachlorophenol	232	11.883	11.806	(1.046)	10749	1.00000	0.908(a)	
	55 Diethylphthalate	149	11.992	11.959	(1.056)	58158	1.00000	0.984(a)	
$	56 Fluorene-D10	174	12.090	12.024	(1.064)	6957	0.20000	0.198(a)	
	57 Fluorene	166	12.122	12.068	(1.067)	9537	0.20000	0.196(a)	
	58 4-Chlorophenyl-phenylether	204	12.144	12.090	(1.069)	5004	0.20000	0.199(a)	
	59 4-Nitroaniline	138	12.231	12.177	(1.077)	1139	0.20000	0.201	
	60 4,6-Dinitro-2-Methylphenol	198	12.340	12.199	(0.923)	2276	1.00000	0.441(aQ)	
	61 N-Nitrosodiphenylamine	169	12.319	12.253	(0.921)	8110	0.20000	0.217	
	62 4-Bromophenyl-phenylether	248	12.792	12.735	(0.957)	3866	0.20000	0.302	
	63 Hexachlorobenzene	284	12.850	12.827	(0.961)	3924	0.20000	0.323	
	64 Atrazine	200	13.035	13.000	(0.975)	1735	0.20000	0.177(a)	
	65 Pentachlorophenol	266	13.196	13.115	(0.987)	7764	1.00000	1.23	
*	66 Phenanthrene-D10	188	13.369	13.311	(1.000)	38327	0.80000	(a)	
	67 Phenanthrene	178	13.392	13.346	(1.002)	10134	0.20000	0.193(a)	
	68 Anthracene	178	13.485	13.415	(1.009)	16003	0.20000	0.298(H)	
	69 Carbazole	167	13.727	13.658	(1.027)	8830	0.20000	0.234	
	70 Di-n-butylphthalate	149	14.181	14.159	(1.061)	81669	1.00000	0.990(a)	
	71 Fluoranthene	202	14.992	14.947	(1.121)	9780	0.20000	0.209	
$	72 Pyrene-D10	212	15.258	15.225	(0.891)	6410	0.20000	0.248(a)	
	73 Pyrene	202	15.281	15.247	(0.892)	10502	0.20000	0.293	
	74 Butylbenzylphthalate	149	16.224	16.202	(0.947)	25685	1.00000	1.16	
	75 3,3'-Dichlorobenzidine	252	17.124	17.079	(1.000)	640	0.20000	0.194(aQ)	

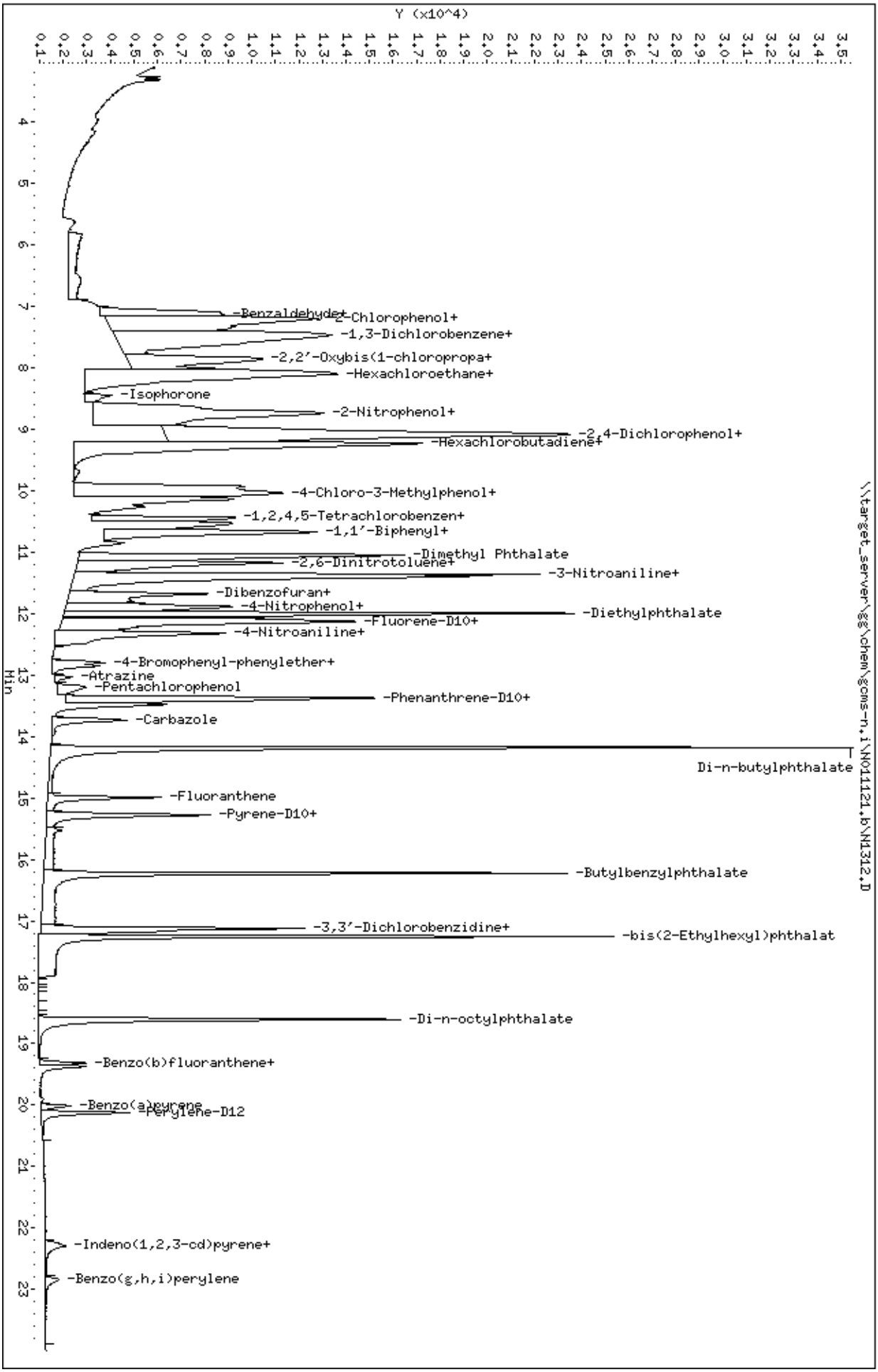
1:45 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Report Date: 18-Jan-2021 13:15

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.113	17.068	(0.999)	4673	0.20000	0.225	
*	77 Chrysene-D12	240	17.124	17.090	(1.000)	13529	0.80000	(aQ)	
	78 Chrysene	228	17.168	17.135	(1.003)	6700	0.20000	0.299	
	79 bis(2-Ethylhexyl)phthalate	149	17.246	17.246	(1.007)	38486	1.00000	1.21	
	80 Di-n-octylphthalate	149	18.608	18.586	(1.087)	47002	1.00000	1.13	
	81 Benzo(b)fluoranthene	252	19.316	19.271	(0.960)	3392	0.20000	0.195(a)	
	82 Benzo(k)fluoranthene	252	19.372	19.327	(0.963)	5500	0.20000	0.239(H)	
	83 Benzo(a)pyrene	252	20.012	19.978	(0.994)	3539	0.20000	0.234	
*	84 Perylene-D12	264	20.124	20.101	(1.000)	10470	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.246	22.190	(1.299)	3011	0.20000	0.239	
	86 Dibenzo(a,h)anthracene	278	22.302	22.246	(1.108)	2153	0.20000	0.212	
	87 Benzo(g,h,i)perylene	276	22.841	22.785	(1.135)	3138	0.20000	0.228	
M	88 Total PAHs	100				164535	3.60000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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Date : 11-JAN-2021 11:42
Client ID:
Sample Info: WG293230-2
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011121,b\N1312,D
Y (x10^4)
Min
-Benzaldehyde+
-2-Chlorophenol+
-1,3-Dichlorobenzene+
-2,2'-Oxybis(1-chloropropa+
-Hexachloroethane+
-Isophorone
-2-Nitrophenol+
-2,4-Dichlorophenol+
-Hexachlorobutadiene+
-4-Chloro-3-Methylphenol+
-1,2,4,5-Tetrachlorobenzen+
-1,1'-Biphenyl+
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-3-Nitroaniline+
-Dibenzofuran+
-4-Nitrophenol+
-Diethylphthalate
-Fluorene-D10+
-4-Nitroaniline+
-4-Bromophenyl-phenylether+
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene+
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1313.D
Report Date: 18-Jan-2021 13:15

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1313.D
Lab Smp Id: WG293230-3
Inj Date : 11-JAN-2021 12:14
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293230-3
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 12:14 Cal File: N1313.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

JCG
1:45 pm, Jan 18, 2021

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.254	3.233	(0.441)	5425	0.50000	0.453(a)	
2 1,4-Dioxane	88	3.296	3.285	(0.446)	6558	0.50000	0.486(a)	
3 N-Nitrosodimethylamine	74	3.894	3.779	(0.527)	7435	0.50000	0.382	
4 Pyridine	79	3.989	3.800	(0.540)	10358	0.50000	0.262	
5 Benzaldehyde	77	6.871	6.791	(0.930)	8209	0.50000	0.459(Q)	
6 Phenol	94	7.022	6.972	(0.951)	79716	2.00000	1.89	
7 Bis(2-Chloroethyl)ether	93	7.143	7.032	(0.967)	23743	0.50000	0.556(M)	M6
8 2-Chlorophenol	128	7.143	7.103	(0.967)	78726	2.00000	1.88	
9 1,3-Dichlorobenzene	146	7.304	7.274	(0.989)	13286	0.50000	0.260(H)	
* 10 1,4-Dichlorobenzene-D4	152	7.385	7.354	(1.000)	26857	0.80000	(a)	
11 1,4-Dichlorobenzene	146	7.405	7.374	(1.003)	29213	0.50000	0.531	
12 1,2-Dichlorobenzene	146	7.586	7.566	(1.027)	26713	0.50000	0.501	
13 2,2'-Oxybis(1-chloropropane)	45	7.737	7.727	(1.048)	7291	0.50000	0.260(Q)	
14 2-Methylphenol	108	7.777	7.737	(1.053)	53159	2.00000	1.46	
15 Acetophenone	105	7.989	7.878	(0.885)	23532	0.50000	0.502(Q)	
16 N-Nitroso-di-n-propylamine	70	7.958	7.898	(1.078)	9483	0.50000	0.414	
17 3&4-Methylphenol	108	8.009	7.948	(1.084)	66498	2.00000	1.99(QH)	
18 Hexachloroethane	117	7.989	7.988	(1.082)	5923	0.50000	0.318(Q)	
19 Nitrobenzene	77	8.160	8.089	(0.904)	21757	0.50000	0.682(Q)	
20 Isophorone	82	8.424	8.413	(0.934)	26878	0.50000	0.508	
21 2-Nitrophenol	139	8.584	8.509	(0.951)	35212	2.00000	1.96	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1313.D
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	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.681	8.616	(0.962)	64648	2.00000	2.11	
	23 bis(2-Chloroethoxy)methane	93	8.820	8.712	(0.977)	18298	0.50000	0.516(QH)	
	24 Benzoic acid	105	8.862	8.809	(0.982)	24689	2.00000	1.48(QH)	
	25 2,4-Dichlorophenol	162	8.969	8.862	(0.994)	59809	2.00000	1.99	
	26 1,2,4-Trichlorobenzene	180	9.001	8.937	(0.998)	16862	0.50000	0.510	
*	27 Naphthalene-D8	136	9.023	8.990	(1.000)	66516	0.80000	(a)	
	28 Naphthalene	128	9.055	9.022	(1.004)	52072	0.50000	0.553	
	29 4-Chloroaniline	127	9.205	9.022	(1.020)	16497	0.50000	0.779(aH)	
	30 Hexachlorobutadiene	225	9.215	9.215	(1.021)	7063	0.50000	0.488	
	31 Caprolactam	113	9.644	9.594	(1.069)	3224	0.50000	0.369(QM)	M9
	32 4-Chloro-3-Methylphenol	107	9.890	9.821	(1.096)	50836	2.00000	2.03	
$	33 2-Methylnaphthalene-D10	152	9.969	9.900	(1.105)	24916	0.50000	0.541(aQ)	
	34 2-Methylnaphthalene	142	10.008	9.949	(1.109)	34584	0.50000	0.545(H)	
	35 1-Methylnaphthalene	142	10.107	10.077	(1.120)	33975	0.50000	0.640(H)	
	36 Hexachlorocyclopentadiene	237	10.185	10.175	(0.897)	1883	0.50000	0.174(aQ)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.234	10.185	(0.902)	12853	0.50000	0.496	
$	38 2,4-Dibromophenol	252	10.421	10.342	(0.918)	7259	0.50000	0.555(aQ)	
	39 2,4,6-Trichlorophenol	196	10.402	10.352	(0.917)	27717	2.00000	1.56	
	40 2,4,5-Trichlorophenol	196	10.490	10.421	(0.924)	55089	2.00000	2.32(H)	
	41 1,1'-Biphenyl	154	10.630	10.575	(0.937)	34923	0.50000	0.513	
	42 2-Chloronaphthalene	164	10.641	10.586	(0.938)	9281	0.50000	0.510	
	43 2-Nitroaniline	65	10.815	10.749	(0.953)	5515	0.50000	0.474	
	44 Dimethyl Phthalate	163	11.033	11.011	(0.972)	122689	2.00000	2.02	
	45 2,6-Dinitrotoluene	165	11.131	11.087	(0.981)	6729	0.50000	0.494(Q)	
	46 Acenaphthylene	152	11.153	11.131	(0.983)	39980	0.50000	0.499	
	47 3-Nitroaniline	138	11.371	11.327	(1.002)	3928	0.50000	0.234	
*	48 Acenaphthene-D10	164	11.349	11.327	(1.000)	33448	0.80000	(a)	
	49 Acenaphthene	153	11.382	11.371	(1.003)	27070	0.50000	0.521	
	50 2,4-Dinitrophenol	184	11.578	11.480	(1.020)	4039	2.00000	1.08	
	51 Dibenzofuran	168	11.654	11.610	(1.027)	33964	0.50000	0.507	
	52 2,4-Dinitrotoluene	165	11.349	11.087	(1.000)	4275	0.50000	0.300(Q)	
	53 4-Nitrophenol	109	11.730	11.621	(1.034)	6930	2.00000	1.77(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.861	11.806	(1.045)	24925	2.00000	1.95	
	55 Diethylphthalate	149	11.970	11.959	(1.055)	130098	2.00000	2.04	
$	56 Fluorene-D10	174	12.057	12.024	(1.062)	20000	0.50000	0.528(a)	
	57 Fluorene	166	12.101	12.068	(1.066)	27324	0.50000	0.520	
	58 4-Chlorophenyl-phenylether	204	12.123	12.090	(1.068)	14104	0.50000	0.520	
	59 4-Nitroaniline	138	12.199	12.177	(1.075)	4828	0.50000	0.792(Q)	
	60 4,6-Dinitro-2-Methylphenol	198	12.275	12.199	(0.920)	8412	2.00000	1.42(Q)	
	61 N-Nitrosodiphenylamine	169	12.297	12.253	(0.921)	21604	0.50000	0.508	
	62 4-Bromophenyl-phenylether	248	12.769	12.735	(0.957)	9227	0.50000	0.634	
	63 Hexachlorobenzene	284	12.839	12.827	(0.962)	9019	0.50000	0.654	
	64 Atrazine	200	13.023	13.000	(0.976)	5349	0.50000	0.481	
	65 Pentachlorophenol	266	13.162	13.115	(0.986)	13191	2.00000	1.84	
*	66 Phenanthrene-D10	188	13.346	13.311	(1.000)	43515	0.80000	(a)	
	67 Phenanthrene	178	13.381	13.346	(1.003)	29399	0.50000	0.493	
	68 Anthracene	178	13.462	13.415	(1.009)	36178	0.50000	0.593(H)	
	69 Carbazole	167	13.704	13.658	(1.027)	24132	0.50000	0.564	
	70 Di-n-butylphthalate	149	14.171	14.159	(1.062)	196389	2.00000	2.10	
	71 Fluoranthene	202	14.981	14.947	(1.122)	27169	0.50000	0.510	
$	72 Pyrene-D10	212	15.248	15.225	(0.891)	18408	0.50000	0.508(a)	
	73 Pyrene	202	15.270	15.247	(0.892)	28828	0.50000	0.573	
	74 Butylbenzylphthalate	149	16.214	16.202	(0.947)	64007	2.00000	2.07	
	75 3,3'-Dichlorobenzidine	252	17.102	17.079	(0.999)	2828	0.50000	0.612(Q)	

1:45 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1313.D
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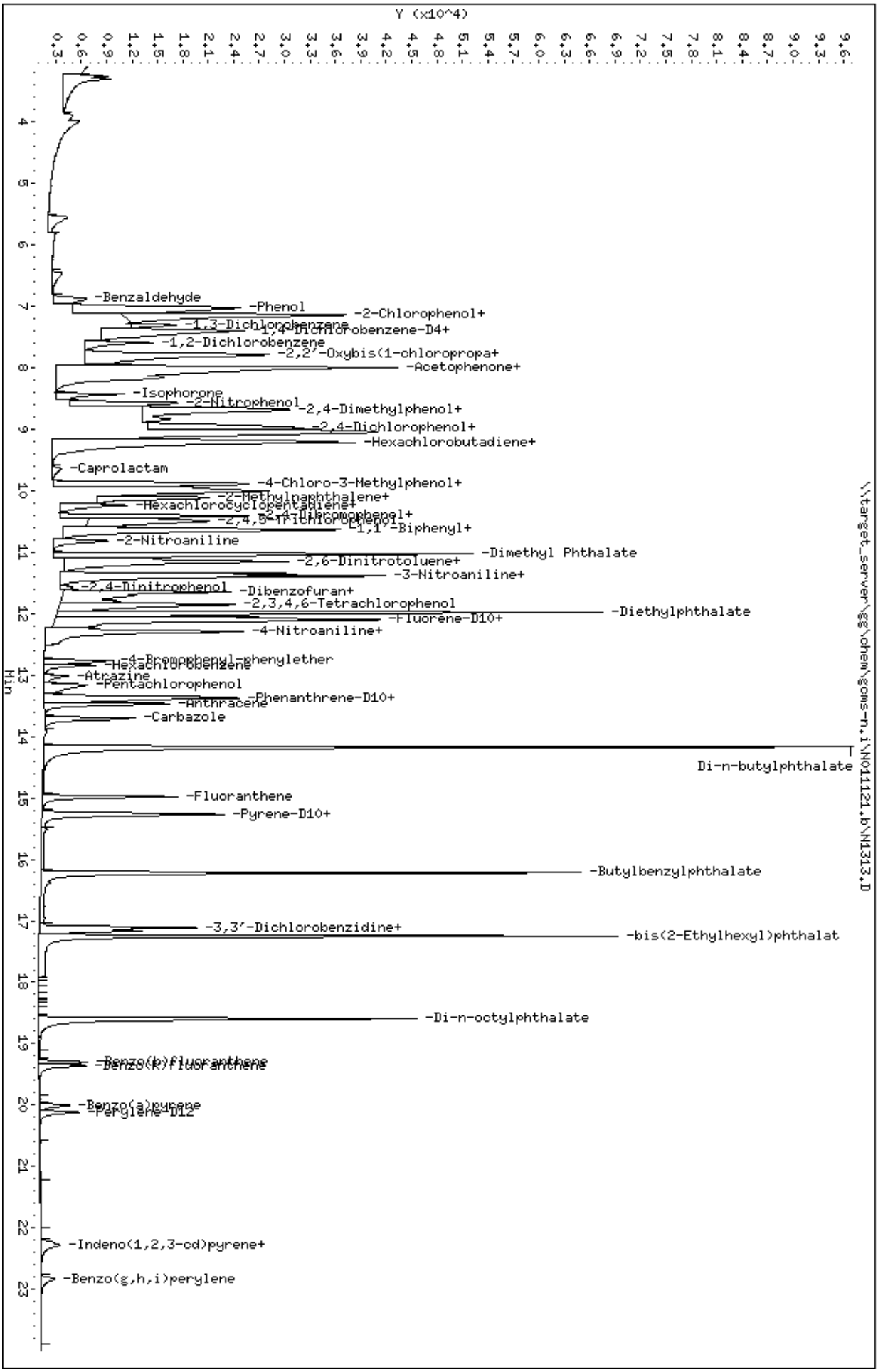
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.102	17.068	(0.999)	13678	0.50000	0.470	
*	77 Chrysene-D12	240	17.113	17.090	(1.000)	18969	0.80000	(aQ)	
	78 Chrysene	228	17.157	17.135	(1.003)	17677	0.50000	0.562	
	79 bis(2-Ethylhexyl)phthalate	149	17.246	17.246	(1.008)	94110	2.00000	2.11	
	80 Di-n-octylphthalate	149	18.597	18.586	(1.087)	116139	2.00000	2.00	
	81 Benzo(b)fluoranthene	252	19.293	19.271	(0.959)	9848	0.50000	0.491	
	82 Benzo(k)fluoranthene	252	19.361	19.327	(0.962)	14318	0.50000	0.539(H)	
	83 Benzo(a)pyrene	252	20.012	19.978	(0.994)	9404	0.50000	0.538	
*	84 Perylene-D12	264	20.124	20.101	(1.000)	12097	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.235	22.190	(1.299)	7923	0.50000	0.448	
	86 Dibenzo(a,h)anthracene	278	22.291	22.246	(1.108)	5013	0.50000	0.428	
	87 Benzo(g,h,i)perylene	276	22.830	22.785	(1.134)	8287	0.50000	0.520	
M	88 Total PAHs	100				422727	9.00000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-n,i\N011121,b\N1313,D
Date : 11-JAN-2021 12:14
Client ID:
Sample Info: WG293230-3
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011121,b\N1313,D
Y (x10^4)
Min
-Benzaldehyde
-Phenol
-2-Chlorophenol+
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol+
-2,4-Dichlorophenol+
-Hexachlorobutadiene+
-Caprolactam
-4-Chloro-3-Methylphenol+
-2-Methylnaphthalene+
-Hexachlorocyclopentadiene+
-2,4-Dibromophenol+
-2,4,5-Trichlorophenol
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-Fluorene-D10+
-4-Nitroaniline+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1314.D
Report Date: 18-Jan-2021 13:15

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1314.D
Lab Smp Id: WG293230-5
Inj Date : 11-JAN-2021 12:46
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293230-5
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 12:46 Cal File: N1314.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.265	3.233	(0.444)	88815	7.00000	7.98	
2 1,4-Dioxane	88	3.307	3.285	(0.450)	99108	7.00000	7.91	
3 N-Nitrosodimethylamine	74	3.800	3.779	(0.517)	131850	7.00000	7.28	
4 Pyridine	79	3.821	3.800	(0.520)	234865	7.00000	7.52	
5 Benzaldehyde	77	6.801	6.791	(0.925)	112243	7.00000	6.75	
6 Phenol	94	6.982	6.972	(0.949)	295990	7.00000	7.55	
7 Bis(2-Chloroethyl)ether	93	7.032	7.032	(0.956)	262123	7.00000	6.61(Q)	
8 2-Chlorophenol	128	7.103	7.103	(0.966)	289899	7.00000	7.45	
9 1,3-Dichlorobenzene	146	7.274	7.274	(0.989)	347957	7.00000	7.32(H)	
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.354	(1.000)	24961	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.374	7.374	(1.003)	368161	7.00000	7.20	
12 1,2-Dichlorobenzene	146	7.566	7.566	(1.029)	339361	7.00000	6.85	
13 2,2'-Oxybis(1-chloropropane)	45	7.727	7.727	(1.051)	185242	7.00000	7.12(Q)	
14 2-Methylphenol	108	7.737	7.737	(1.052)	245896	7.00000	7.28	
15 Acetophenone	105	7.878	7.878	(0.876)	352165	7.00000	7.20(Q)	
16 N-Nitroso-di-n-propylamine	70	7.898	7.898	(1.074)	158383	7.00000	7.43	
17 3&4-Methylphenol	108	7.948	7.948	(1.081)	226050	7.00000	7.29(H)	
18 Hexachloroethane	117	7.988	7.988	(1.086)	125698	7.00000	7.26	
19 Nitrobenzene	77	8.089	8.089	(0.900)	245762	7.00000	7.40	
20 Isophorone	82	8.402	8.413	(0.935)	425234	7.00000	7.71	
21 2-Nitrophenol	139	8.509	8.509	(0.946)	136366	7.00000	7.27	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1314.D
Report Date: 18-Jan-2021 13:15

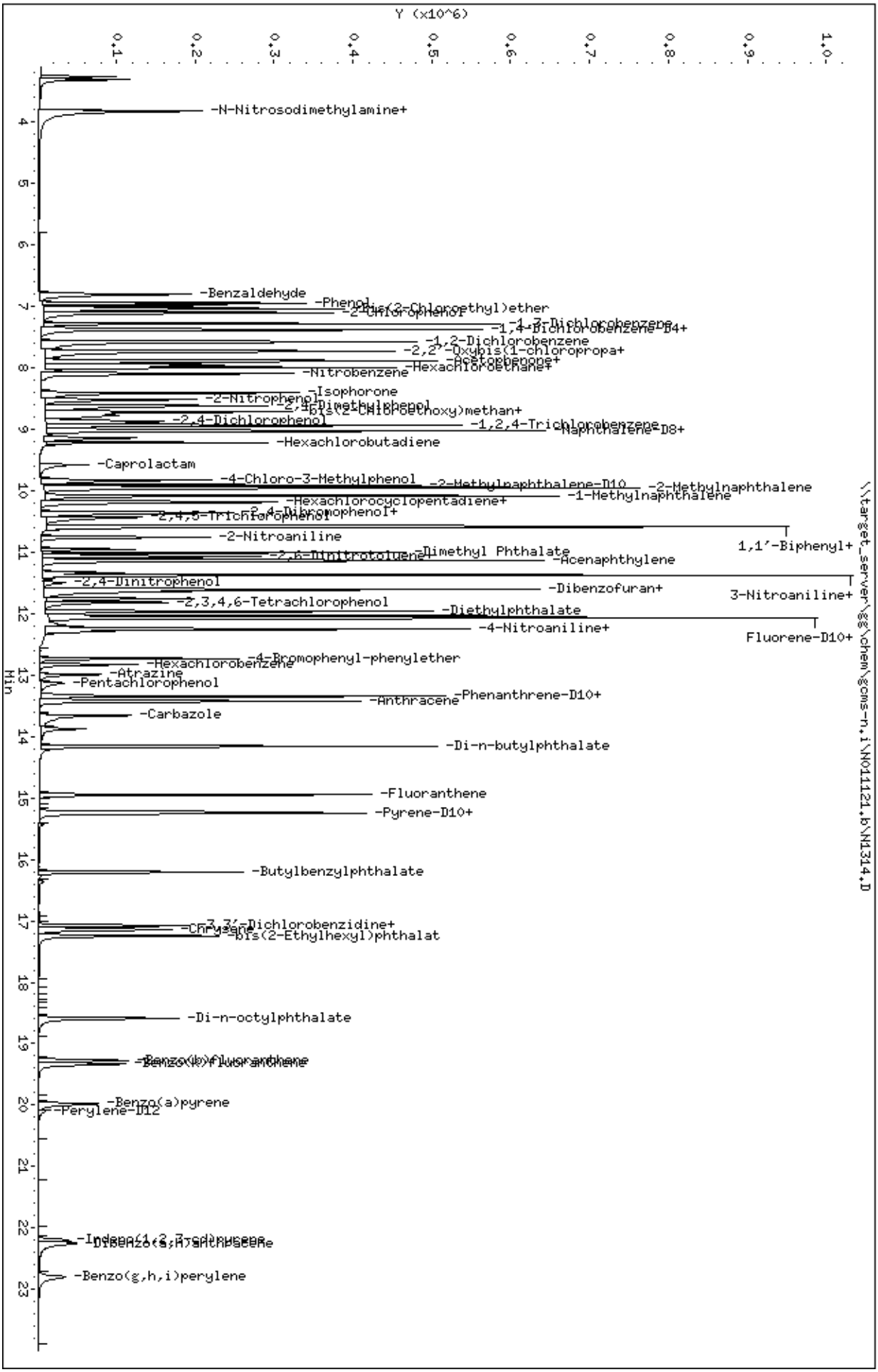
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.616	8.616	(0.958)	221686	7.00000	6.95	
	23 bis(2-Chloroethoxy)methane	93	8.712	8.712	(0.969)	262708	7.00000	7.11(Q)	
	24 Benzoic acid	105	8.766	8.809	(0.975)	132659	7.00000	7.27(Q)	
	25 2,4-Dichlorophenol	162	8.873	8.862	(0.987)	231320	7.00000	7.38	
	26 1,2,4-Trichlorobenzene	180	8.937	8.937	(0.994)	247317	7.00000	7.17	
*	27 Naphthalene-D8	136	8.990	8.990	(1.000)	69339	0.80000	(a)	
	28 Naphthalene	128	9.023	9.022	(1.004)	651436	7.00000	6.64	
	29 4-Chloroaniline	127	9.023	9.022	(1.004)	88552	7.00000	4.01(Q)	
	30 Hexachlorobutadiene	225	9.215	9.215	(1.025)	110656	7.00000	7.34	
	31 Caprolactam	113	9.575	9.594	(1.065)	62249	7.00000	6.83	
	32 4-Chloro-3-Methylphenol	107	9.821	9.821	(1.092)	186007	7.00000	7.13	
$	33 2-Methylnaphthalene-D10	152	9.909	9.900	(1.102)	341190	7.00000	7.10	
	34 2-Methylnaphthalene	142	9.949	9.949	(1.107)	436768	7.00000	6.60	
	35 1-Methylnaphthalene	142	10.077	10.077	(1.121)	391707	7.00000	7.07(H)	
	36 Hexachlorocyclopentadiene	237	10.175	10.175	(0.898)	77951	7.00000	6.87(Q)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.195	10.185	(0.900)	186432	7.00000	6.88	
$	38 2,4-Dibromophenol	252	10.352	10.342	(0.914)	101093	7.00000	7.38(Q)	
	39 2,4,6-Trichlorophenol	196	10.362	10.352	(0.915)	136277	7.00000	7.31(H)	
	40 2,4,5-Trichlorophenol	196	10.431	10.421	(0.921)	163299	7.00000	6.57	
	41 1,1'-Biphenyl	154	10.575	10.575	(0.934)	510393	7.00000	7.16	
	42 2-Chloronaphthalene	164	10.597	10.586	(0.936)	137310	7.00000	7.21	
	43 2-Nitroaniline	65	10.750	10.749	(0.949)	93046	7.00000	7.65	
	44 Dimethyl Phthalate	163	11.011	11.011	(0.972)	455832	7.00000	7.19	
	45 2,6-Dinitrotoluene	165	11.077	11.087	(0.978)	107905	7.00000	7.56	
	46 Acenaphthylene	152	11.131	11.131	(0.983)	619388	7.00000	7.38	
	47 3-Nitroaniline	138	11.327	11.327	(1.000)	25913	7.00000	7.49	
*	48 Acenaphthene-D10	164	11.327	11.327	(1.000)	35016	0.80000	(a)	
	49 Acenaphthene	153	11.371	11.371	(1.004)	388010	7.00000	7.13	
	50 2,4-Dinitrophenol	184	11.491	11.480	(1.014)	30192	7.00000	6.93	
	51 Dibenzofuran	168	11.610	11.610	(1.025)	508411	7.00000	7.25	
	52 2,4-Dinitrotoluene	165	11.077	11.087	(0.978)	107905	7.00000	7.24	
	53 4-Nitrophenol	109	11.654	11.621	(1.029)	28196	7.00000	6.46	
	54 2,3,4,6-Tetrachlorophenol	232	11.817	11.806	(1.043)	98553	7.00000	7.38	
	55 Diethylphthalate	149	11.959	11.959	(1.056)	455992	7.00000	6.84	
$	56 Fluorene-D10	174	12.024	12.024	(1.062)	283384	7.00000	7.15	
	57 Fluorene	166	12.068	12.068	(1.065)	395880	7.00000	7.20	
	58 4-Chlorophenyl-phenylether	204	12.079	12.090	(1.066)	203593	7.00000	7.17	
	59 4-Nitroaniline	138	12.177	12.177	(1.075)	45604	7.00000	7.15	
	60 4,6-Dinitro-2-Methylphenol	198	12.210	12.199	(0.916)	46568	7.00000	6.88	
	61 N-Nitrosodiphenylamine	169	12.253	12.253	(0.920)	314019	7.00000	6.93	
	62 4-Bromophenyl-phenylether	248	12.735	12.735	(0.956)	110610	7.00000	7.13	
	63 Hexachlorobenzene	284	12.827	12.827	(0.963)	105697	7.00000	7.19	
	64 Atrazine	200	13.000	13.000	(0.976)	84153	7.00000	7.09	
	65 Pentachlorophenol	266	13.127	13.115	(0.985)	47690	7.00000	6.25	
*	66 Phenanthrene-D10	188	13.323	13.311	(1.000)	46408	0.80000	(a)	
	67 Phenanthrene	178	13.346	13.346	(1.002)	456041	7.00000	7.17(H)	
	68 Anthracene	178	13.415	13.415	(1.007)	474490	7.00000	7.30	
	69 Carbazole	167	13.658	13.658	(1.025)	305086	7.00000	6.68	
	70 Di-n-butylphthalate	149	14.159	14.159	(1.063)	658045	7.00000	6.59	
	71 Fluoranthene	202	14.948	14.947	(1.122)	379099	7.00000	6.68	
$	72 Pyrene-D10	212	15.225	15.225	(0.891)	253278	7.00000	7.16	
	73 Pyrene	202	15.247	15.247	(0.892)	377799	7.00000	7.69	
	74 Butylbenzylphthalate	149	16.202	16.202	(0.948)	201840	7.00000	6.69	
	75 3,3'-Dichlorobenzidine	252	17.091	17.079	(1.000)	32662	7.00000	7.24	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1314.D
Report Date: 18-Jan-2021 13:15

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.079	17.068	(0.999)	208371	7.00000	7.35	
*	77 Chrysene-D12	240	17.091	17.090	(1.000)	18510	0.80000	(a)	
	78 Chrysene	228	17.135	17.135	(1.003)	239299	7.00000	7.73	
	79 bis(2-Ethylhexyl)phthalate	149	17.246	17.246	(1.009)	284413	7.00000	6.53	
	80 Di-n-octylphthalate	149	18.586	18.586	(1.087)	384919	7.00000	6.79	
	81 Benzo(b)fluoranthene	252	19.271	19.271	(0.958)	176789	7.00000	7.32	
	82 Benzo(k)fluoranthene	252	19.327	19.327	(0.961)	208498	7.00000	6.52(H)	
	83 Benzo(a)pyrene	252	19.989	19.978	(0.994)	144770	7.00000	6.88	
*	84 Perylene-D12	264	20.113	20.101	(1.000)	14564	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.201	22.190	(1.299)	147018	7.00000	8.52	
	86 Dibenzo(a,h)anthracene	278	22.257	22.246	(1.107)	111662	7.00000	7.92	
	87 Benzo(g,h,i)perylene	276	22.796	22.785	(1.133)	139990	7.00000	7.30	
M	88 Total PAHs	100				5947015	126.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
H - Operator selected an alternate compound hit.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Date : 11-JAN-2021 12:46
Client ID:
Sample Info: WG293230-5
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011121,b\N1314.D
Y (x10^6)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-2-Chlorophenol
-bis(2-Chloroethyl)ether
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-Hexachloroethane+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan+
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10
-2-Methylnaphthalene
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4,6-Trichlorophenol
-2,4-Dibromophenol+
-2-Nitroaniline
1,1'-Biphenyl+
-2,6-Dinitrotoluene+
-Dimethyl Phthalate
-Acenaphthylene
-2,4-Dinitrophenol
-Dibenzofuran+
3-Nitroaniline+
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline+
Fluorene-D10+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Anthracene
-Phenanthrene-D10+
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1315.D
Report Date: 18-Jan-2021 13:15

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1315.D
Lab Smp Id: WG293230-6
Inj Date : 11-JAN-2021 13:19
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293230-6
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 13:19 Cal File: N1315.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.233	3.233	(0.440)	114798	10.0000	10.7	
2 1,4-Dioxane	88	3.275	3.285	(0.445)	125683	10.0000	10.4	
3 N-Nitrosodimethylamine	74	3.779	3.779	(0.514)	176393	10.0000	10.1	
4 Pyridine	79	3.800	3.800	(0.517)	278999	10.0000	9.64	
5 Benzaldehyde	77	6.791	6.791	(0.923)	149570	10.0000	9.37	
6 Phenol	94	6.972	6.972	(0.948)	387105	10.0000	10.3	
7 Bis(2-Chloroethyl)ether	93	7.032	7.032	(0.956)	353804	10.0000	9.28	
8 2-Chlorophenol	128	7.103	7.103	(0.966)	386782	10.0000	10.3	
9 1,3-Dichlorobenzene	146	7.274	7.274	(0.989)	468561	10.0000	10.3	
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.354	(1.000)	23976	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.374	7.374	(1.003)	488886	10.0000	9.96	
12 1,2-Dichlorobenzene	146	7.566	7.566	(1.029)	457094	10.0000	9.61	
13 2,2'-Oxybis(1-chloropropane)	45	7.727	7.727	(1.051)	254768	10.0000	10.2	
14 2-Methylphenol	108	7.737	7.737	(1.052)	332740	10.0000	10.2	
15 Acetophenone	105	7.878	7.878	(0.876)	490556	10.0000	9.85	
16 N-Nitroso-di-n-propylamine	70	7.898	7.898	(1.074)	200834	10.0000	9.81	
17 3&4-Methylphenol	108	7.948	7.948	(1.081)	307453	10.0000	10.3	
18 Hexachloroethane	117	7.988	7.988	(1.086)	167550	10.0000	10.1	
19 Nitrobenzene	77	8.089	8.089	(0.900)	334911	10.0000	9.89	
20 Isophorone	82	8.402	8.413	(0.935)	593768	10.0000	10.6	
21 2-Nitrophenol	139	8.509	8.509	(0.946)	190271	10.0000	9.95	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1315.D
Report Date: 18-Jan-2021 13:15

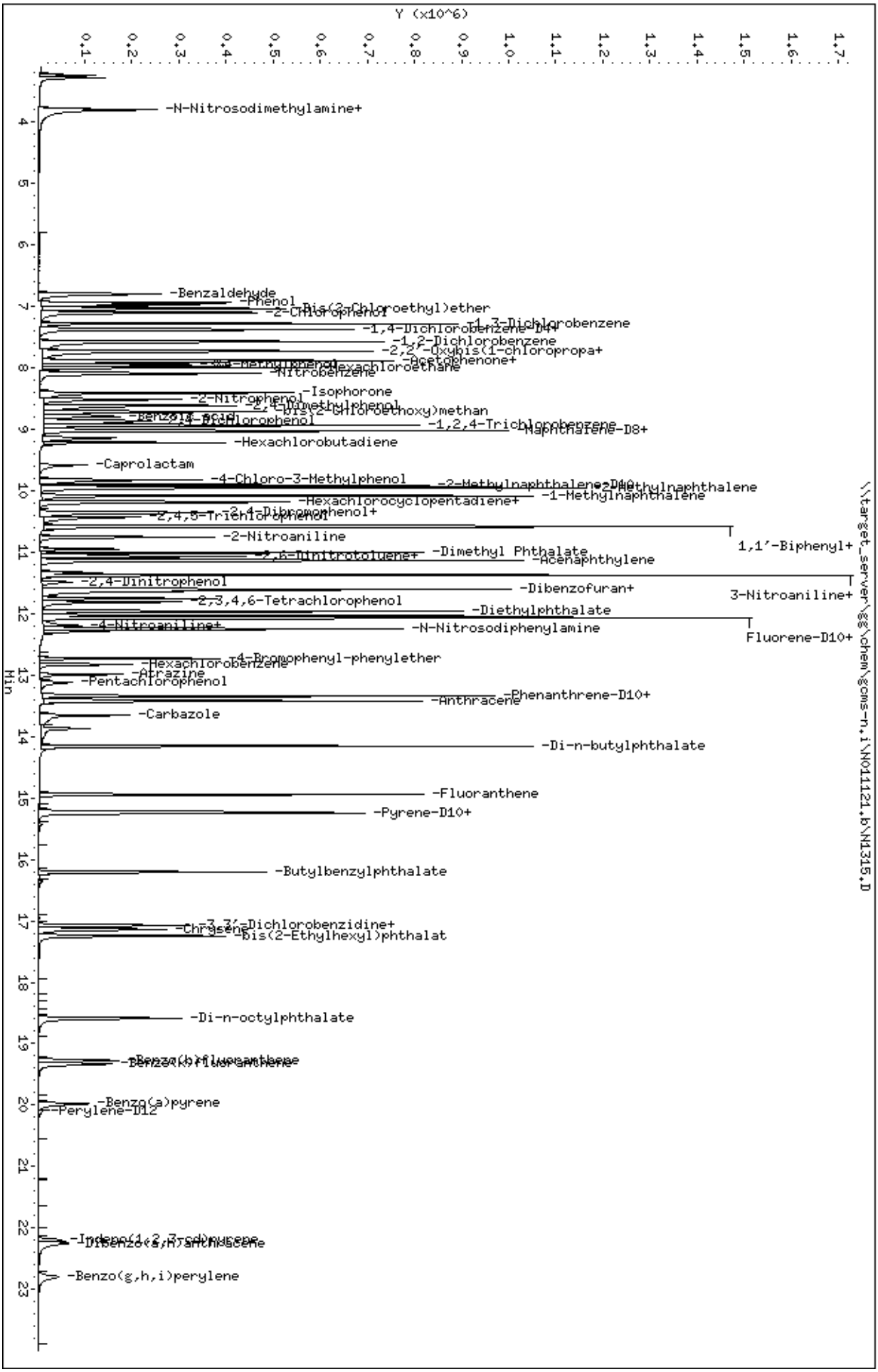
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.616	8.616	(0.958)	311392	10.0000	9.59	
	23 bis(2-Chloroethoxy)methane	93	8.712	8.712	(0.969)	369358	10.0000	9.81	
	24 Benzoic acid	105	8.787	8.809	(0.977)	195690	10.0000	10.2	
	25 2,4-Dichlorophenol	162	8.862	8.862	(0.986)	323438	10.0000	10.1	
	26 1,2,4-Trichlorobenzene	180	8.937	8.937	(0.994)	348993	10.0000	9.94	
*	27 Naphthalene-D8	136	8.990	8.990	(1.000)	70644	0.80000	(a)	
	28 Naphthalene	128	9.022	9.022	(1.004)	923332	10.0000	9.24	
	29 4-Chloroaniline	127	9.022	9.022	(1.004)	125473	10.0000	5.58	
	30 Hexachlorobutadiene	225	9.215	9.215	(1.025)	150619	10.0000	9.80	
	31 Caprolactam	113	9.585	9.594	(1.066)	93100	10.0000	10.0	
	32 4-Chloro-3-Methylphenol	107	9.821	9.821	(1.092)	268065	10.0000	10.1	
$	33 2-Methylnaphthalene-D10	152	9.900	9.900	(1.101)	488808	10.0000	9.99	
	34 2-Methylnaphthalene	142	9.949	9.949	(1.107)	622491	10.0000	9.24	
	35 1-Methylnaphthalene	142	10.077	10.077	(1.121)	573367	10.0000	10.2	
	36 Hexachlorocyclopentadiene	237	10.175	10.175	(0.898)	117469	10.0000	9.78	
	37 1,2,4,5-Tetrachlorobenzene	216	10.185	10.185	(0.899)	269455	10.0000	9.39	
$	38 2,4-Dibromophenol	252	10.342	10.342	(0.913)	146040	10.0000	10.1	
	39 2,4,6-Trichlorophenol	196	10.362	10.352	(0.915)	198378	10.0000	10.0	
	40 2,4,5-Trichlorophenol	196	10.431	10.421	(0.921)	241144	10.0000	9.17	
	41 1,1'-Biphenyl	154	10.575	10.575	(0.934)	740769	10.0000	9.82	
	42 2-Chloronaphthalene	164	10.586	10.586	(0.935)	198308	10.0000	9.84	
	43 2-Nitroaniline	65	10.750	10.749	(0.949)	135701	10.0000	10.5	
	44 Dimethyl Phthalate	163	11.011	11.011	(0.972)	697724	10.0000	10.4	
	45 2,6-Dinitrotoluene	165	11.076	11.087	(0.978)	156981	10.0000	10.4	
	46 Acenaphthylene	152	11.131	11.131	(0.983)	907396	10.0000	10.2	
	47 3-Nitroaniline	138	11.327	11.327	(1.000)	32630	10.0000	10.5	
*	48 Acenaphthene-D10	164	11.327	11.327	(1.000)	37054	0.80000	(a)	
	49 Acenaphthene	153	11.371	11.371	(1.004)	578144	10.0000	10.0	
	50 2,4-Dinitrophenol	184	11.480	11.480	(1.013)	53820	10.0000	10.6	
	51 Dibenzofuran	168	11.610	11.610	(1.025)	756685	10.0000	10.2	
	52 2,4-Dinitrotoluene	165	11.076	11.087	(0.978)	156981	10.0000	9.95	
	53 4-Nitrophenol	109	11.632	11.621	(1.027)	52629	10.0000	10.6(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.806	11.806	(1.042)	149491	10.0000	10.6	
	55 Diethylphthalate	149	11.959	11.959	(1.056)	726055	10.0000	10.3	
$	56 Fluorene-D10	174	12.024	12.024	(1.062)	419641	10.0000	10.0(A)	
	57 Fluorene	166	12.068	12.068	(1.065)	596164	10.0000	10.2	
	58 4-Chlorophenyl-phenylether	204	12.079	12.090	(1.066)	299718	10.0000	9.98	
	59 4-Nitroaniline	138	12.177	12.177	(1.075)	68442	10.0000	10.1	
	60 4,6-Dinitro-2-Methylphenol	198	12.199	12.199	(0.916)	82116	10.0000	10.4	
	61 N-Nitrosodiphenylamine	169	12.253	12.253	(0.921)	472040	10.0000	9.50	
	62 4-Bromophenyl-phenylether	248	12.735	12.735	(0.957)	170996	10.0000	10.0	
	63 Hexachlorobenzene	284	12.827	12.827	(0.964)	163815	10.0000	10.2	
	64 Atrazine	200	12.988	13.000	(0.976)	135937	10.0000	10.4	
	65 Pentachlorophenol	266	13.115	13.115	(0.985)	77567	10.0000	9.27	
*	66 Phenanthrene-D10	188	13.311	13.311	(1.000)	50879	0.80000	(a)	
	67 Phenanthrene	178	13.346	13.346	(1.003)	724820	10.0000	10.4	
	68 Anthracene	178	13.415	13.415	(1.008)	726267	10.0000	10.2	
	69 Carbazole	167	13.658	13.658	(1.026)	469111	10.0000	9.37	
	70 Di-n-butylphthalate	149	14.159	14.159	(1.064)	1089465	10.0000	9.95	
	71 Fluoranthene	202	14.947	14.947	(1.123)	619815	10.0000	9.96	
$	72 Pyrene-D10	212	15.225	15.225	(0.891)	411267	10.0000	9.21	
	73 Pyrene	202	15.247	15.247	(0.892)	614613	10.0000	9.92	
	74 Butylbenzylphthalate	149	16.202	16.202	(0.948)	339501	10.0000	8.92	
	75 3,3'-Dichlorobenzidine	252	17.079	17.079	(0.999)	44026	10.0000	7.74	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1315.D
Report Date: 18-Jan-2021 13:15

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.068	17.068	(0.999)	336882	10.0000	9.41	
*	77 Chrysene-D12	240	17.090	17.090	(1.000)	23362	0.80000	(a)	
	78 Chrysene	228	17.135	17.135	(1.003)	360721	10.0000	9.21	
	79 bis(2-Ethylhexyl)phthalate	149	17.246	17.246	(1.009)	467199	10.0000	8.50	
	80 Di-n-octylphthalate	149	18.586	18.586	(1.087)	620594	10.0000	8.67	
	81 Benzo(b)fluoranthene	252	19.271	19.271	(0.958)	256620	10.0000	10.8	
	82 Benzo(k)fluoranthene	252	19.327	19.327	(0.961)	289212	10.0000	9.23(H)	
	83 Benzo(a)pyrene	252	19.989	19.978	(0.994)	198006	10.0000	9.60	
*	84 Perylene-D12	264	20.113	20.101	(1.000)	14260	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.201	22.190	(1.299)	187081	10.0000	8.59	
	86 Dibenzo(a,h)anthracene	278	22.257	22.246	(1.107)	140571	10.0000	10.2	
	87 Benzo(g,h,i)perylene	276	22.796	22.785	(1.133)	177976	10.0000	9.48	
M	88 Total PAHs	100				8833478	180.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
H - Operator selected an alternate compound hit.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Date : 11-JAN-2021 13:19
Client ID:
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Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011121,b\N1315,D
Y (x10^6)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-Bis(2-Chloroethyl)ether
-2-Chlorophenol
-1,4-Dichlorobenzene-D4+
-1,3-Dichlorobenzene
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-Hexachloroethane
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-Benzoic acid
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10
-2-Methylnaphthalene
-Hexachlorocyclopentadiene+
-1-Methylnaphthalene
-2,4,6-Trichlorophenol
-2,4-Dibromophenol+
-2-Nitroaniline
1,1'-Biphenyl+
-2,6-Dinitrotoluene+
-Dimethyl Phthalate
-Acenaphthylene
-2,4-Dinitrophenol
-Dibenzofuran+
3-Nitroaniline+
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline+
-N-Nitrosodiphenylamine
Fluorene-D10+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1316.D
Report Date: 18-Jan-2021 13:15

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1316.D
Lab Smp Id: WG293230-7
Inj Date : 11-JAN-2021 13:52
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293230-7
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 13:52 Cal File: N1316.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.233	3.233	(0.440)	187612	15.0000	15.5(A)	
2 1,4-Dioxane	88	3.285	3.285	(0.447)	205118	15.0000	15.1(A)	
3 N-Nitrosodimethylamine	74	3.779	3.779	(0.514)	290539	15.0000	14.8	
4 Pyridine	79	3.800	3.800	(0.517)	454991	15.0000	15.0(A)	
5 Benzaldehyde	77	6.791	6.791	(0.923)	196874	15.0000	10.9	
6 Phenol	94	6.972	6.972	(0.948)	646434	15.0000	15.2(A)	
7 Bis(2-Chloroethyl)ether	93	7.032	7.032	(0.956)	567230	15.0000	13.2	
8 2-Chlorophenol	128	7.103	7.103	(0.966)	634420	15.0000	15.0	
9 1,3-Dichlorobenzene	146	7.274	7.274	(0.989)	757947	15.0000	14.7	
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.354	(1.000)	27132	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.374	7.374	(1.003)	789943	15.0000	14.2	
12 1,2-Dichlorobenzene	146	7.566	7.566	(1.029)	748631	15.0000	13.9	
13 2,2'-Oxybis(1-chloropropane)	45	7.727	7.727	(1.051)	419400	15.0000	14.8	
14 2-Methylphenol	108	7.737	7.737	(1.052)	543224	15.0000	14.8	
15 Acetophenone	105	7.878	7.878	(0.876)	785651	15.0000	14.7	
16 N-Nitroso-di-n-propylamine	70	7.898	7.898	(1.074)	345350	15.0000	14.9	
17 3&4-Methylphenol	108	7.948	7.948	(1.081)	500547	15.0000	14.8	
18 Hexachloroethane	117	7.988	7.988	(1.086)	279585	15.0000	14.8	
19 Nitrobenzene	77	8.089	8.089	(0.900)	538988	15.0000	14.8	
20 Isophorone	82	8.413	8.413	(0.936)	957386	15.0000	15.9(A)	
21 2-Nitrophenol	139	8.509	8.509	(0.946)	310442	15.0000	15.1(A)	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1316.D
Report Date: 18-Jan-2021 13:15

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.616	8.616	(0.958)	500439	15.0000	14.4	
	23 bis(2-Chloroethoxy)methane	93	8.712	8.712	(0.969)	577958	15.0000	14.3	
	24 Benzoic acid	105	8.809	8.809	(0.980)	318729	15.0000	14.9	
	25 2,4-Dichlorophenol	162	8.862	8.862	(0.986)	521148	15.0000	15.2(A)	
	26 1,2,4-Trichlorobenzene	180	8.937	8.937	(0.994)	555173	15.0000	14.7	
*	27 Naphthalene-D8	136	8.990	8.990	(1.000)	75828	0.80000	(a)	
	28 Naphthalene	128	9.022	9.022	(1.004)	1457890	15.0000	13.6	
	29 4-Chloroaniline	127	9.022	9.022	(1.004)	197540	15.0000	8.18	
	30 Hexachlorobutadiene	225	9.215	9.215	(1.025)	233810	15.0000	14.2	
	31 Caprolactam	113	9.594	9.594	(1.067)	150435	15.0000	15.1(A)	
	32 4-Chloro-3-Methylphenol	107	9.821	9.821	(1.092)	427931	15.0000	15.0	
$	33 2-Methylnaphthalene-D10	152	9.900	9.900	(1.101)	762532	15.0000	14.5	
	34 2-Methylnaphthalene	142	9.949	9.949	(1.107)	980693	15.0000	13.6	
	35 1-Methylnaphthalene	142	10.077	10.077	(1.121)	898240	15.0000	14.8	
	36 Hexachlorocyclopentadiene	237	10.175	10.175	(1.000)	198395	15.0000	15.2(A)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.185	10.185	(1.000)	421729	15.0000	13.6	
$	38 2,4-Dibromophenol	252	10.342	10.342	(1.000)	228522	15.0000	14.6	
	39 2,4,6-Trichlorophenol	196	10.352	10.352	(1.000)	318469	15.0000	14.9	
	40 2,4,5-Trichlorophenol	196	10.421	10.421	(1.000)	377779	15.0000	13.3	
	41 1,1'-Biphenyl	154	10.575	10.575	(1.000)	1154633	15.0000	14.1	
	42 2-Chloronaphthalene	164	10.586	10.586	(1.000)	308572	15.0000	14.1	
	43 2-Nitroaniline	65	10.749	10.749	(1.000)	211503	15.0000	15.2(A)	
	44 Dimethyl Phthalate	163	11.011	11.011	(1.000)	1065875	15.0000	14.7	
	45 2,6-Dinitrotoluene	165	11.087	11.087	(1.000)	254531	15.0000	15.6(A)	
	46 Acenaphthylene	152	11.131	11.131	(1.000)	1400142	15.0000	14.6	
	47 3-Nitroaniline	138	11.327	11.327	(1.000)	41475	15.0000	14.4	
*	48 Acenaphthene-D10	164	11.327	11.327	(1.000)	40133	0.80000	(aM)	M6
	49 Acenaphthene	153	11.371	11.371	(1.000)	882737	15.0000	14.2	
	50 2,4-Dinitrophenol	184	11.480	11.480	(1.000)	94998	15.0000	14.8	
	51 Dibenzofuran	168	11.610	11.610	(1.000)	1164480	15.0000	14.5	
	52 2,4-Dinitrotoluene	165	11.087	11.087	(1.000)	254531	15.0000	14.9	
	53 4-Nitrophenol	109	11.621	11.621	(1.000)	86578	15.0000	14.8(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.806	11.806	(1.000)	228864	15.0000	15.0	
	55 Diethylphthalate	149	11.959	11.959	(1.000)	1145397	15.0000	15.0	
$	56 Fluorene-D10	174	12.024	12.024	(1.000)	648497	15.0000	14.3(A)	
	57 Fluorene	166	12.068	12.068	(1.000)	913123	15.0000	14.5	
	58 4-Chlorophenyl-phenylether	204	12.090	12.090	(1.000)	464240	15.0000	14.3	
	59 4-Nitroaniline	138	12.177	12.177	(1.000)	107954	15.0000	14.8	
	60 4,6-Dinitro-2-Methylphenol	198	12.199	12.199	(0.916)	136490	15.0000	14.8	
	61 N-Nitrosodiphenylamine	169	12.253	12.253	(0.921)	731894	15.0000	13.7	
	62 4-Bromophenyl-phenylether	248	12.735	12.735	(0.957)	271178	15.0000	14.8	
	63 Hexachlorobenzene	284	12.827	12.827	(0.964)	255181	15.0000	14.8	
	64 Atrazine	200	13.000	13.000	(0.977)	223026	15.0000	16.0(A)	
	65 Pentachlorophenol	266	13.115	13.115	(0.985)	126344	15.0000	14.1	
*	66 Phenanthrene-D10	188	13.311	13.311	(1.000)	54593	0.80000	(a)	
	67 Phenanthrene	178	13.346	13.346	(1.003)	1111528	15.0000	14.8	
	68 Anthracene	178	13.415	13.415	(1.008)	1124534	15.0000	14.7	
	69 Carbazole	167	13.658	13.658	(1.026)	678637	15.0000	12.6(M)	M9
	70 Di-n-butylphthalate	149	14.159	14.159	(1.064)	1774596	15.0000	15.1(A)	
	71 Fluoranthene	202	14.947	14.947	(1.123)	1024261	15.0000	15.3(A)	
$	72 Pyrene-D10	212	15.225	15.225	(0.891)	683357	15.0000	13.5(A)	
	73 Pyrene	202	15.247	15.247	(0.892)	1032176	15.0000	14.7	
	74 Butylbenzylphthalate	149	16.202	16.202	(0.948)	633307	15.0000	14.7	
	75 3,3'-Dichlorobenzidine	252	17.079	17.079	(0.999)	94315	15.0000	14.6	

LCG

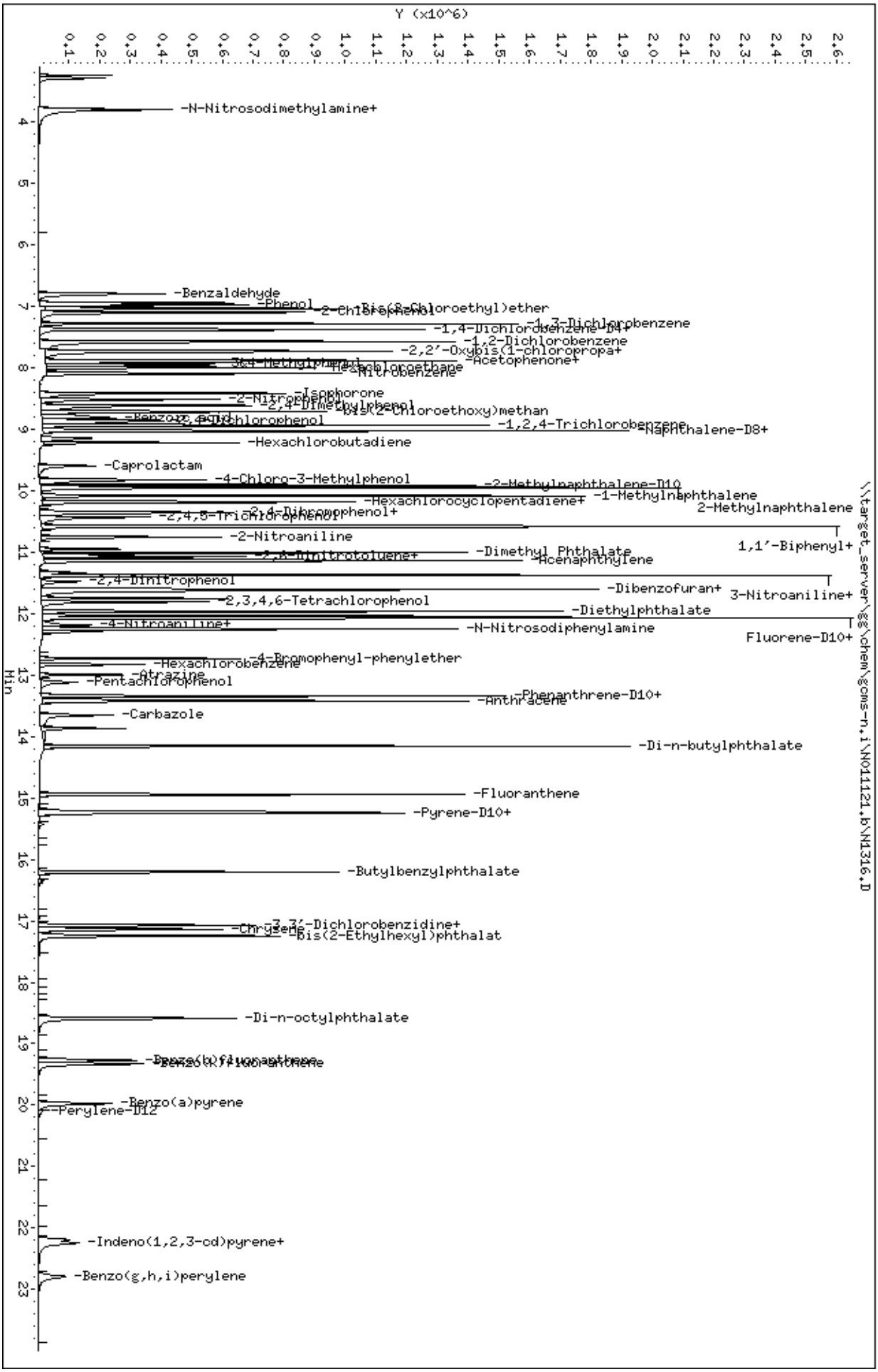
1:45 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1316.D
Report Date: 18-Jan-2021 13:15

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.068	17.068	(0.999)	624931	15.0000	15.4(A)	
*	77 Chrysene-D12	240	17.090	17.090	(1.000)	26488	0.80000	(a)	
	78 Chrysene	228	17.135	17.135	(1.003)	675917	15.0000	15.1(A)	
	79 bis(2-Ethylhexyl)phthalate	149	17.246	17.246	(1.009)	892571	15.0000	14.3	
	80 Di-n-octylphthalate	149	18.586	18.586	(1.087)	1238563	15.0000	15.3(A)	
	81 Benzo(b)fluoranthene	252	19.271	19.271	(0.959)	460041	15.0000	14.6	
	82 Benzo(k)fluoranthene	252	19.327	19.327	(0.961)	581457	15.0000	14.0(H)	
	83 Benzo(a)pyrene	252	19.978	19.978	(0.994)	385059	15.0000	14.1	
*	84 Perylene-D12	264	20.101	20.101	(1.000)	18927	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.190	22.190	(1.298)	353669	15.0000	14.3	
	86 Dibenzo(a,h)anthracene	278	22.246	22.246	(1.107)	264619	15.0000	14.4	
	87 Benzo(g,h,i)perylene	276	22.785	22.785	(1.133)	329399	15.0000	13.2	
M	88 Total PAHs	100				14500416	270.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-n,i\N011121,b\N1316,D
Date : 11-JAN-2021 13:52
Client ID:
Sample Info: WG293230-7
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011121,b\N1316,D
Y (x10^6)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-2-Chlorophenol
-Bis(2-Chloroethyl)ether
-1,4-Dichlorobenzene-D4+
-1,3-Dichlorobenzene
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol
-Hexachloroethane
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan
-Benzoic acid
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10
-Hexachlorocyclopentadiene+
-1-Methylnaphthalene
2-Methylnaphthalene
-2,4-Dimethylphenol+
-2,4,5-Trichlorophenol
-2-Nitroaniline
1,1'-Biphenyl+
-2,6-Dinitrotoluene+
-Dimethyl Phthalate
-Acenaphthylene
-2,4-Dinitrophenol
-Dibenzofuran+
3-Nitroaniline+
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline+
-N-Nitrosodiphenylamine
Fluorene-D10+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-Bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1317.D
Report Date: 12-Jan-2021 10:46

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1317.D
Lab Smp Id: WG293230-8
Inj Date : 11-JAN-2021 14:24
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293230-8
Misc Info : WG293230,WG293230,WG293230-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 11-Jan-2021 14:40 gcms-n.i Quant Type: ISTD
Cal Date : 11-JAN-2021 13:52 Cal File: N1316.D
Als bottle: 8 QC Sample: INDCHECK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: KATHADIN-50E985

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
2 1,4-Dioxane	88	3.307	3.285	(0.450)	66400	4.71354	4.71	
3 N-Nitrosodimethylamine	74	3.800	3.779	(0.517)	99471	4.88557	4.88	
4 Pyridine	79	3.831	3.800	(0.521)	191178	5.20741	5.21	
5 Benzaldehyde	77	6.811	6.791	(0.926)	27055	1.44715	1.45(R)	
6 Phenol	94	6.982	6.972	(0.949)	235203	5.33394	5.33	
7 Bis(2-Chloroethyl)ether	93	7.032	7.032	(0.956)	203467	4.56034	4.56	
8 2-Chlorophenol	128	7.103	7.103	(0.966)	230609	5.26920	5.27	
9 1,3-Dichlorobenzene	146	7.274	7.274	(0.989)	260986	4.88359	4.88	
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.354	(1.000)	28072	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.374	7.374	(1.003)	283389	4.93030	4.93	
12 1,2-Dichlorobenzene	146	7.566	7.566	(1.029)	259778	4.66344	4.66	
13 2,2'-Oxybis(1-chloropropane)	45	7.727	7.727	(1.051)	95457	3.26113	3.26(QR)	
14 2-Methylphenol	108	7.737	7.737	(1.052)	200318	5.27217	5.27	
15 Acetophenone	105	7.878	7.878	(0.876)	274253	4.81447	4.81	
16 N-Nitroso-di-n-propylamine	70	7.898	7.898	(1.074)	118746	4.95526	4.96	
17 3&4-Methylphenol	108	7.948	7.948	(1.081)	185623	5.32458	5.32	
18 Hexachloroethane	117	7.988	7.988	(1.086)	92905	4.77111	4.77	
19 Nitrobenzene	77	8.089	8.089	(0.900)	196248	5.06941	5.07	
20 Isophorone	82	8.402	8.413	(0.935)	315047	4.90527	4.90	
21 2-Nitrophenol	139	8.520	8.509	(0.948)	112938	5.16726	5.17	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1317.D
Report Date: 12-Jan-2021 10:46

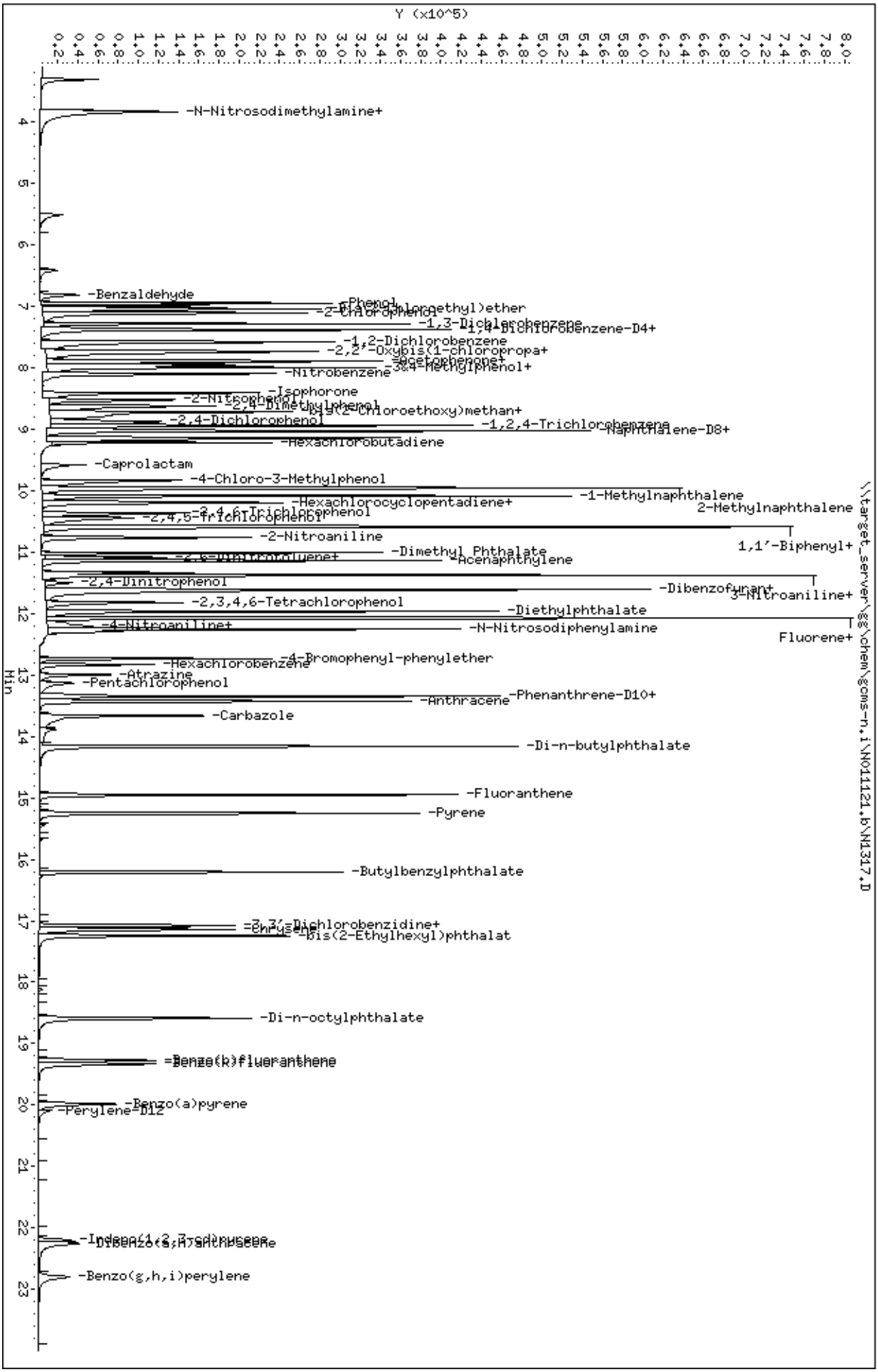
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.616	8.616	(0.958)	156237	4.20671	4.21	
	23 bis(2-Chloroethoxy)methane	93	8.712	8.712	(0.969)	214558	4.98447	4.98	
	24 Benzoic acid	105	8.777	8.809	(0.976)	99645	4.78533	4.78	
	25 2,4-Dichlorophenol	162	8.884	8.862	(0.988)	191236	5.23664	5.24	
	26 1,2,4-Trichlorobenzene	180	8.937	8.937	(0.994)	200257	4.98701	4.99	
*	27 Naphthalene-D8	136	8.991	8.990	(1.000)	80773	0.80000	(a)	
	28 Naphthalene	128	9.023	9.022	(1.004)	525753	4.59951	4.60	
	29 4-Chloroaniline	127	9.023	9.022	(1.004)	71317	2.77301	2.77(QR)	
	30 Hexachlorobutadiene	225	9.215	9.215	(1.025)	85772	4.88207	4.88	
	31 Caprolactam	113	9.575	9.594	(1.065)	51288	4.83078	4.83	
	32 4-Chloro-3-Methylphenol	107	9.831	9.821	(1.093)	159877	5.25947	5.26	
	34 2-Methylnaphthalene	142	9.949	9.949	(1.107)	440402	5.71433	5.71	
	35 1-Methylnaphthalene	142	10.077	10.077	(1.121)	339624	5.26583	5.26	
	36 Hexachlorocyclopentadiene	237	10.175	10.175	(0.898)	39674	2.73156	2.73(R)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.195	10.185	(0.900)	169058	4.87151	4.87	
	39 2,4,6-Trichlorophenol	196	10.362	10.352	(0.915)	111888	4.68561	4.68	
	40 2,4,5-Trichlorophenol	196	10.441	10.421	(0.922)	148867	4.68013	4.68	
	41 1,1'-Biphenyl	154	10.575	10.575	(0.934)	422220	4.62714	4.63	
	42 2-Chloronaphthalene	164	10.597	10.586	(0.936)	113558	4.65514	4.66	
	43 2-Nitroaniline	65	10.761	10.749	(0.950)	97320	6.24764	6.25(R)	
	44 Dimethyl Phthalate	163	11.011	11.011	(0.972)	388806	4.78910	4.79	
	45 2,6-Dinitrotoluene	165	11.087	11.087	(0.979)	87646	4.79809	4.80	
	46 Acenaphthylene	152	11.142	11.131	(0.984)	420251	3.91138	3.91(R)	
	47 3-Nitroaniline	138	11.327	11.327	(1.000)	42795	12.3367	12.3(R)	
*	48 Acenaphthene-D10	164	11.327	11.327	(1.000)	44834	0.80000	(a)	
	49 Acenaphthene	153	11.371	11.371	(1.004)	319092	4.58206	4.58	
	50 2,4-Dinitrophenol	184	11.491	11.480	(1.014)	29598	5.46341	5.46	
	51 Dibenzofuran	168	11.610	11.610	(1.025)	543839	6.05871	6.06(R)	
	52 2,4-Dinitrotoluene	165	11.087	11.087	(0.979)	87646	4.59248	4.59	
	53 4-Nitrophenol	109	11.654	11.621	(1.029)	32474	5.85812	5.86(QH)	
	54 2,3,4,6-Tetrachlorophenol	232	11.818	11.806	(1.043)	76958	4.50305	4.50	
	55 Diethylphthalate	149	11.959	11.959	(1.056)	420341	4.92741	4.93	
	57 Fluorene	166	12.068	12.068	(1.065)	337156	4.79016	4.79	
	58 4-Chlorophenyl-phenylether	204	12.090	12.090	(1.067)	179574	4.94264	4.94	
	59 4-Nitroaniline	138	12.177	12.177	(1.075)	56494	6.91788	6.92(R)	
	60 4,6-Dinitro-2-Methylphenol	198	12.210	12.199	(0.916)	51228	5.61069	5.61	
	61 N-Nitrosodiphenylamine	169	12.253	12.253	(0.920)	229073	3.68300	3.68(R)	
	62 4-Bromophenyl-phenylether	248	12.735	12.735	(0.956)	101573	4.76873	4.77	
	63 Hexachlorobenzene	284	12.827	12.827	(0.963)	96970	4.80418	4.80	
	64 Atrazine	200	13.000	13.000	(0.976)	79883	4.90415	4.90	
	65 Pentachlorophenol	266	13.127	13.115	(0.985)	48281	4.60923	4.61	
*	66 Phenanthrene-D10	188	13.323	13.311	(1.000)	63696	0.80000	(a)	
	67 Phenanthrene	178	13.346	13.346	(1.002)	421781	4.83260	4.83	
	68 Anthracene	178	13.415	13.415	(1.007)	431631	4.83628	4.84	
	69 Carbazole	167	13.669	13.658	(1.026)	381530	6.08892	6.09(R)	
	70 Di-n-butylphthalate	149	14.159	14.159	(1.063)	669178	4.88362	4.88	
	71 Fluoranthene	202	14.948	14.947	(1.122)	407063	5.22563	5.22	
	73 Pyrene	202	15.247	15.247	(0.892)	401604	4.60274	4.60	
	74 Butylbenzylphthalate	149	16.202	16.202	(0.948)	236264	4.40865	4.41	
	75 3,3'-Dichlorobenzidine	252	17.091	17.079	(1.000)	27940	3.48686	3.49(R)	
	76 Benzo(a)anthracene	228	17.068	17.068	(0.999)	223255	4.42987	4.43	
*	77 Chrysene-D12	240	17.091	17.090	(1.000)	32890	0.80000	(a)	
	78 Chrysene	228	17.135	17.135	(1.003)	257262	4.69438	4.69	
	79 bis(2-Ethylhexyl)phthalate	149	17.246	17.246	(1.009)	326821	4.22527	4.22	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1317.D
Report Date: 12-Jan-2021 10:46

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
	80 Di-n-octylphthalate	149	18.586	18.586	(1.087)	438949	4.35762	4.36	
	81 Benzo(b)fluoranthene	252	19.271	19.271	(0.959)	184652	5.39179	5.39	
	82 Benzo(k)fluoranthene	252	19.327	19.327	(0.961)	210989	4.65217	4.65(H)	
	83 Benzo(a)pyrene	252	19.989	19.978	(0.994)	141537	4.74030	4.74	
*	84 Perylene-D12	264	20.102	20.101	(1.000)	20651	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.201	22.190	(1.299)	123042	4.01171	4.01	
	86 Dibenzo(a,h)anthracene	278	22.257	22.246	(1.107)	88503	4.42893	4.43	
	87 Benzo(g,h,i)perylene	276	22.796	22.785	(1.134)	116222	4.27604	4.28	
M	88 Total PAHs	100				5389819	84.9857	85.0	

QC Flag Legend

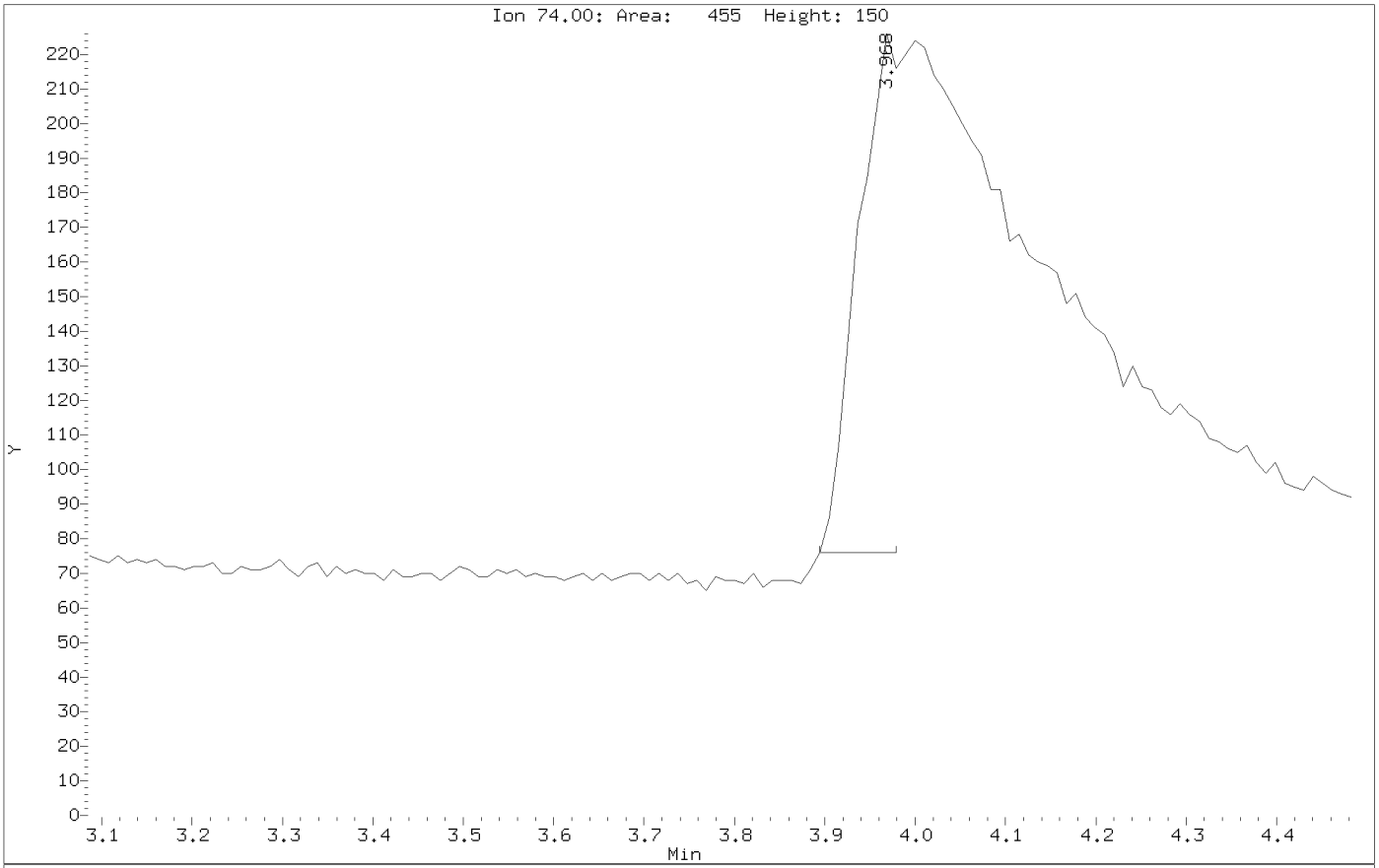
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

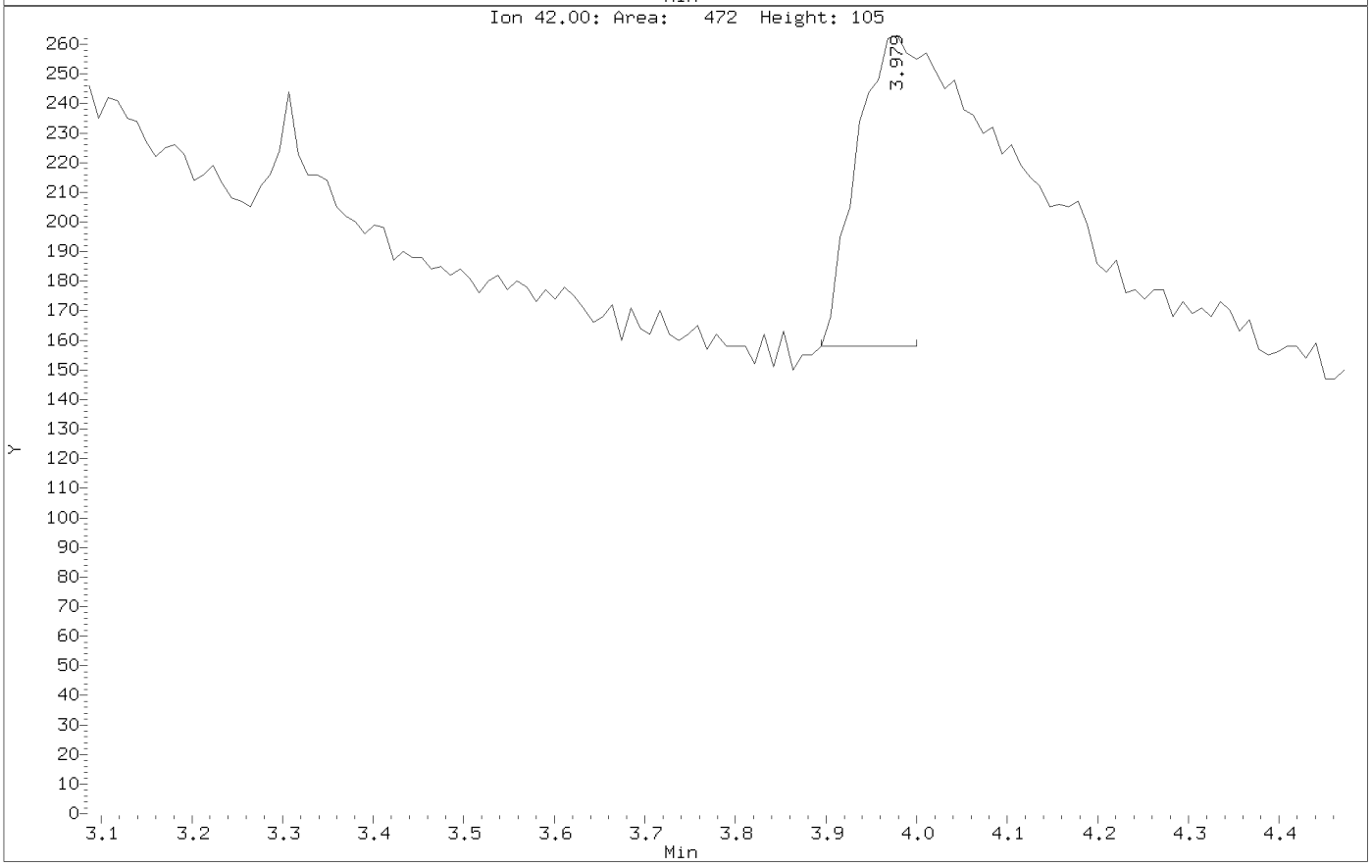

Data File: \\target_server\gg\chem\gcms-n,i\N011121,b\N1317,D
Date : 11-JAN-2021 14:24
Client ID:
Sample Info: WG293230-8
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011121,b\N1317,D
Y (x10^5)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan+
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
2-Methylnaphthalene
-2,4,6-Trichlorophenol
-2,4,5-Trichlorophenol
-2-Nitroaniline
1,1'-Biphenyl+
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-Acenaphthylene
-2,4-Dinitrophenol
-Dibenzofuran+
3-Nitroaniline+
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline+
-N-Nitrosodiphenylamine
Fluorene+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: N-Nitrosodimethylamine
CAS Number: 62-75-9

BEFORE MANUAL INTEGRATION





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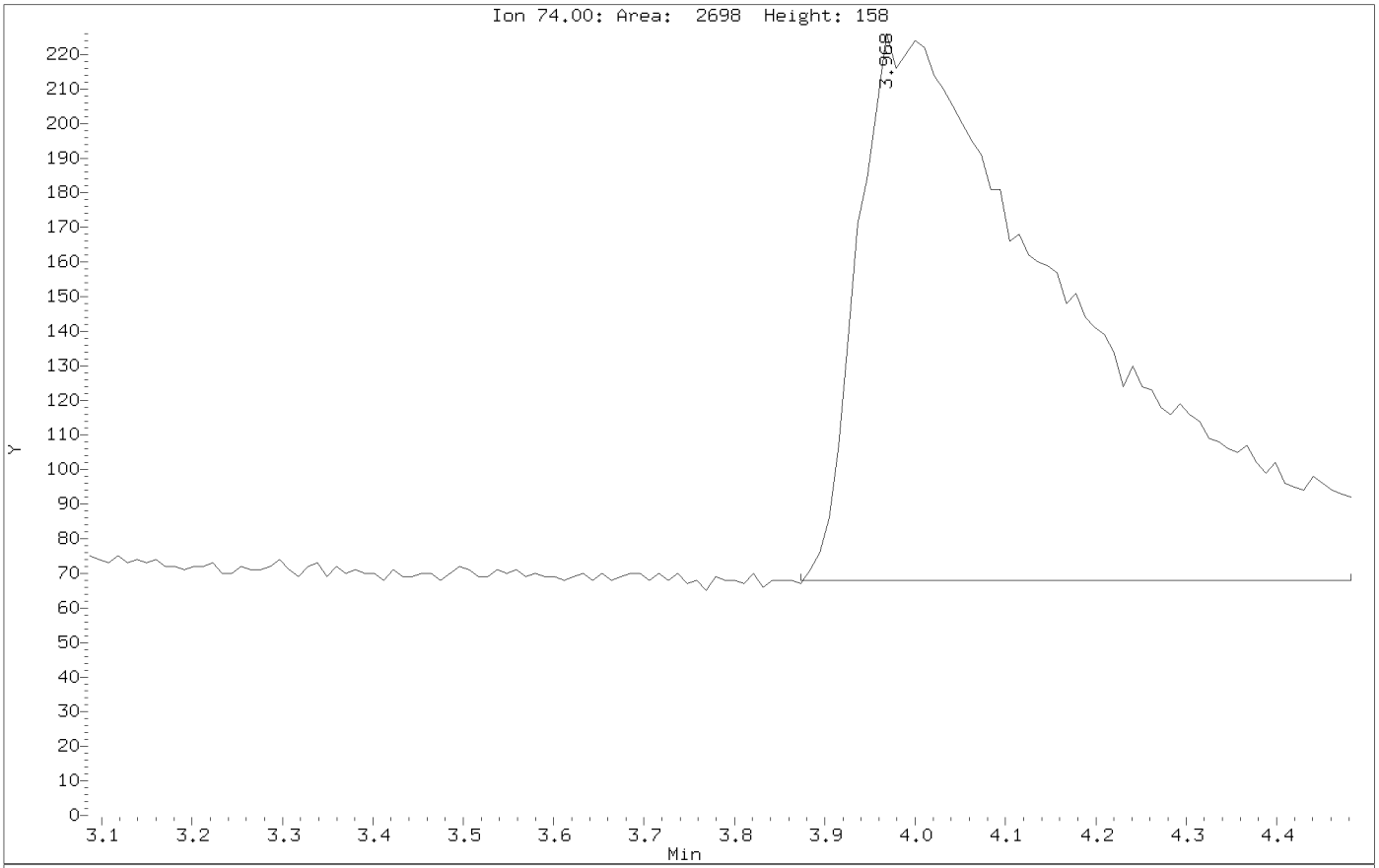
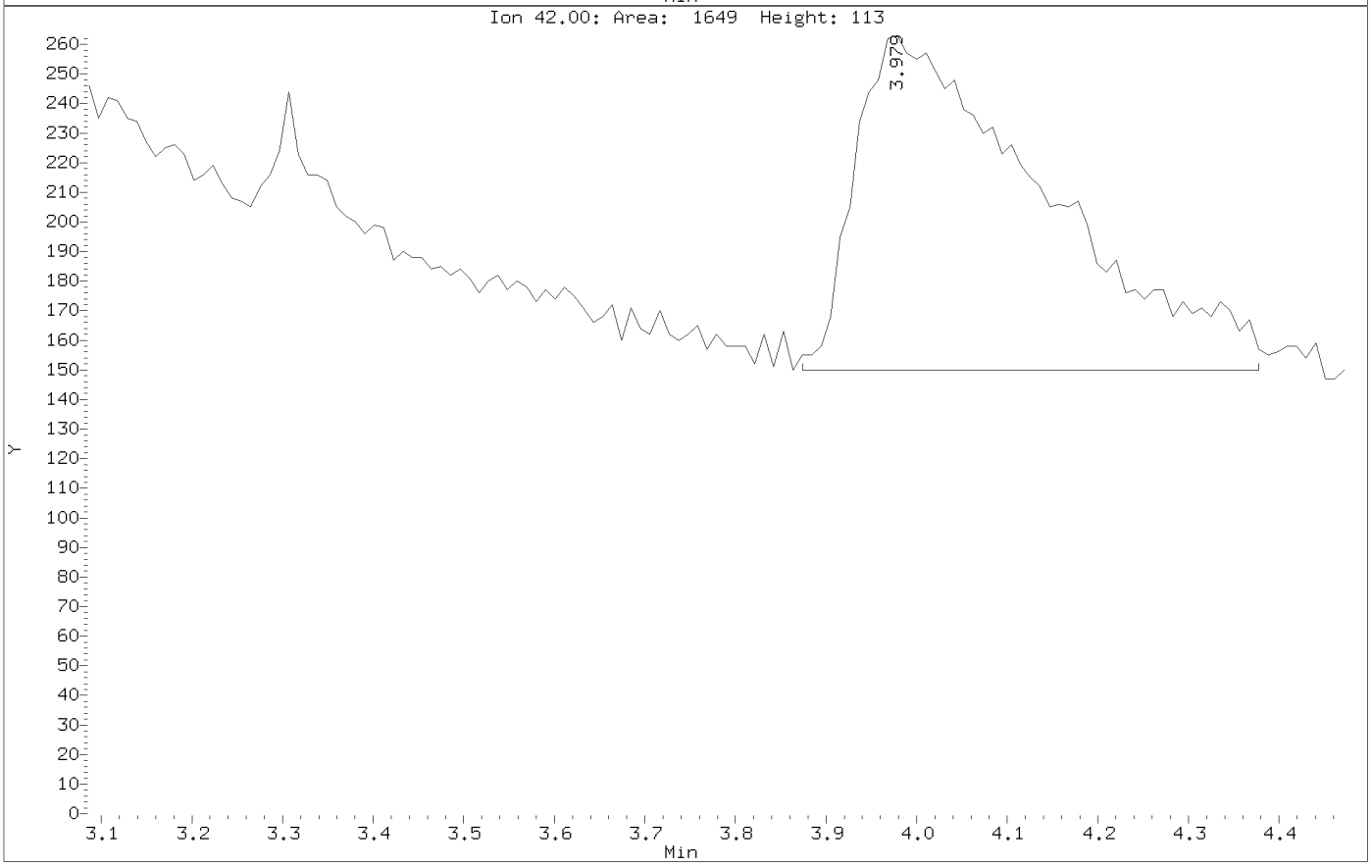
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: N-Nitrosodimethylamine
CAS Number: 62-75-9

AFTER MANUAL INTEGRATION

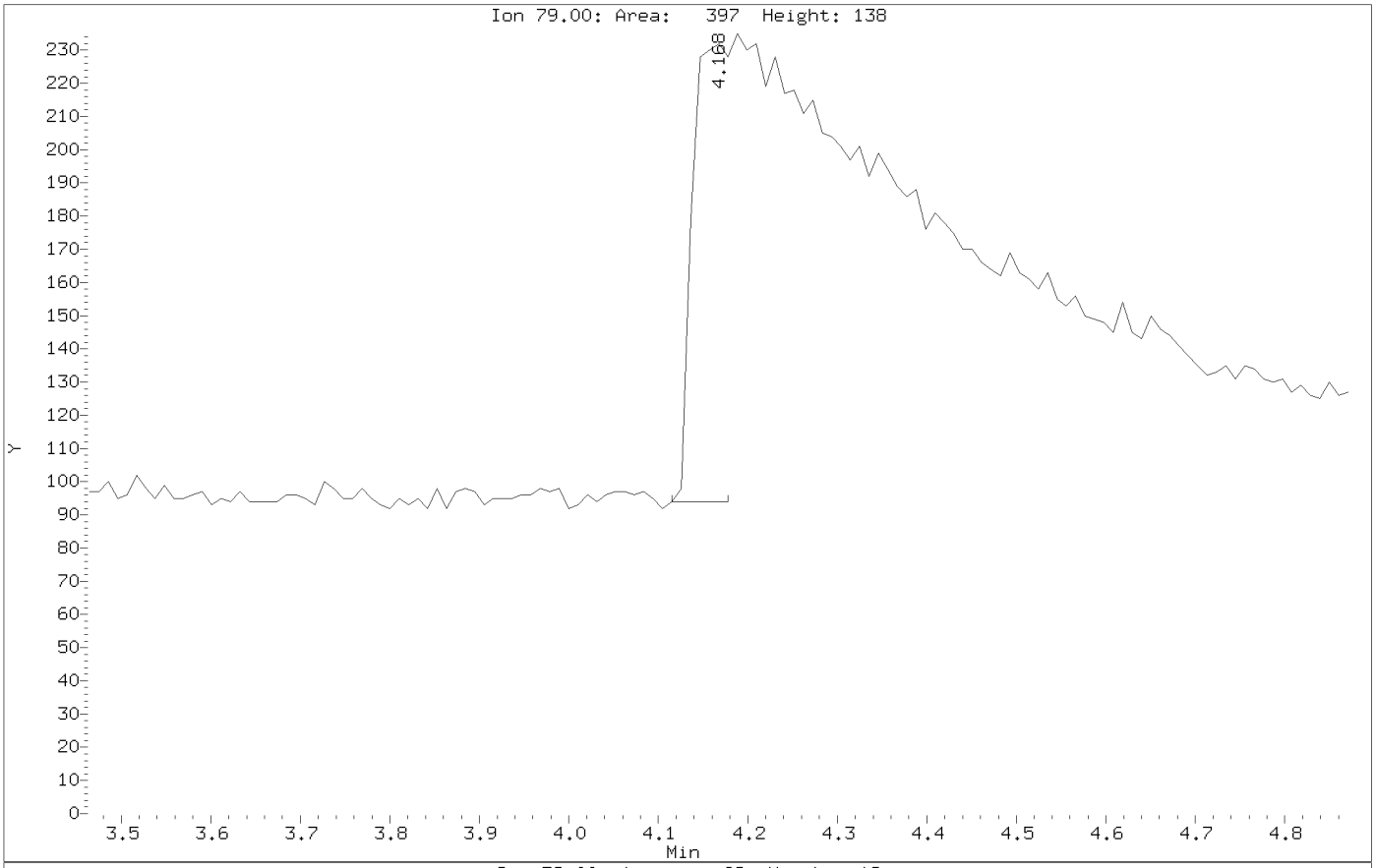


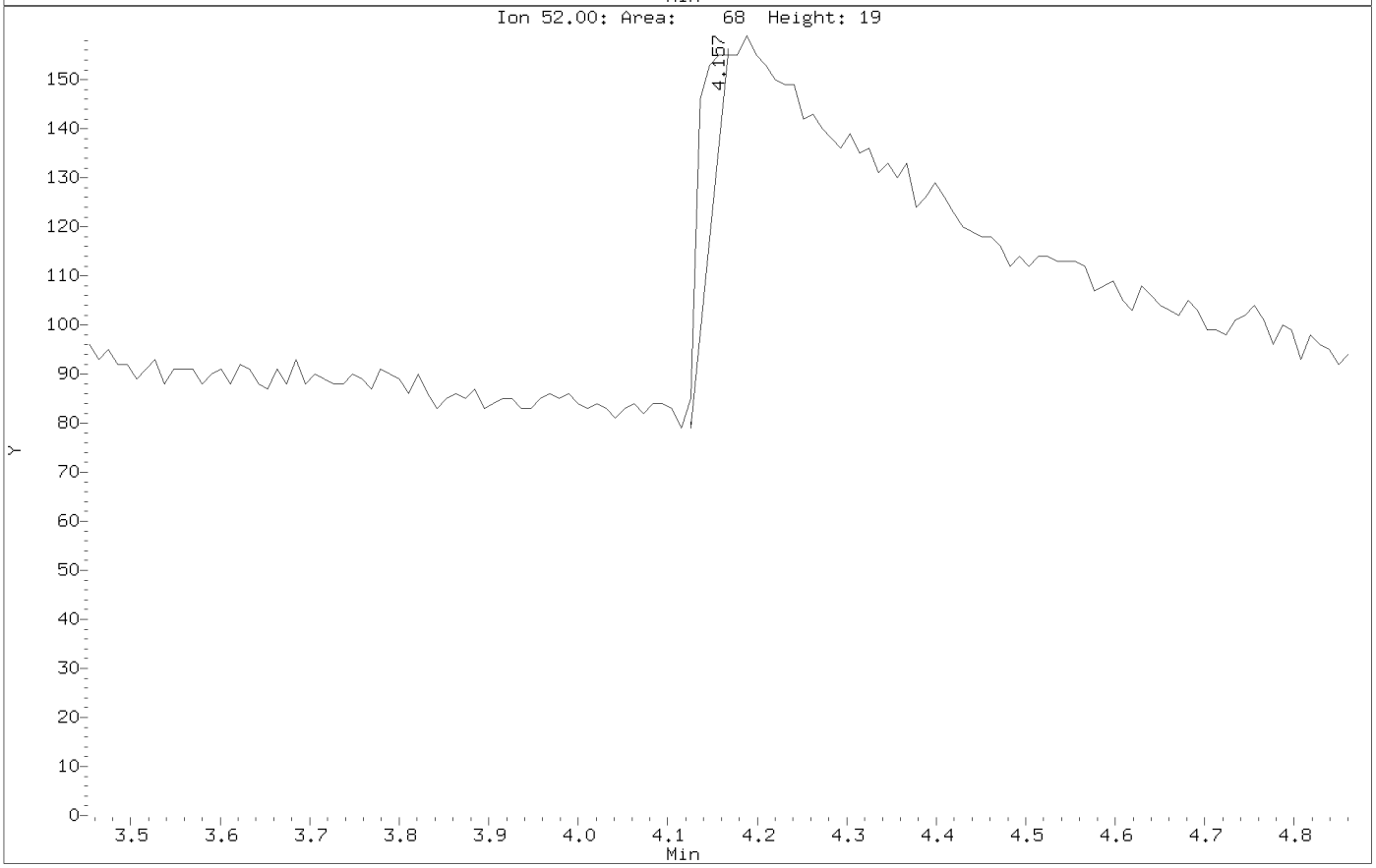


Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: Pyridine
CAS Number: 110-86-1

BEFORE MANUAL INTEGRATION





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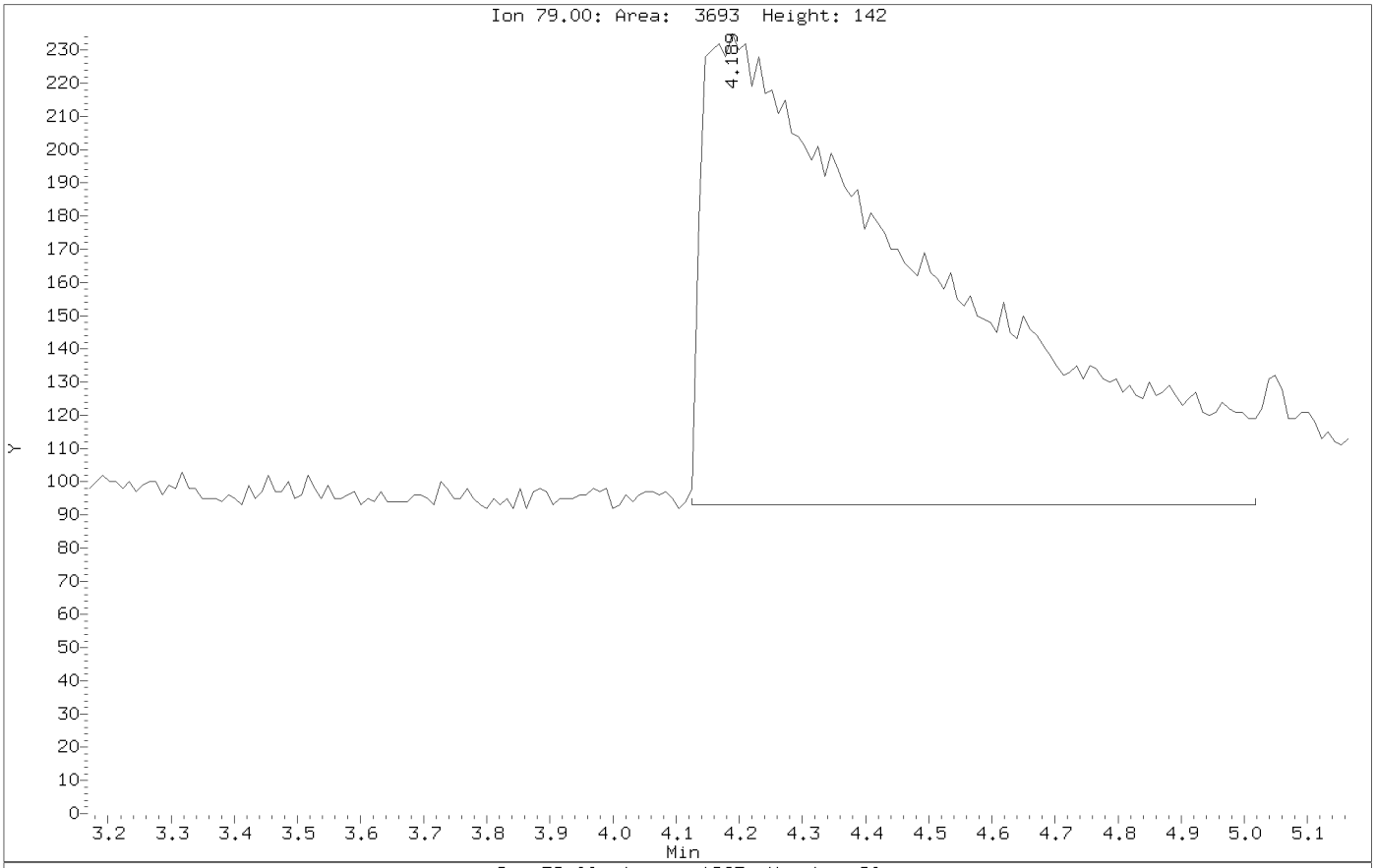
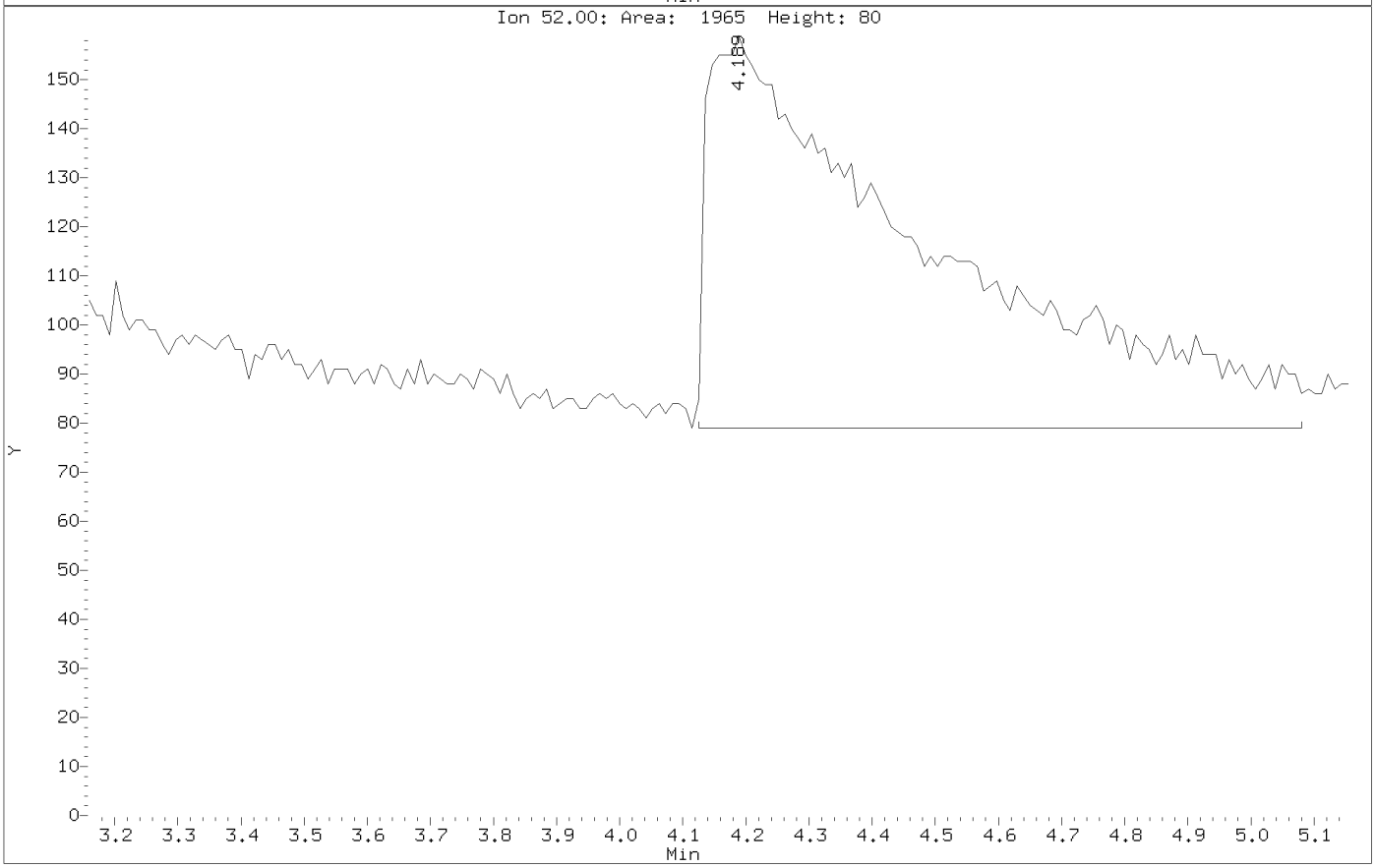
Instrument: gcms-n.i
Client Sample ID:

Compound: Pyridine
CAS Number: 110-86-1

AFTER MANUAL INTEGRATION

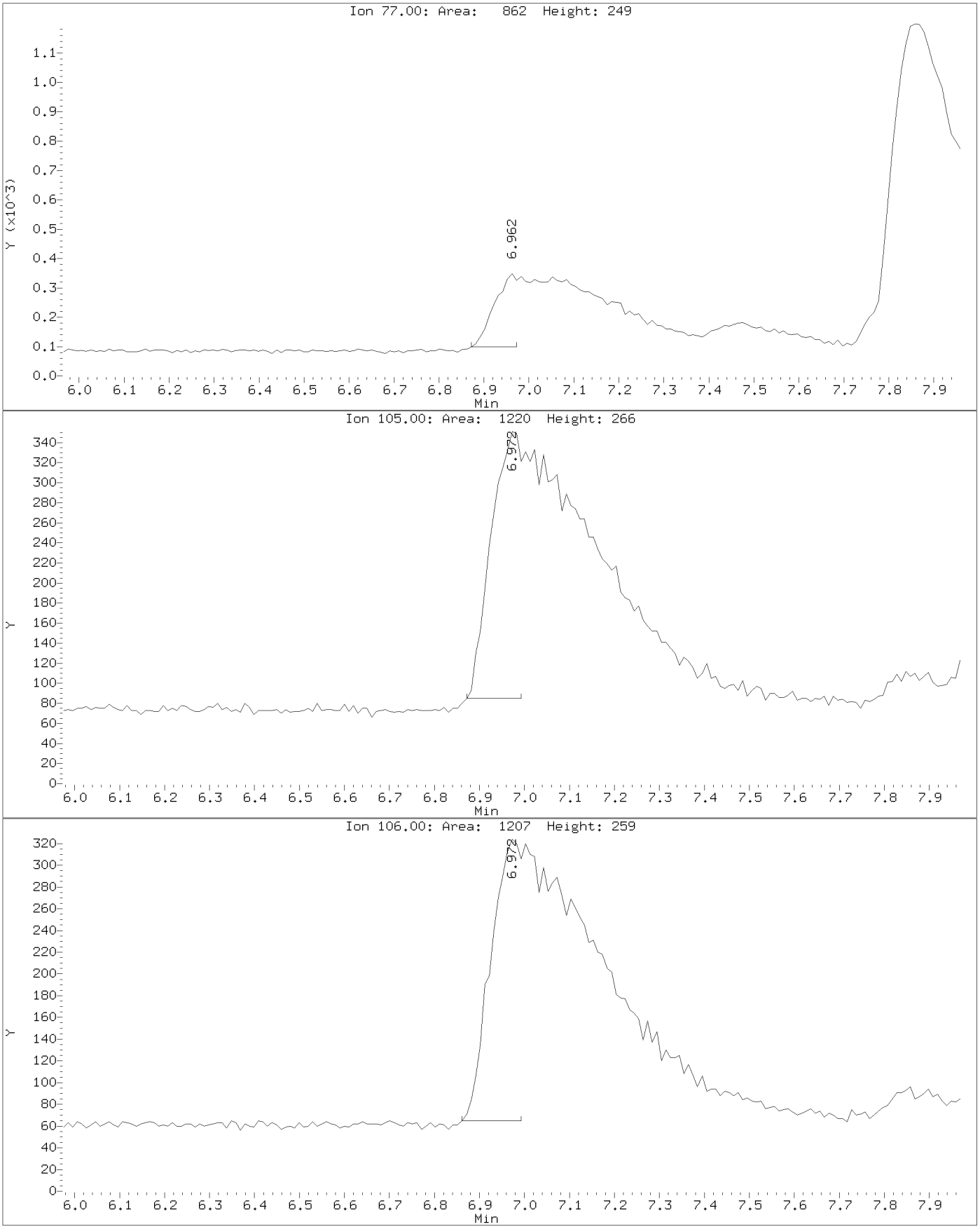




Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: Benzaldehyde
CAS Number: 100-52-7

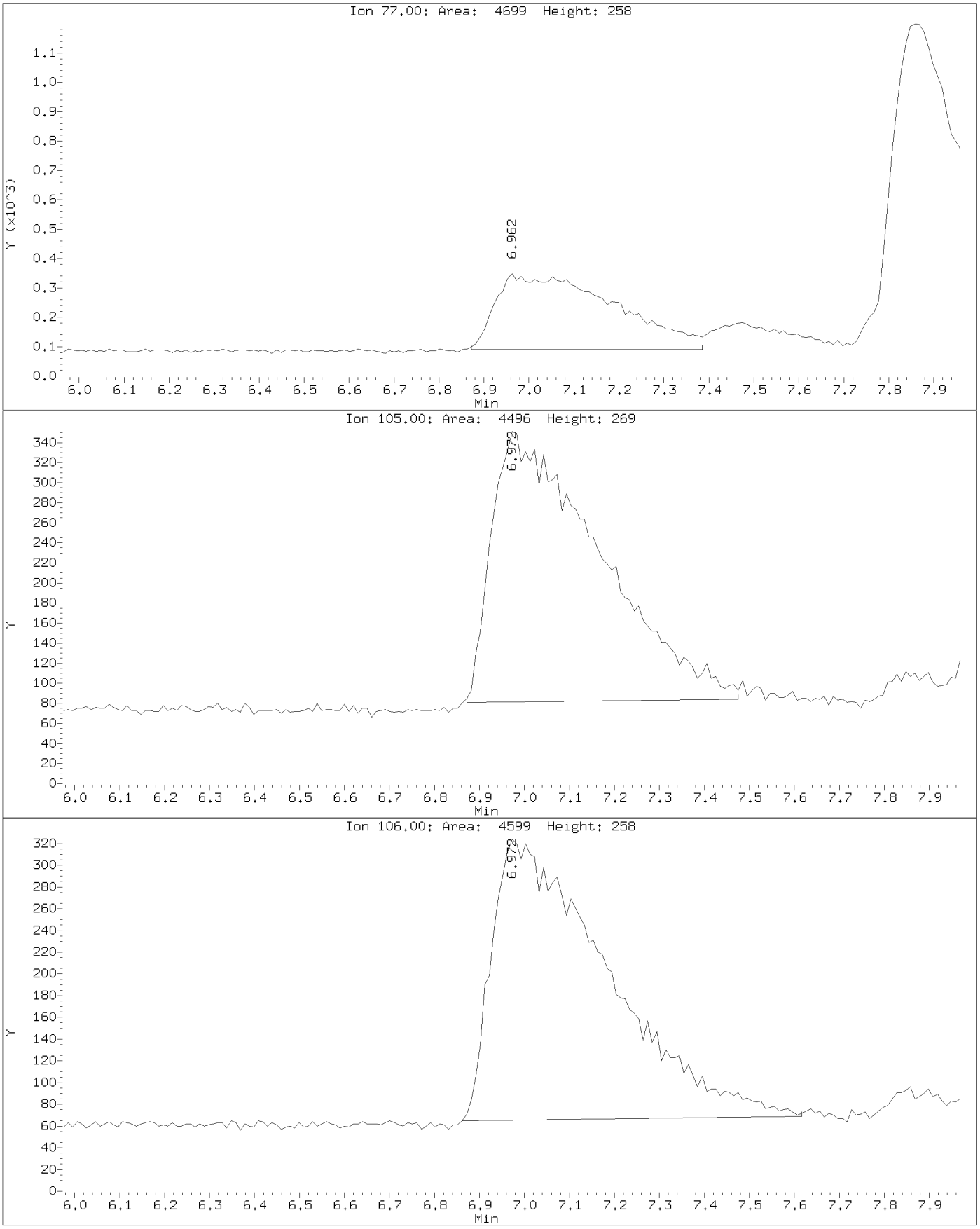
BEFORE MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: Benzaldehyde
CAS Number: 100-52-7

AFTER MANUAL INTEGRATION



BEFORE MANUAL INTEGRATION

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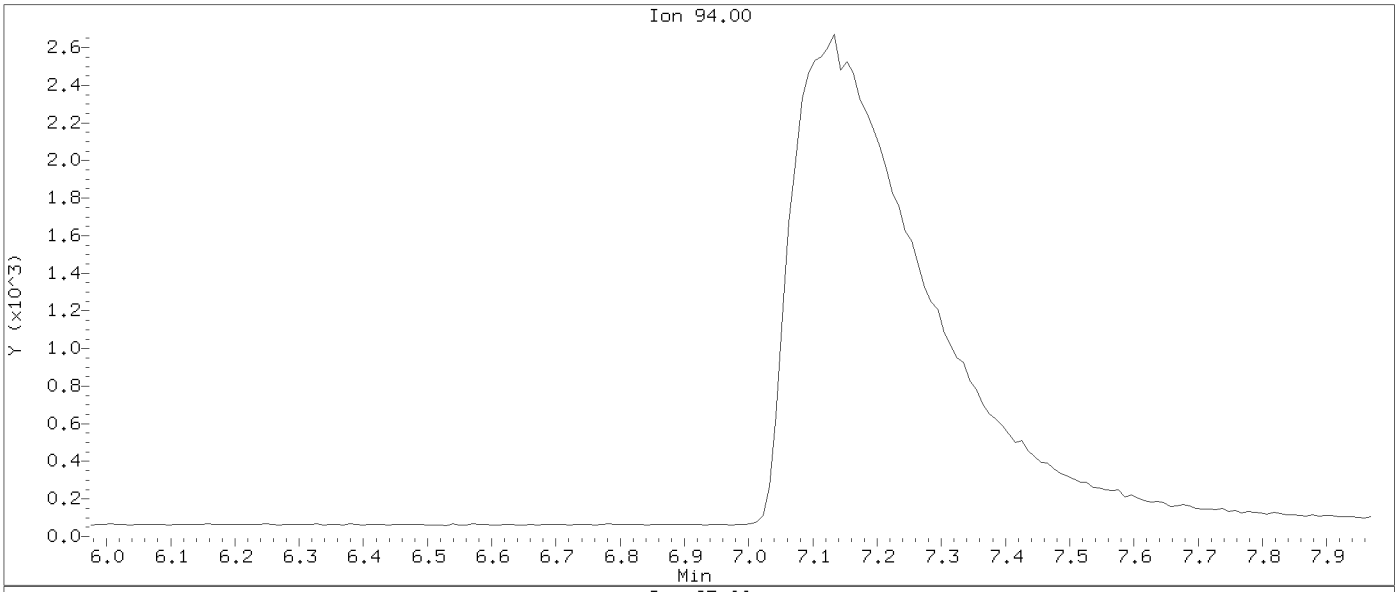
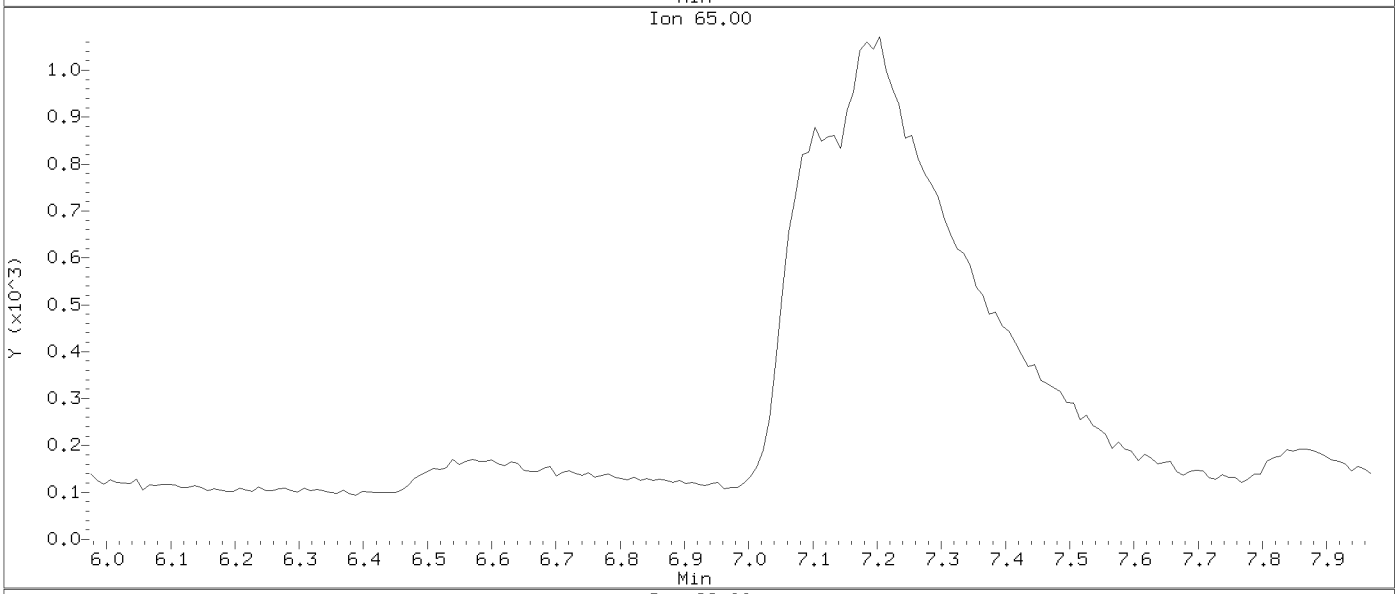
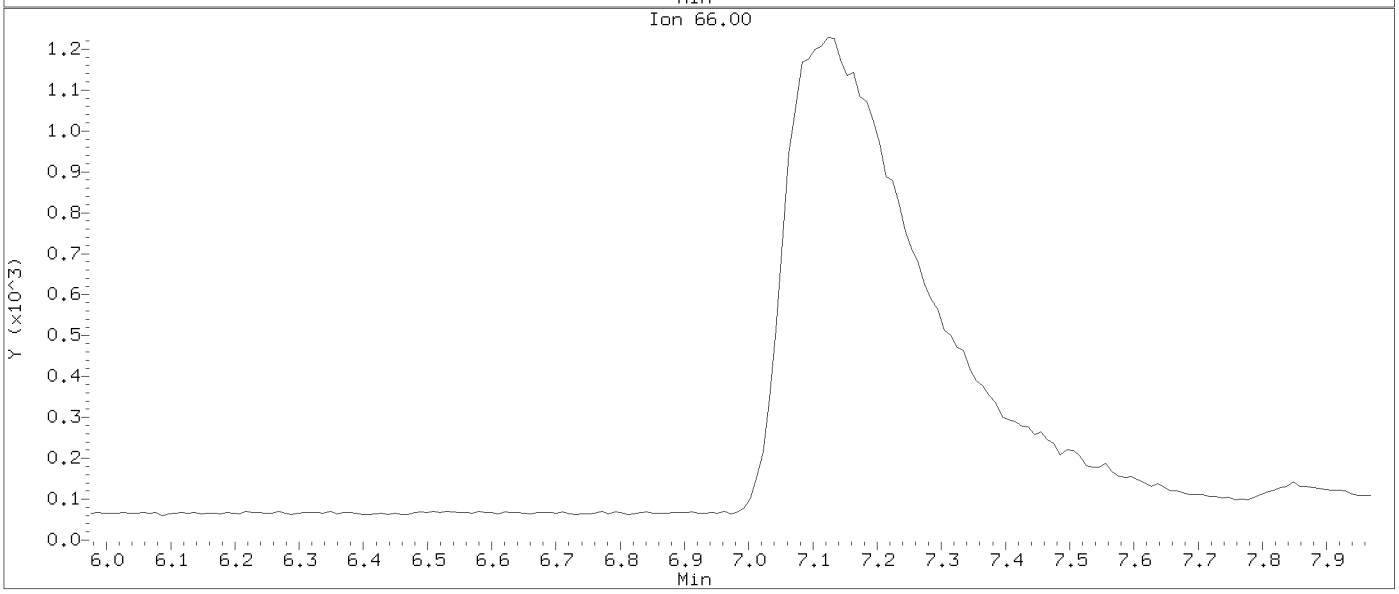
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: Phenol
CAS Number: 108-95-2



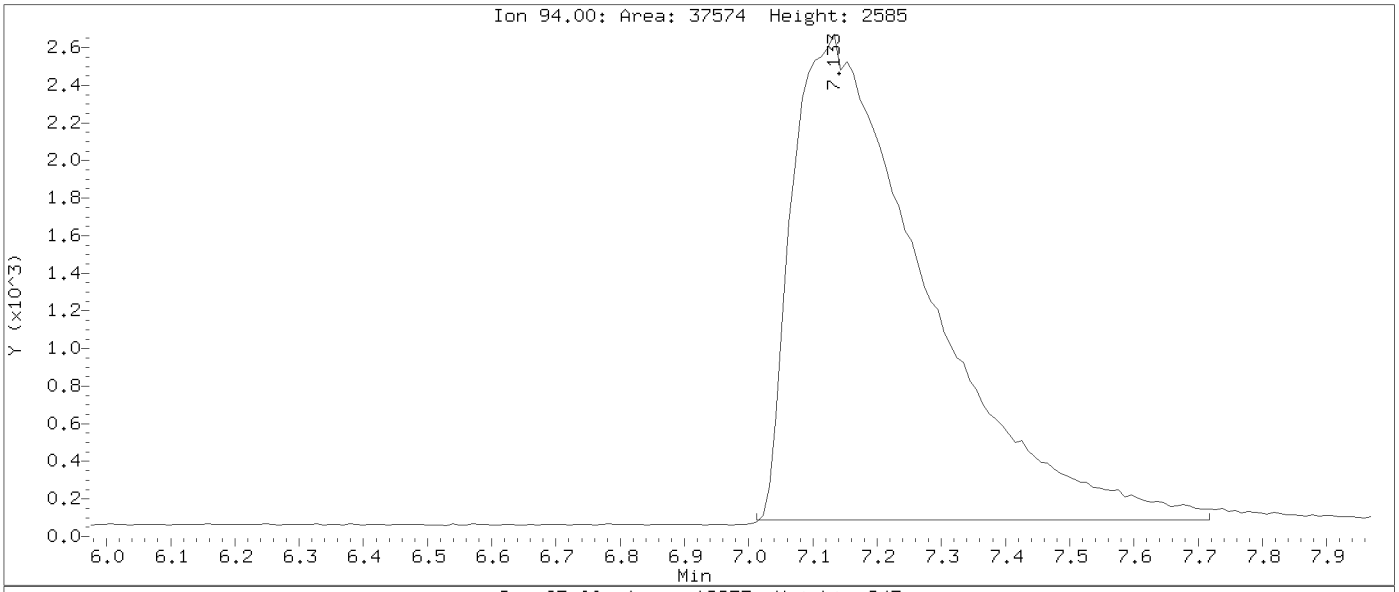


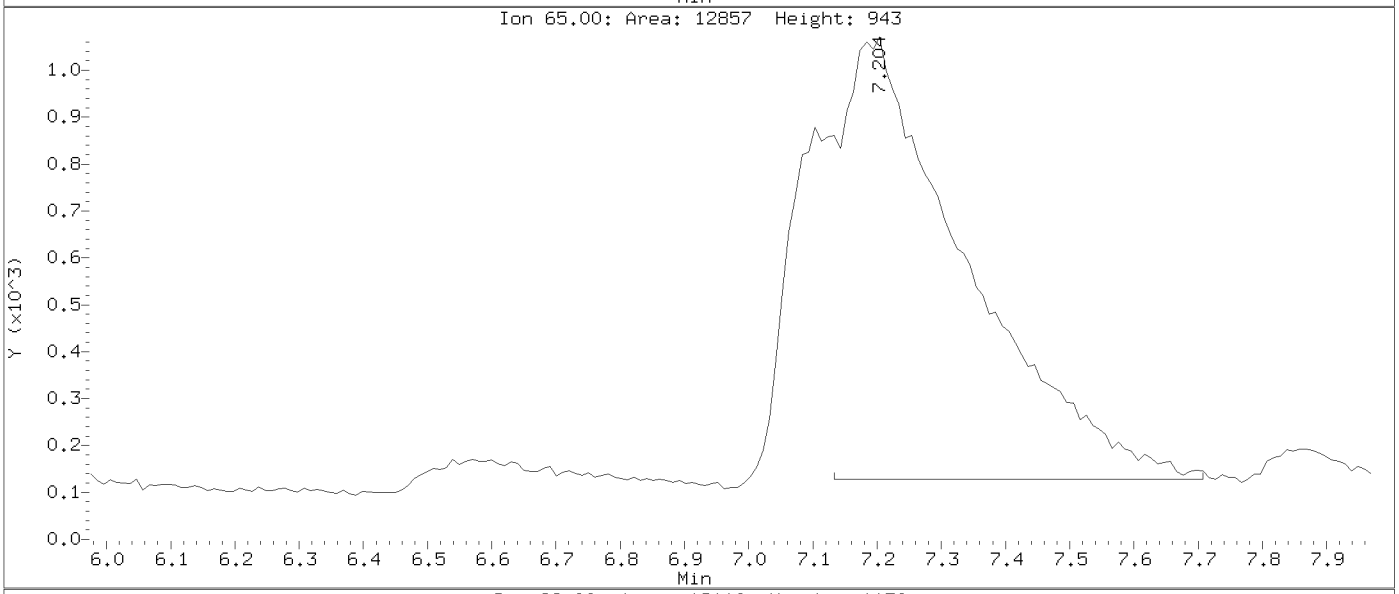


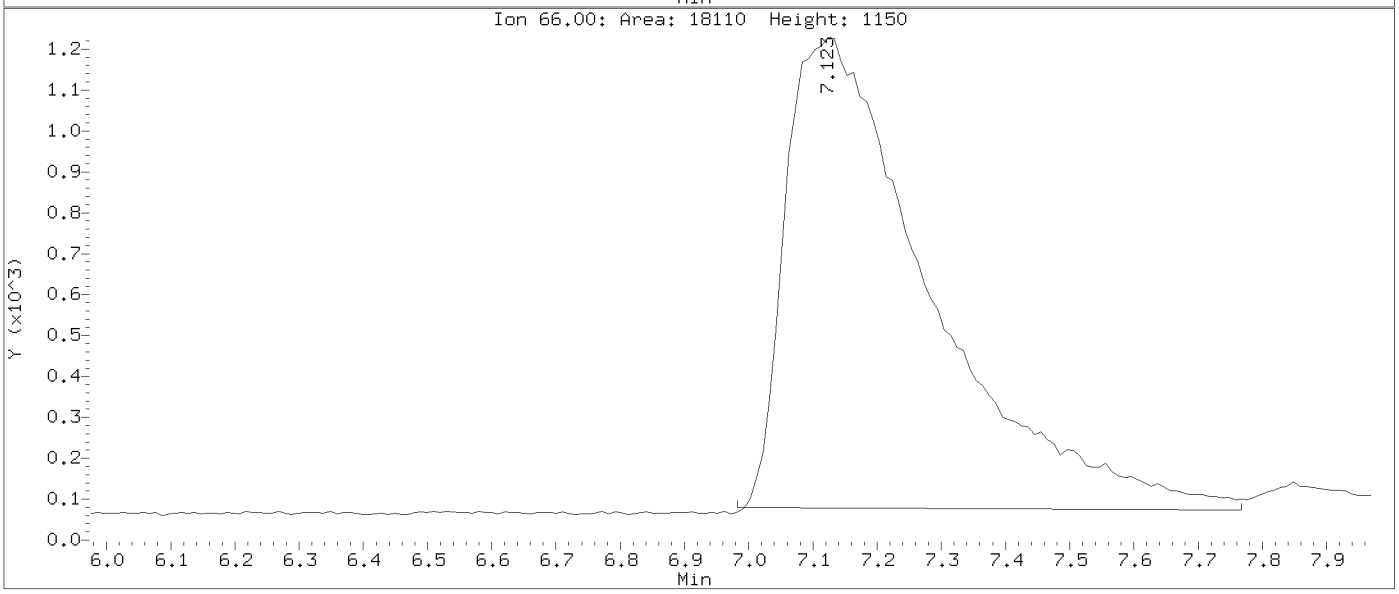
Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: Phenol
CAS Number: 108-95-2

AFTER MANUAL INTEGRATION







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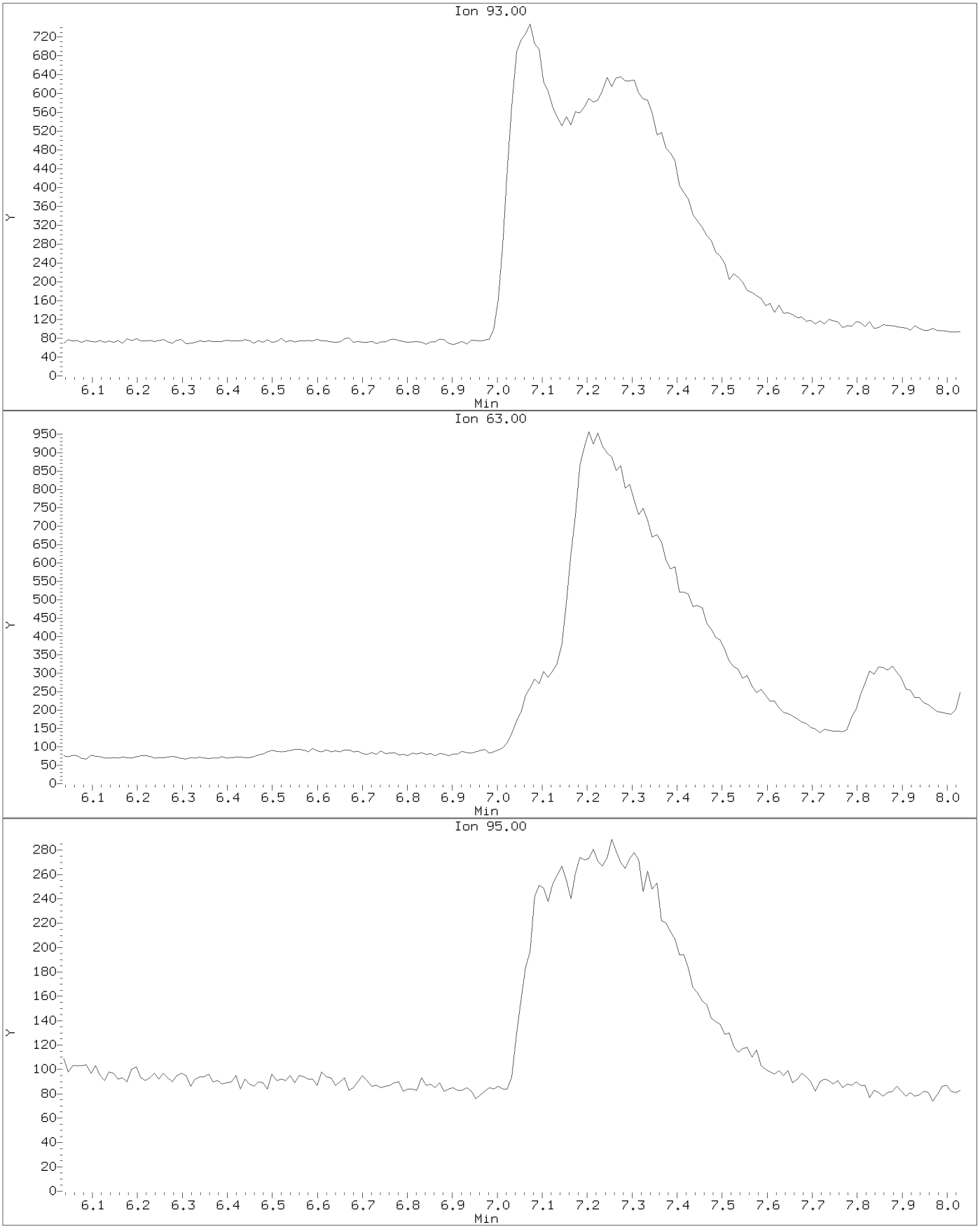
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: Bis(2-Chloroethyl)ether
CAS Number: 111-44-4

BEFORE MANUAL INTEGRATION



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Injection Date: 11-JAN-2021 11:42
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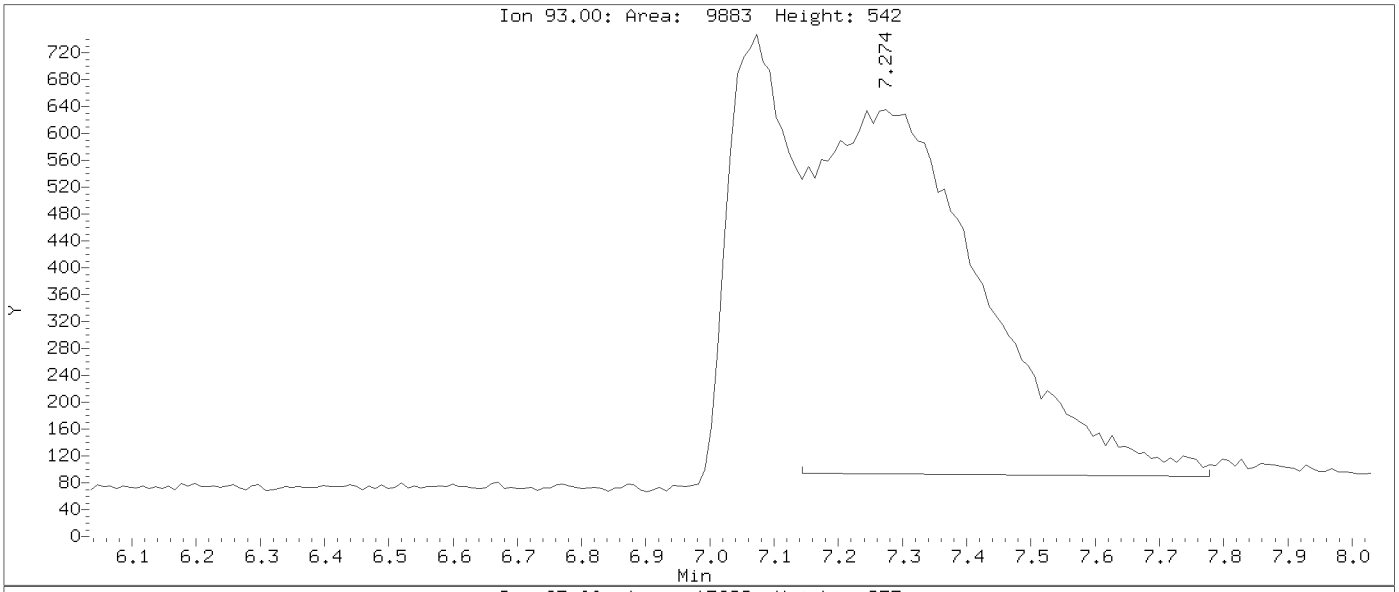
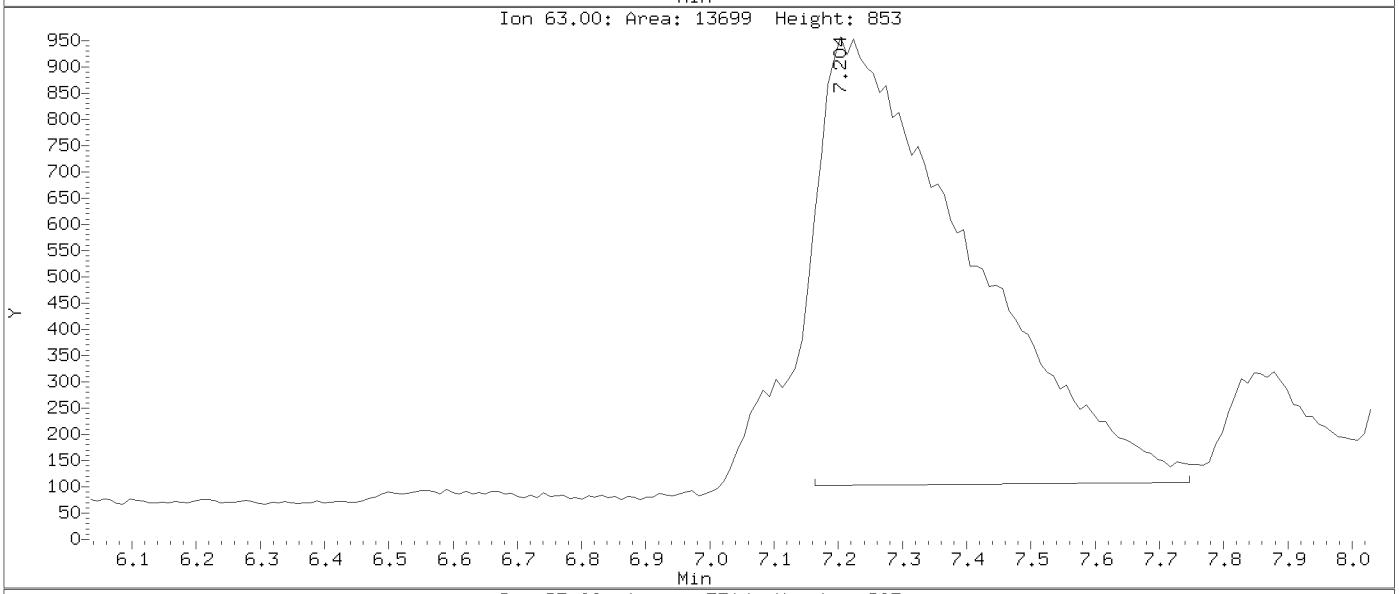
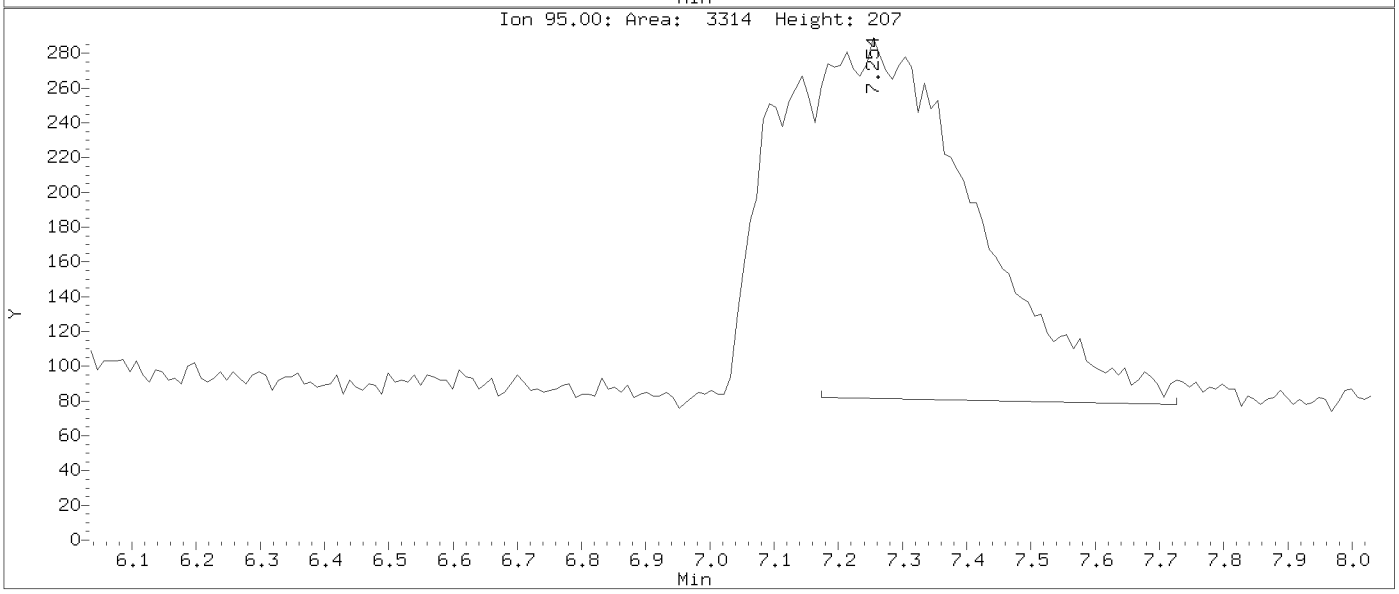
Client Sample ID:

Compound: Bis(2-Chloroethyl)ether
CAS Number: 111-44-4

AFTER MANUAL INTEGRATION



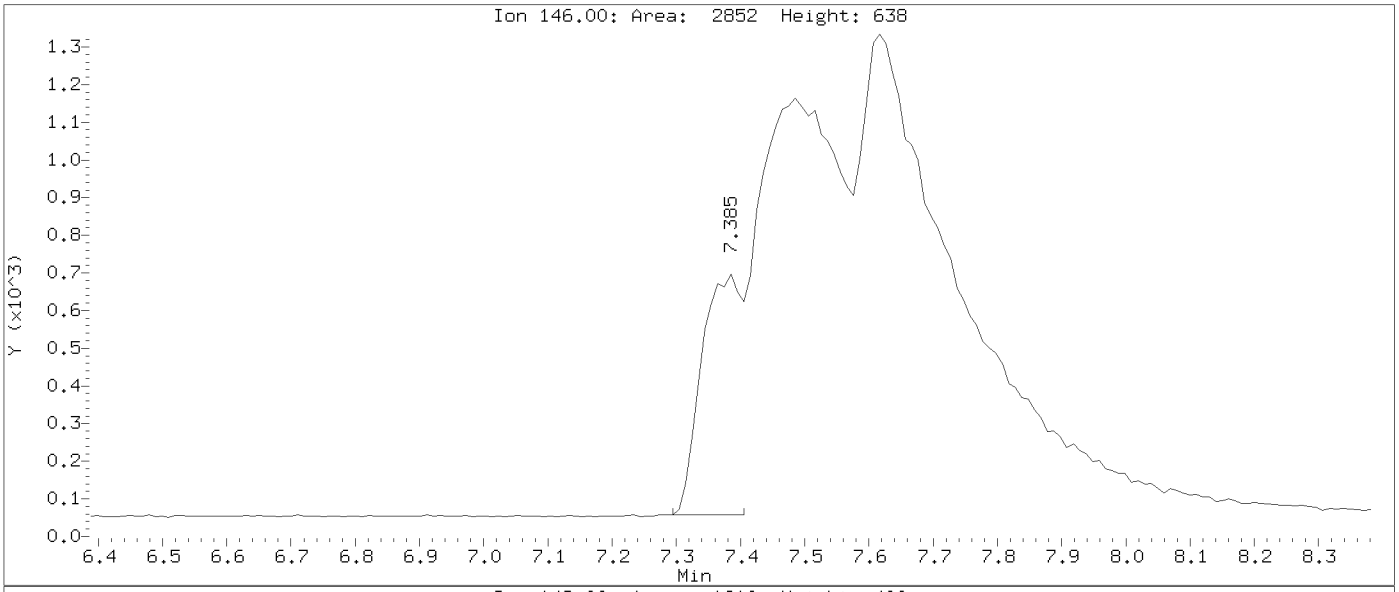


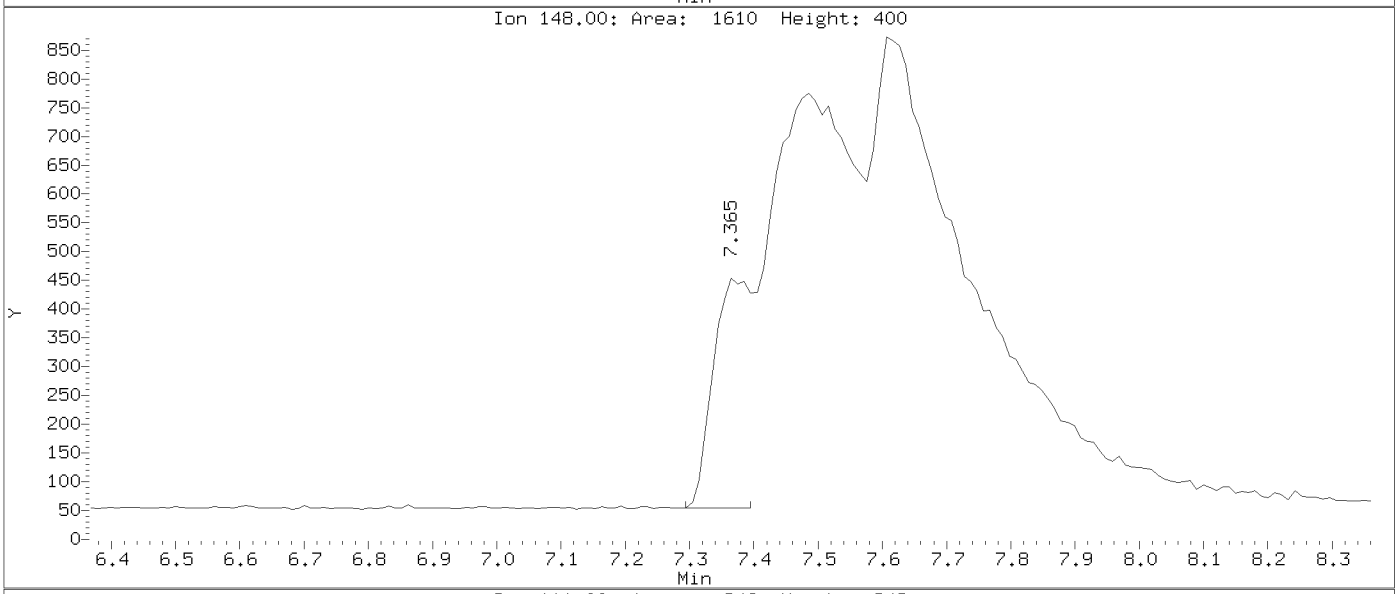


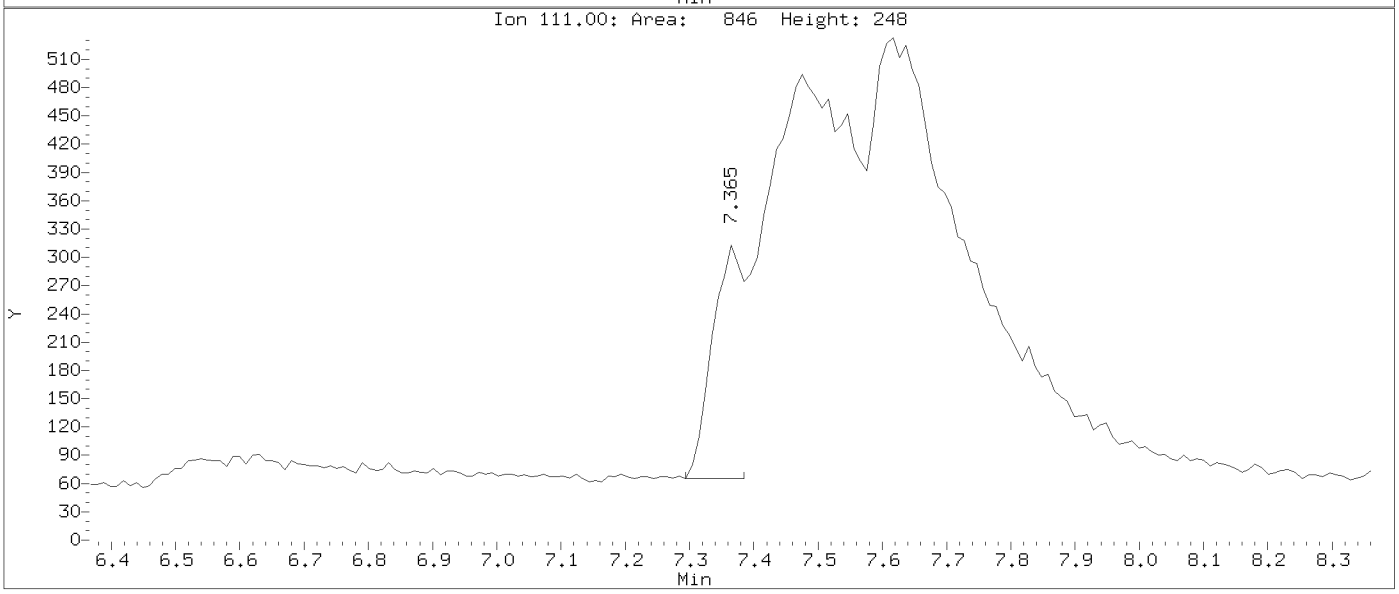
Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-1

BEFORE MANUAL INTEGRATION







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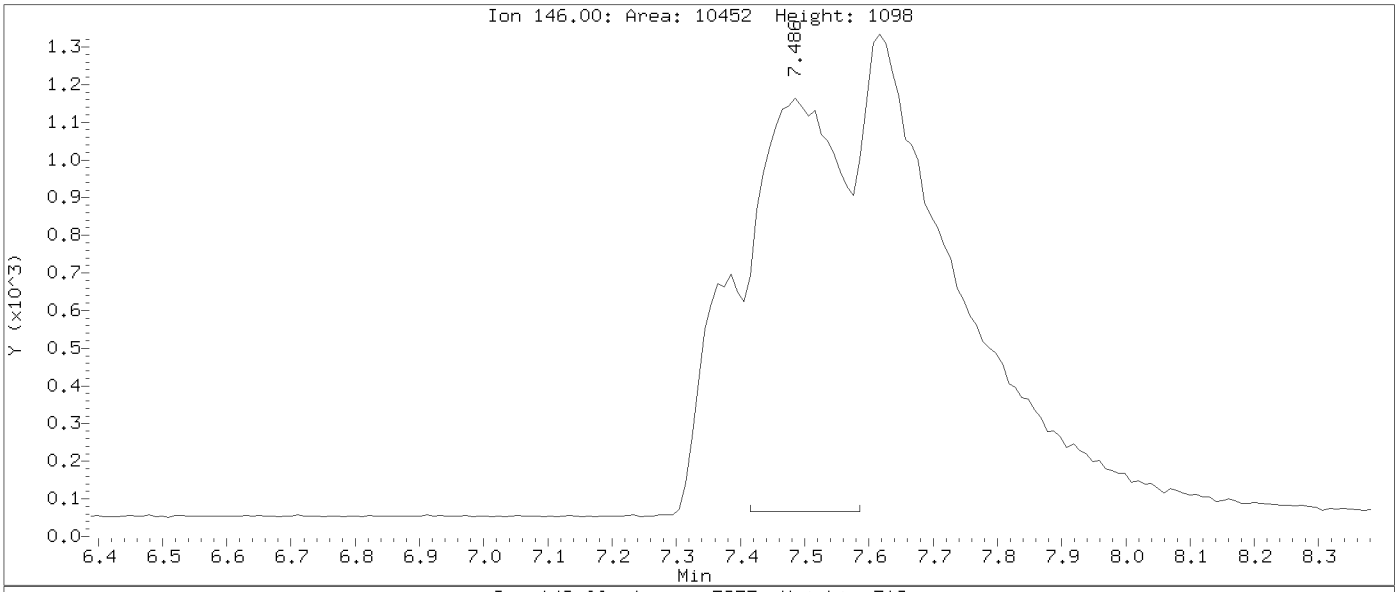
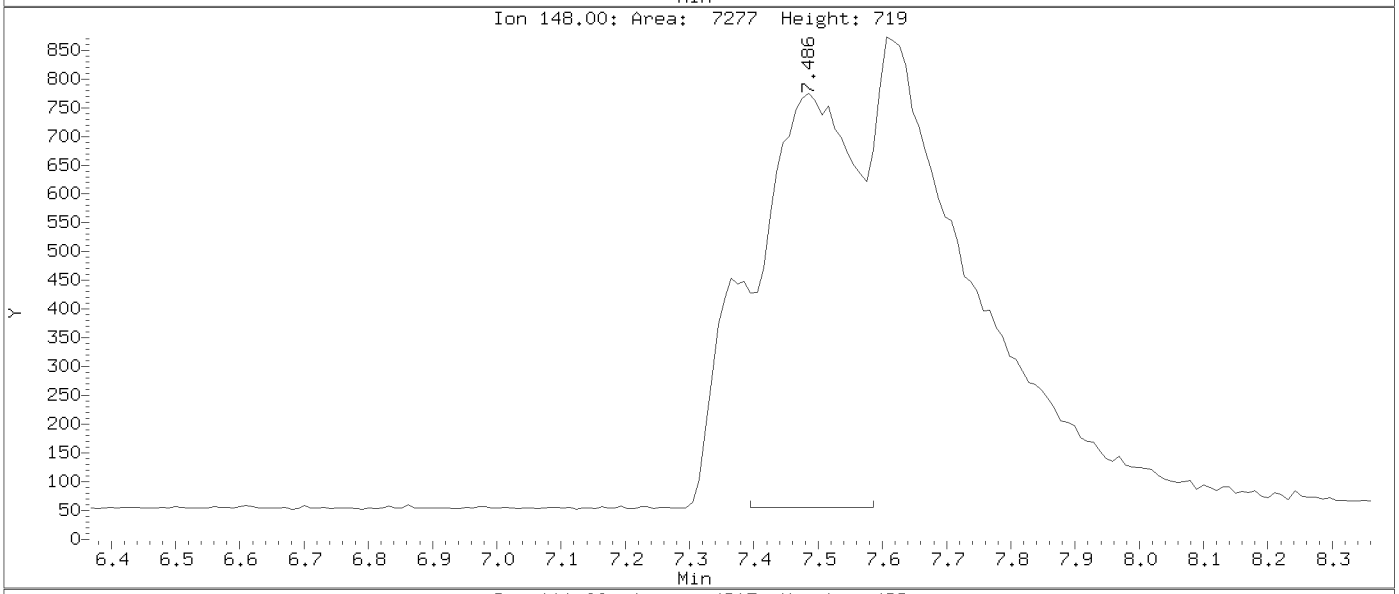
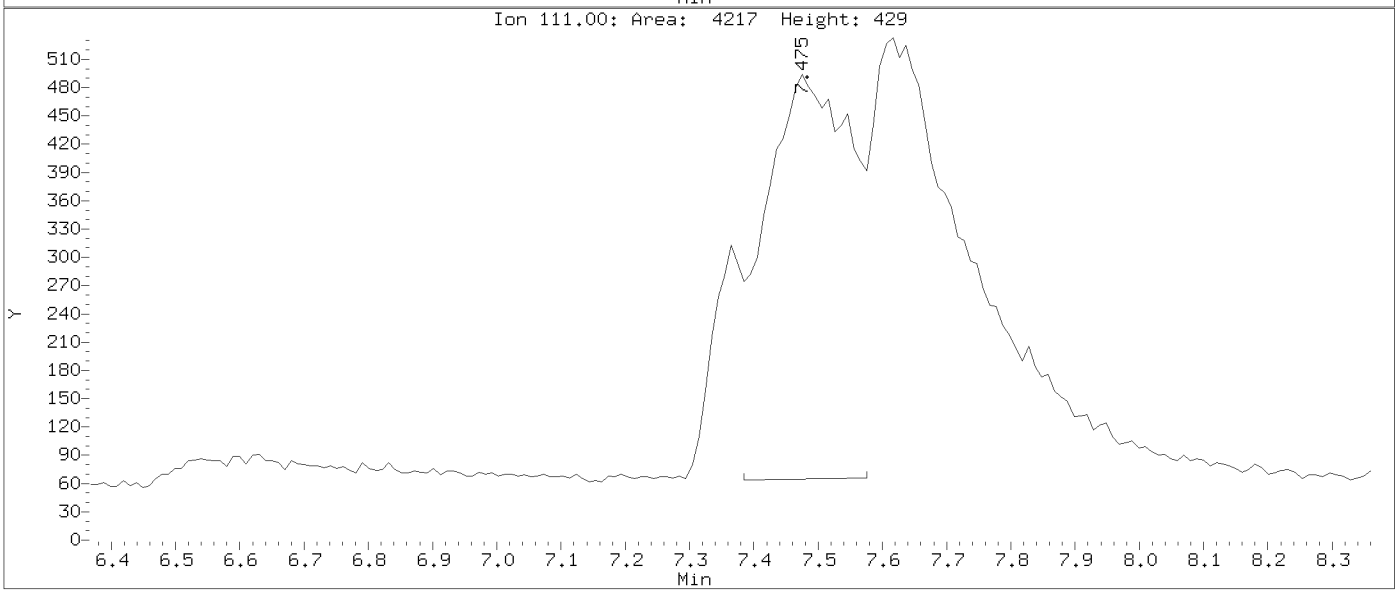
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: 1,4-Dichlorobenzene
CAS Number: 106-46-1

AFTER MANUAL INTEGRATION



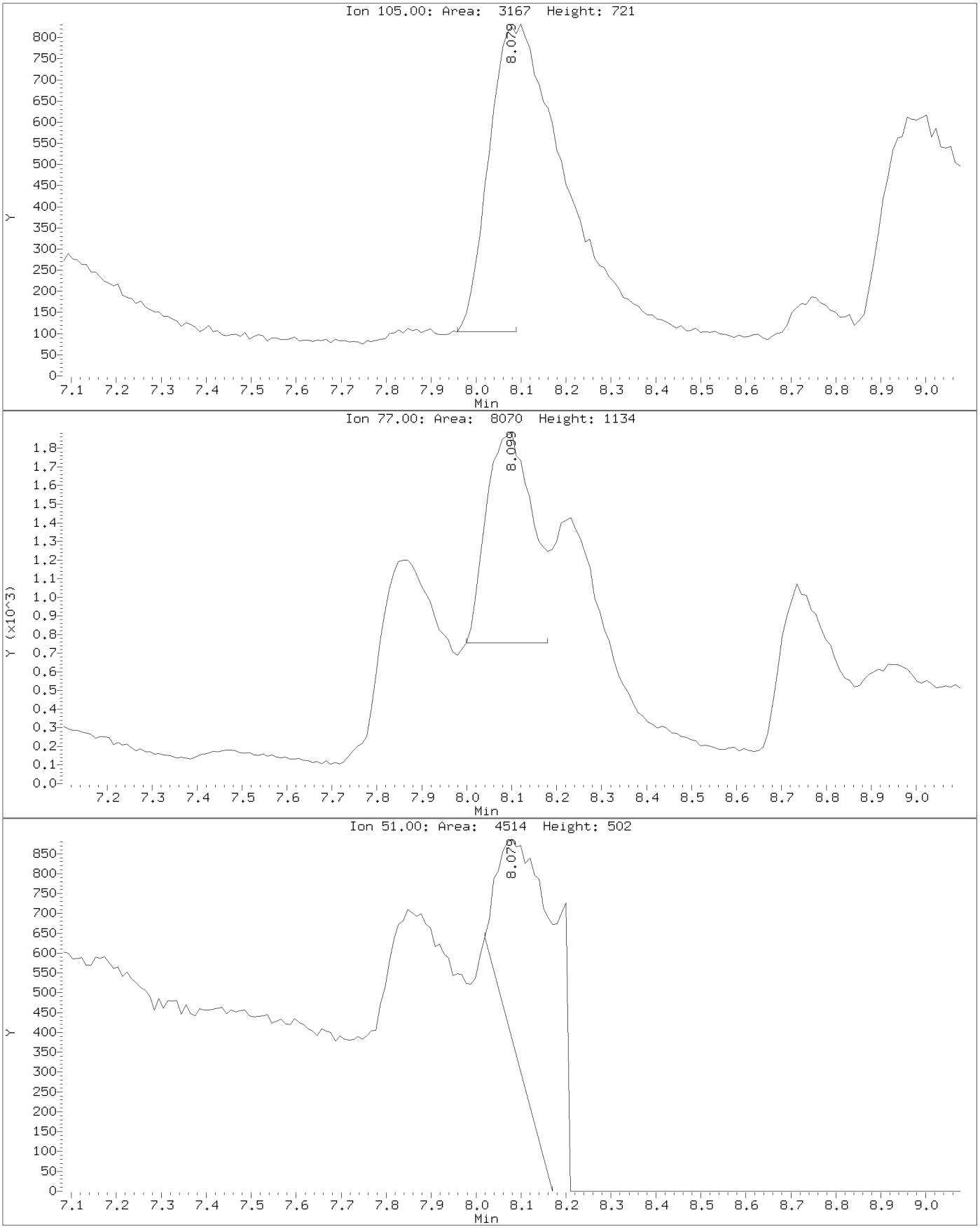




Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: Acetophenone
CAS Number: 98-86-2

BEFORE MANUAL INTEGRATION



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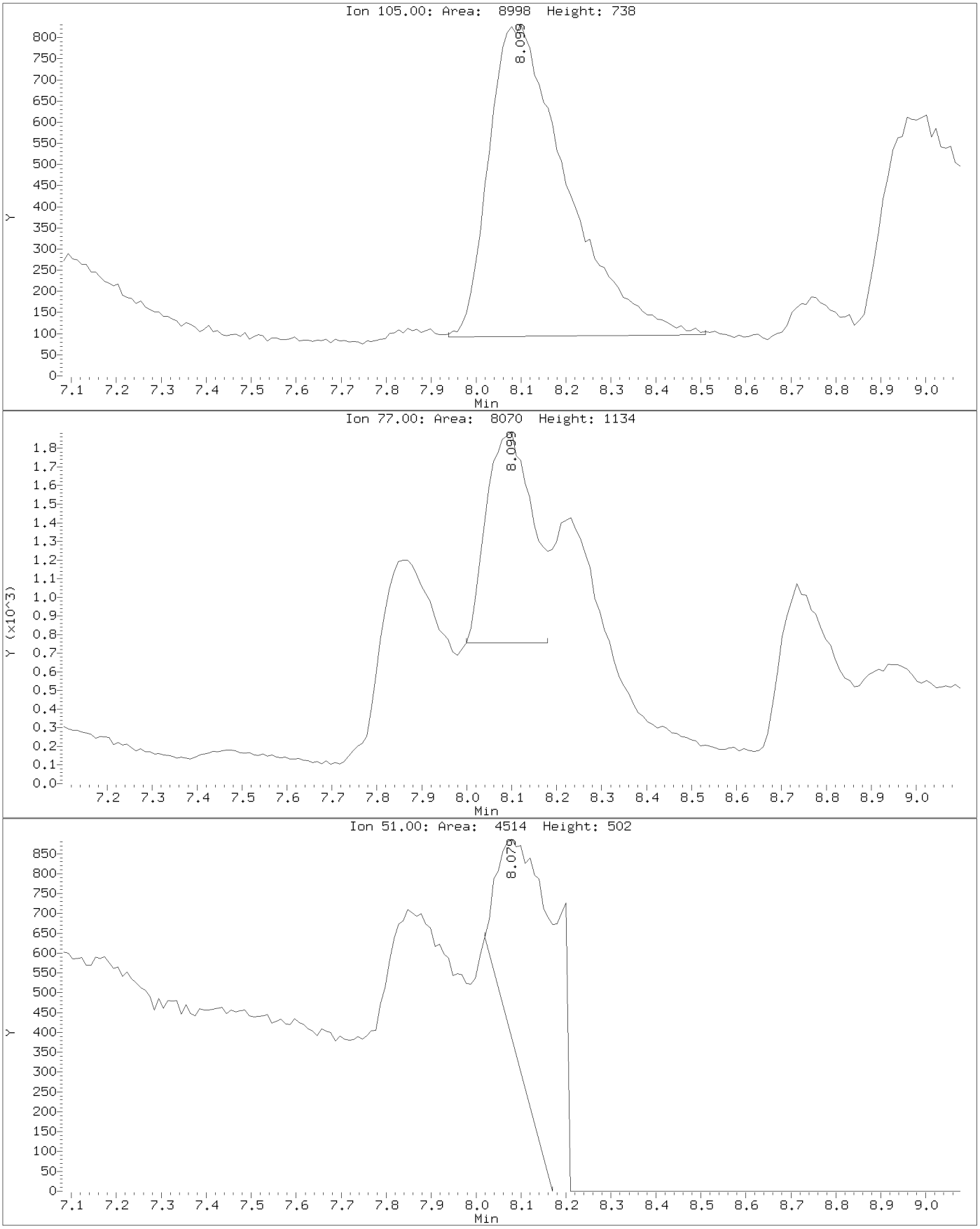
Instrument: gcms-n.i
Client Sample ID:

Compound: Acetophenone
CAS Number: 98-86-2

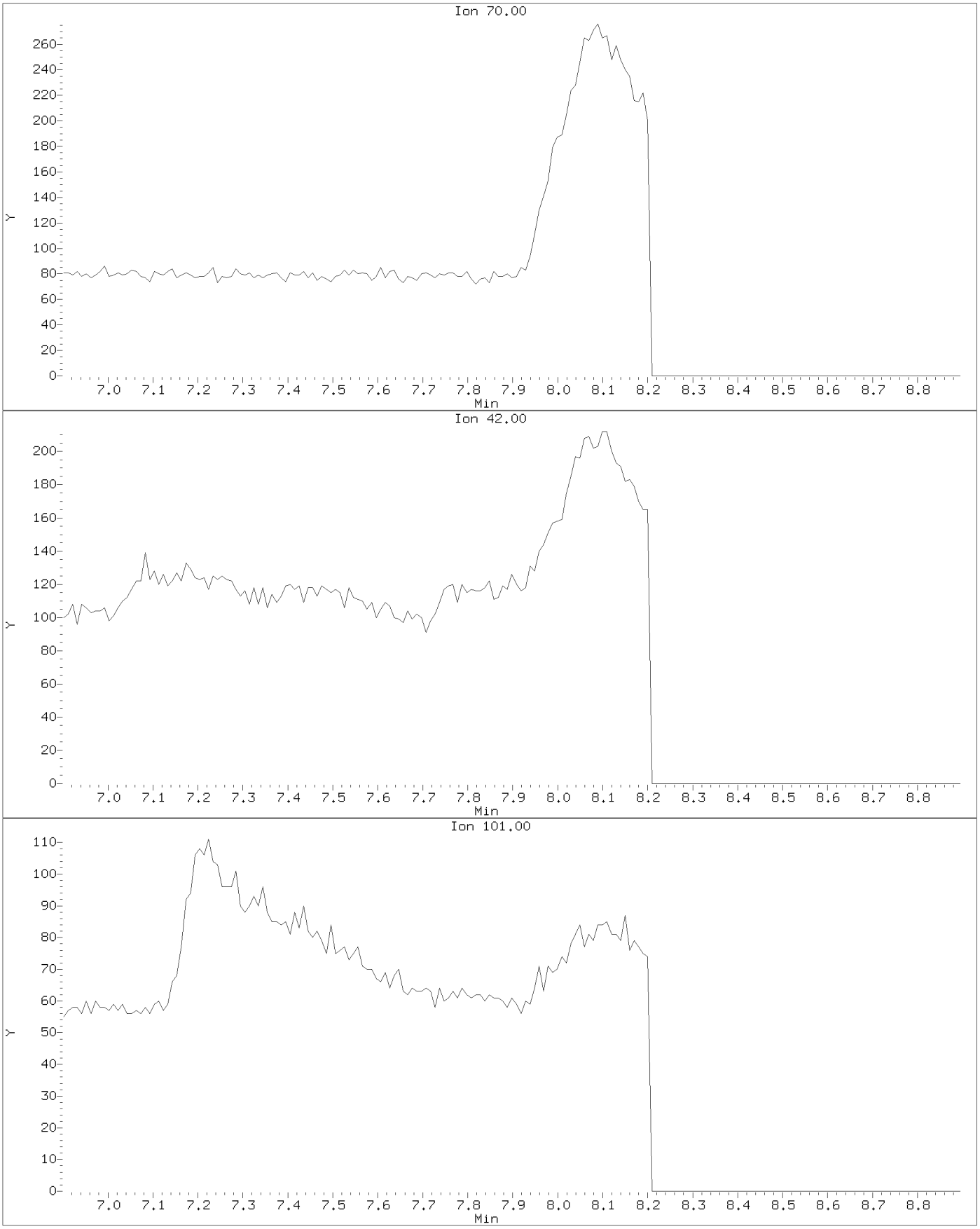
AFTER MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: N-Nitroso-di-n-propylamine
CAS Number: 621-64-7

BEFORE MANUAL INTEGRATION



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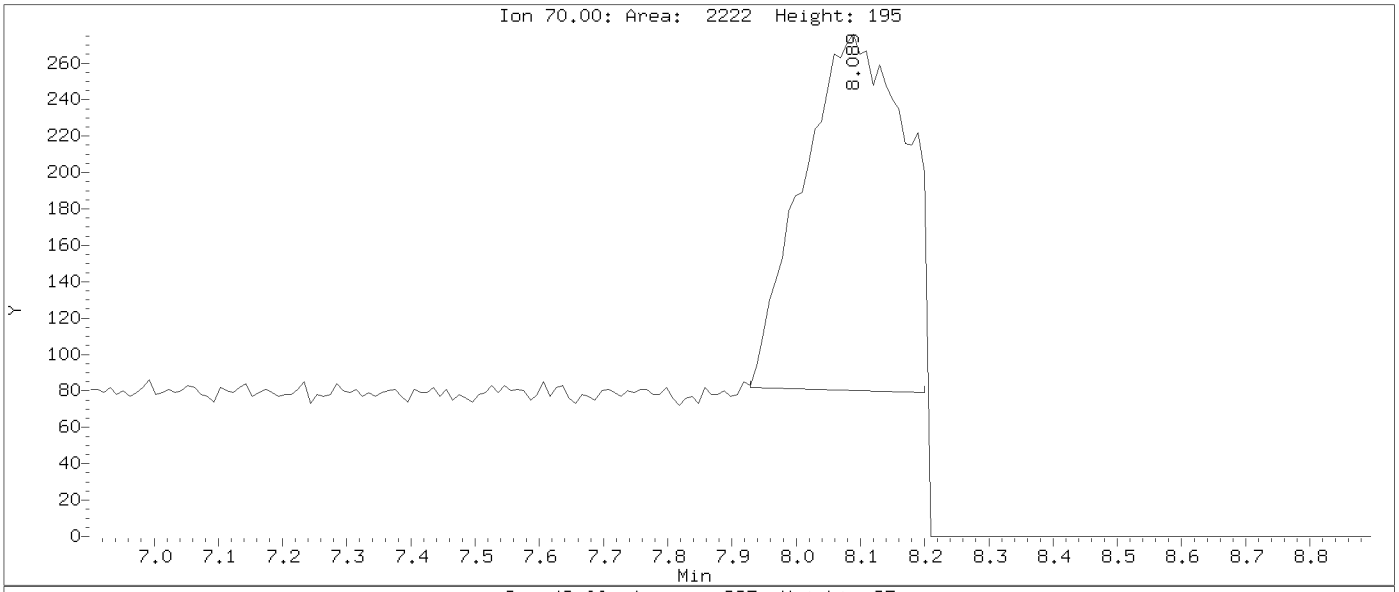
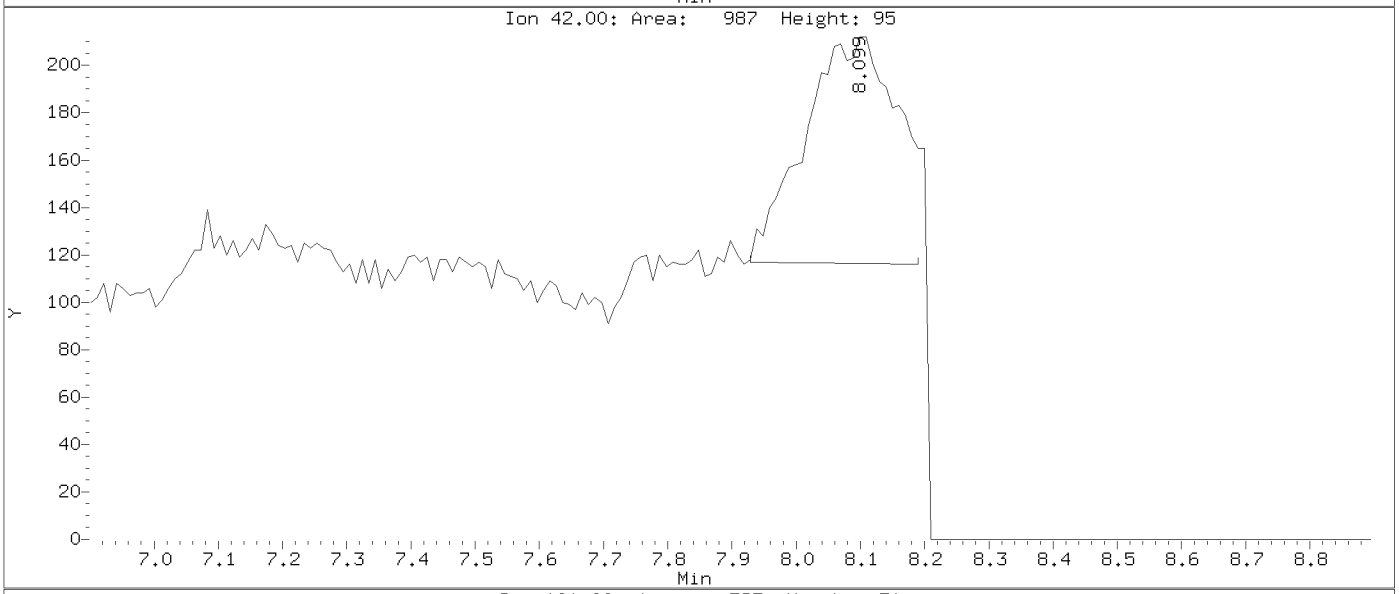
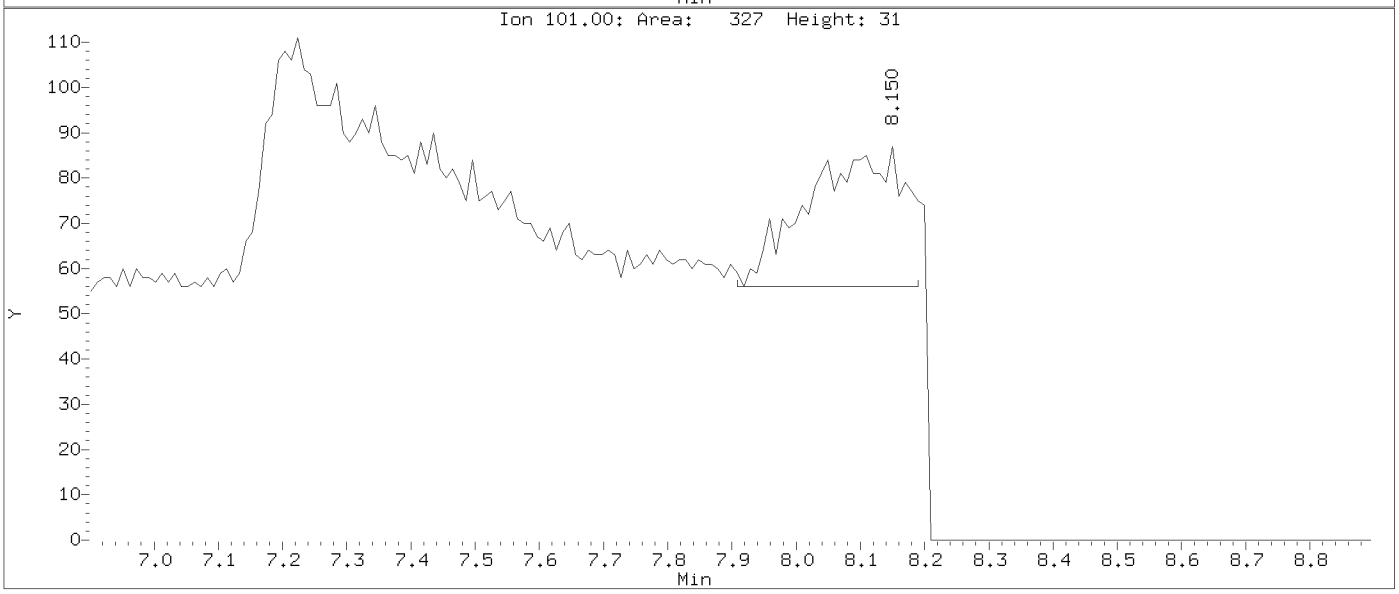
Client Sample ID:

Compound: N-Nitroso-di-n-propylamine
CAS Number: 621-64-7

AFTER MANUAL INTEGRATION



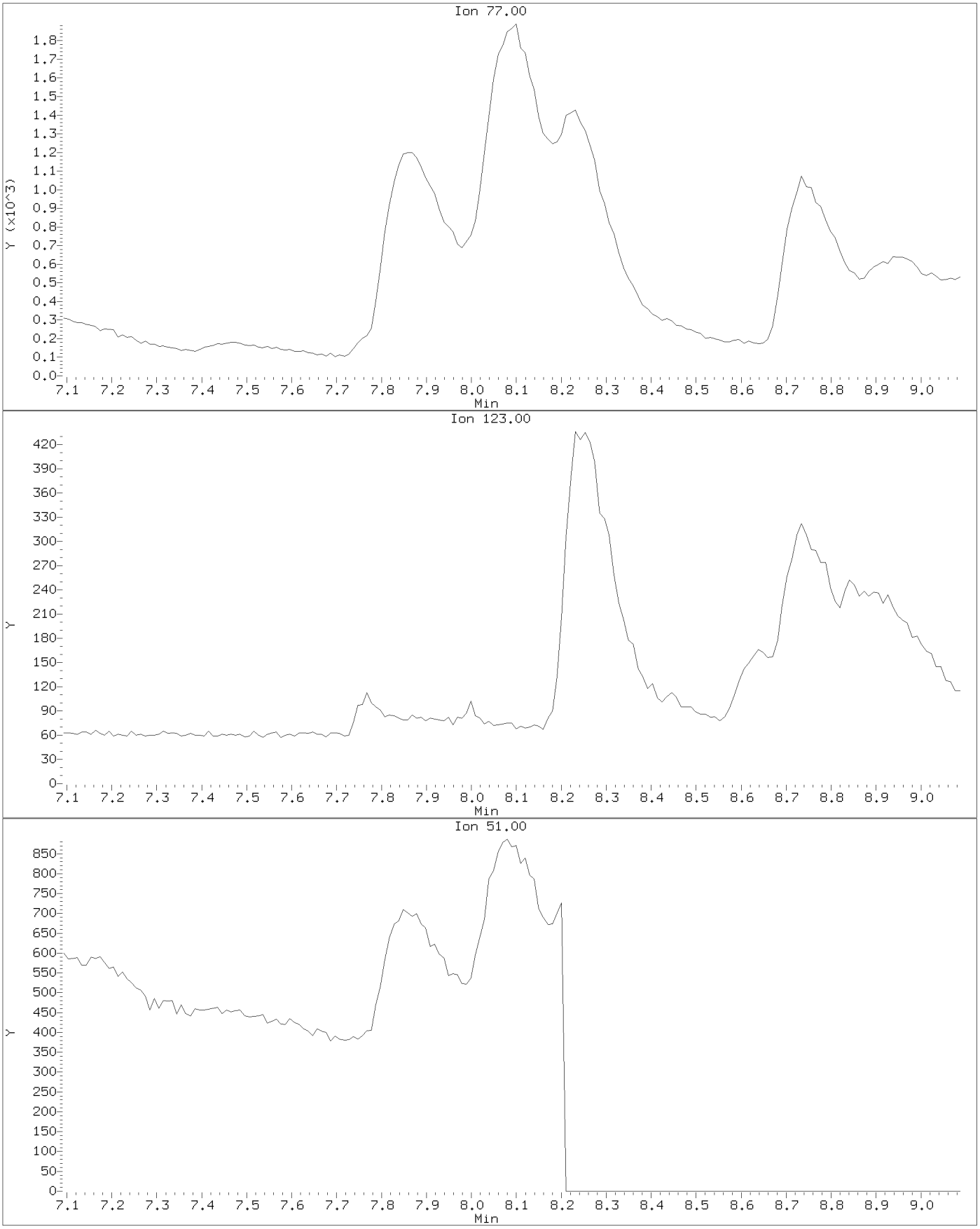




BEFORE MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

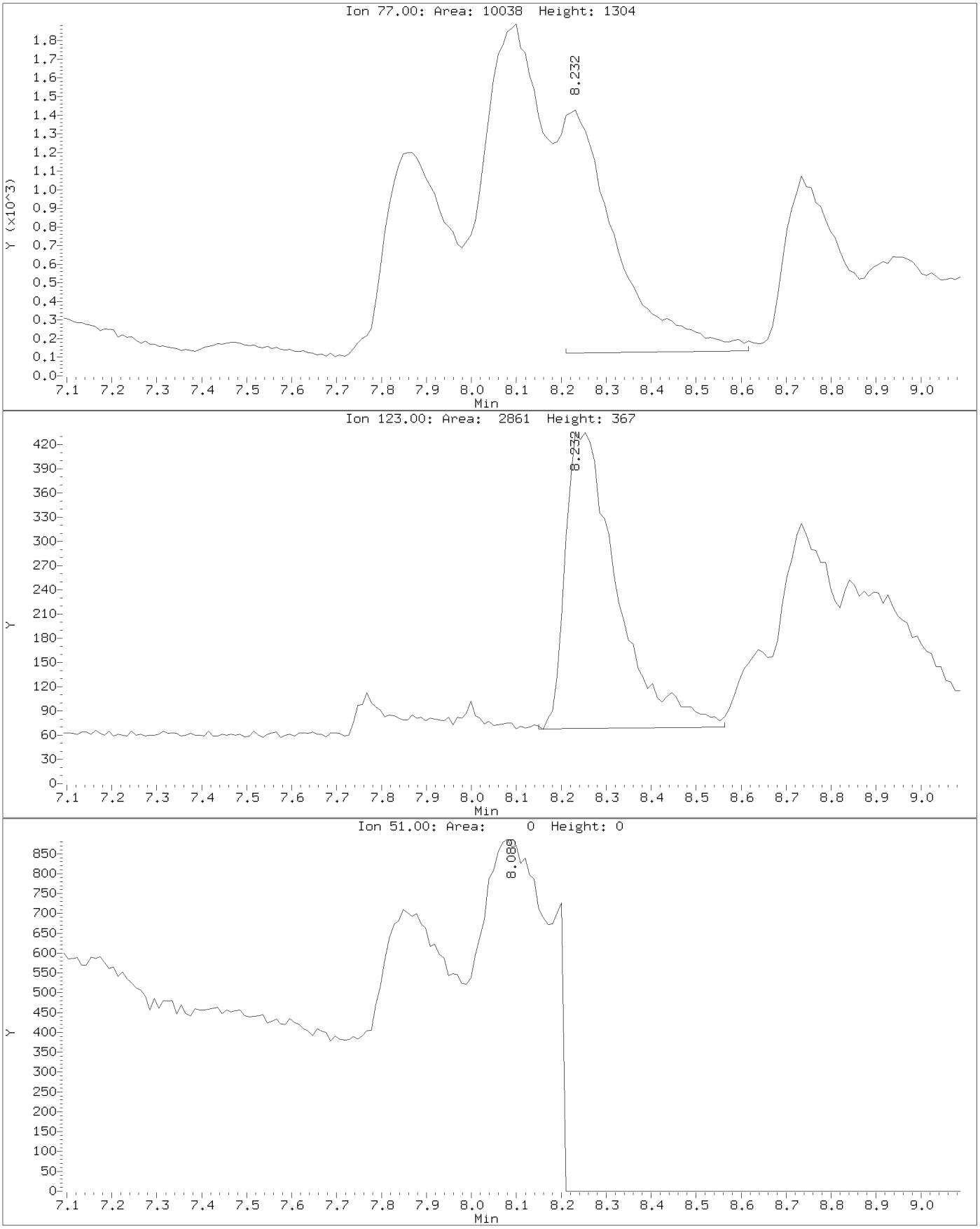
Compound: Nitrobenzene
CAS Number: 98-95-3



Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: Nitrobenzene
CAS Number: 98-95-3

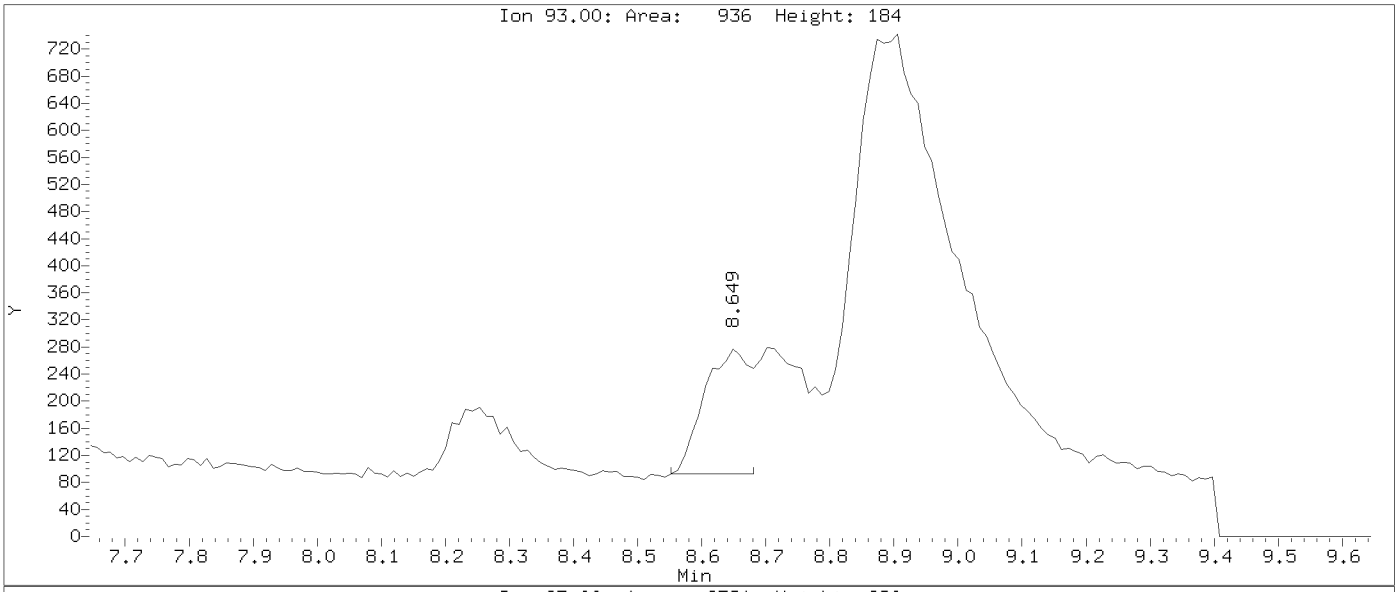
AFTER MANUAL INTEGRATION

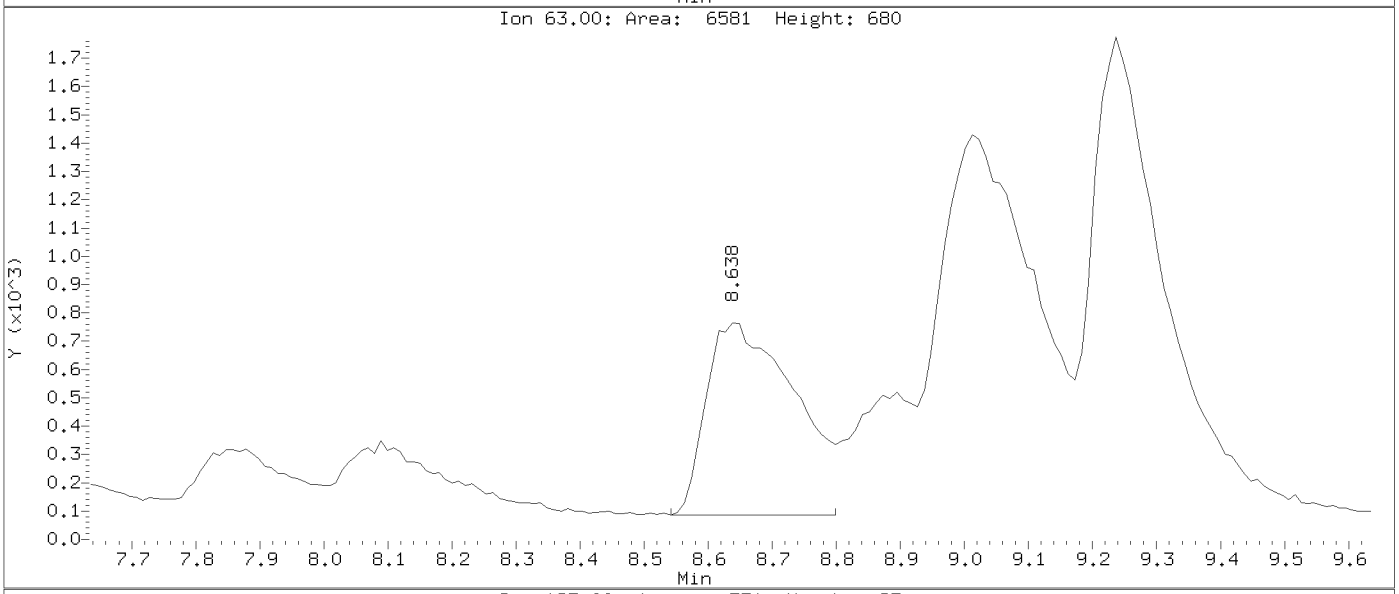


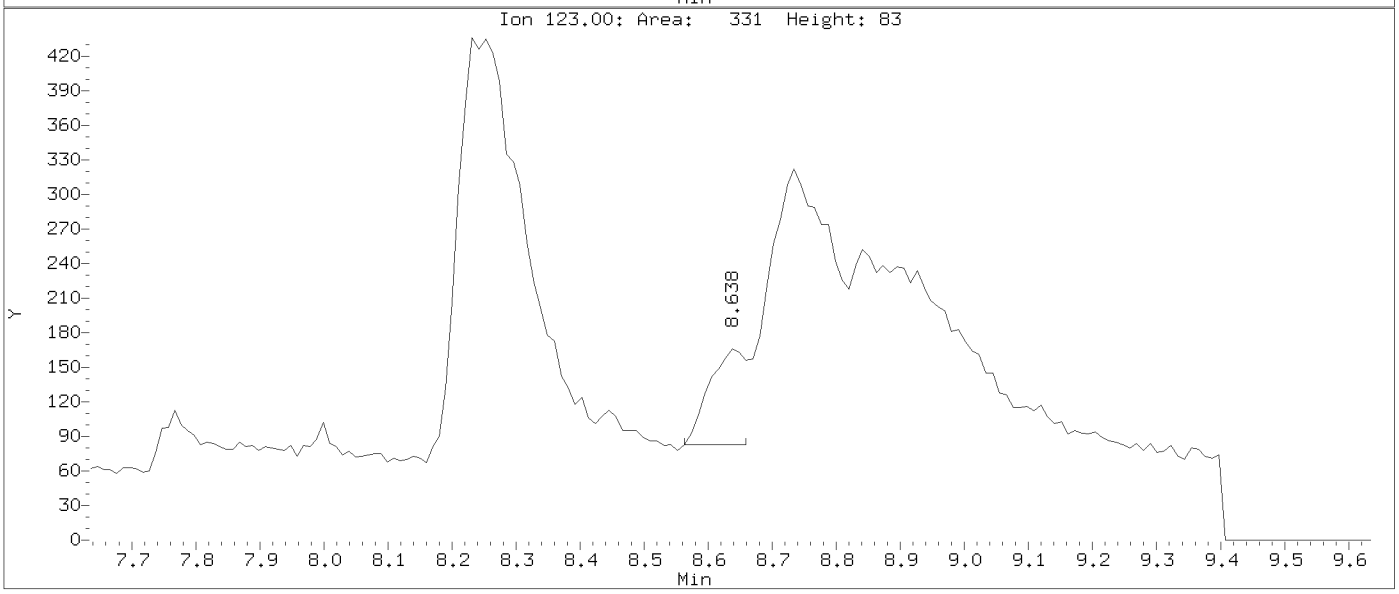
Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: bis(2-Chloroethoxy)methane
CAS Number: 111-91-1

BEFORE MANUAL INTEGRATION



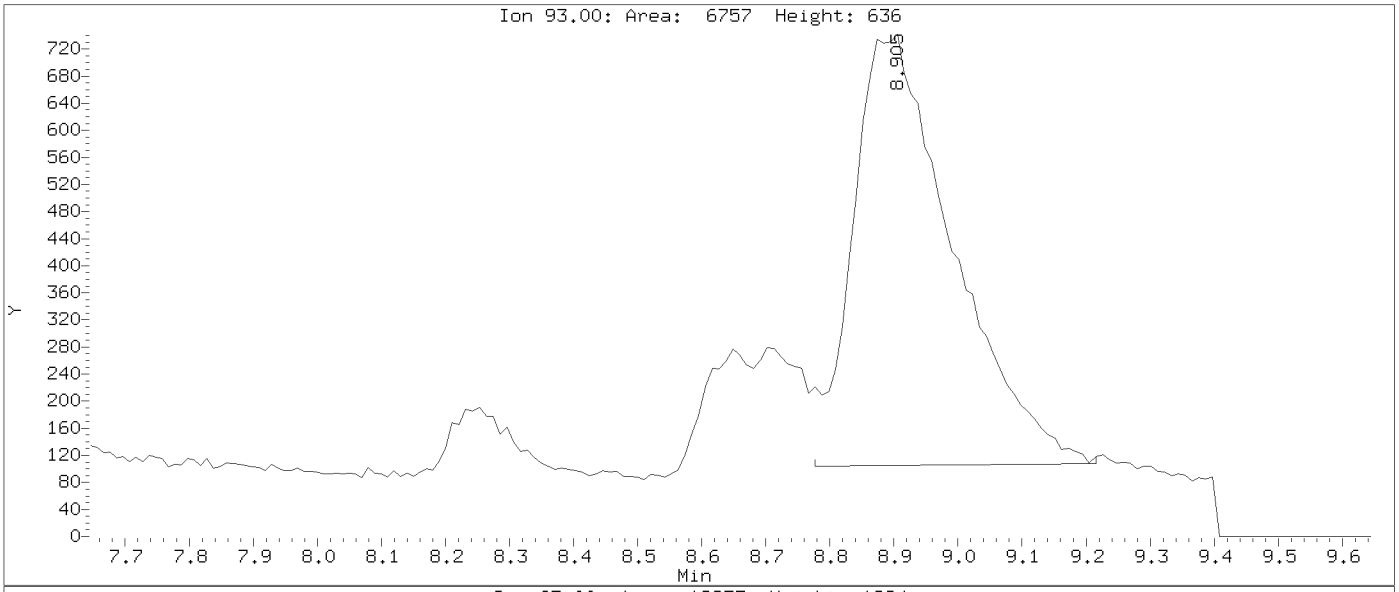


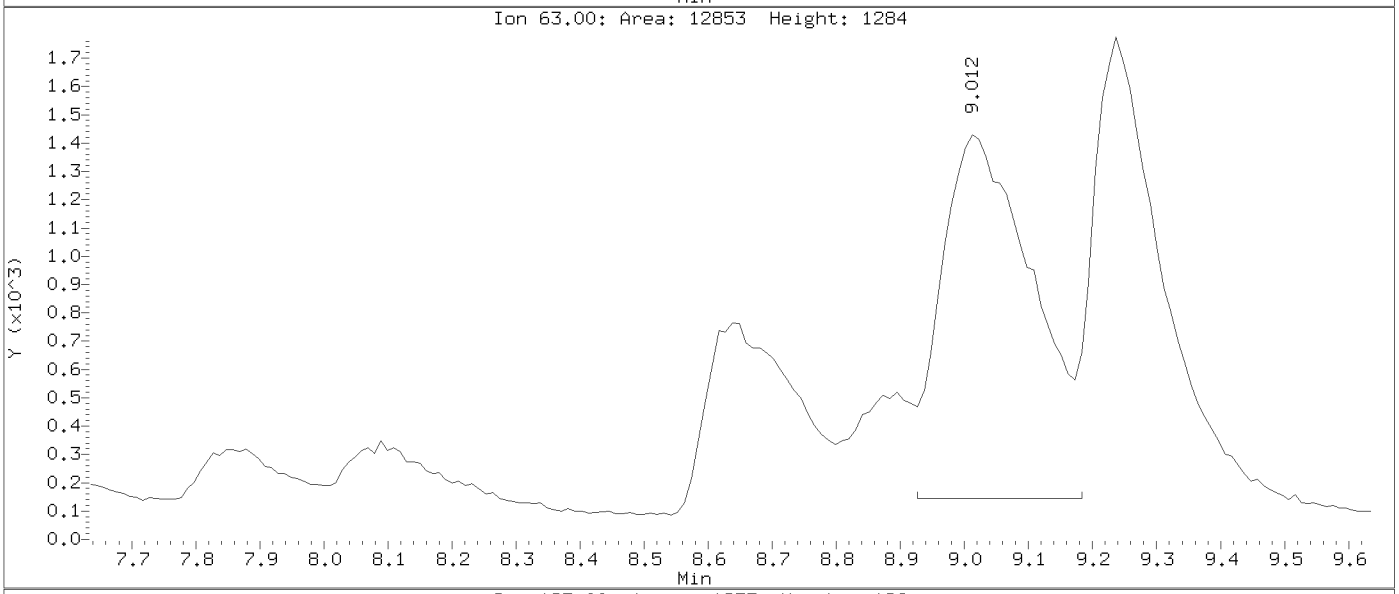


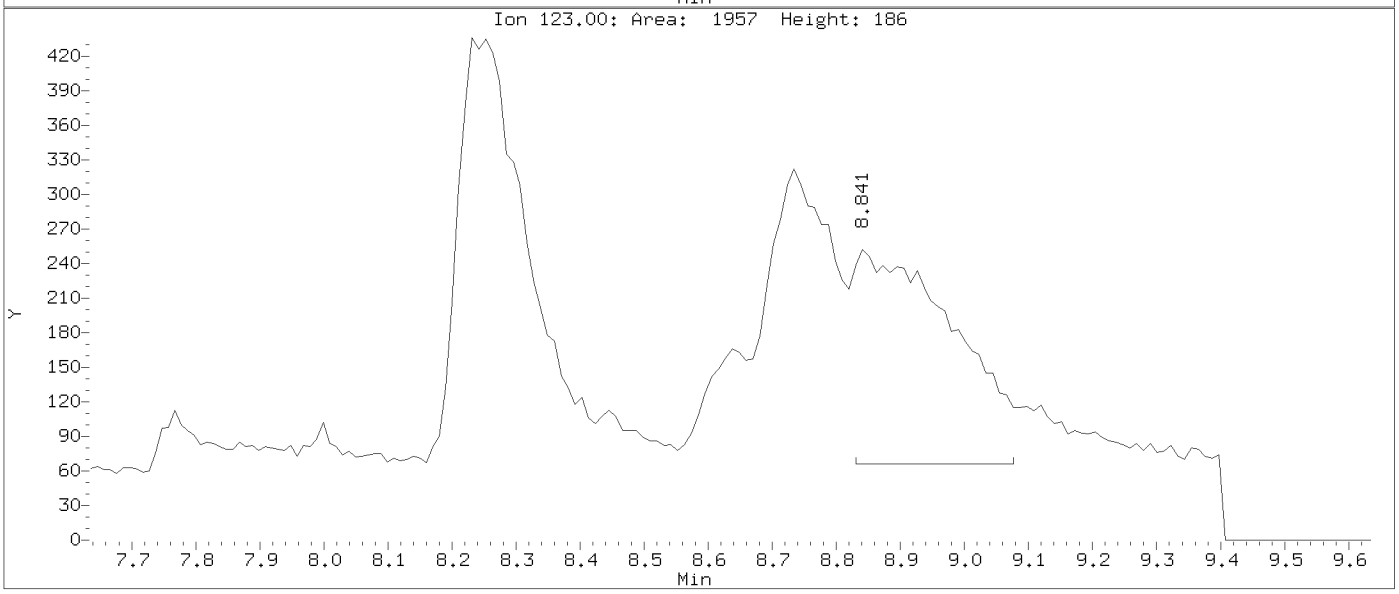
Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1312.D
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: bis(2-Chloroethoxy)methane
CAS Number: 111-91-1

AFTER MANUAL INTEGRATION







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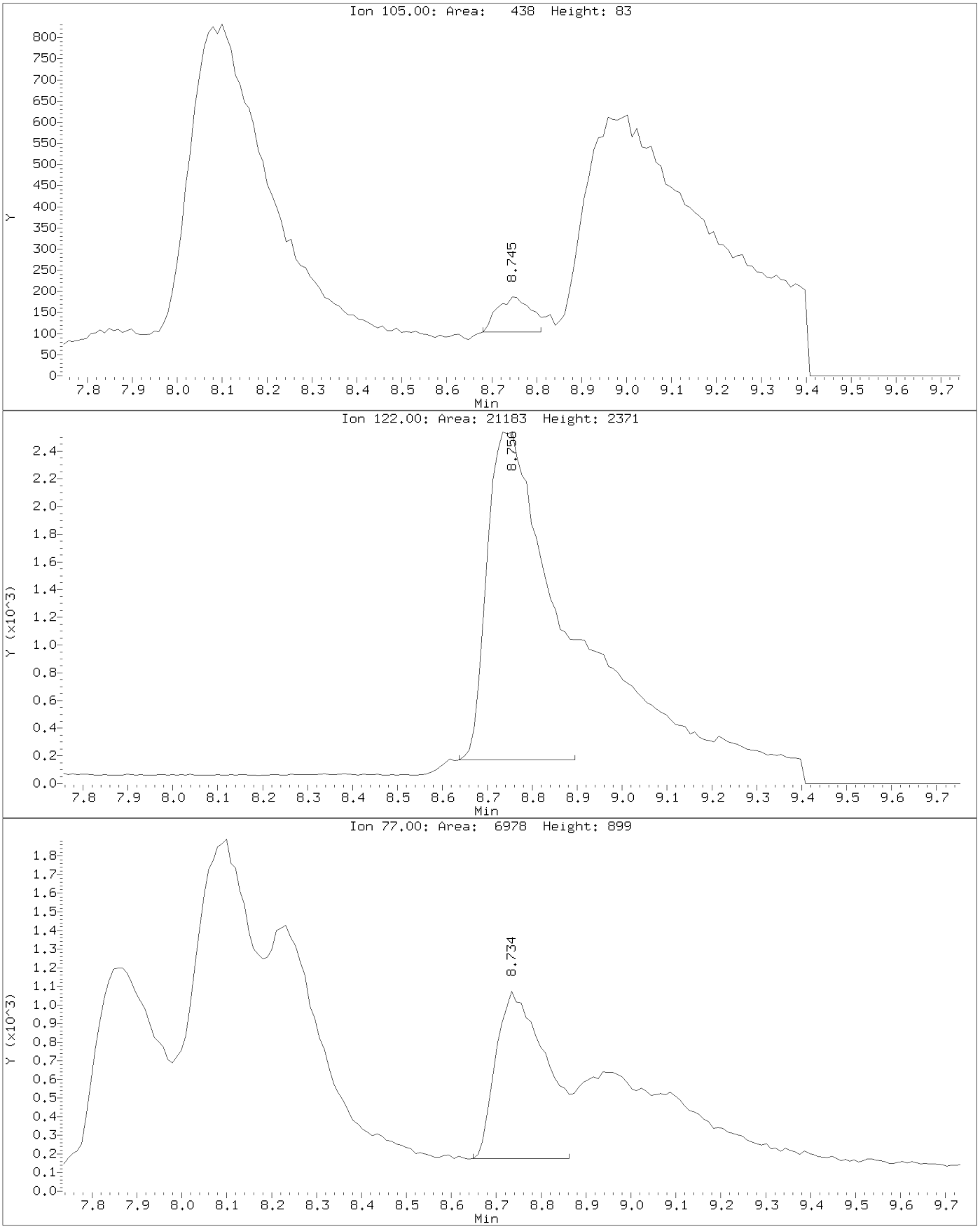
Instrument: gcms-n.i
Client Sample ID:

Compound: Benzoic acid
CAS Number: 65-85-0

BEFORE MANUAL INTEGRATION



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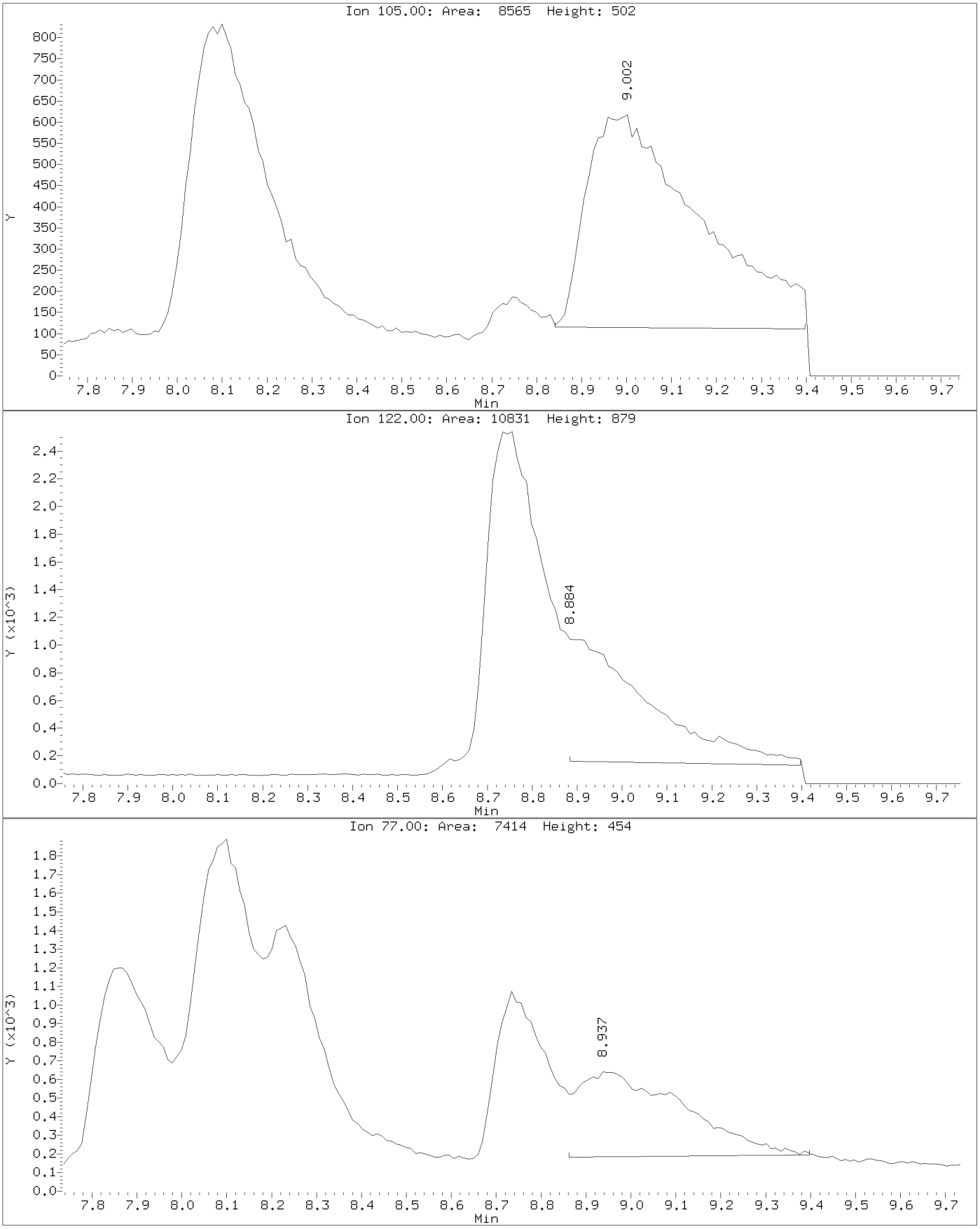
Instrument: gcms-n.i
Client Sample ID:

Compound: Benzoic acid
CAS Number: 65-85-0

AFTER MANUAL INTEGRATION



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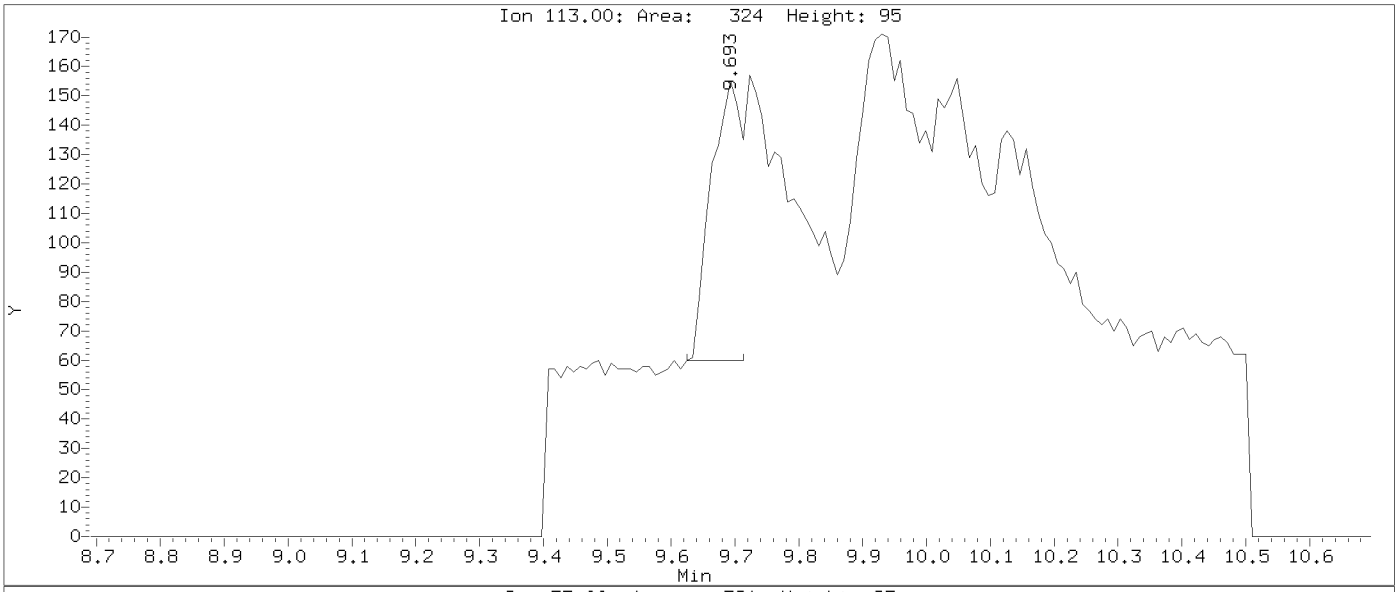
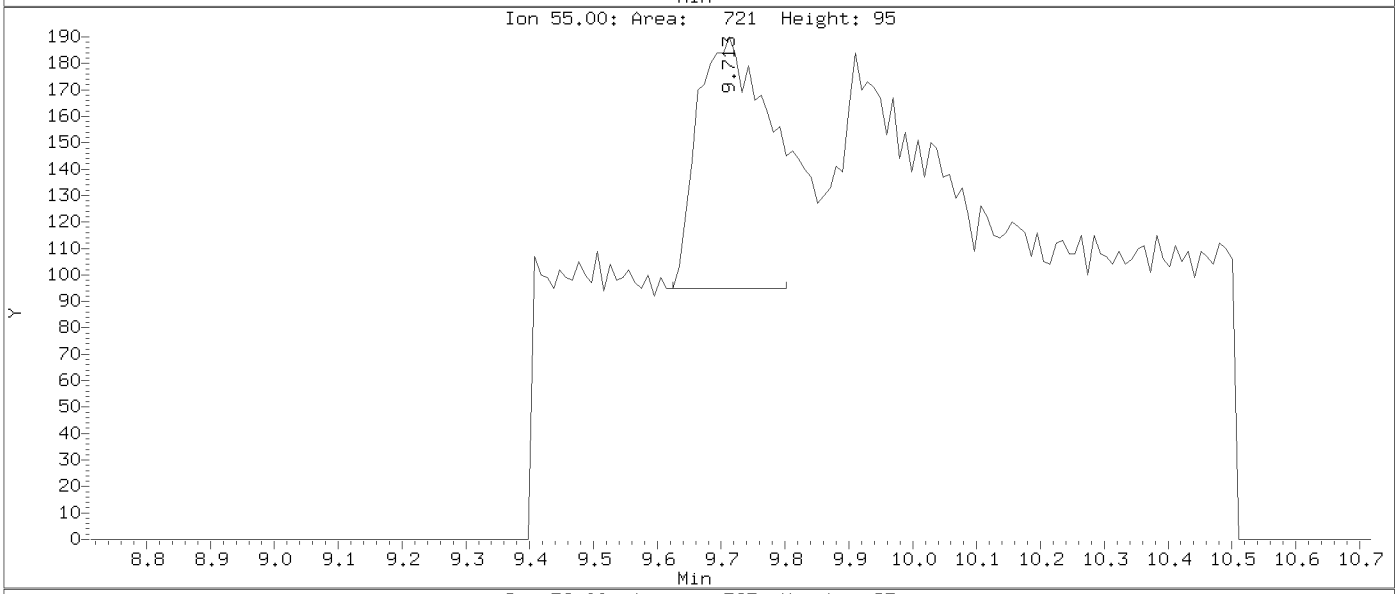
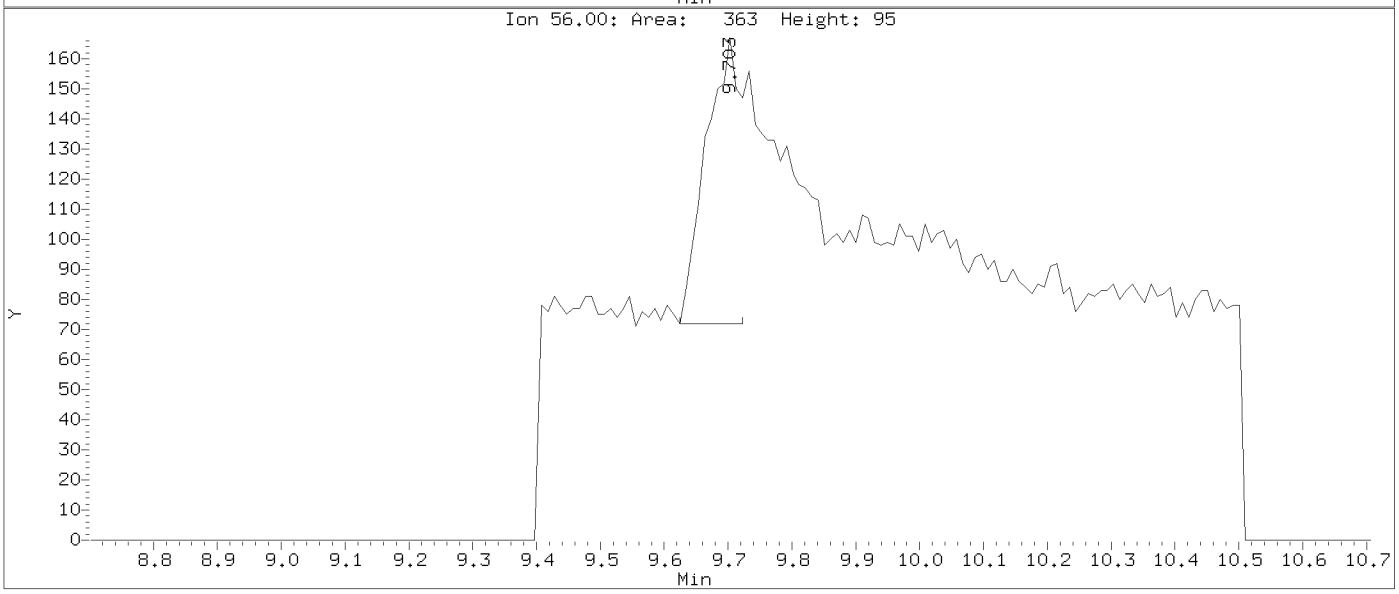
Instrument: gcms-n.i
Client Sample ID:

Compound: Caprolactam
CAS Number: 105-60-2

BEFORE MANUAL INTEGRATION







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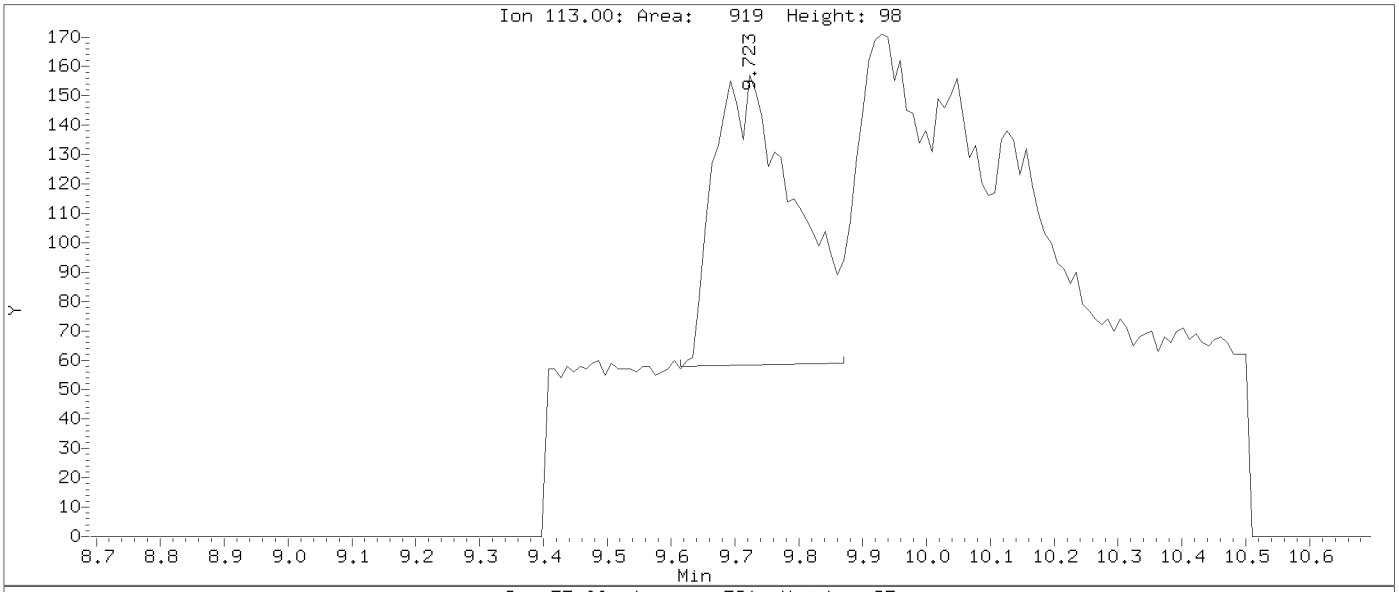
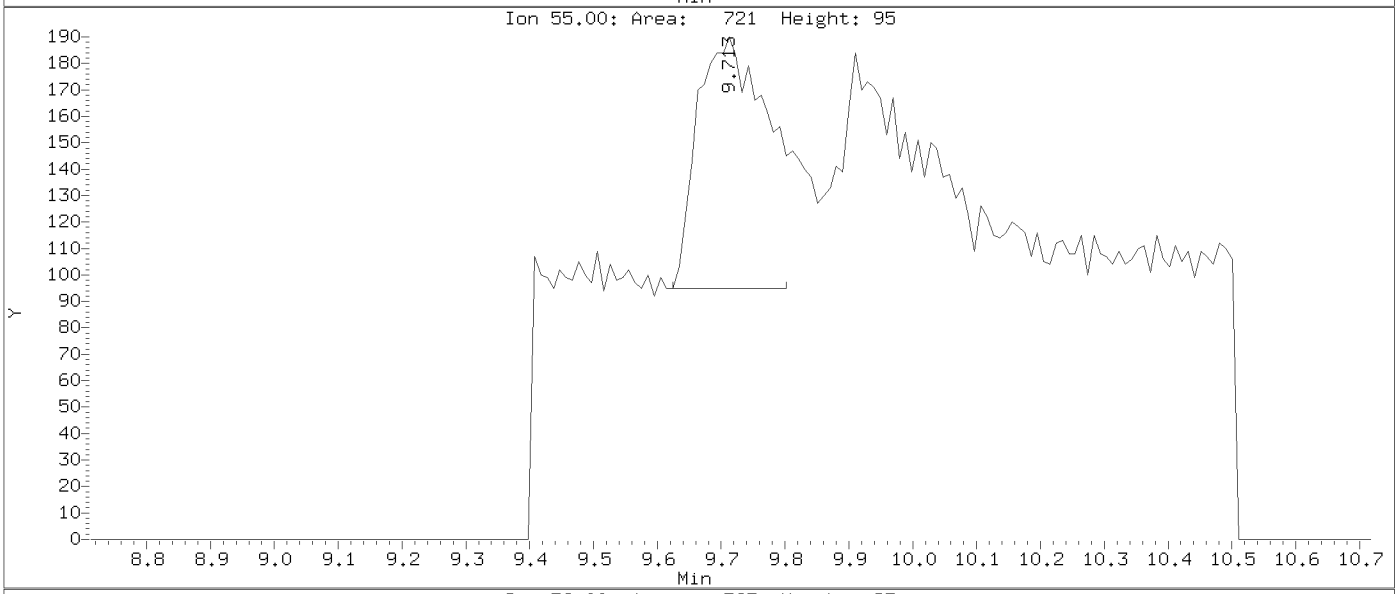
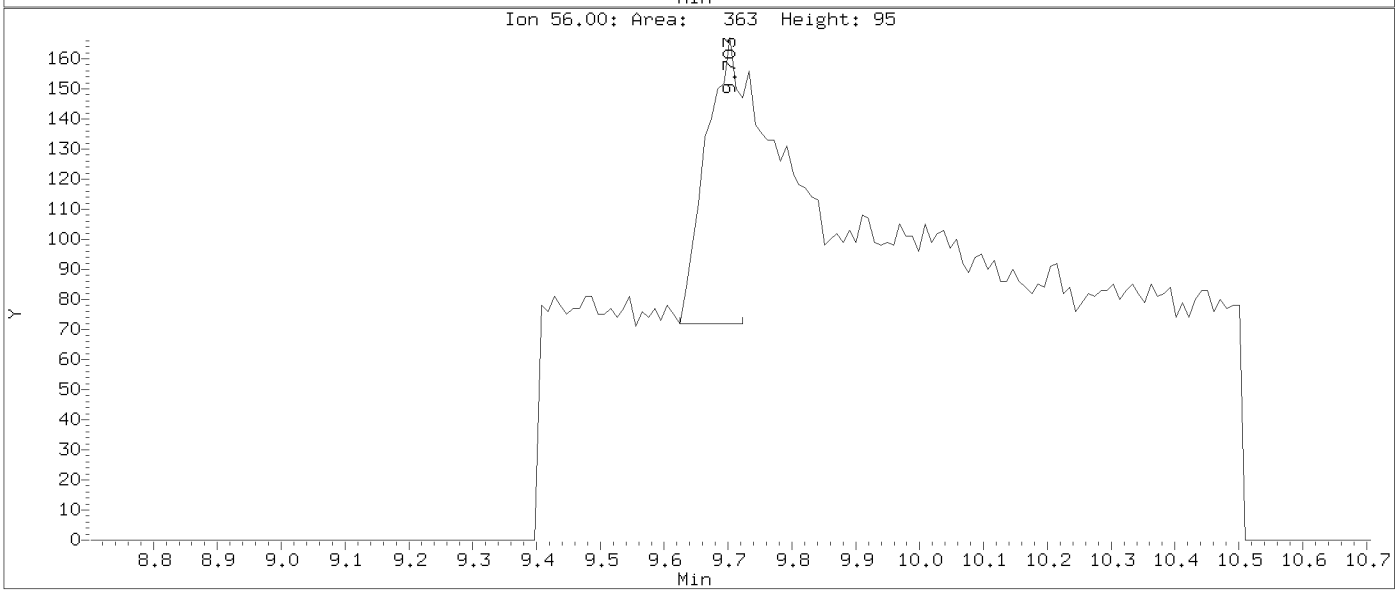
Client Sample ID:

Compound: Caprolactam
CAS Number: 105-60-2

AFTER MANUAL INTEGRATION







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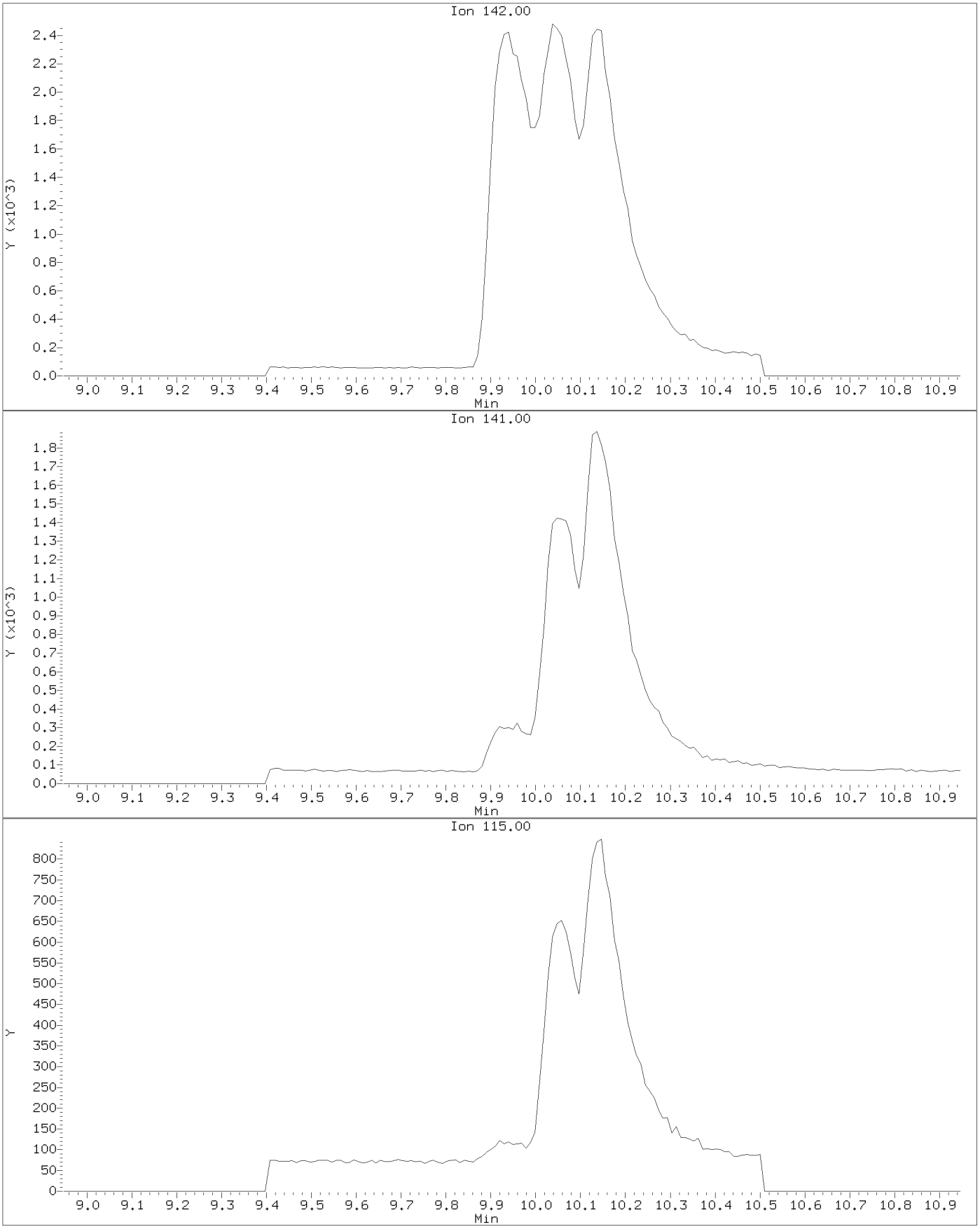
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: 2-Methylnaphthalene
CAS Number: 91-57-6

BEFORE MANUAL INTEGRATION



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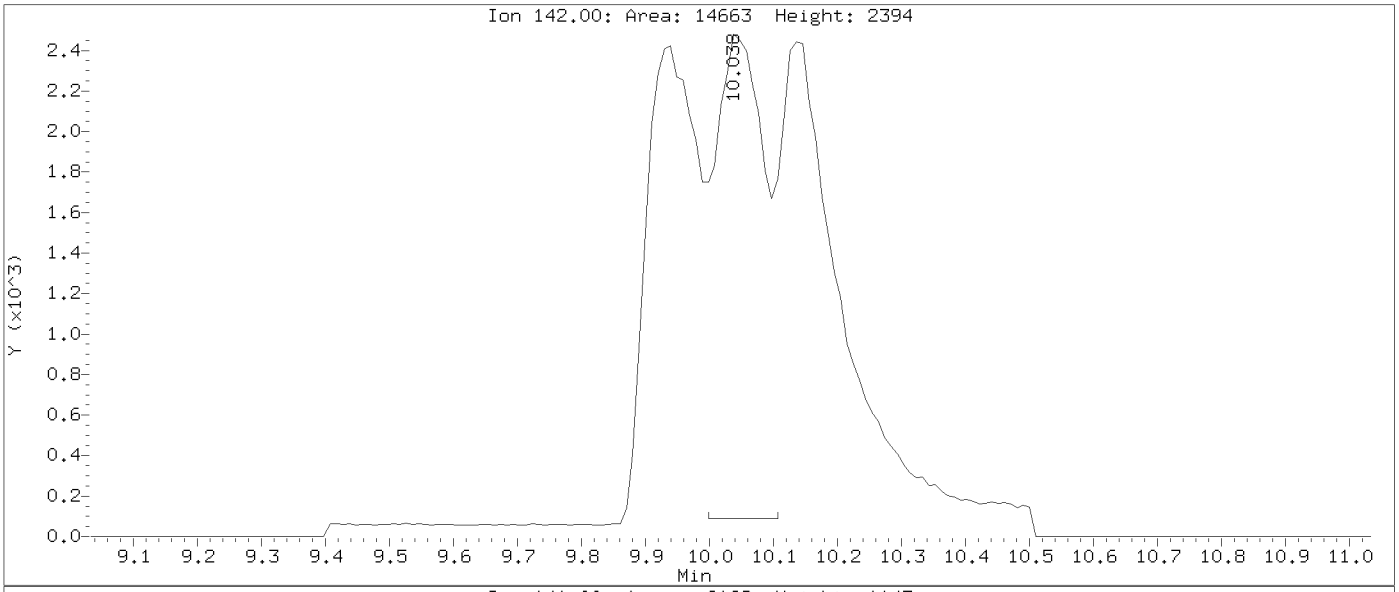
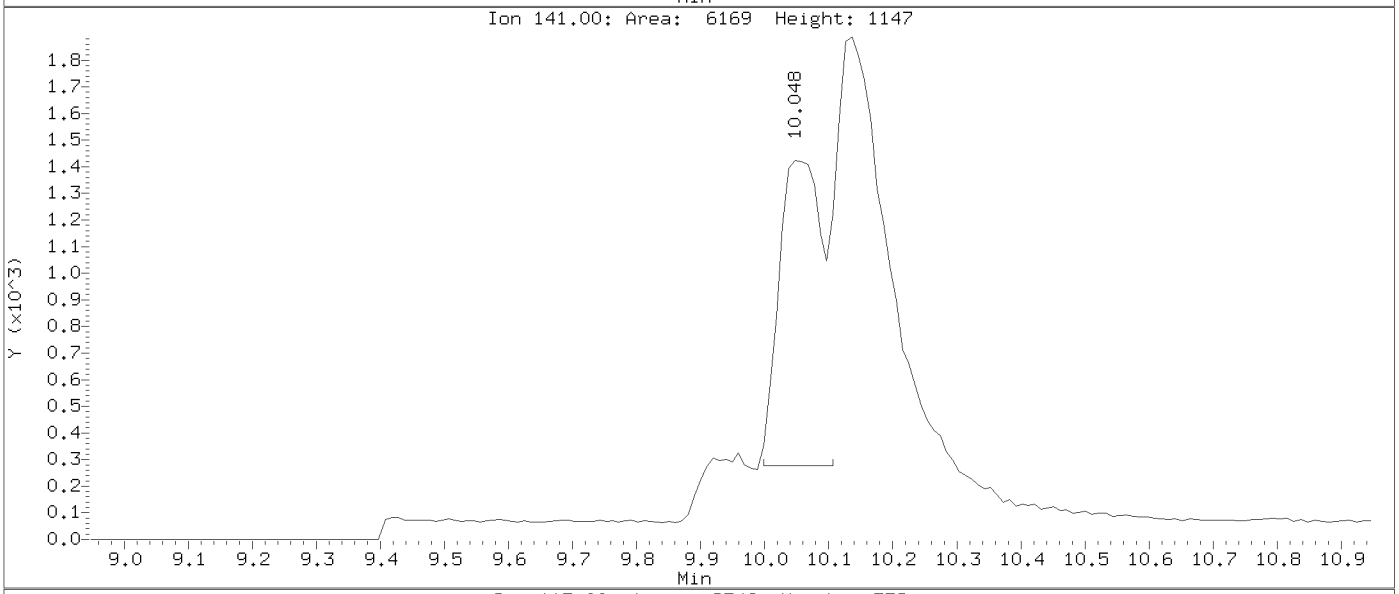
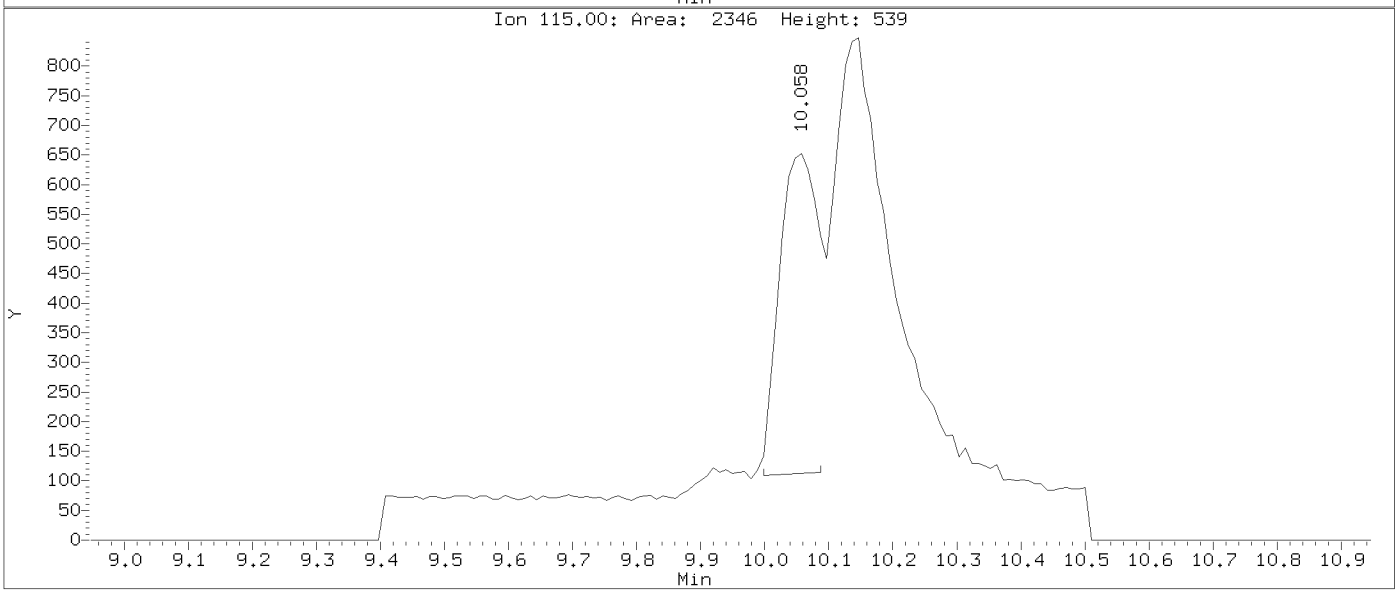
Client Sample ID:

Compound: 2-Methylnaphthalene
CAS Number: 91-57-6

AFTER MANUAL INTEGRATION







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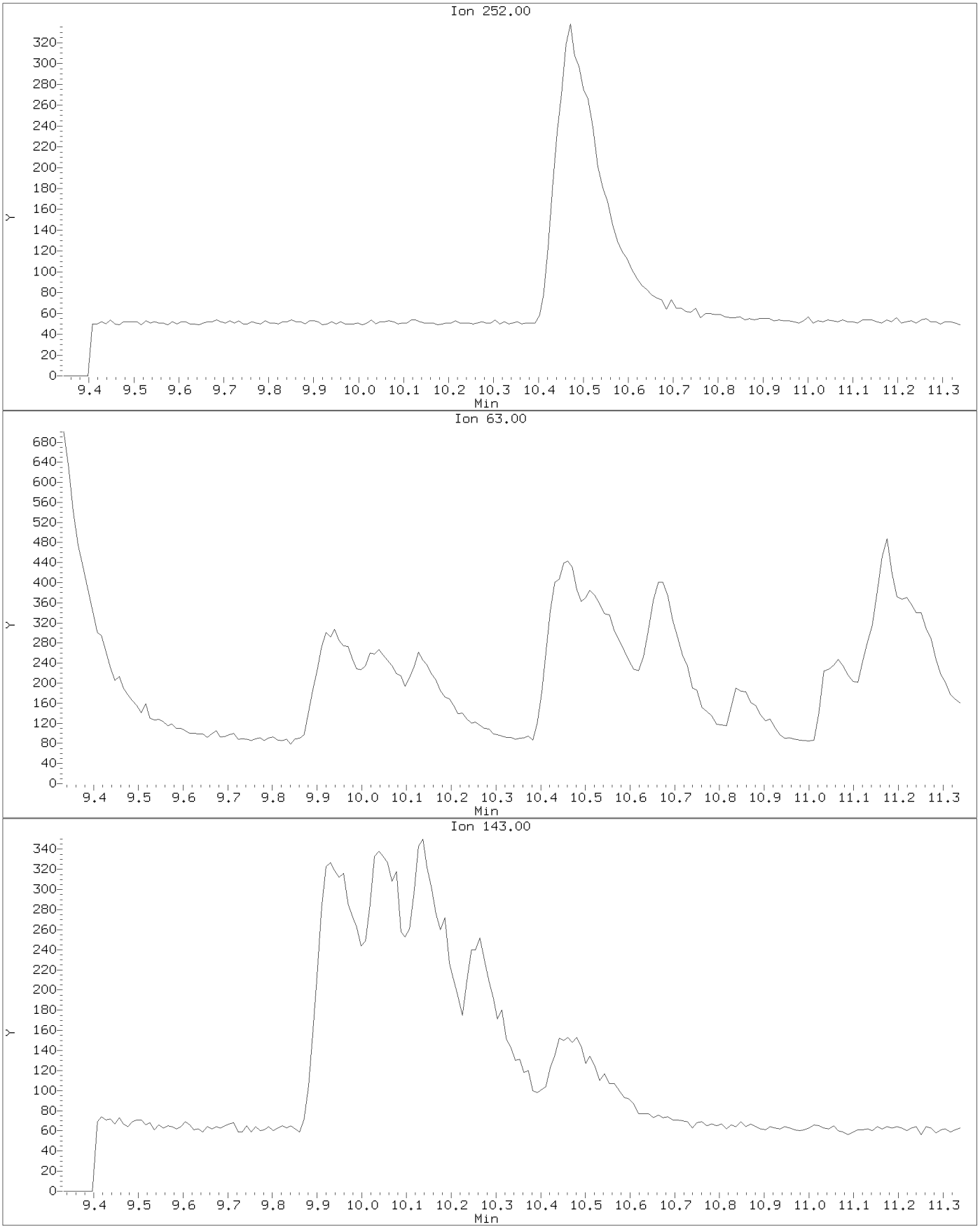
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: 2,4-Dibromophenol
CAS Number: 367-12-4

BEFORE MANUAL INTEGRATION



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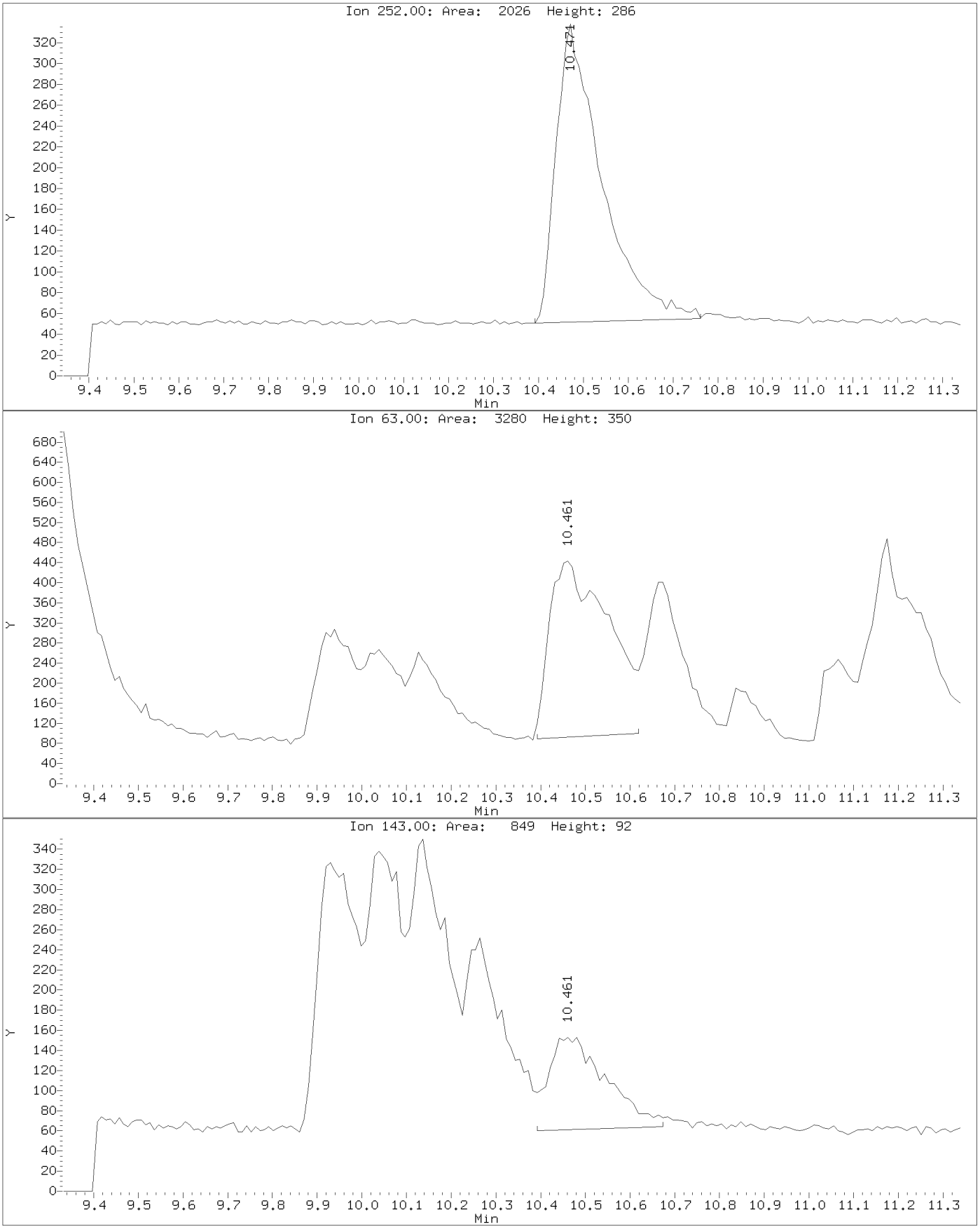
Client Sample ID:

Compound: 2,4-Dibromophenol
CAS Number: 367-12-4

AFTER MANUAL INTEGRATION



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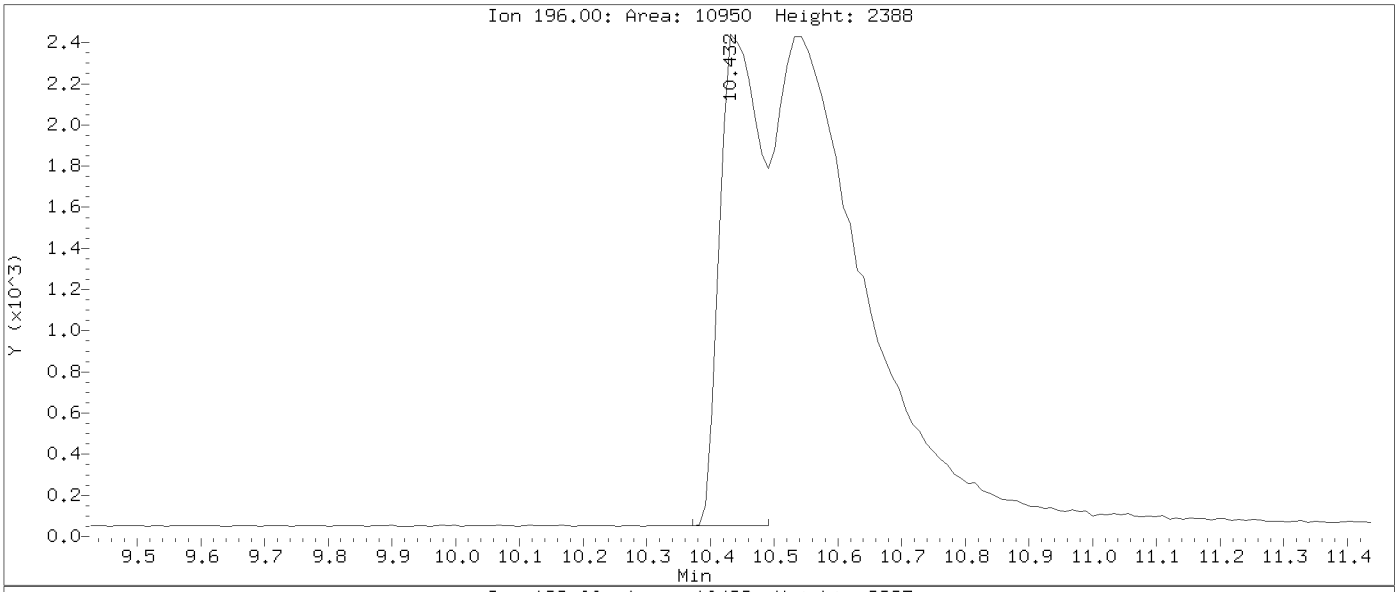
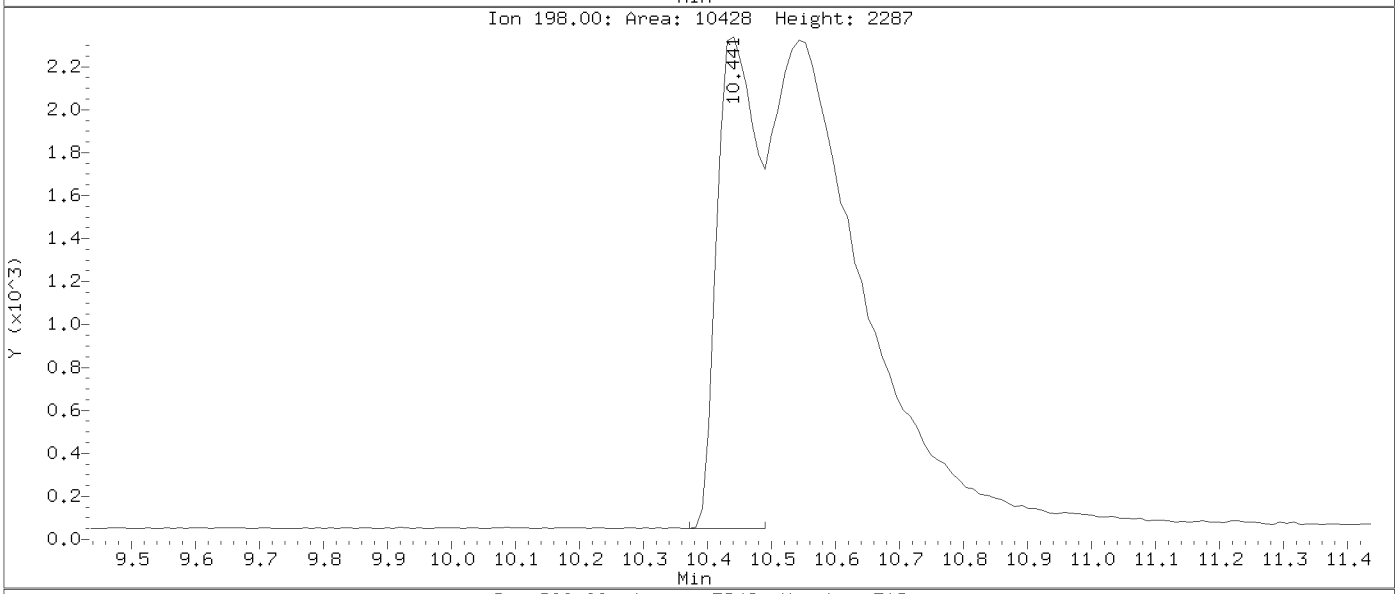
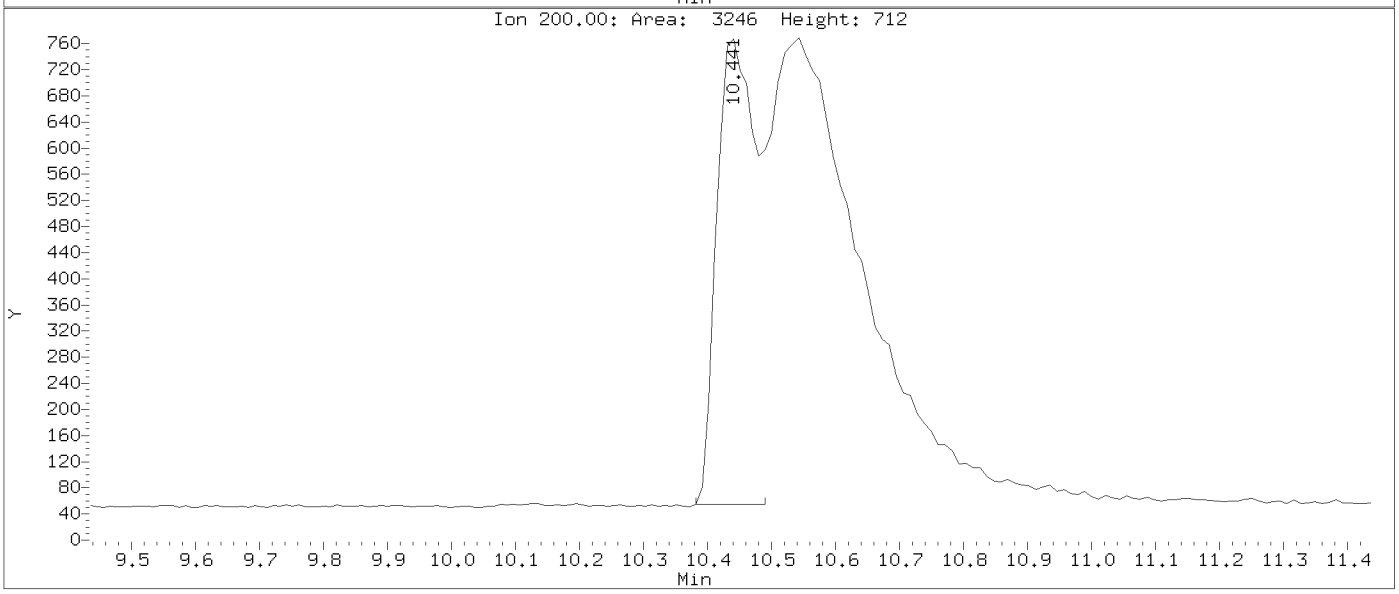
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: 2,4,5-Trichlorophenol
CAS Number: 95-95-4

BEFORE MANUAL INTEGRATION







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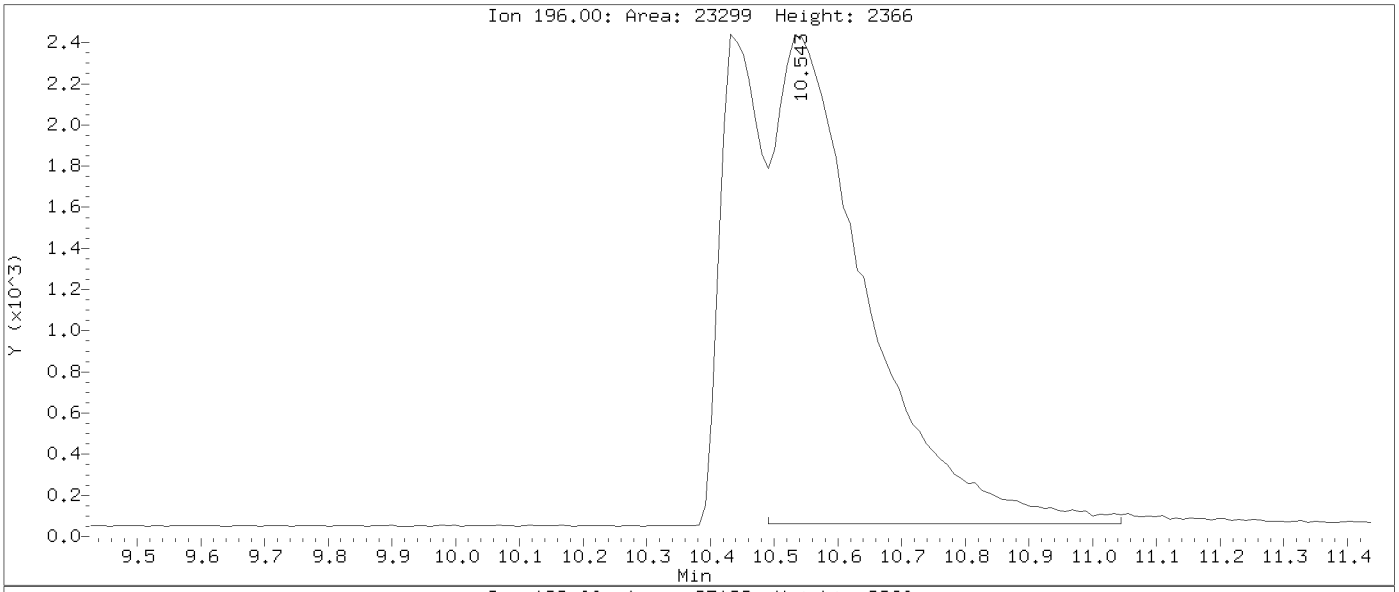
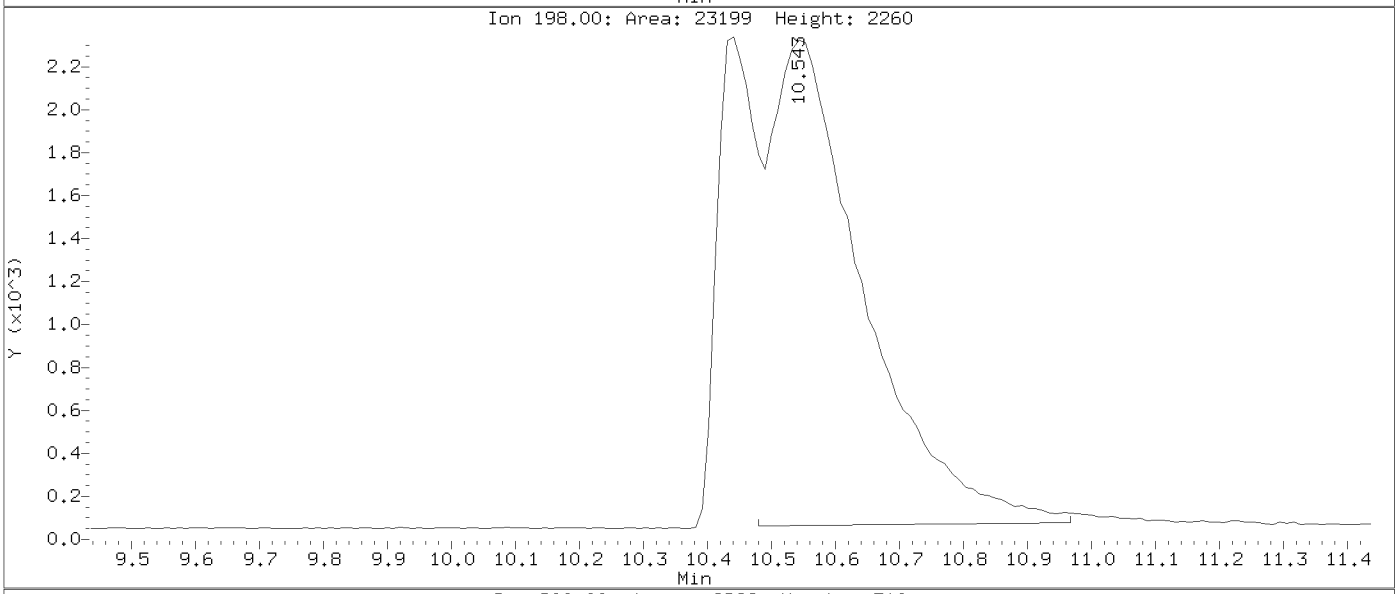
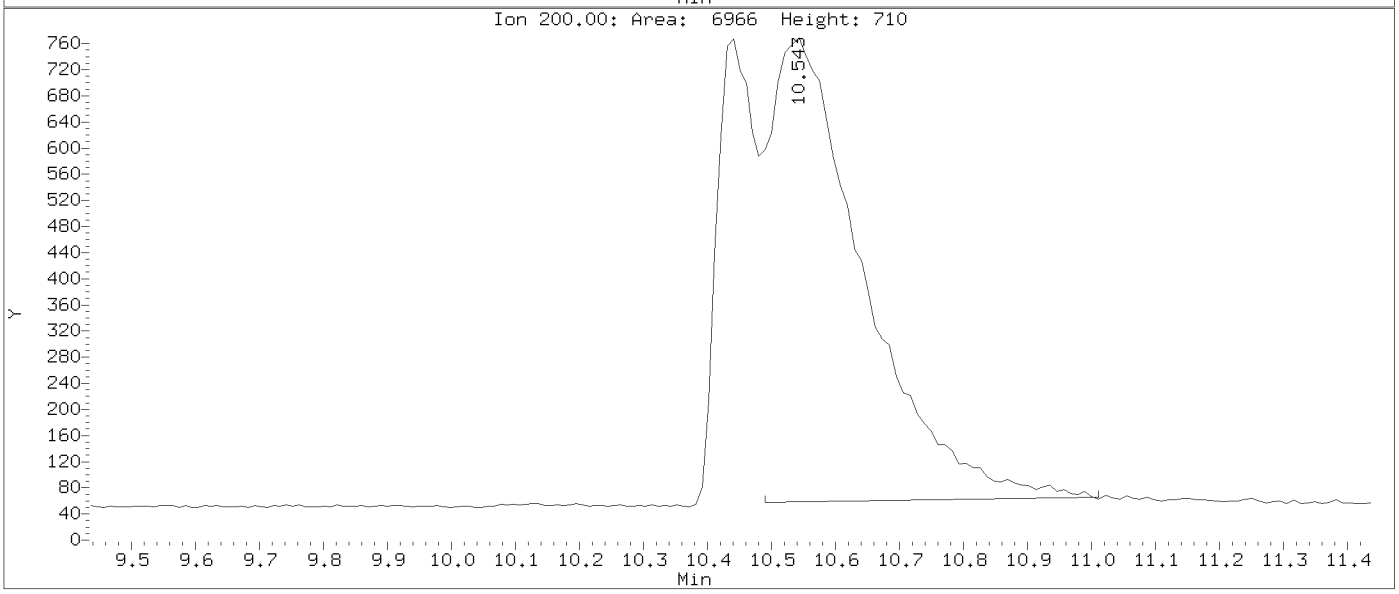
Compound: 2,4,5-Trichlorophenol
CAS Number: 95-95-4

AFTER MANUAL INTEGRATION







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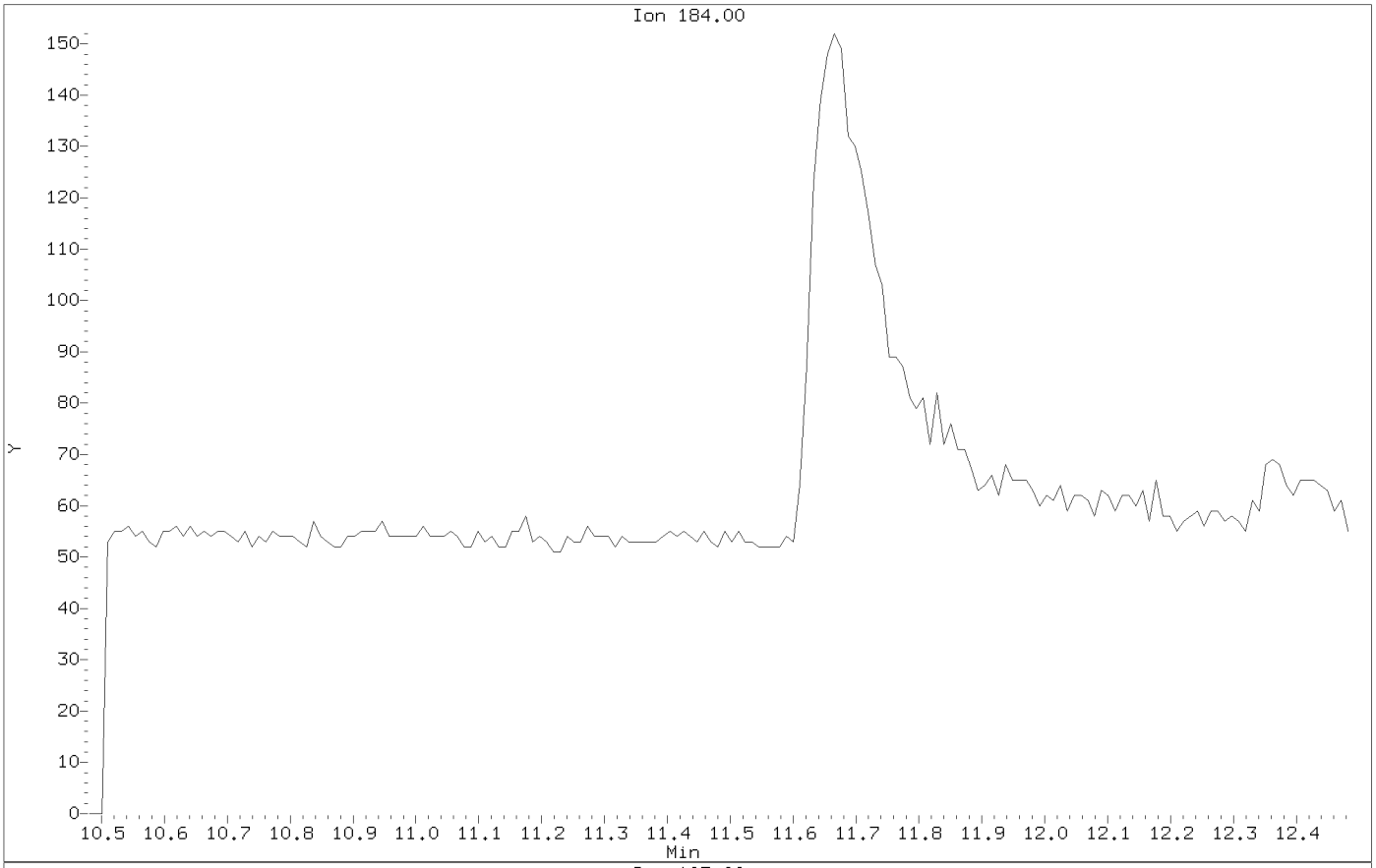
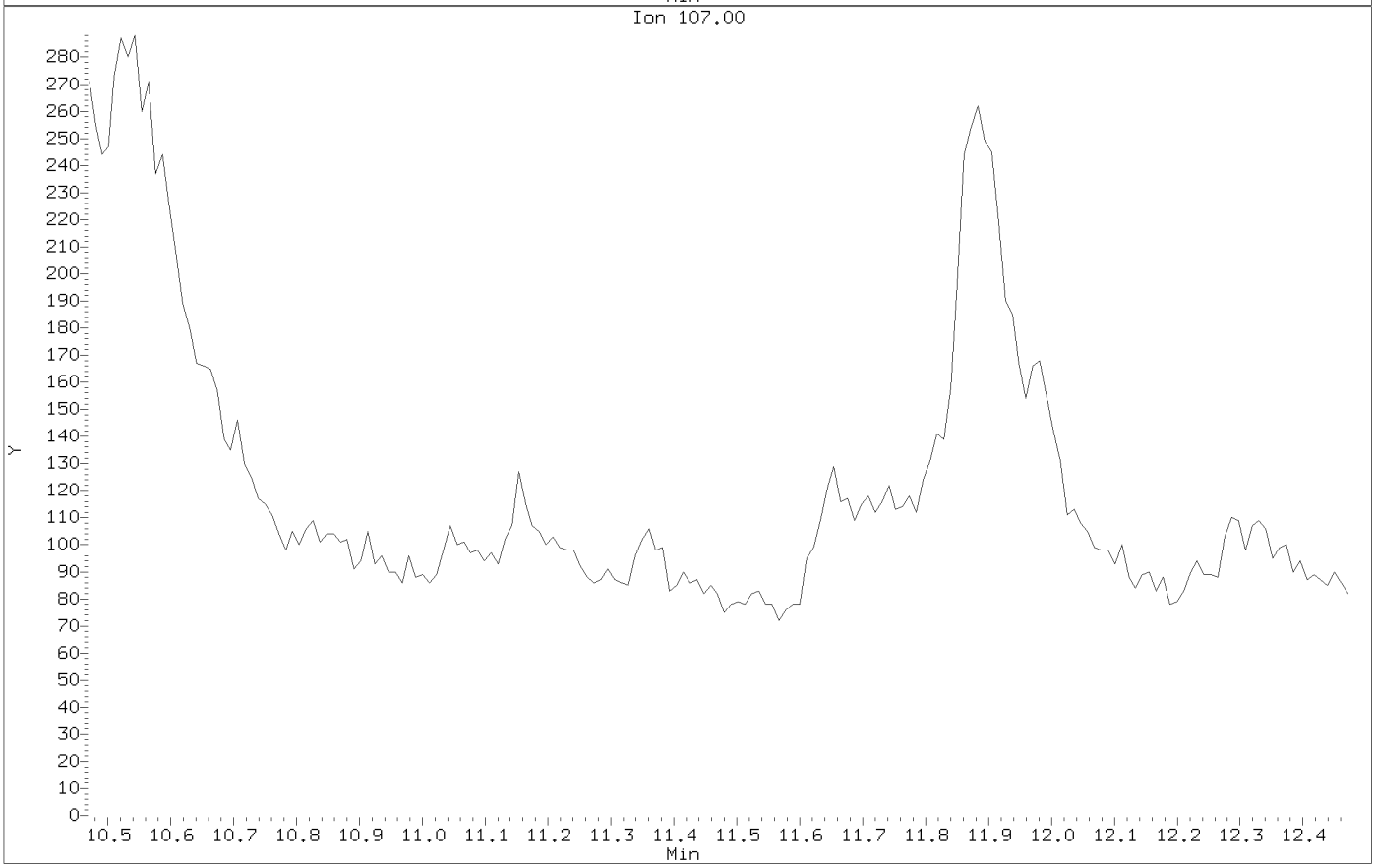
Injection Date: 11-JAN-2021 11:42
Instrument: gcms-n.i
Client Sample ID:

Compound: 2,4-Dinitrophenol
CAS Number: 51-28-5

BEFORE MANUAL INTEGRATION





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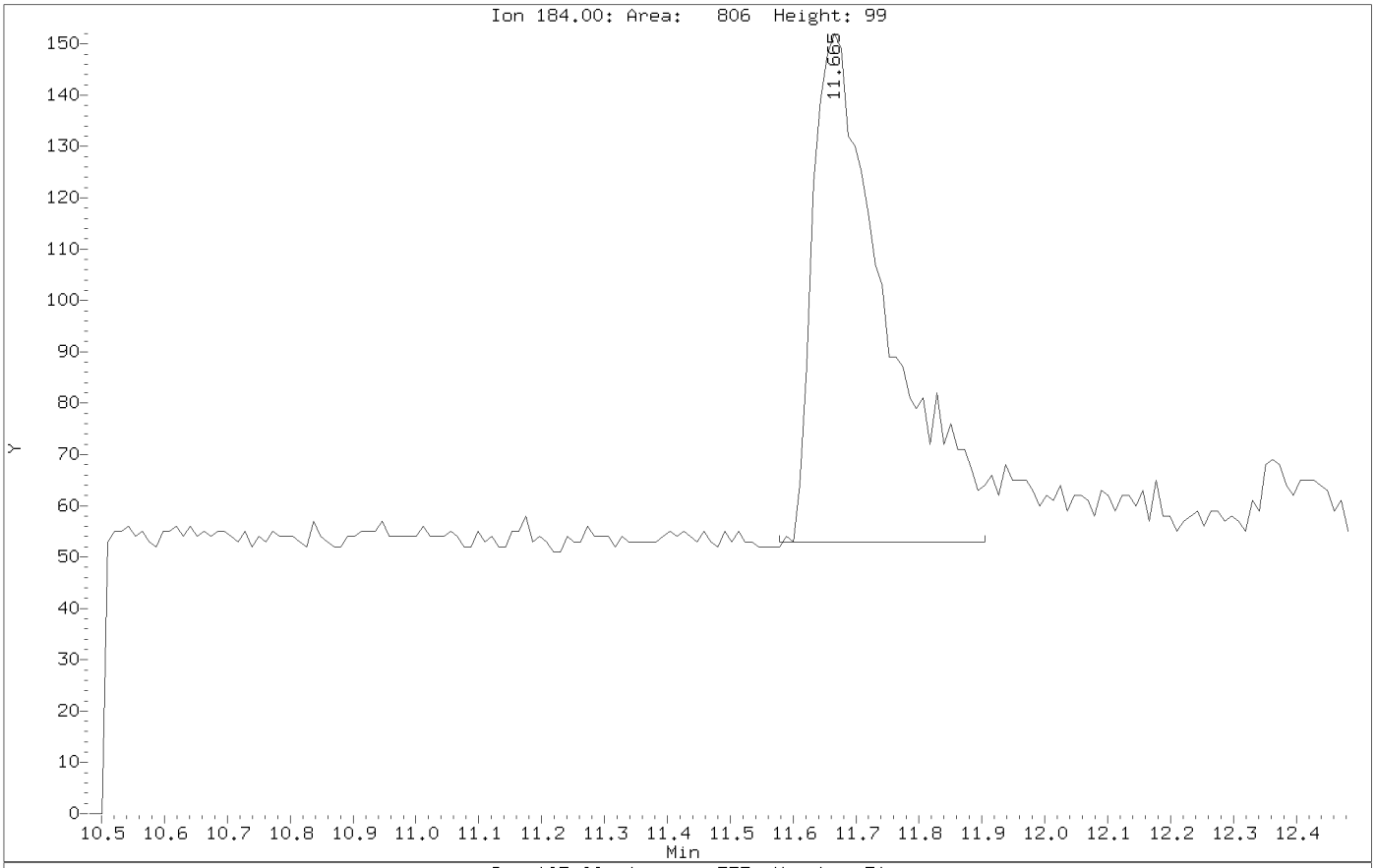
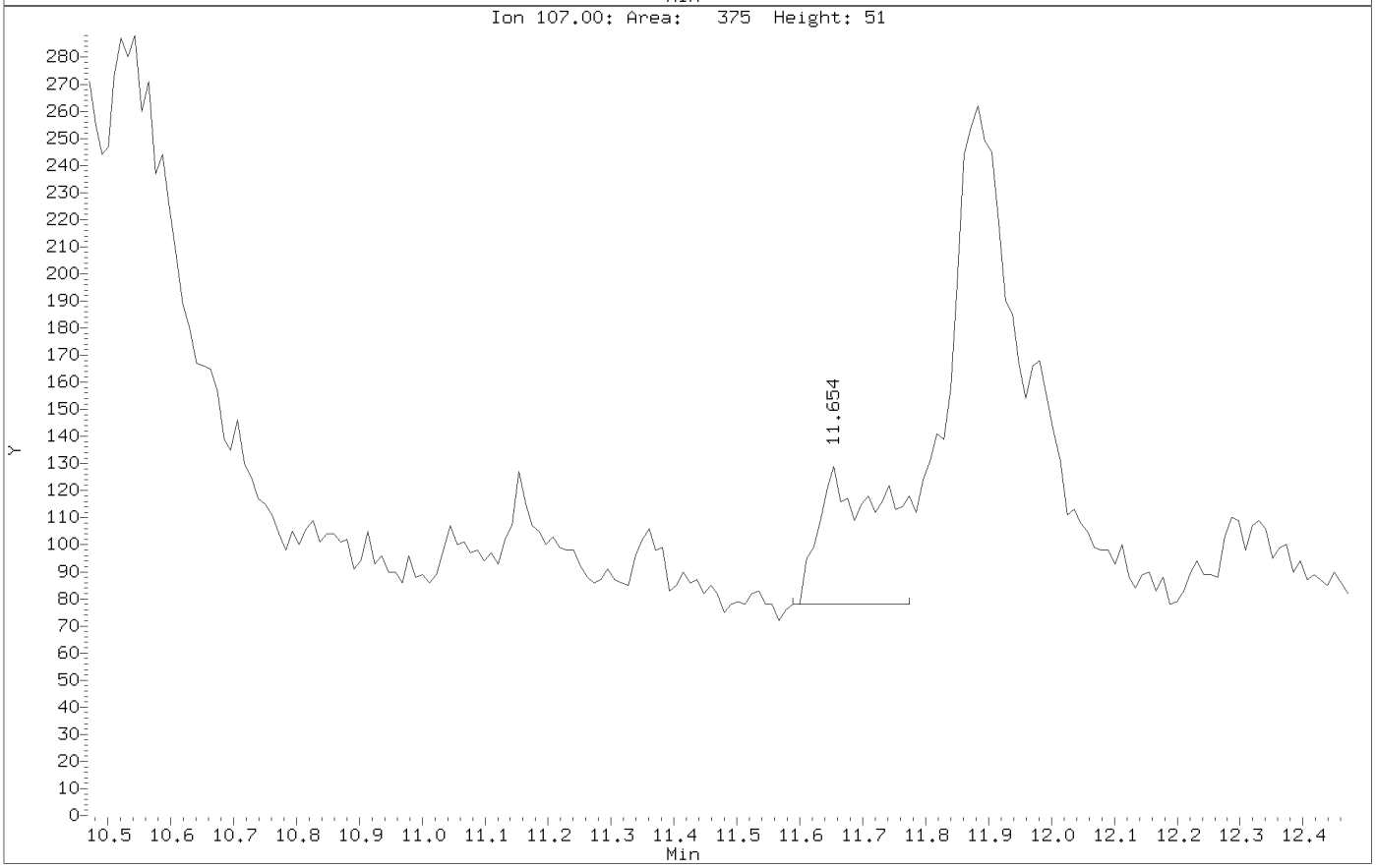
Client Sample ID:

Compound: 2,4-Dinitrophenol
CAS Number: 51-28-5

AFTER MANUAL INTEGRATION





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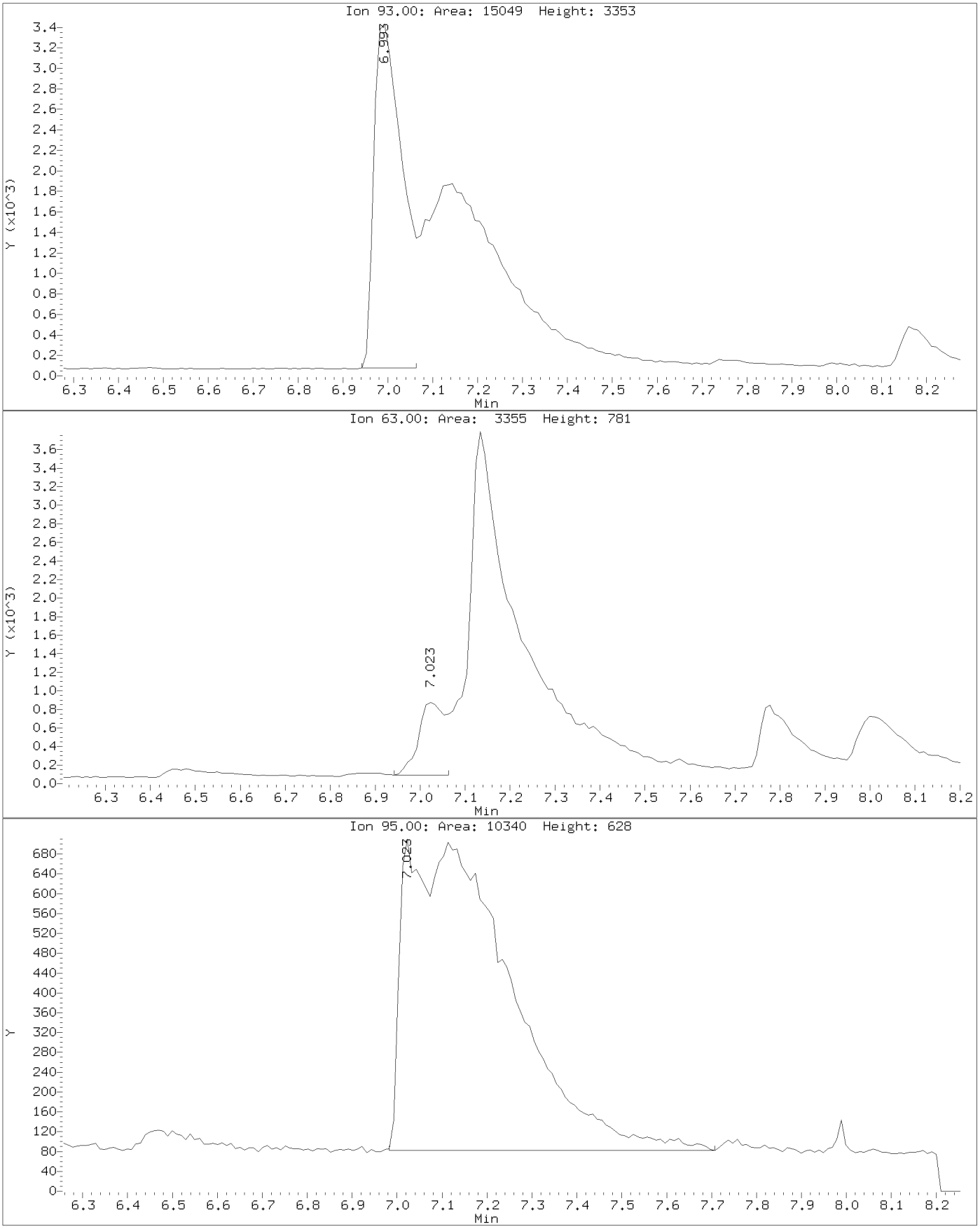
Client Sample ID:

Compound: Bis(2-Chloroethyl)ether
CAS Number: 111-44-4

BEFORE MANUAL INTEGRATION



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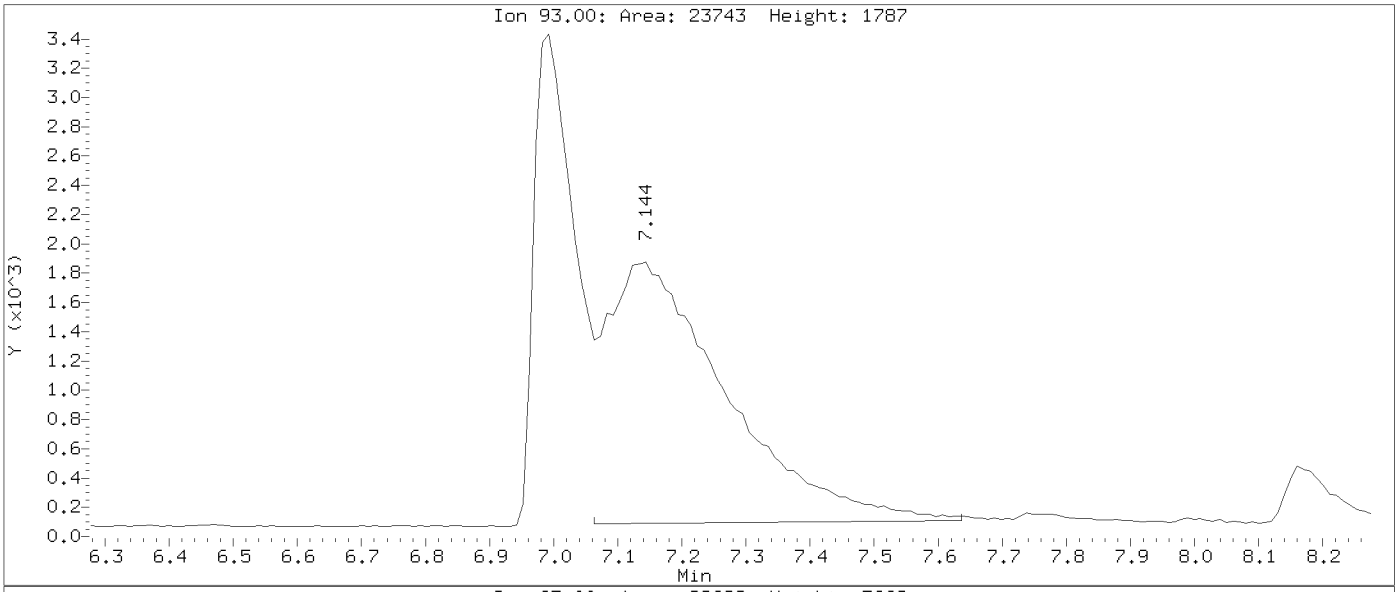
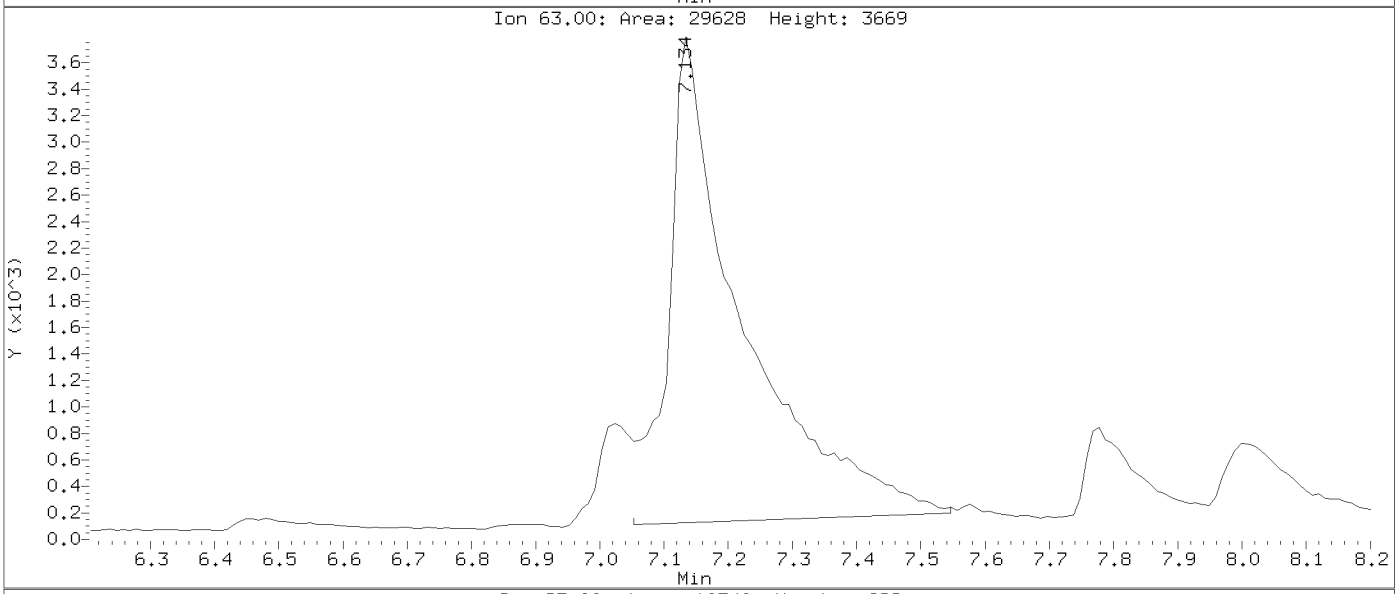
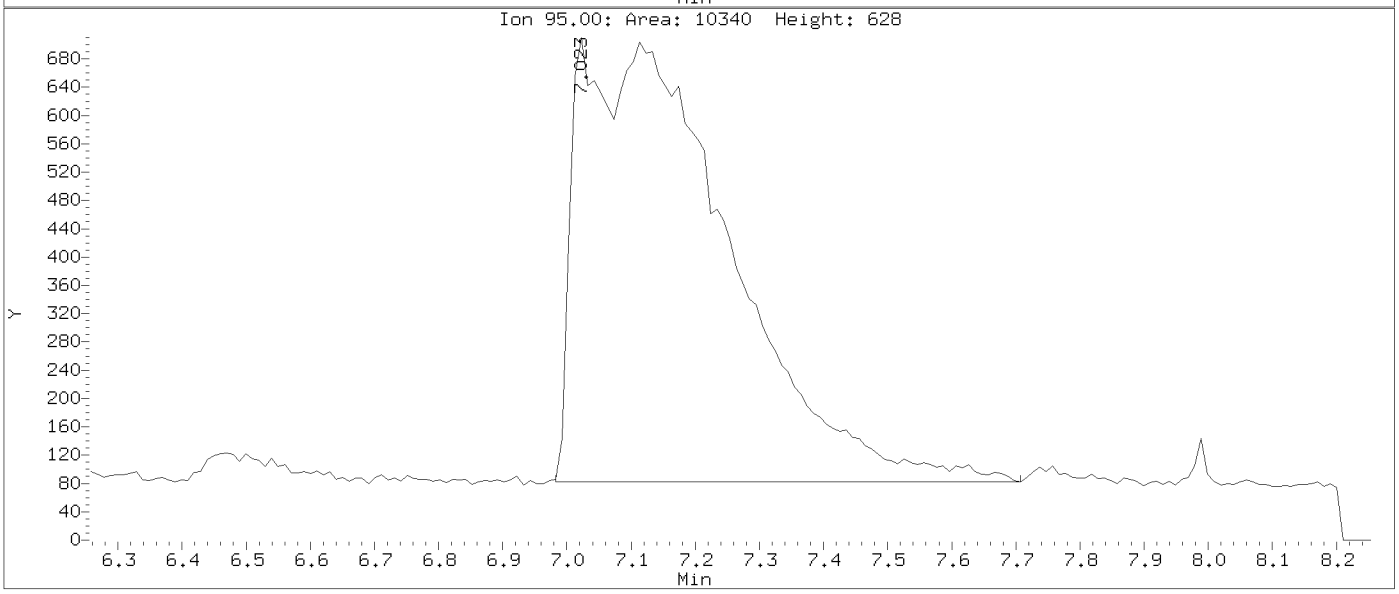
Client Sample ID:

Compound: Bis(2-Chloroethyl)ether
CAS Number: 111-44-4

AFTER MANUAL INTEGRATION







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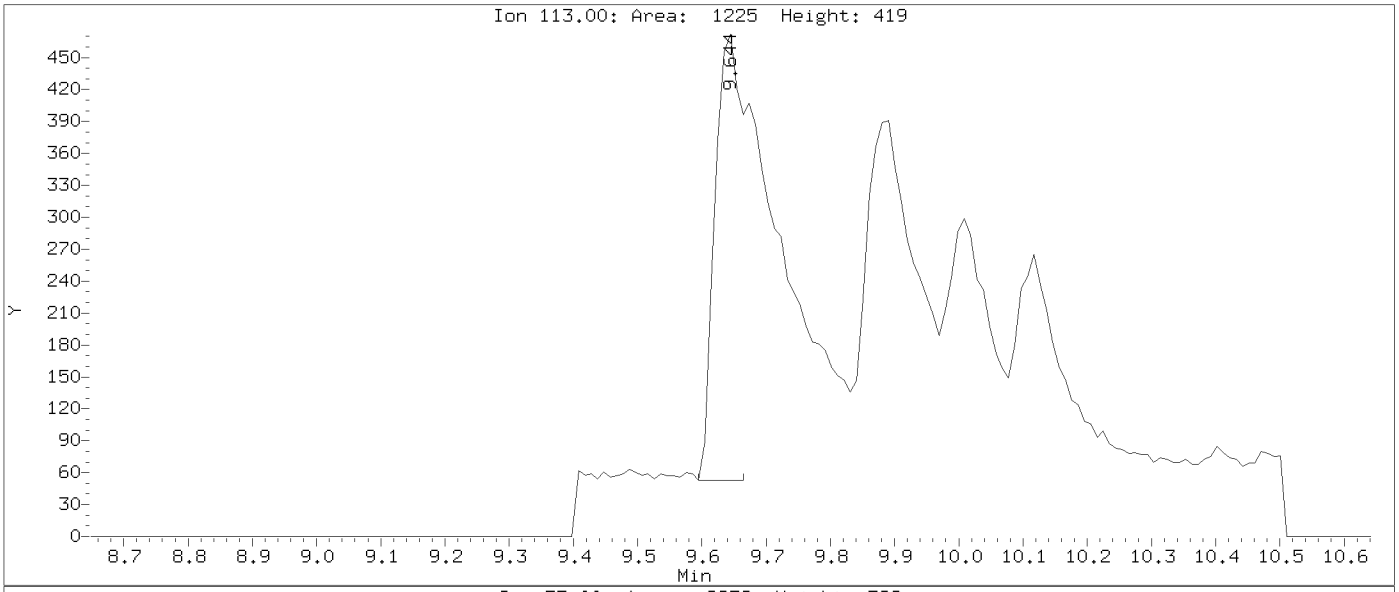
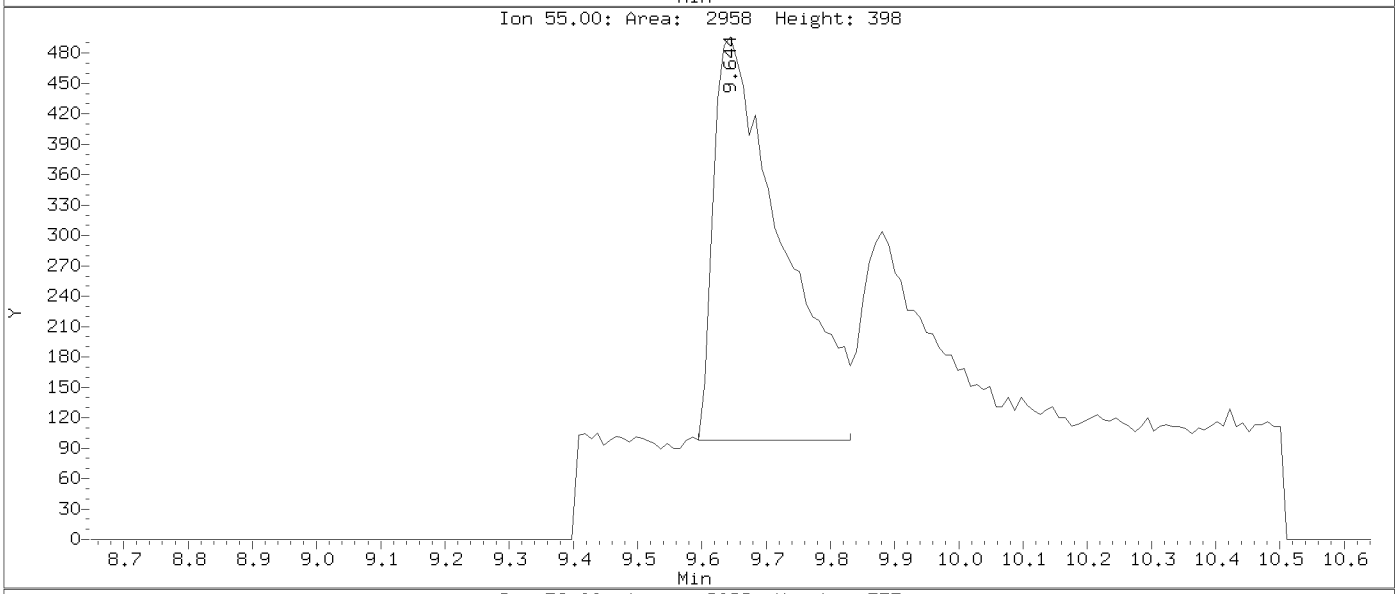
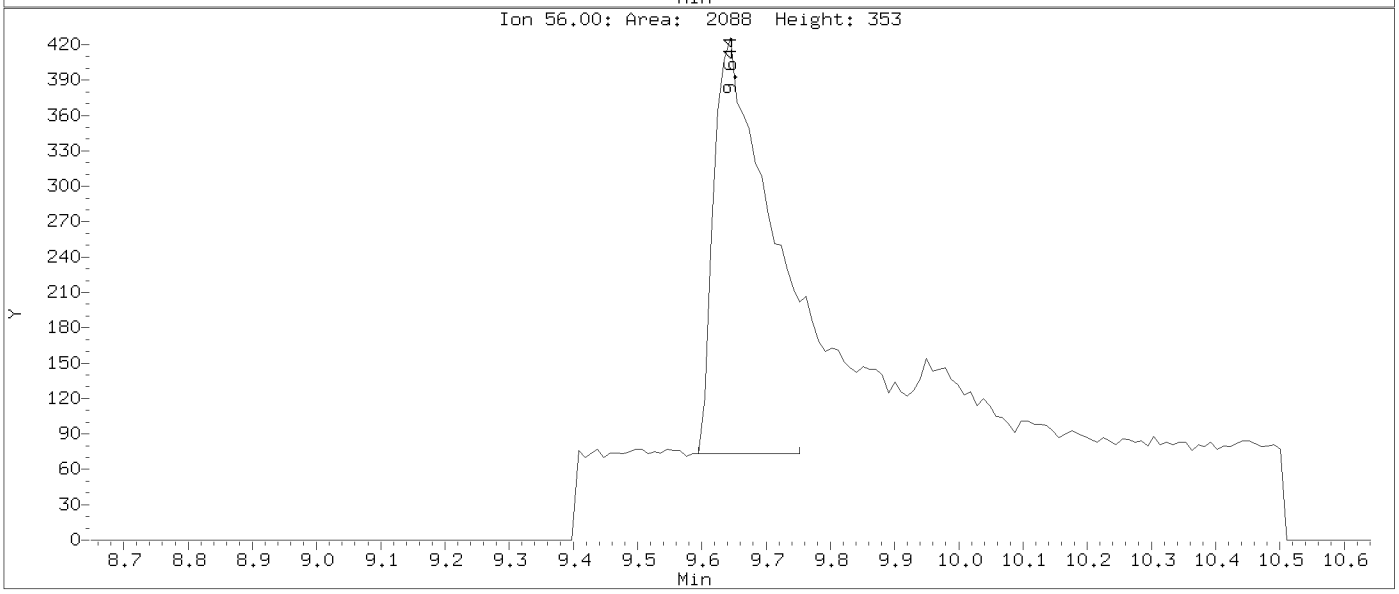
Instrument: gcms-n.i
Client Sample ID:

Compound: Caprolactam
CAS Number: 105-60-2

BEFORE MANUAL INTEGRATION







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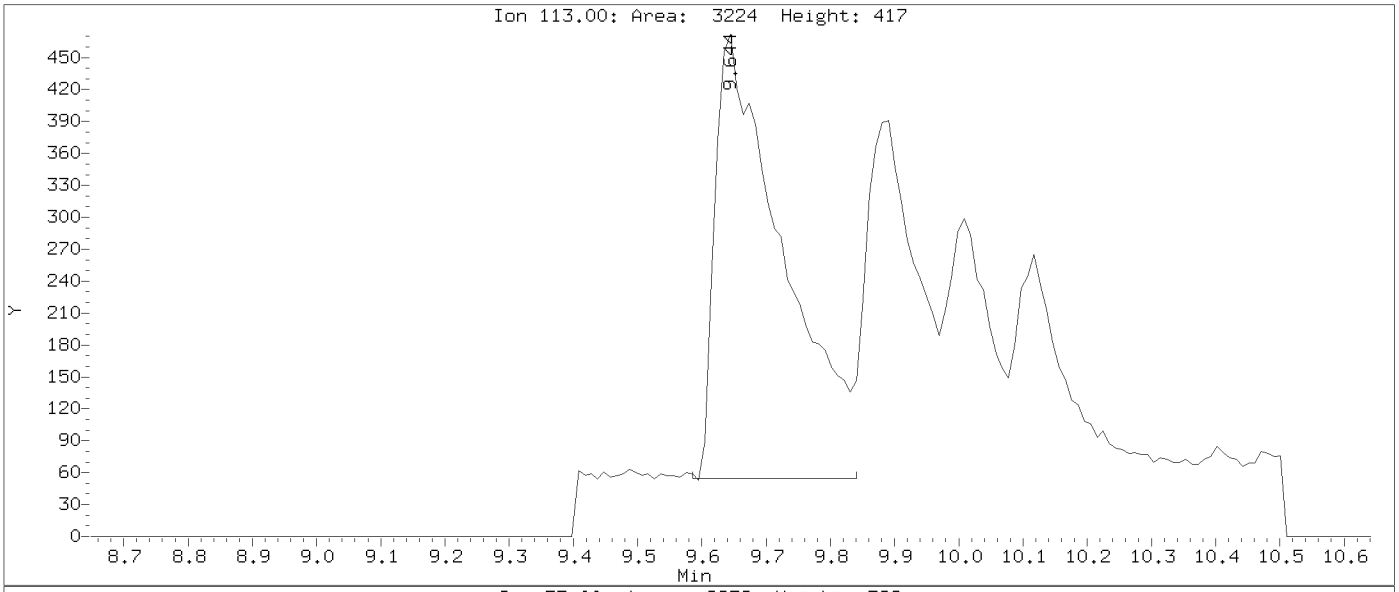
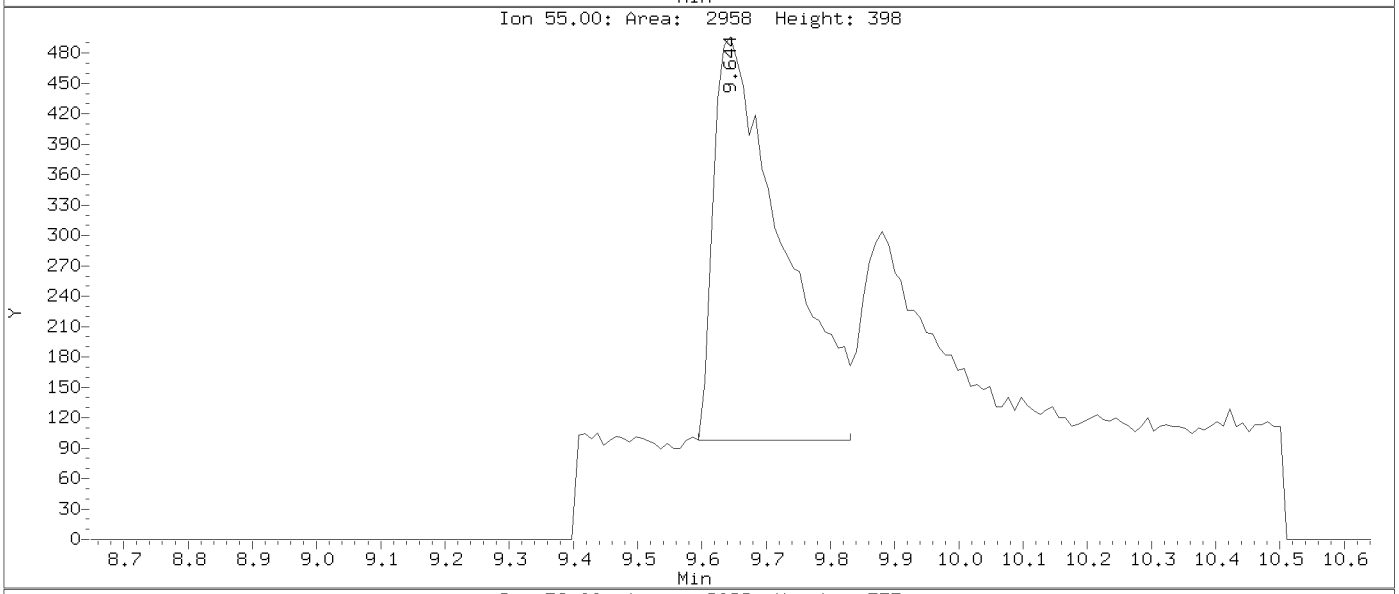
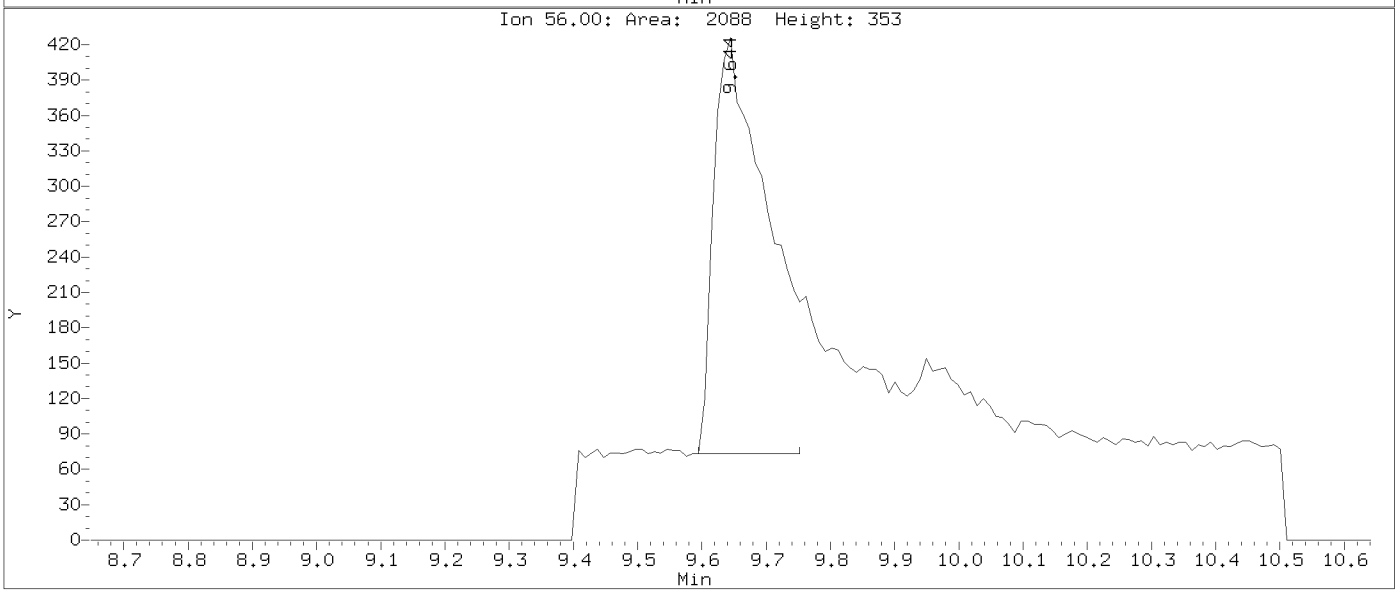
Client Sample ID:

Compound: Caprolactam
CAS Number: 105-60-2

AFTER MANUAL INTEGRATION







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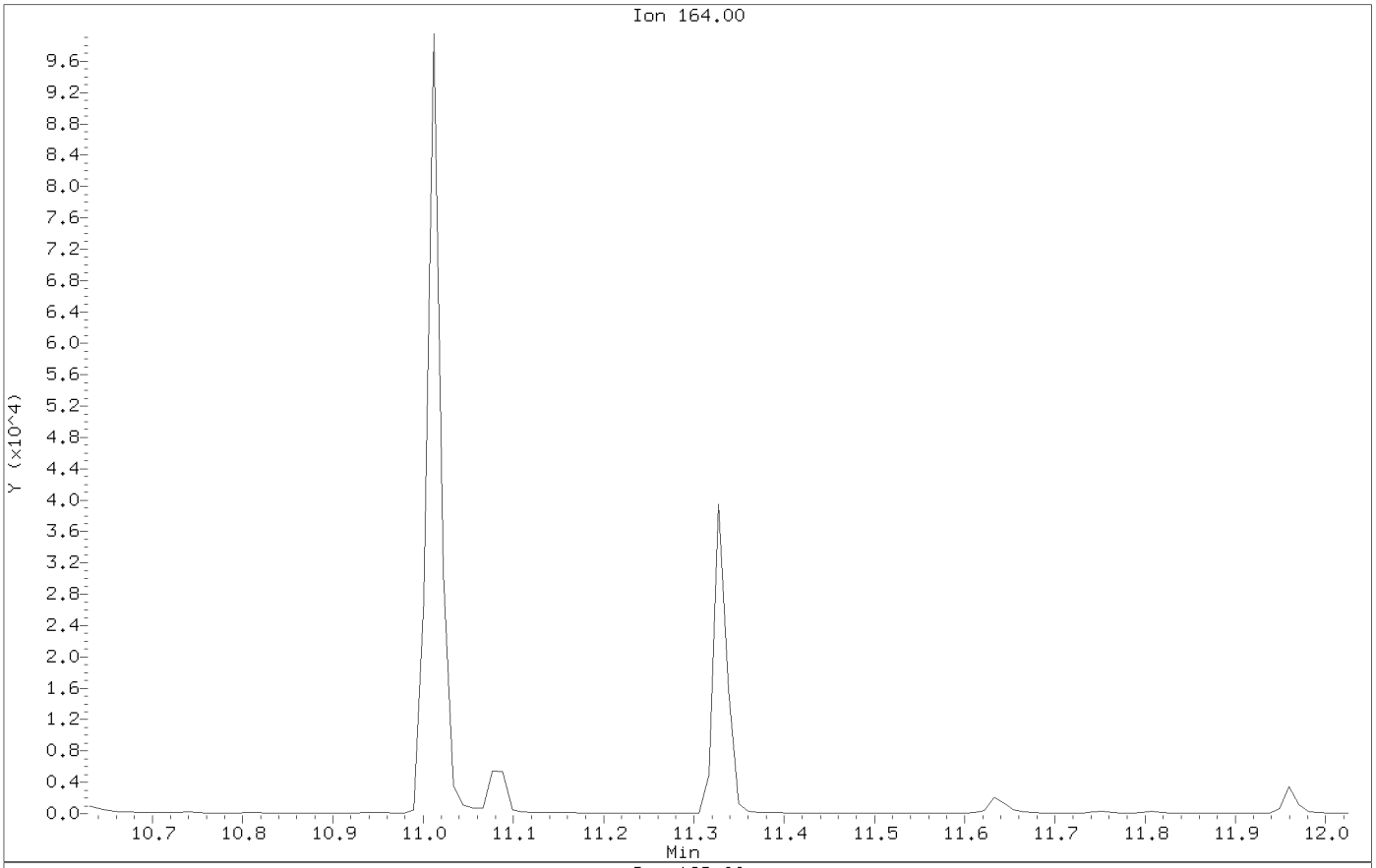
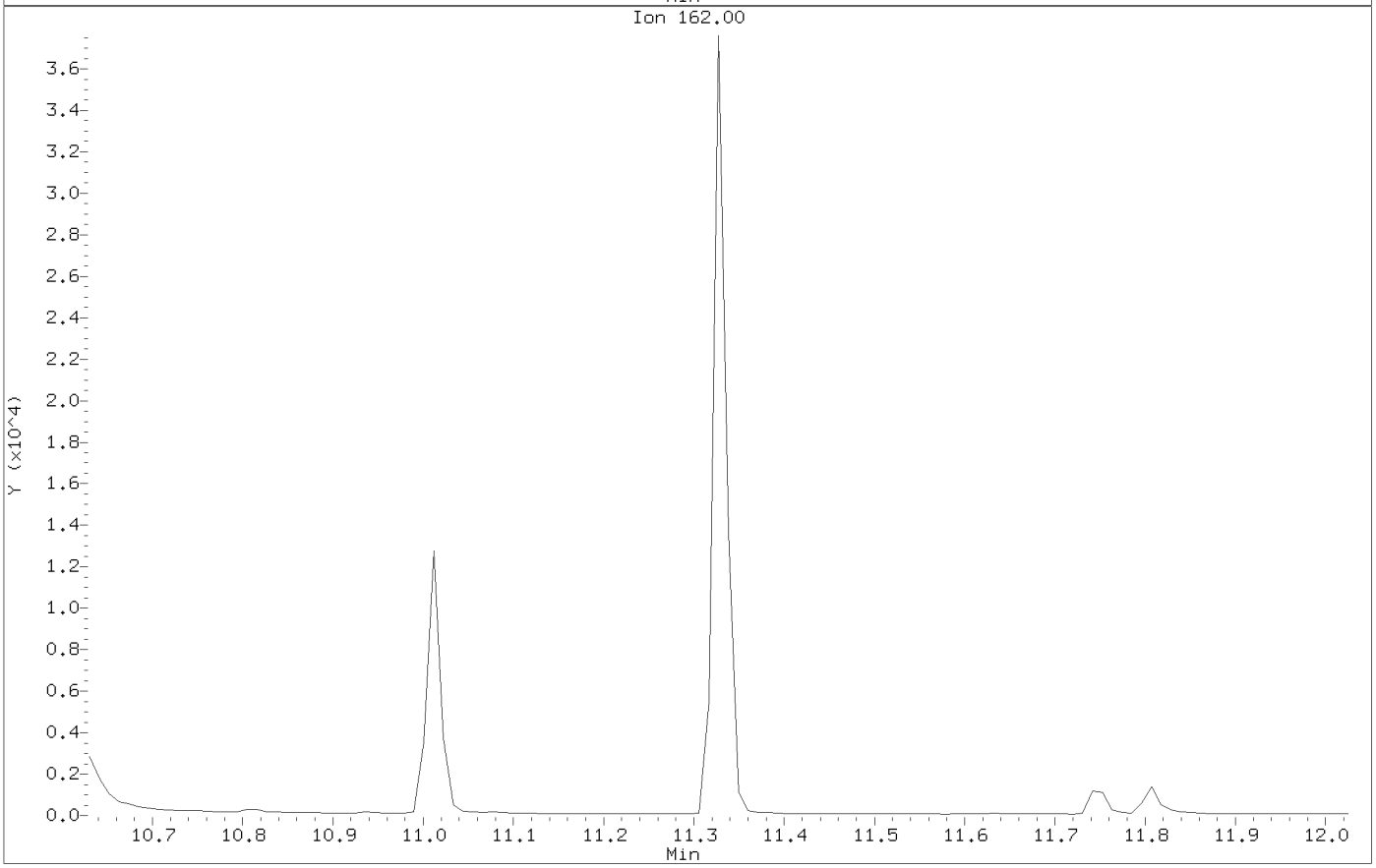
Client Sample ID:

Compound: Acenaphthene-D10
CAS Number: 15067-26-2

BEFORE MANUAL INTEGRATION





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Injection Date: 11-JAN-2021 13:52
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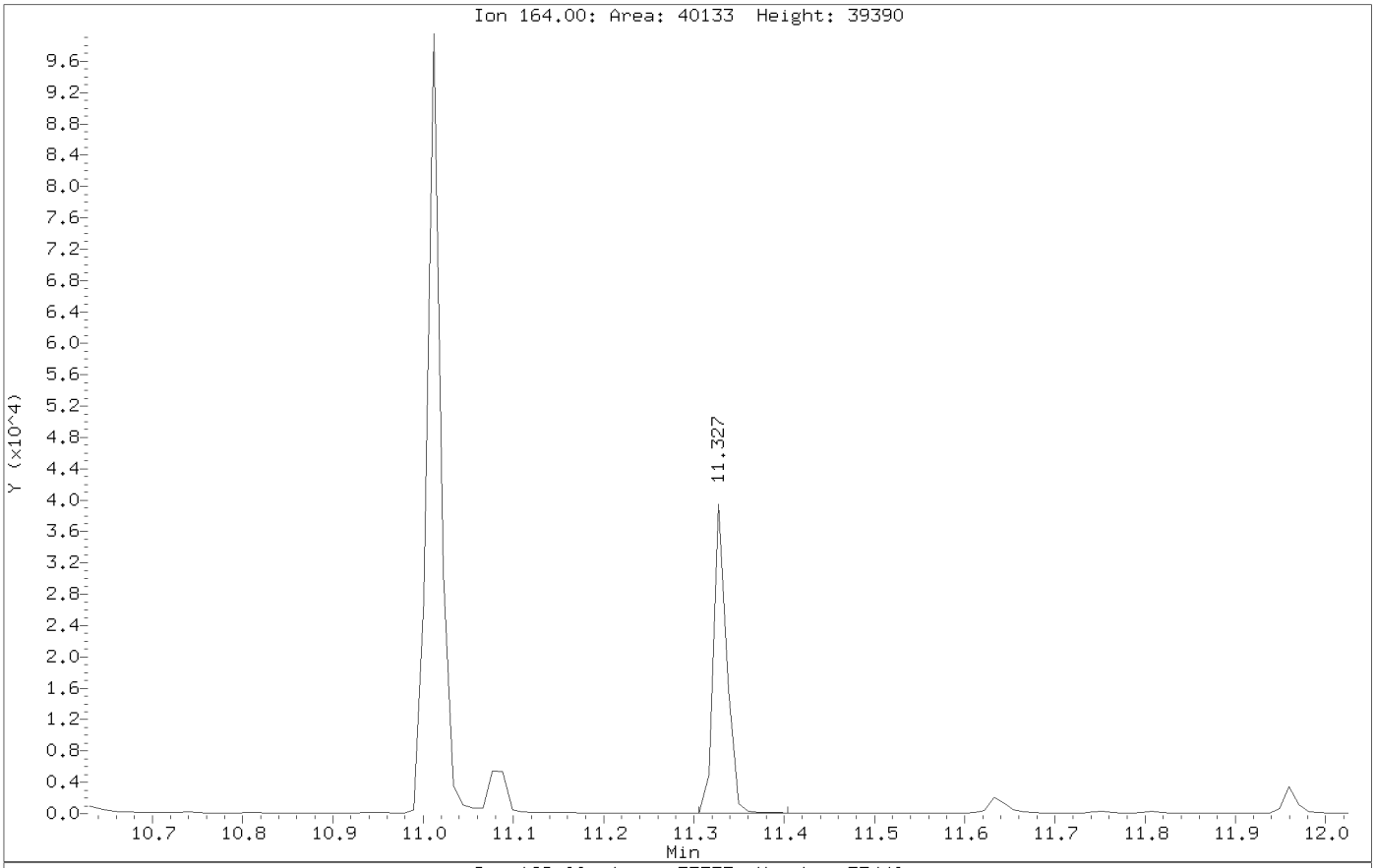
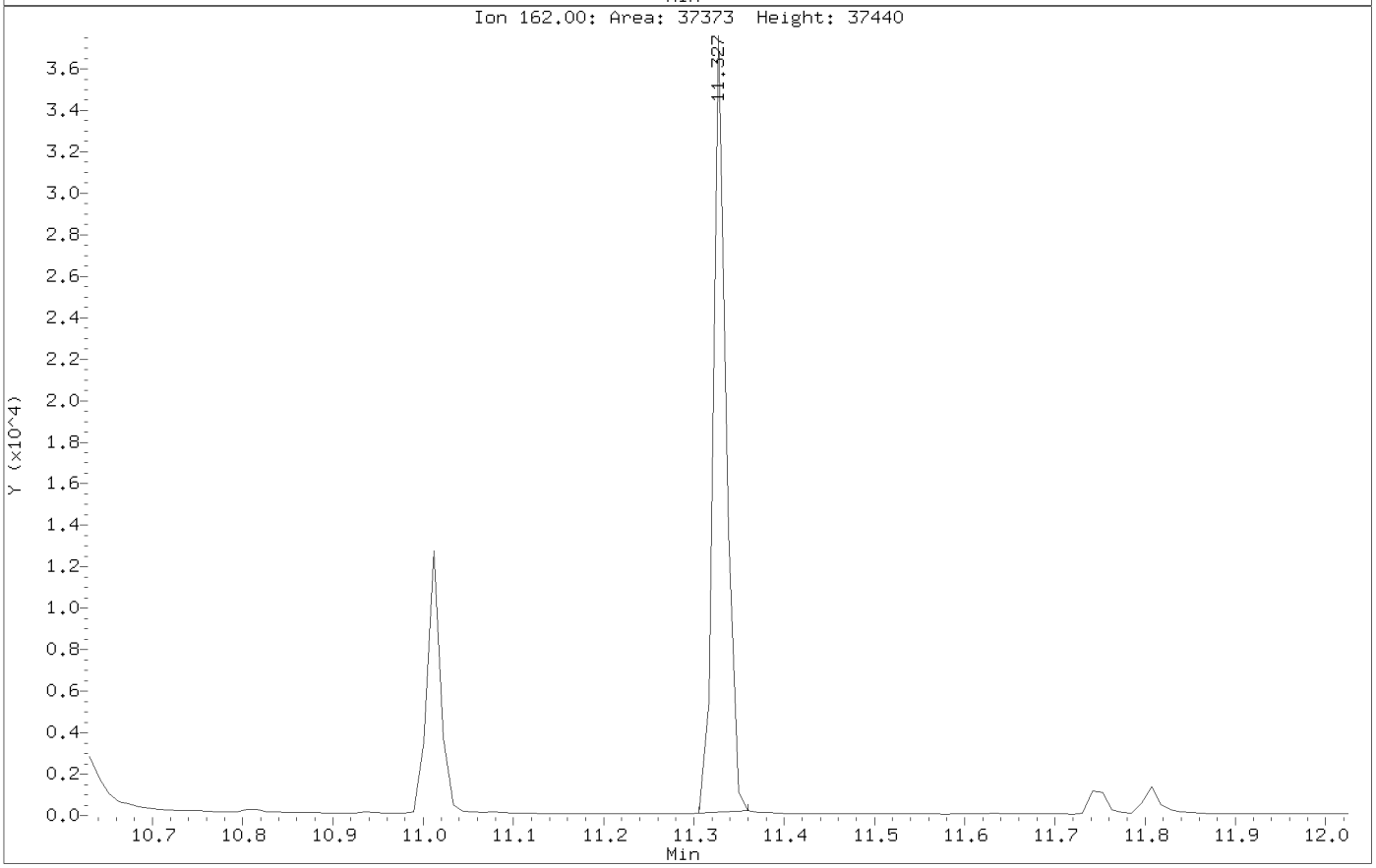
Client Sample ID:

Compound: Acenaphthene-D10
CAS Number: 15067-26-2

AFTER MANUAL INTEGRATION





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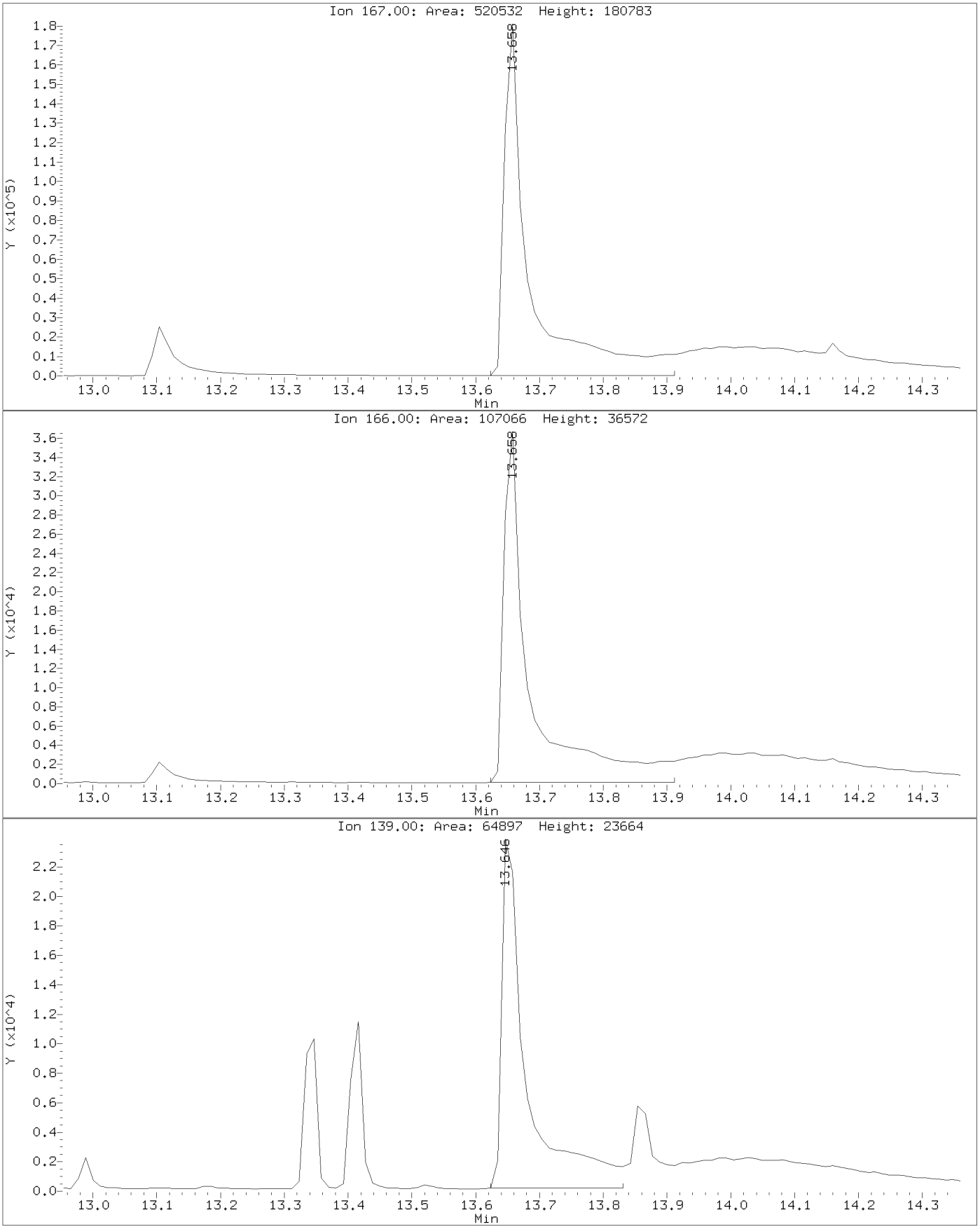
Instrument: gcms-n.i
Client Sample ID:

Compound: Carbazole
CAS Number: 86-74-8

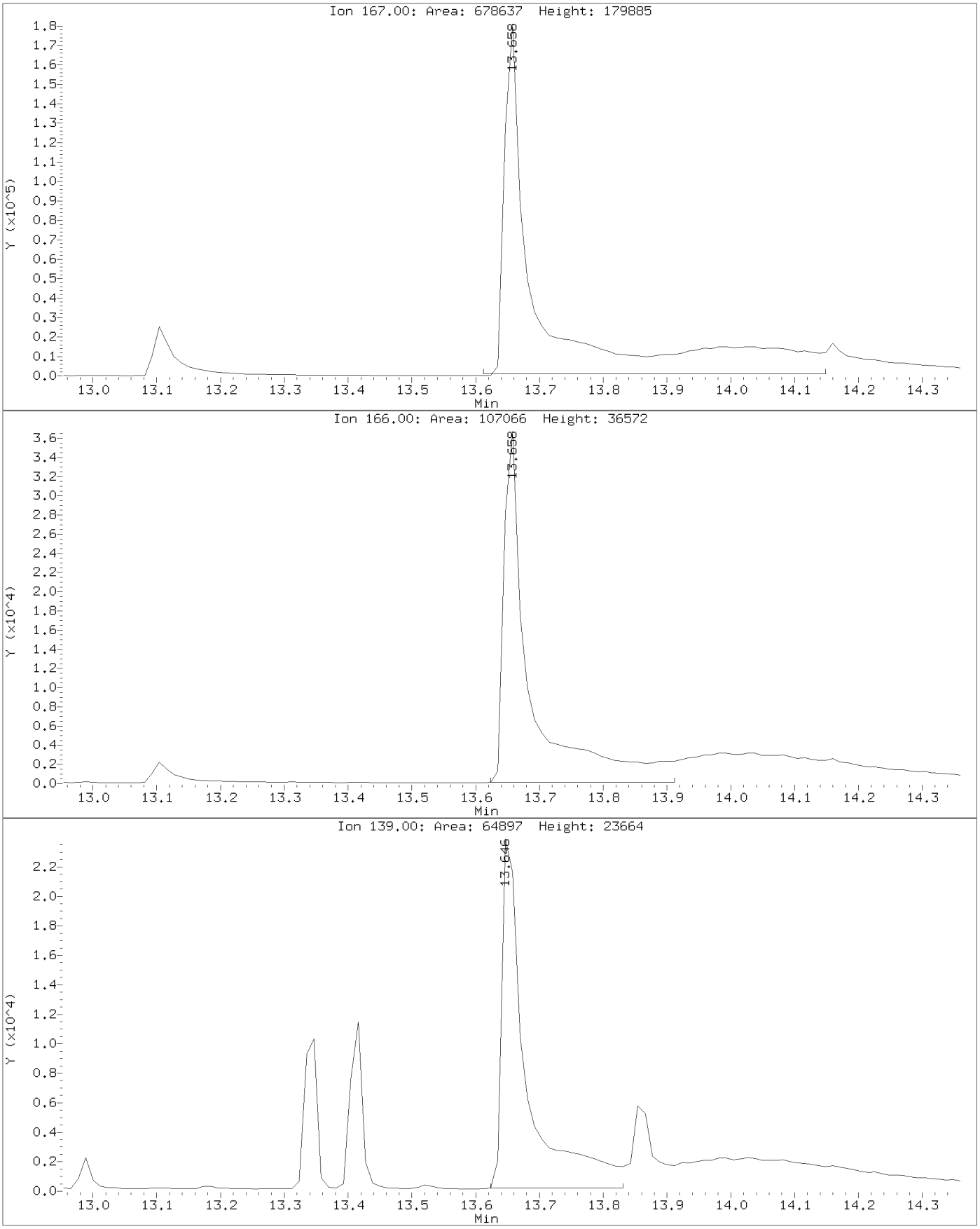
BEFORE MANUAL INTEGRATION



Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1316.D
Injection Date: 11-JAN-2021 13:52
Instrument: gcms-n.i
Client Sample ID:

Compound: Carbazole
CAS Number: 86-74-8

AFTER MANUAL INTEGRATION



Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** TN0377
Project : LO-58 Nike Missile Battery Launch Site **Instrument ID:** GCMS-N
Lab File IDs : N1370.D N1371.D N1369.D N1372.D N1373.D N1374.D **Column ID:**
Calibration Date(s): 13-JAN-21 13:16 13-JAN-21 16:00

	0.200000(Level 1	0.500000(Level 2	2.0000 Level 3	7.0000 Level 4	10.0000 Level 5	15.0000 Level 6	New Crv	b	m1	m2	%RSD	Max %RSD	
Naphthalene	1.38611	0.95848	1.04439	1.06188	1.01944	1.05048	AVG		1.08680		13.91374	15.00000	O
2-Methylnaphthalene	0.90570	0.81359	0.75217	0.72771	0.69507	0.73055	AVG		0.77080		9.98012	15.00000	O
1-Methylnaphthalene	23212	45503	159086	540781	733685	1162627	LNR	0.000e+00	0.66429		0.99838	0.99000	O
Acenaphthylene	2.05251	1.96253	1.95760	2.01714	1.94047	1.94157	AVG		1.97864		2.31309	15.00000	O
Acenaphthene	1.39674	1.28579	1.25641	1.25500	1.20956	1.18060	AVG		1.26402		5.93641	15.00000	O
Fluorene	1.37999	1.30853	1.27168	1.31455	1.26160	1.22499	AVG		1.29356		4.13969	15.00000	O
Phenanthrene	0.99339	0.99613	0.97033	1.12366	1.10057	1.03704	AVG		1.03685		6.03360	15.00000	O
Anthracene	27556	54151	202156	734341	994595	1540024	LNR	0.000e+00	1.08250		0.99894	0.99000	O
Fluoranthene	1.04114	0.90900	0.88104	1.02147	0.95484	0.95647	AVG		0.96066		6.45635	15.00000	O
Pyrene	18128	40470	166812	644402	857318	1383292	LNR	0.000e+00	2.20331		0.99877	0.99000	O
Benzo(a)anthracene	1.38582	1.36341	1.17143	1.24273	1.15945	1.16656	AVG		1.24823		8.22294	15.00000	O
Chrysene	9683	24777	92586	360411	462752	757195	LNR	0.000e+00	1.20546		0.99845	0.99000	O
Benzo(b)fluoranthene	1.74868	1.33356	1.40713	1.59026	1.52101	1.47033	AVG		1.51183		9.66695	15.00000	O
Benzo(k)fluoranthene	6115	14316	60128	245967	280703	488640	LNR	0.000e+00	1.51083		0.99765	0.99000	O
Benzo(a)pyrene	1.47751	1.06157	1.03720	1.13695	1.08015	1.08476	AVG		1.14636		14.44119	15.00000	O
Indeno(1,2,3-cd)pyrene	0.58329	0.61256	0.50624	0.51127	0.44244	0.50325	AVG		0.52651		11.67143	15.00000	O
Dibenzo(a,h)anthracene	0.89402	0.74801	0.72583	0.74770	0.70656	0.75029	AVG		0.76207		8.77269	15.00000	O
Benzo(g,h,i)perylene	1.15231	0.90921	0.86176	0.87826	0.82101	0.86131	AVG		0.91398		13.15172	15.00000	O
2-Methylnaphthalene-D10	0.61945	0.57947	0.57362	0.56847	0.54202	0.56501	AVG		0.57467		4.42077	15.00000	
Fluorene-D10	1.13539	1.00384	0.91490	0.94323	0.89507	0.89519	AVG		0.96460		9.64608	15.00000	
Pyrene-D10	11515	25829	108260	429399	568386	912519	LNR	0.000e+00	1.45717		0.99861	0.99000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
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http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1375.D
Report Date: 13-Jan-2021 17:27

Katahdin Analytical Services

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id: WG293350-8
Level: LOW
Data Type: MS DATA
SpikeList File: SIM_IND_CHK5.spk
Sublist File: all.sub
Method File: \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Misc Info: WG293350,WG293350,WG293350-4

Client SDG: 021497
Fraction: SV

Operator: JCG
SampleType: INDCHECK
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
2 1,4-Dioxane	5.00	4.93	98.63	80-120
3 N-Nitrosodimethyla	5.00	5.10	102.05	80-120
4 Pyridine	5.00	5.93	118.66	80-120
5 Benzaldehyde	5.00	1.33	26.57*	80-120
7 Bis(2-Chloroethyl)	5.00	5.49	109.81	80-120
6 Phenol	5.00	5.32	106.31	80-120
8 2-Chlorophenol	5.00	5.29	105.80	80-120
9 1,3-Dichlorobenzen	5.00	4.79	95.82	80-120
11 1,4-Dichlorobenzen	5.00	4.99	99.90	80-120
12 1,2-Dichlorobenzen	5.00	5.00	99.97	80-120
13 2,2'-Oxybis(1-chlo	5.00	3.30	65.92*	80-120
14 2-Methylphenol	5.00	5.84	116.81	80-120
15 Acetophenone	5.00	5.07	101.37	80-120
16 N-Nitroso-di-n-pro	5.00	4.98	99.68	80-120
18 Hexachloroethane	5.00	5.23	104.57	80-120
17 3&4-Methylphenol	5.00	5.19	103.89	80-120
19 Nitrobenzene	5.00	5.42	108.45	80-120
20 Isophorone	5.00	3.81	76.16*	80-120
21 2-Nitrophenol	5.00	5.54	110.71	80-120
22 2,4-Dimethylphenol	5.00	4.80	96.05	80-120
23 bis(2-Chloroethoxy	5.00	5.10	102.00	80-120
24 Benzoic acid	5.00	4.82	96.52	80-120
25 2,4-Dichlorophenol	5.00	5.46	109.18	80-120
26 1,2,4-Trichloroben	5.00	5.12	102.51	80-120
28 Naphthalene	5.00	4.92	98.39	80-120
29 4-Chloroaniline	5.00	7.36	147.13*	80-120
30 Hexachlorobutadien	5.00	4.97	99.45	80-120
31 Caprolactam	5.00	5.38	107.67	80-120
34 2-Methylnaphthalen	5.00	5.91	118.18	80-120
32 4-Chloro-3-Methylp	5.00	5.24	104.89	80-120
35 1-Methylnaphthalen	5.00	5.27	105.41	80-120
37 1,2,4,5-Tetrachlor	5.00	5.34	106.86	80-120
36 Hexachlorocyclopen	5.00	3.24	64.90*	80-120
39 2,4,6-Trichlorophe	5.00	5.37	107.38	80-120
40 2,4,5-Trichlorophe	5.00	4.82	96.47	80-120
42 2-Chloronaphthalen	5.00	4.84	96.77	80-120
41 1,1'-Biphenyl	5.00	4.84	96.75	80-120
43 2-Nitroaniline	5.00	6.27	125.44*	80-120
44 Dimethyl Phthalate	5.00	4.91	98.14	80-120
46 Acenaphthylene	5.00	3.96	79.18*	80-120

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1375.D
Report Date: 13-Jan-2021 17:27

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
45 2,6-Dinitrotoluene	5.00	4.88	97.63	80-120
49 Acenaphthene	5.00	4.70	93.92	80-120
47 3-Nitroaniline	5.00	6.20	124.04*	80-120
50 2,4-Dinitrophenol	5.00	5.38	107.62	80-120
51 Dibenzofuran	5.00	6.11	122.29*	80-120
52 2,4-Dinitrotoluene	5.00	5.16	103.14	80-120
54 2,3,4,6-Tetrachlor	5.00	4.65	92.96	80-120
53 4-Nitrophenol	5.00	5.09	101.81	80-120
55 Diethylphthalate	5.00	4.97	99.35	80-120
57 Fluorene	5.00	4.82	96.42	80-120
58 4-Chlorophenyl-phe	5.00	4.96	99.11	80-120
60 4,6-Dinitro-2-Meth	5.00	5.83	116.69	80-120
59 4-Nitroaniline	5.00	6.48	129.60*	80-120
61 N-Nitrosodiphenyla	5.00	4.03	80.70	80-120
62 4-Bromophenyl-phen	5.00	4.90	98.01	80-120
63 Hexachlorobenzene	5.00	5.00	100.05	80-120
64 Atrazine	5.00	4.94	98.73	80-120
65 Pentachlorophenol	5.00	5.33	106.54	80-120
67 Phenanthrene	5.00	5.20	104.09	80-120
68 Anthracene	5.00	5.05	100.99	80-120
69 Carbazole	5.00	6.08	121.59*	80-120
70 Di-n-butylphthalat	5.00	4.96	99.16	80-120
71 Fluoranthene	5.00	5.13	102.61	80-120
73 Pyrene	5.00	5.26	105.32	80-120
74 Butylbenzylphthala	5.00	4.68	93.54	80-120
76 Benzo(a)anthracene	5.00	4.95	98.94	80-120
78 Chrysene	5.00	5.63	112.61	80-120
75 3,3'-Dichlorobenzi	5.00	3.09	61.80*	80-120
79 bis(2-Ethylhexyl)p	5.00	4.78	95.68	80-120
80 Di-n-octylphthalat	5.00	4.89	97.89	80-120
81 Benzo(b)fluoranthe	5.00	5.01	100.17	80-120
82 Benzo(k)fluoranthe	5.00	5.20	103.98	80-120
83 Benzo(a)pyrene	5.00	4.82	96.39	80-120
85 Indeno(1,2,3-cd)py	5.00	5.38	107.64	80-120
86 Dibenzo(a,h)anthra	5.00	4.70	94.03	80-120
87 Benzo(g,h,i)peryle	5.00	4.49	89.83	80-120

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 1 1,4-Dioxane-d8	2.00	0.000	*	26-115
$ 33 2-Methylnaphthale	2.00	0.000	*	43-92
$ 38 2,4-Dibromophenol	4.00	0.000	*	10-130
$ 56 Fluorene-D10	2.00	0.000	*	29-101
$ 72 Pyrene-D10	2.00	0.000	*	53-166

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1369.D
Report Date: 14-Jan-2021 08:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1369.D
Lab Smp Id: WG293350-4
Inj Date : 13-JAN-2021 13:16
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293350-4
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 14-Jan-2021 08:20 cgomez Quant Type: ISTD
Cal Date : 13-JAN-2021 13:16 Cal File: N1369.D
Als bottle: 2 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.233	3.212	(0.440)	26306	2.00000	1.88	
2 1,4-Dioxane	88	3.285	3.254	(0.447)	27909	2.00000	1.77	
3 N-Nitrosodimethylamine	74	3.821	3.758	(0.520)	40284	2.00000	1.68	
4 Pyridine	79	3.852	3.779	(0.525)	63860	2.00000	1.58	
5 Benzaldehyde	77	6.801	6.781	(0.926)	42684	2.00000	1.52	
6 Phenol	94	6.992	6.972	(0.952)	222431	4.50000	4.08	
7 Bis(2-Chloroethyl)ether	93	7.032	7.022	(0.958)	100422	2.00000	2.10	
8 2-Chlorophenol	128	7.103	7.093	(0.967)	223699	4.50000	4.11	
9 1,3-Dichlorobenzene	146	7.274	7.264	(0.990)	105724	2.00000	1.60	
* 10 1,4-Dichlorobenzene-D4	152	7.344	7.334	(1.000)	34067	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.364	7.364	(1.003)	127084	2.00000	1.77	
12 1,2-Dichlorobenzene	146	7.555	7.556	(1.029)	114317	2.00000	1.76	
13 2,2'-Oxybis(1-chloropropane)	45	7.716	7.717	(1.051)	65934	2.00000	1.96(Q)	
14 2-Methylphenol	108	7.737	7.727	(1.053)	188607	4.50000	4.18	
15 Acetophenone	105	7.888	7.868	(0.877)	126708	2.00000	2.05	
16 N-Nitroso-di-n-propylamine	70	7.888	7.888	(1.074)	55581	2.00000	1.83	
17 3&4-Methylphenol	108	7.958	7.938	(1.084)	191616	4.50000	4.15	
18 Hexachloroethane	117	7.978	7.978	(1.086)	40903	2.00000	1.81	
19 Nitrobenzene	77	8.099	8.079	(0.901)	92235	2.00000	2.15	
20 Isophorone	82	8.391	8.402	(0.933)	104559	2.00000	1.47	
21 2-Nitrophenol	139	8.509	8.498	(0.946)	111551	4.50000	4.63	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1369.D
Report Date: 14-Jan-2021 08:29

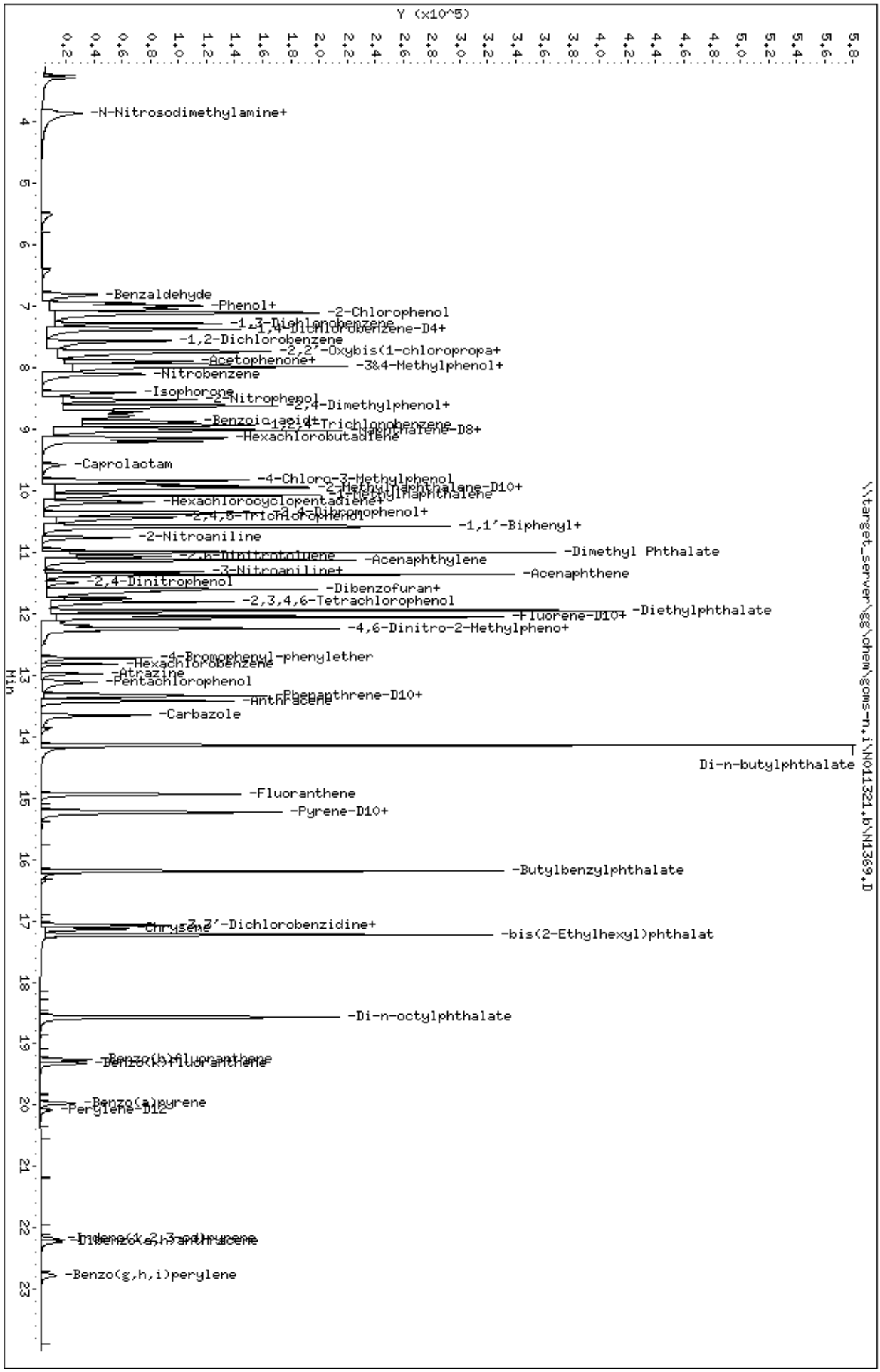
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.616	8.605	(0.958)	197353	4.50000	4.72	
	23 bis(2-Chloroethoxy)methane	93	8.712	8.702	(0.969)	95844	2.00000	1.99	
	24 Benzoic acid	105	8.776	8.830	(0.976)	103686	4.50000	4.01	
	25 2,4-Dichlorophenol	162	8.883	8.851	(0.988)	190989	4.50000	4.69	
	26 1,2,4-Trichlorobenzene	180	8.937	8.926	(0.994)	86851	2.00000	2.00	
*	27 Naphthalene-D8	136	8.990	8.980	(1.000)	89994	0.80000	(a)	
	28 Naphthalene	128	9.012	9.012	(1.002)	234971	2.00000	1.92	
	29 4-Chloroaniline	127	9.012	9.129	(1.002)	31373	2.00000	0.847(aQ)	
	30 Hexachlorobutadiene	225	9.204	9.204	(1.024)	37478	2.00000	1.95	
	31 Caprolactam	113	9.575	9.604	(1.065)	23463	2.00000	2.01	
	32 4-Chloro-3-Methylphenol	107	9.831	9.811	(1.093)	162544	4.50000	4.57	
$	33 2-Methylnaphthalene-D10	152	9.900	9.900	(1.101)	129056	2.00000	2.00	
	34 2-Methylnaphthalene	142	9.949	9.939	(1.107)	169226	2.00000	1.95	
	35 1-Methylnaphthalene	142	10.067	10.067	(1.120)	159086	2.00000	2.13	
	36 Hexachlorocyclopentadiene	237	10.165	10.165	(0.898)	19089	2.00000	1.53	
	37 1,2,4,5-Tetrachlorobenzene	216	10.185	10.175	(0.900)	68257	2.00000	1.99	
$	38 2,4-Dibromophenol	252	10.352	10.333	(0.915)	36938	2.00000	2.00	
	39 2,4,6-Trichlorophenol	196	10.352	10.352	(0.915)	110151	4.50000	4.70	
	40 2,4,5-Trichlorophenol	196	10.431	10.421	(0.922)	158949	4.50000	4.63	
	41 1,1'-Biphenyl	154	10.575	10.564	(0.935)	194038	2.00000	1.99	
	42 2-Chloronaphthalene	164	10.586	10.586	(0.935)	52267	2.00000	1.99	
	43 2-Nitroaniline	65	10.760	10.750	(0.951)	34320	2.00000	1.95	
	44 Dimethyl Phthalate	163	11.000	11.000	(0.972)	408706	4.50000	4.53	
	45 2,6-Dinitrotoluene	165	11.076	11.076	(0.979)	42156	2.00000	2.04	
	46 Acenaphthylene	152	11.131	11.131	(0.984)	239160	2.00000	1.98	
	47 3-Nitroaniline	138	11.316	11.316	(1.000)	21273	2.00000	2.37	
*	48 Acenaphthene-D10	164	11.316	11.316	(1.000)	48868	0.80000	(a)	
	49 Acenaphthene	153	11.360	11.360	(1.004)	153496	2.00000	1.99	
	50 2,4-Dinitrophenol	184	11.490	11.469	(1.015)	28175	4.50000	4.25	
	51 Dibenzofuran	168	11.599	11.599	(1.025)	197601	2.00000	1.98	
	52 2,4-Dinitrotoluene	165	11.643	11.632	(1.029)	48120	2.00000	1.98(H)	
	53 4-Nitrophenol	109	11.654	11.621	(1.030)	28786	4.50000	4.09(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.806	11.806	(1.043)	86200	4.50000	4.56	
	55 Diethylphthalate	149	11.948	11.948	(1.056)	441842	4.50000	4.60	
$	56 Fluorene-D10	174	12.024	12.024	(1.063)	111773	2.00000	1.90	
	57 Fluorene	166	12.057	12.057	(1.065)	155361	2.00000	1.97	
	58 4-Chlorophenyl-phenylether	204	12.079	12.079	(1.067)	79714	2.00000	1.97	
	59 4-Nitroaniline	138	12.144	12.177	(1.073)	22767	2.00000	2.25(Q)	
	60 4,6-Dinitro-2-Methylphenol	198	12.199	12.188	(0.916)	44859	4.50000	4.21	
	61 N-Nitrosodiphenylamine	169	12.242	12.242	(0.920)	126449	2.00000	1.89	
	62 4-Bromophenyl-phenylether	248	12.723	12.723	(0.956)	44289	2.00000	1.85	
	63 Hexachlorobenzene	284	12.815	12.815	(0.963)	43262	2.00000	1.93	
	64 Atrazine	200	12.977	12.988	(0.975)	37108	2.00000	1.94	
	65 Pentachlorophenol	266	13.104	13.104	(0.984)	51371	4.50000	4.65	
*	66 Phenanthrene-D10	188	13.311	13.300	(1.000)	74699	0.80000	(a)	
	67 Phenanthrene	178	13.334	13.335	(1.002)	181207	2.00000	1.87	
	68 Anthracene	178	13.415	13.404	(1.008)	202156	2.00000	2.00	
	69 Carbazole	167	13.658	13.646	(1.026)	137852	2.00000	1.92	
	70 Di-n-butylphthalate	149	14.148	14.148	(1.063)	680823	4.50000	4.28	
	71 Fluoranthene	202	14.936	14.936	(1.122)	164532	2.00000	1.83	
$	72 Pyrene-D10	212	15.214	15.214	(0.891)	108260	2.00000	2.08	
	73 Pyrene	202	15.236	15.236	(0.892)	166812	2.00000	2.12	
	74 Butylbenzylphthalate	149	16.191	16.191	(0.948)	233121	4.50000	4.30	
	75 3,3'-Dichlorobenzidine	252	17.068	17.068	(0.999)	17067	2.00000	1.52	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1369.D
Report Date: 14-Jan-2021 08:29

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.068	17.057	(0.999)	83555	2.00000	1.88	
*	77 Chrysene-D12	240	17.079	17.079	(1.000)	28531	0.80000	(a)	
	78 Chrysene	228	17.124	17.124	(1.003)	92586	2.00000	2.15	
	79 bis(2-Ethylhexyl)phthalate	149	17.224	17.224	(1.008)	329577	4.50000	4.42	
	80 Di-n-octylphthalate	149	18.563	18.575	(1.087)	440215	4.50000	4.36	
	81 Benzo(b)fluoranthene	252	19.259	19.259	(0.959)	53953	2.00000	1.86	
	82 Benzo(k)fluoranthene	252	19.315	19.316	(0.961)	60128	2.00000	2.08(H)	
	83 Benzo(a)pyrene	252	19.967	19.967	(0.994)	39769	2.00000	1.81	
*	84 Perylene-D12	264	20.090	20.090	(1.000)	15337	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.178	22.178	(1.299)	36109	2.00000	1.92	
	86 Dibenzo(a,h)anthracene	278	22.235	22.235	(1.107)	27830	2.00000	1.90	
	87 Benzo(g,h,i)perylene	276	22.773	22.773	(1.134)	33042	2.00000	1.88	
M	88 Total PAHs	100				2252979	36.0000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
H - Operator selected an alternate compound hit.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Date : 13-JAN-2021 13:16
Client ID:
Sample Info: WG293350-4
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n.i
Operator: JCG
Column diameter: 0.25
Y (x10^5)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol+
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol+
-Benzoic acid+
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-Hexachlorocyclopentadiene+
-1-Methylnaphthalene
-2,4,5-Trichlorophenol
-2,4-Dibromophenol+
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene
-Acenaphthylene
-3-Nitroaniline+
-Acenaphthene
-2,4-Dinitrophenol
-Dibenzofuran+
-2,3,4,6-Tetrachlorophenol
-Fluorene-D10+
-Diethylphthalate
-4,6-Dinitro-2-Methylpheno+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-Chrysene
-3,3'-Dichlorobenzidine+
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene
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Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1370.D
Report Date: 14-Jan-2021 08:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1370.D
Lab Smp Id: WG293350-2
Inj Date : 13-JAN-2021 13:49
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293350-2
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 14-Jan-2021 08:20 cgomez Quant Type: ISTD
Cal Date : 13-JAN-2021 13:49 Cal File: N1370.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

JCG
1:46 pm, Jan 18, 2021

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.265	3.212	(0.442)	2355	0.20000	0.182(a)	
2 1,4-Dioxane	88	3.307	3.254	(0.447)	2497	0.20000	0.172(a)	
3 N-Nitrosodimethylamine	74	3.989	3.758	(0.539)	2694	0.20000	0.122(aQ)	
4 Pyridine	79	4.062	3.779	(0.549)	6333	0.20000	0.170(aM)	M9
5 Benzaldehyde	77	6.901	6.781	(0.933)	6936	0.20000	0.256(M)	M6
6 Phenol	94	7.062	6.972	(0.955)	51605	1.00000	1.02	
7 Bis(2-Chloroethyl)ether	93	7.143	7.022	(0.966)	14510	0.20000	0.328(QM)	M6
8 2-Chlorophenol	128	7.153	7.093	(0.967)	51152	1.00000	1.02	
9 1,3-Dichlorobenzene	146	7.314	7.264	(0.989)	6615	0.20000	0.108(a)	
* 10 1,4-Dichlorobenzene-D4	152	7.395	7.334	(1.000)	31479	0.80000	(a)	
11 1,4-Dichlorobenzene	146	7.405	7.364	(1.001)	15401	0.20000	0.232	
12 1,2-Dichlorobenzene	146	7.576	7.556	(1.024)	16528	0.20000	0.276	
13 2,2'-Oxybis(1-chloropropane)	45	7.717	7.717	(1.044)	5058	0.20000	0.163(aQ)	
14 2-Methylphenol	108	7.797	7.727	(1.054)	36393	1.00000	0.873(a)	
15 Acetophenone	105	7.998	7.868	(0.888)	13053	0.20000	0.203(Q)	
16 N-Nitroso-di-n-propylamine	70	7.918	7.888	(1.071)	4574	0.20000	0.163(aQM)	M9
17 3&4-Methylphenol	108	8.039	7.938	(1.087)	44174	1.00000	1.04	
18 Hexachloroethane	117	7.978	7.978	(1.079)	4085	0.20000	0.196(a)	
19 Nitrobenzene	77	8.170	8.079	(0.907)	15227	0.20000	0.341(M)	M6
20 Isophorone	82	8.402	8.402	(0.932)	14968	0.20000	0.202(M)	M9
21 2-Nitrophenol	139	8.584	8.498	(0.953)	24161	1.00000	0.965(a)	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1370.D
Report Date: 14-Jan-2021 08:29

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.691	8.605	(0.964)	42476	1.00000	0.977	
	23 bis(2-Chloroethoxy)methane	93	8.819	8.702	(0.979)	10288	0.20000	0.206(Q)	
	24 Benzoic acid	105	8.873	8.830	(0.985)	16895	1.00000	0.628(aQH)	
	25 2,4-Dichlorophenol	162	8.969	8.851	(0.995)	39296	1.00000	0.929	
	26 1,2,4-Trichlorobenzene	180	8.991	8.926	(0.998)	9355	0.20000	0.207	
*	27 Naphthalene-D8	136	9.012	8.980	(1.000)	93554	0.80000	(a)	
	28 Naphthalene	128	9.044	9.012	(1.004)	32419	0.20000	0.255	
	29 4-Chloroaniline	127	9.215	9.129	(1.023)	9738	0.20000	0.253(aQH)	
	30 Hexachlorobutadiene	225	9.204	9.204	(1.021)	4696	0.20000	0.236	
	31 Caprolactam	113	9.624	9.604	(1.068)	2045	0.20000	0.169(aM)	M9
	32 4-Chloro-3-Methylphenol	107	9.880	9.811	(1.096)	36002	1.00000	0.974(a)	
$	33 2-Methylnaphthalene-D10	152	9.959	9.900	(1.105)	14488	0.20000	0.216(a)	
	34 2-Methylnaphthalene	142	9.998	9.939	(1.109)	21183	0.20000	0.235	
	35 1-Methylnaphthalene	142	10.097	10.067	(1.120)	23212	0.20000	0.299	
	36 Hexachlorocyclopentadiene	237	10.165	10.165	(0.897)	984	0.20000	0.0795(aQ)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.225	10.175	(0.903)	7510	0.20000	0.217	
$	38 2,4-Dibromophenol	252	10.412	10.333	(0.919)	3634	0.20000	0.196(aQ)	
	39 2,4,6-Trichlorophenol	196	10.392	10.352	(0.917)	18104	1.00000	0.767(a)	
	40 2,4,5-Trichlorophenol	196	10.480	10.421	(0.925)	37657	1.00000	1.09(H)	
	41 1,1'-Biphenyl	154	10.619	10.564	(0.937)	21430	0.20000	0.219	
	42 2-Chloronaphthalene	164	10.630	10.586	(0.938)	5644	0.20000	0.213	
	43 2-Nitroaniline	65	10.815	10.750	(0.955)	3484	0.20000	0.197(a)	
	44 Dimethyl Phthalate	163	11.011	11.000	(0.972)	87736	1.00000	0.965(a)	
	45 2,6-Dinitrotoluene	165	11.109	11.076	(0.981)	3806	0.20000	0.183(aQ)	
	46 Acenaphthylene	152	11.142	11.131	(0.984)	25249	0.20000	0.207	
	47 3-Nitroaniline	138	11.371	11.316	(1.004)	2634	0.20000	0.291	
*	48 Acenaphthene-D10	164	11.327	11.316	(1.000)	49206	0.80000	(a)	
	49 Acenaphthene	153	11.371	11.360	(1.004)	17182	0.20000	0.221	
	50 2,4-Dinitrophenol	184	11.578	11.469	(1.022)	2220	1.00000	0.354(a)	
	51 Dibenzofuran	168	11.643	11.599	(1.028)	20961	0.20000	0.209	
	52 2,4-Dinitrotoluene	165	11.698	11.632	(1.033)	4333	0.20000	0.178(aH)	
	53 4-Nitrophenol	109	11.730	11.621	(1.036)	4646	1.00000	0.685(aQ)	
	54 2,3,4,6-Tetrachlorophenol	232	11.839	11.806	(1.045)	17418	1.00000	0.914(aH)	
	55 Diethylphthalate	149	11.948	11.948	(1.055)	94212	1.00000	0.973(a)	
$	56 Fluorene-D10	174	12.046	12.024	(1.063)	13967	0.20000	0.235(a)	
	57 Fluorene	166	12.090	12.057	(1.067)	16976	0.20000	0.213	
	58 4-Chlorophenyl-phenylether	204	12.101	12.079	(1.068)	8737	0.20000	0.215	
	59 4-Nitroaniline	138	12.188	12.177	(1.076)	3499	0.20000	0.337	
	60 4,6-Dinitro-2-Methylphenol	198	12.264	12.188	(0.920)	5035	1.00000	0.538(aQ)	
	61 N-Nitrosodiphenylamine	169	12.275	12.242	(0.921)	13369	0.20000	0.217	
	62 4-Bromophenyl-phenylether	248	12.758	12.723	(0.957)	6233	0.20000	0.283	
	63 Hexachlorobenzene	284	12.827	12.815	(0.962)	6009	0.20000	0.292	
	64 Atrazine	200	13.000	12.988	(0.975)	3573	0.20000	0.204	
	65 Pentachlorophenol	266	13.150	13.104	(0.986)	9356	1.00000	0.922(aQ)	
*	66 Phenanthrene-D10	188	13.335	13.300	(1.000)	68686	0.80000	(a)	
	67 Phenanthrene	178	13.358	13.335	(1.002)	17058	0.20000	0.192(a)	
	68 Anthracene	178	13.450	13.404	(1.009)	27556	0.20000	0.296	
	69 Carbazole	167	13.704	13.646	(1.028)	15597	0.20000	0.236	
	70 Di-n-butylphthalate	149	14.159	14.148	(1.062)	147832	1.00000	1.01	
	71 Fluoranthene	202	14.959	14.936	(1.122)	17878	0.20000	0.217	
$	72 Pyrene-D10	212	15.236	15.214	(0.891)	11515	0.20000	0.277(a)	
	73 Pyrene	202	15.259	15.236	(0.892)	18128	0.20000	0.289	
	74 Butylbenzylphthalate	149	16.202	16.191	(0.947)	47473	1.00000	1.10	
	75 3,3'-Dichlorobenzidine	252	17.091	17.068	(0.999)	1672	0.20000	0.160(a)	

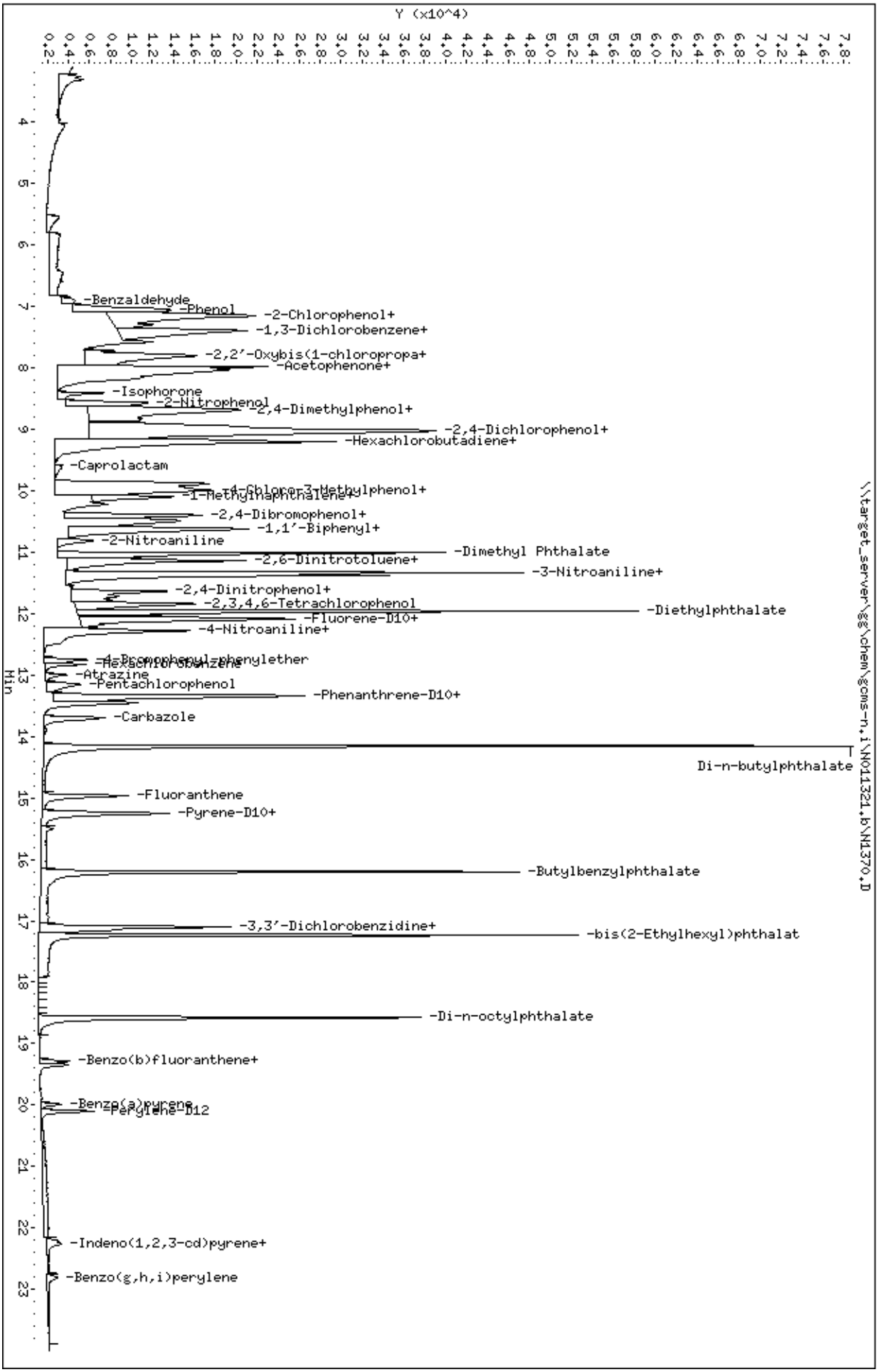
1:46 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1370.D
Report Date: 14-Jan-2021 08:29

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.091	17.057	(0.999)	7895	0.20000	0.222	
*	77 Chrysene-D12	240	17.102	17.079	(1.000)	22788	0.80000	(a)	
	78 Chrysene	228	17.146	17.124	(1.003)	9683	0.20000	0.282(Q)	
	79 bis(2-Ethylhexyl)phthalate	149	17.235	17.224	(1.008)	68017	1.00000	1.08	
	80 Di-n-octylphthalate	149	18.575	18.575	(1.086)	88387	1.00000	1.10	
	81 Benzo(b)fluoranthene	252	19.282	19.259	(0.959)	4888	0.20000	0.231	
	82 Benzo(k)fluoranthene	252	19.349	19.316	(0.963)	6115	0.20000	0.290(H)	
	83 Benzo(a)pyrene	252	19.989	19.967	(0.994)	4130	0.20000	0.258	
*	84 Perylene-D12	264	20.102	20.090	(1.000)	11181	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.212	22.178	(1.299)	3323	0.20000	0.222	
	86 Dibenzo(a,h)anthracene	278	22.268	22.235	(1.108)	2499	0.20000	0.235	
	87 Benzo(g,h,i)perylene	276	22.807	22.773	(1.135)	3221	0.20000	0.252	
M	88 Total PAHs	100				258595	3.60000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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Date : 13-JAN-2021 13:49
Client ID:
Sample Info: WG293350-2
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011321,b\N1370,D
Y (x10^4)
Min
-Benzaldehyde
-Phenol
-2-Chlorophenol+
-1,3-Dichlorobenzene+
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol+
-2,4-Dichlorophenol+
-Hexachlorobutadiene+
-Caprolactam
-4-Chloro-3-Methylphenol+
-1-Methylnaphthalene+
-2,4-Dibromophenol+
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-3-Nitroaniline+
-2,4-Dinitrophenol+
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-Fluorene-D10+
-4-Nitroaniline+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene+
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1371.D
Report Date: 14-Jan-2021 08:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1371.D
Lab Smp Id: WG293350-3
Inj Date : 13-JAN-2021 14:21
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293350-3
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 14-Jan-2021 08:20 cgomez Quant Type: ISTD
Cal Date : 13-JAN-2021 14:21 Cal File: N1371.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

JCG
1:46 pm, Jan 18, 2021

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.244	3.212	(0.440)	5858	0.50000	0.470(a)	
2 1,4-Dioxane	88	3.285	3.254	(0.446)	7608	0.50000	0.542(a)	
3 N-Nitrosodimethylamine	74	3.926	3.758	(0.533)	8954	0.50000	0.420(Q)	
4 Pyridine	79	3.957	3.779	(0.537)	12724	0.50000	0.354	
5 Benzaldehyde	77	6.861	6.781	(0.932)	10957	0.50000	0.422	
6 Phenol	94	7.012	6.972	(0.952)	98458	2.00000	2.03	
7 Bis(2-Chloroethyl)ether	93	7.072	7.022	(0.960)	30153	0.50000	0.707(QM)	M6
8 2-Chlorophenol	128	7.123	7.093	(0.967)	98831	2.00000	2.04	
9 1,3-Dichlorobenzene	146	7.284	7.264	(0.989)	20346	0.50000	0.346	
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.334	(1.000)	30340	0.80000	(a)	
11 1,4-Dichlorobenzene	146	7.384	7.364	(1.003)	33303	0.50000	0.522	
12 1,2-Dichlorobenzene	146	7.566	7.556	(1.027)	29770	0.50000	0.516	
13 2,2'-Oxybis(1-chloropropane)	45	7.716	7.717	(1.048)	12815	0.50000	0.428	
14 2-Methylphenol	108	7.757	7.727	(1.053)	74287	2.00000	1.85	
15 Acetophenone	105	7.938	7.868	(0.882)	30097	0.50000	0.485(Q)	
16 N-Nitroso-di-n-propylamine	70	7.898	7.888	(1.072)	13801	0.50000	0.512(Q)	
17 3&4-Methylphenol	108	7.978	7.938	(1.083)	85084	2.00000	2.07	
18 Hexachloroethane	117	7.978	7.978	(1.083)	9527	0.50000	0.473	
19 Nitrobenzene	77	8.129	8.079	(0.903)	27727	0.50000	0.643	
20 Isophorone	82	8.402	8.402	(0.933)	38914	0.50000	0.545	
21 2-Nitrophenol	139	8.541	8.498	(0.949)	48098	2.00000	1.99	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1371.D
Report Date: 14-Jan-2021 08:29

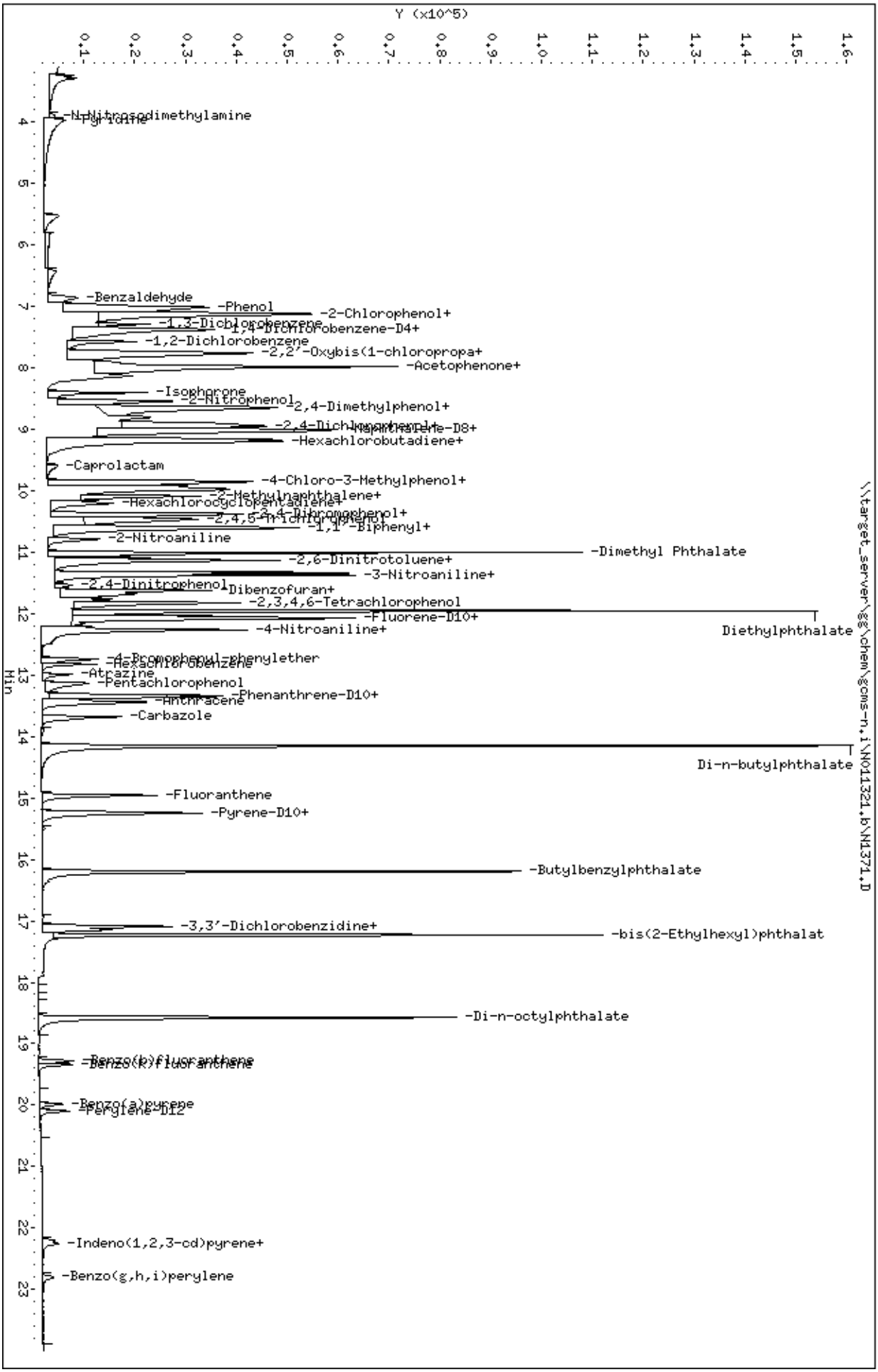
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.648	8.605	(0.961)	85369	2.00000	2.03	
	23 bis(2-Chloroethoxy)methane	93	8.776	8.702	(0.975)	24924	0.50000	0.515	
	24 Benzoic acid	105	8.819	8.830	(0.980)	39233	2.00000	1.51(QH)	
	25 2,4-Dichlorophenol	162	8.926	8.851	(0.992)	80976	2.00000	1.98	
	26 1,2,4-Trichlorobenzene	180	8.948	8.926	(0.994)	21411	0.50000	0.491	
*	27 Naphthalene-D8	136	9.001	8.980	(1.000)	90408	0.80000	(a)	
	28 Naphthalene	128	9.022	9.012	(1.002)	54159	0.50000	0.441	
	29 4-Chloroaniline	127	9.172	9.129	(1.019)	23245	0.50000	0.625(aH)	
	30 Hexachlorobutadiene	225	9.204	9.204	(1.023)	9789	0.50000	0.508	
	31 Caprolactam	113	9.594	9.604	(1.066)	5054	0.50000	0.431	
	32 4-Chloro-3-Methylphenol	107	9.850	9.811	(1.094)	72814	2.00000	2.04	
$	33 2-Methylnaphthalene-D10	152	9.929	9.900	(1.103)	32743	0.50000	0.504(a)	
	34 2-Methylnaphthalene	142	9.978	9.939	(1.109)	45972	0.50000	0.528	
	35 1-Methylnaphthalene	142	10.077	10.067	(1.119)	45503	0.50000	0.606	
	36 Hexachlorocyclopentadiene	237	10.165	10.165	(0.897)	2753	0.50000	0.230(Q)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.205	10.175	(0.901)	16773	0.50000	0.502	
$	38 2,4-Dibromophenol	252	10.392	10.333	(0.917)	9066	0.50000	0.506(aQ)	
	39 2,4,6-Trichlorophenol	196	10.372	10.352	(0.916)	40630	2.00000	1.78	
	40 2,4,5-Trichlorophenol	196	10.461	10.421	(0.924)	75230	2.00000	2.25(H)	
	41 1,1'-Biphenyl	154	10.597	10.564	(0.936)	48000	0.50000	0.507	
	42 2-Chloronaphthalene	164	10.608	10.586	(0.937)	12962	0.50000	0.507	
	43 2-Nitroaniline	65	10.782	10.750	(0.952)	8312	0.50000	0.486	
	44 Dimethyl Phthalate	163	11.000	11.000	(0.971)	176660	2.00000	2.01	
	45 2,6-Dinitrotoluene	165	11.098	11.076	(0.980)	9532	0.50000	0.474(Q)	
	46 Acenaphthylene	152	11.131	11.131	(0.983)	58330	0.50000	0.496	
	47 3-Nitroaniline	138	11.349	11.316	(1.002)	6335	0.50000	0.725	
*	48 Acenaphthene-D10	164	11.327	11.316	(1.000)	47555	0.80000	(a)	
	49 Acenaphthene	153	11.371	11.360	(1.004)	38216	0.50000	0.509	
	50 2,4-Dinitrophenol	184	11.534	11.469	(1.018)	7217	2.00000	1.18	
	51 Dibenzofuran	168	11.621	11.599	(1.026)	48238	0.50000	0.497	
	52 2,4-Dinitrotoluene	165	11.676	11.632	(1.031)	10714	0.50000	0.454(H)	
	53 4-Nitrophenol	109	11.687	11.621	(1.032)	11976	2.00000	1.80(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.817	11.806	(1.043)	35618	2.00000	1.93(H)	
	55 Diethylphthalate	149	11.948	11.948	(1.055)	191490	2.00000	2.05	
$	56 Fluorene-D10	174	12.035	12.024	(1.063)	29836	0.50000	0.520(a)	
	57 Fluorene	166	12.068	12.057	(1.065)	38892	0.50000	0.506	
	58 4-Chlorophenyl-phenylether	204	12.090	12.079	(1.067)	19718	0.50000	0.502	
	59 4-Nitroaniline	138	12.177	12.177	(1.075)	4813	0.50000	0.480(Q)	
	60 4,6-Dinitro-2-Methylphenol	198	12.231	12.188	(0.918)	13425	2.00000	1.41	
	61 N-Nitrosodiphenylamine	169	12.264	12.242	(0.921)	31051	0.50000	0.500	
	62 4-Bromophenyl-phenylether	248	12.746	12.723	(0.957)	12597	0.50000	0.566	
	63 Hexachlorobenzene	284	12.827	12.815	(0.963)	12122	0.50000	0.583	
	64 Atrazine	200	12.988	12.988	(0.975)	8394	0.50000	0.474	
	65 Pentachlorophenol	266	13.127	13.104	(0.985)	21417	2.00000	2.09(Q)	
*	66 Phenanthrene-D10	188	13.323	13.300	(1.000)	69379	0.80000	(a)	
	67 Phenanthrene	178	13.358	13.335	(1.003)	43194	0.50000	0.480	
	68 Anthracene	178	13.438	13.404	(1.009)	54151	0.50000	0.577	
	69 Carbazole	167	13.681	13.646	(1.027)	34857	0.50000	0.522	
	70 Di-n-butylphthalate	149	14.148	14.148	(1.062)	293695	2.00000	1.99	
	71 Fluoranthene	202	14.959	14.936	(1.123)	39416	0.50000	0.473	
$	72 Pyrene-D10	212	15.225	15.214	(0.890)	25829	0.50000	0.695(a)	
	73 Pyrene	202	15.247	15.236	(0.892)	40470	0.50000	0.720	
	74 Butylbenzylphthalate	149	16.202	16.191	(0.947)	97003	2.00000	2.50	
	75 3,3'-Dichlorobenzidine	252	17.090	17.068	(0.999)	4022	0.50000	0.447	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1371.D
Report Date: 14-Jan-2021 08:29

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.079	17.057	(0.999)	17392	0.50000	0.546	
*	77 Chrysene-D12	240	17.102	17.079	(1.000)	20410	0.80000	(a)	
	78 Chrysene	228	17.146	17.124	(1.003)	24777	0.50000	0.806	
	79 bis(2-Ethylhexyl)phthalate	149	17.224	17.224	(1.007)	138805	2.00000	2.52	
	80 Di-n-octylphthalate	149	18.574	18.575	(1.086)	178458	2.00000	2.47	
	81 Benzo(b)fluoranthene	252	19.282	19.259	(0.959)	10556	0.50000	0.441	
	82 Benzo(k)fluoranthene	252	19.338	19.316	(0.962)	14316	0.50000	0.598(H)	
	83 Benzo(a)pyrene	252	19.989	19.967	(0.994)	8403	0.50000	0.463	
*	84 Perylene-D12	264	20.101	20.090	(1.000)	12665	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.201	22.178	(1.298)	7814	0.50000	0.582	
	86 Dibenzo(a,h)anthracene	278	22.257	22.235	(1.107)	5921	0.50000	0.491	
	87 Benzo(g,h,i)perylene	276	22.796	22.773	(1.134)	7197	0.50000	0.497	
M	88 Total PAHs	100				554679	9.00000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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Date : 13-JAN-2021 14:21
Client ID:
Sample Info: WG293350-3
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
Y (x10^5)
Min
-N-Nitrosodimethylamine
-Benzaldehyde
-Phenol
-2-Chlorophenol+
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol+
-2,4-Dichlorophenol+
-Naphthalene-D8+
-Hexachlorobutadiene+
-Caprolactam
-4-Chloro-3-Methylphenol+
-2-Methylnaphthalene+
-Hexachlorocyclopentadiene+
-2,4,6-Trichlorophenol
-2,4-Dibromophenol+
-2,4,5-Trichlorophenol
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-3-Nitroaniline+
-2,4-Dinitrophenol
Dibenzofuran+
-2,3,4,6-Tetrachlorophenol
-Fluorene-D10+
-4-Nitroaniline+
Diethylphthalate
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene
\\target_server\gg\chem\gcms-n,i\N011321,b\N1371,D

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1372.D
Report Date: 14-Jan-2021 08:30

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1372.D
Lab Smp Id: WG293350-5
Inj Date : 13-JAN-2021 14:54
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293350-5
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 14-Jan-2021 08:20 cgomez Quant Type: ISTD
Cal Date : 13-JAN-2021 14:54 Cal File: N1372.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.223	3.212	(0.439)	94375	7.00000	7.70	
2 1,4-Dioxane	88	3.265	3.254	(0.445)	102987	7.00000	7.48	
3 N-Nitrosodimethylamine	74	3.768	3.758	(0.513)	149638	7.00000	7.14	
4 Pyridine	79	3.800	3.779	(0.517)	249718	7.00000	7.07	
5 Benzaldehyde	77	6.791	6.781	(0.925)	156132	7.00000	7.41	
6 Phenol	94	6.982	6.972	(0.951)	349013	7.00000	7.32	
7 Bis(2-Chloroethyl)ether	93	7.022	7.022	(0.956)	313557	7.00000	7.49(Q)	
8 2-Chlorophenol	128	7.093	7.093	(0.966)	348277	7.00000	7.32	
9 1,3-Dichlorobenzene	146	7.264	7.264	(0.989)	408197	7.00000	7.07	
* 10 1,4-Dichlorobenzene-D4	152	7.344	7.334	(1.000)	29797	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.364	7.364	(1.003)	439695	7.00000	7.02	
12 1,2-Dichlorobenzene	146	7.556	7.556	(1.029)	408646	7.00000	7.22	
13 2,2'-Oxybis(1-chloropropane)	45	7.707	7.717	(1.049)	233169	7.00000	7.93(Q)	
14 2-Methylphenol	108	7.727	7.727	(1.052)	313029	7.00000	7.94	
15 Acetophenone	105	7.868	7.868	(0.876)	448408	7.00000	7.04(Q)	
16 N-Nitroso-di-n-propylamine	70	7.878	7.888	(1.073)	205921	7.00000	7.77	
17 3&4-Methylphenol	108	7.948	7.938	(1.082)	300716	7.00000	7.45	
18 Hexachloroethane	117	7.978	7.978	(1.086)	149843	7.00000	7.58	
19 Nitrobenzene	77	8.079	8.079	(0.900)	309763	7.00000	7.00	
20 Isophorone	82	8.392	8.402	(0.935)	533767	7.00000	7.29	
21 2-Nitrophenol	139	8.509	8.498	(0.948)	175527	7.00000	7.07	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1372.D
Report Date: 14-Jan-2021 08:30

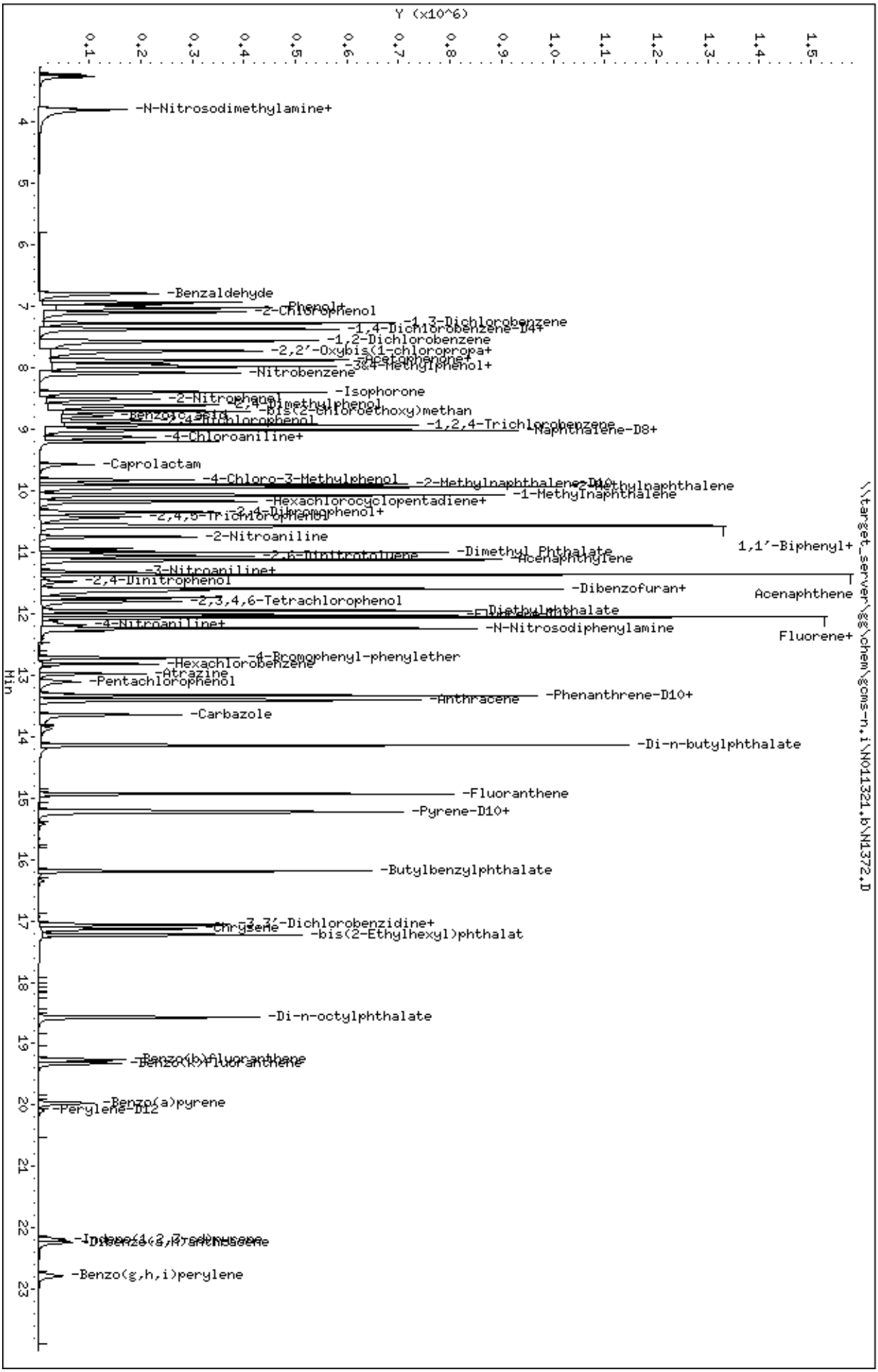
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.605	8.605	(0.958)	296239	7.00000	6.87	
	23 bis(2-Chloroethoxy)methane	93	8.702	8.702	(0.969)	341306	7.00000	6.88(Q)	
	24 Benzoic acid	105	8.777	8.830	(0.977)	185604	7.00000	6.96(Q)	
	25 2,4-Dichlorophenol	162	8.862	8.851	(0.987)	299910	7.00000	7.15	
	26 1,2,4-Trichlorobenzene	180	8.926	8.926	(0.994)	316816	7.00000	7.08	
*	27 Naphthalene-D8	136	8.980	8.980	(1.000)	92731	0.80000	(a)	
	28 Naphthalene	128	9.012	9.012	(1.004)	861606	7.00000	6.84	
	29 4-Chloroaniline	127	9.129	9.129	(1.017)	323798	7.00000	8.48	
	30 Hexachlorobutadiene	225	9.204	9.204	(1.025)	134123	7.00000	6.79	
	31 Caprolactam	113	9.575	9.604	(1.066)	91976	7.00000	7.65	
	32 4-Chloro-3-Methylphenol	107	9.821	9.811	(1.094)	257015	7.00000	7.01	
$	33 2-Methylnaphthalene-D10	152	9.890	9.900	(1.101)	461256	7.00000	6.92	
	34 2-Methylnaphthalene	142	9.939	9.939	(1.107)	590458	7.00000	6.61	
	35 1-Methylnaphthalene	142	10.067	10.067	(1.121)	540781	7.00000	7.02	
	36 Hexachlorocyclopentadiene	237	10.165	10.165	(0.898)	96860	7.00000	7.07(Q)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.175	10.175	(0.899)	249028	7.00000	7.01	
$	38 2,4-Dibromophenol	252	10.343	10.333	(0.914)	137643	7.00000	7.22	
	39 2,4,6-Trichlorophenol	196	10.352	10.352	(0.915)	187735	7.00000	7.74	
	40 2,4,5-Trichlorophenol	196	10.421	10.421	(0.921)	236621	7.00000	6.66	
	41 1,1'-Biphenyl	154	10.564	10.564	(0.934)	716200	7.00000	7.11	
	42 2-Chloronaphthalene	164	10.575	10.586	(0.935)	190371	7.00000	7.00	
	43 2-Nitroaniline	65	10.750	10.750	(0.950)	133404	7.00000	7.33	
	44 Dimethyl Phthalate	163	11.000	11.000	(0.972)	687091	7.00000	7.35	
	45 2,6-Dinitrotoluene	165	11.076	11.076	(0.979)	160028	7.00000	7.47(Q)	
	46 Acenaphthylene	152	11.120	11.131	(0.983)	892808	7.00000	7.14	
	47 3-Nitroaniline	138	11.316	11.316	(1.000)	55020	7.00000	5.92	
*	48 Acenaphthene-D10	164	11.316	11.316	(1.000)	50584	0.80000	(a)	
	49 Acenaphthene	153	11.360	11.360	(1.004)	555477	7.00000	6.95	
	50 2,4-Dinitrophenol	184	11.480	11.469	(1.014)	52104	7.00000	7.16	
	51 Dibenzofuran	168	11.600	11.599	(1.025)	739874	7.00000	7.17	
	52 2,4-Dinitrotoluene	165	11.632	11.632	(1.028)	190877	7.00000	7.61(QH)	
	53 4-Nitrophenol	109	11.632	11.621	(1.028)	56665	7.00000	7.42	
	54 2,3,4,6-Tetrachlorophenol	232	11.807	11.806	(1.043)	142887	7.00000	7.30	
	55 Diethylphthalate	149	11.948	11.948	(1.056)	727011	7.00000	7.30	
$	56 Fluorene-D10	174	12.014	12.024	(1.062)	417485	7.00000	6.84	
	57 Fluorene	166	12.057	12.057	(1.065)	581833	7.00000	7.11	
	58 4-Chlorophenyl-phenylether	204	12.068	12.079	(1.066)	294354	7.00000	7.04	
	59 4-Nitroaniline	138	12.155	12.177	(1.074)	74417	7.00000	7.41(Q)	
	60 4,6-Dinitro-2-Methylphenol	198	12.199	12.188	(0.917)	79978	7.00000	7.22	
	61 N-Nitrosodiphenylamine	169	12.242	12.242	(0.920)	483239	7.00000	7.25	
	62 4-Bromophenyl-phenylether	248	12.723	12.723	(0.957)	170353	7.00000	7.14	
	63 Hexachlorobenzene	284	12.815	12.815	(0.964)	165031	7.00000	7.41	
	64 Atrazine	200	12.977	12.988	(0.976)	142877	7.00000	7.52	
	65 Pentachlorophenol	266	13.104	13.104	(0.985)	77140	7.00000	7.02	
*	66 Phenanthrene-D10	188	13.300	13.300	(1.000)	74385	0.80000	(a)	
	67 Phenanthrene	178	13.335	13.335	(1.003)	731356	7.00000	7.59	
	68 Anthracene	178	13.404	13.404	(1.008)	734341	7.00000	7.30	
	69 Carbazole	167	13.646	13.646	(1.026)	529683	7.00000	7.39	
	70 Di-n-butylphthalate	149	14.148	14.148	(1.064)	1151575	7.00000	7.28	
	71 Fluoranthene	202	14.936	14.936	(1.123)	664841	7.00000	7.44	
$	72 Pyrene-D10	212	15.214	15.214	(0.891)	429399	7.00000	7.16	
	73 Pyrene	202	15.236	15.236	(0.892)	644402	7.00000	7.11	
	74 Butylbenzylphthalate	149	16.191	16.191	(0.948)	396690	7.00000	6.34	
	75 3,3'-Dichlorobenzidine	252	17.068	17.068	(0.999)	69037	7.00000	7.42	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1372.D
Report Date: 14-Jan-2021 08:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.057	17.057	(0.999)	357849	7.00000	6.97	
*	77 Chrysene-D12	240	17.079	17.079	(1.000)	32909	0.80000	(a)	
	78 Chrysene	228	17.124	17.124	(1.003)	360411	7.00000	7.27	
	79 bis(2-Ethylhexyl)phthalate	149	17.224	17.224	(1.008)	553209	7.00000	6.64	
	80 Di-n-octylphthalate	149	18.575	18.575	(1.088)	767809	7.00000	6.60	
	81 Benzo(b)fluoranthene	252	19.259	19.259	(0.959)	241561	7.00000	7.36	
	82 Benzo(k)fluoranthene	252	19.316	19.316	(0.961)	245967	7.00000	7.50(H)	
	83 Benzo(a)pyrene	252	19.967	19.967	(0.994)	172702	7.00000	6.94	
*	84 Perylene-D12	264	20.090	20.090	(1.000)	17360	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.190	22.178	(1.299)	147221	7.00000	6.80	
	86 Dibenzo(a,h)anthracene	278	22.235	22.235	(1.107)	113576	7.00000	6.87	
	87 Benzo(g,h,i)perylene	276	22.774	22.773	(1.134)	133407	7.00000	6.73	
M	88 Total PAHs	100				8570597	126.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
H - Operator selected an alternate compound hit.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Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011321,b\N1372.D
Y (x10^6)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol+
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-Benzoic acid
-bis(2-Chloroethoxy)methan
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-4-Chloroaniline+
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10
-2-Methylnaphthalene
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4,6-Trichlorophenol
-2,4-Dibromophenol+
-2-Nitroaniline
1,1'-Biphenyl+
-Dimethyl Phthalate
-2,6-Dinitrotoluene
-Acenaphthylene
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
Acenaphthene
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline+
-N-Nitrosodiphenylamine
Fluorene+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Anthracene
-Phenanthrene-D10+
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenz(a,h)anthracene
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1373.D
Report Date: 14-Jan-2021 08:30

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1373.D
Lab Smp Id: WG293350-6
Inj Date : 13-JAN-2021 15:27
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293350-6
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 14-Jan-2021 08:20 cgomez Quant Type: ISTD
Cal Date : 13-JAN-2021 15:27 Cal File: N1373.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.212	3.212	(0.437)	128991	10.0000	10.6	
2 1,4-Dioxane	88	3.265	3.254	(0.445)	142615	10.0000	10.4	
3 N-Nitrosodimethylamine	74	3.758	3.758	(0.512)	207533	10.0000	9.93	
4 Pyridine	79	3.789	3.779	(0.516)	350218	10.0000	9.94	
5 Benzaldehyde	77	6.781	6.781	(0.923)	196205	10.0000	9.79	
6 Phenol	94	6.982	6.972	(0.951)	478558	10.0000	10.0	
7 Bis(2-Chloroethyl)ether	93	7.022	7.022	(0.956)	427060	10.0000	10.2	
8 2-Chlorophenol	128	7.093	7.093	(0.966)	474302	10.0000	9.99	
9 1,3-Dichlorobenzene	146	7.264	7.264	(0.989)	568323	10.0000	9.87	
* 10 1,4-Dichlorobenzene-D4	152	7.344	7.334	(1.000)	29733	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.364	7.364	(1.003)	595540	10.0000	9.52	
12 1,2-Dichlorobenzene	146	7.556	7.556	(1.029)	561237	10.0000	9.93	
13 2,2'-Oxybis(1-chloropropane)	45	7.717	7.717	(1.051)	325752	10.0000	11.1	
14 2-Methylphenol	108	7.727	7.727	(1.052)	423033	10.0000	10.7	
15 Acetophenone	105	7.868	7.868	(0.876)	612739	10.0000	9.65	
16 N-Nitroso-di-n-propylamine	70	7.888	7.888	(1.074)	283304	10.0000	10.7	
17 3&4-Methylphenol	108	7.948	7.938	(1.082)	389709	10.0000	9.68	
18 Hexachloroethane	117	7.978	7.978	(1.086)	205803	10.0000	10.4	
19 Nitrobenzene	77	8.079	8.079	(0.900)	424961	10.0000	9.64	
20 Isophorone	82	8.392	8.402	(0.935)	766991	10.0000	10.5	
21 2-Nitrophenol	139	8.499	8.498	(0.946)	240713	10.0000	9.73	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1373.D
Report Date: 14-Jan-2021 08:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.606	8.605	(0.958)	422504	10.0000	9.84	
	23 bis(2-Chloroethoxy)methane	93	8.702	8.702	(0.969)	470711	10.0000	9.52	
	24 Benzoic acid	105	8.798	8.830	(0.980)	267158	10.0000	10.1	
	25 2,4-Dichlorophenol	162	8.862	8.851	(0.987)	409471	10.0000	9.80	
	26 1,2,4-Trichlorobenzene	180	8.926	8.926	(0.994)	432347	10.0000	9.70	
*	27 Naphthalene-D8	136	8.980	8.980	(1.000)	92401	0.80000	(a)	
	28 Naphthalene	128	9.012	9.012	(1.004)	1177461	10.0000	9.38	
	29 4-Chloroaniline	127	9.130	9.129	(1.017)	392244	10.0000	10.3	
	30 Hexachlorobutadiene	225	9.204	9.204	(1.025)	183713	10.0000	9.33	
	31 Caprolactam	113	9.585	9.604	(1.067)	128258	10.0000	10.7	
	32 4-Chloro-3-Methylphenol	107	9.811	9.811	(1.093)	352143	10.0000	9.64	
$	33 2-Methylnaphthalene-D10	152	9.890	9.900	(1.101)	626041	10.0000	9.43	
	34 2-Methylnaphthalene	142	9.939	9.939	(1.107)	802819	10.0000	9.02	
	35 1-Methylnaphthalene	142	10.067	10.067	(1.121)	733685	10.0000	9.56	
	36 Hexachlorocyclopentadiene	237	10.165	10.165	(0.898)	142574	10.0000	10.1	
	37 1,2,4,5-Tetrachlorobenzene	216	10.175	10.175	(0.899)	338860	10.0000	9.62	
$	38 2,4-Dibromophenol	252	10.333	10.333	(0.913)	186304	10.0000	9.86	
	39 2,4,6-Trichlorophenol	196	10.352	10.352	(0.915)	261322	10.0000	10.9	
	40 2,4,5-Trichlorophenol	196	10.421	10.421	(0.921)	317435	10.0000	9.01	
	41 1,1'-Biphenyl	154	10.564	10.564	(0.934)	961934	10.0000	9.64	
	42 2-Chloronaphthalene	164	10.575	10.586	(0.935)	257158	10.0000	9.55	
	43 2-Nitroaniline	65	10.739	10.750	(0.949)	180869	10.0000	10.0	
	44 Dimethyl Phthalate	163	11.000	11.000	(0.972)	925661	10.0000	10.0	
	45 2,6-Dinitrotoluene	165	11.077	11.076	(0.979)	216367	10.0000	10.2	
	46 Acenaphthylene	152	11.120	11.131	(0.983)	1215388	10.0000	9.81	
	47 3-Nitroaniline	138	11.316	11.316	(1.000)	53068	10.0000	5.77	
*	48 Acenaphthene-D10	164	11.316	11.316	(1.000)	50107	0.80000	(a)	
	49 Acenaphthene	153	11.360	11.360	(1.004)	757590	10.0000	9.57	
	50 2,4-Dinitrophenol	184	11.469	11.469	(1.013)	79526	10.0000	10.2	
	51 Dibenzofuran	168	11.600	11.599	(1.025)	994554	10.0000	9.73	
	52 2,4-Dinitrotoluene	165	11.632	11.632	(1.028)	263091	10.0000	10.6	
	53 4-Nitrophenol	109	11.632	11.621	(1.028)	78945	10.0000	9.98(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.807	11.806	(1.043)	200106	10.0000	10.3	
	55 Diethylphthalate	149	11.948	11.948	(1.056)	980499	10.0000	9.94	
$	56 Fluorene-D10	174	12.014	12.024	(1.062)	560615	10.0000	9.28	
	57 Fluorene	166	12.057	12.057	(1.065)	790187	10.0000	9.75	
	58 4-Chlorophenyl-phenylether	204	12.068	12.079	(1.066)	397441	10.0000	9.59	
	59 4-Nitroaniline	138	12.166	12.177	(1.075)	91894	10.0000	9.39(Q)	
	60 4,6-Dinitro-2-Methylphenol	198	12.188	12.188	(0.916)	116184	10.0000	10.2	
	61 N-Nitrosodiphenylamine	169	12.242	12.242	(0.920)	637576	10.0000	9.82	
	62 4-Bromophenyl-phenylether	248	12.723	12.723	(0.957)	234145	10.0000	10.1	
	63 Hexachlorobenzene	284	12.815	12.815	(0.964)	221798	10.0000	10.2	
	64 Atrazine	200	12.977	12.988	(0.976)	180689	10.0000	9.77	
	65 Pentachlorophenol	266	13.104	13.104	(0.985)	105210	10.0000	9.83	
*	66 Phenanthrene-D10	188	13.300	13.300	(1.000)	72444	0.80000	(a)	
	67 Phenanthrene	178	13.335	13.335	(1.003)	996624	10.0000	10.6	
	68 Anthracene	178	13.404	13.404	(1.008)	994595	10.0000	10.1	
	69 Carbazole	167	13.646	13.646	(1.026)	642580	10.0000	9.21(M)	M9
	70 Di-n-butylphthalate	149	14.148	14.148	(1.064)	1569913	10.0000	10.2	
	71 Fluoranthene	202	14.936	14.936	(1.123)	864653	10.0000	9.94	
$	72 Pyrene-D10	212	15.214	15.214	(0.891)	568386	10.0000	10.3(A)	
	73 Pyrene	202	15.236	15.236	(0.892)	857318	10.0000	10.2	
	74 Butylbenzylphthalate	149	16.191	16.191	(0.948)	534570	10.0000	9.27	
	75 3,3'-Dichlorobenzidine	252	17.068	17.068	(0.999)	77782	10.0000	9.86	

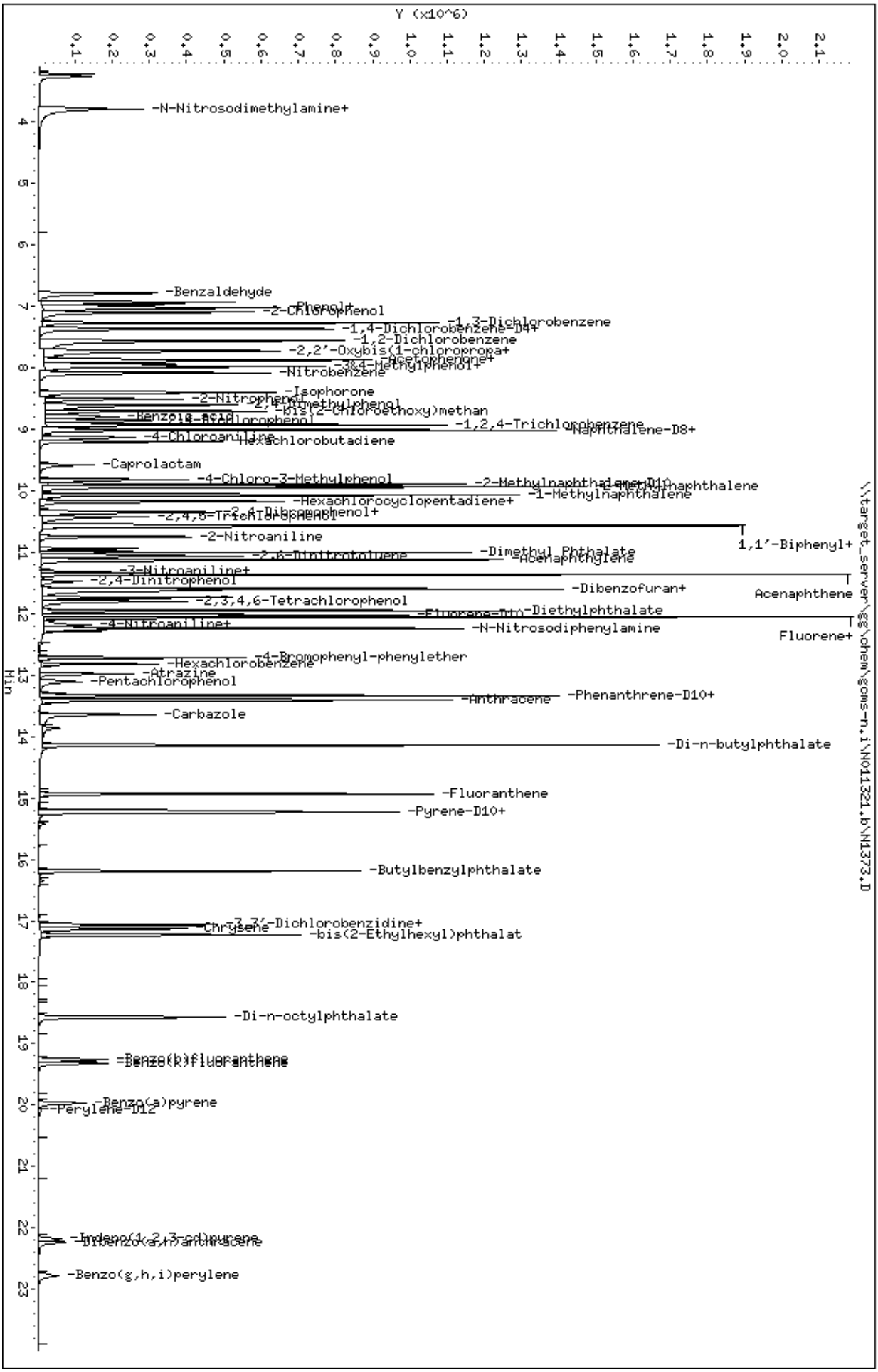
1:46 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1373.D
Report Date: 14-Jan-2021 08:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.057	17.057	(0.999)	439853	10.0000	9.29	
*	77 Chrysene-D12	240	17.079	17.079	(1.000)	30349	0.80000	(a)	
	78 Chrysene	228	17.124	17.124	(1.003)	462752	10.0000	10.1	
	79 bis(2-Ethylhexyl)phthalate	149	17.224	17.224	(1.008)	740602	10.0000	10.1	
	80 Di-n-octylphthalate	149	18.575	18.575	(1.088)	968289	10.0000	9.02	
	81 Benzo(b)fluoranthene	252	19.259	19.259	(0.959)	279238	10.0000	10.1	
	82 Benzo(k)fluoranthene	252	19.316	19.316	(0.961)	280703	10.0000	10.1(H)	
	83 Benzo(a)pyrene	252	19.967	19.967	(0.994)	198302	10.0000	9.42	
*	84 Perylene-D12	264	20.090	20.090	(1.000)	14687	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.179	22.178	(1.299)	167844	10.0000	8.40	
	86 Dibenzo(a,h)anthracene	278	22.235	22.235	(1.107)	129716	10.0000	9.27	
	87 Benzo(g,h,i)perylene	276	22.774	22.773	(1.134)	150728	10.0000	8.98	
M	88 Total PAHs	100				11299456	180.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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Date : 13-JAN-2021 15:27
Client ID:
Sample Info: WG293350-6
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011321,b\N1373,D
Y (x10^6)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol+
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan
-Benzoic acid
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-4-Chloroaniline
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10
-2-Methylnaphthalene
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4-Dimethylphenol+
-2,4,5-Trichlorophenol
1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene
-Acenaphthylene
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
Acenaphthene
-2,3,4,6-Tetrachlorophenol
-Fluorene-D10
-Diethylphthalate
-4-Nitroaniline+
-N-Nitrosodiphenylamine
Fluorene+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Anthracene
-Phenanthrene-D10+
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1374.D
Report Date: 14-Jan-2021 08:30

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1374.D
Lab Smp Id: WG293350-7
Inj Date : 13-JAN-2021 16:00
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293350-7
Misc Info :
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 14-Jan-2021 08:20 cgomez Quant Type: ISTD
Cal Date : 13-JAN-2021 16:00 Cal File: N1374.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
$ 1 1,4-Dioxane-d8	96	3.212	3.212	(0.438)	200385	15.0000	15.8(A)	
2 1,4-Dioxane	88	3.254	3.254	(0.444)	227338	15.0000	16.0(A)	
3 N-Nitrosodimethylamine	74	3.758	3.758	(0.512)	325056	15.0000	15.0(A)	
4 Pyridine	79	3.779	3.779	(0.515)	549547	15.0000	15.0(A)	
5 Benzaldehyde	77	6.781	6.781	(0.925)	285248	15.0000	15.0	
6 Phenol	94	6.972	6.972	(0.951)	741359	15.0000	15.0(A)	
7 Bis(2-Chloroethyl)ether	93	7.022	7.022	(0.957)	630485	15.0000	14.6	
8 2-Chlorophenol	128	7.093	7.093	(0.967)	741910	15.0000	15.1(A)	
9 1,3-Dichlorobenzene	146	7.264	7.264	(0.990)	901155	15.0000	15.1(A)	
* 10 1,4-Dichlorobenzene-D4	152	7.334	7.334	(1.000)	30806	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.364	7.364	(1.004)	925664	15.0000	14.3	
12 1,2-Dichlorobenzene	146	7.556	7.556	(1.030)	876094	15.0000	15.0	
13 2,2'-Oxybis(1-chloropropane)	45	7.717	7.717	(1.052)	503226	15.0000	16.6(A)	
14 2-Methylphenol	108	7.727	7.727	(1.054)	650268	15.0000	15.9(A)	
15 Acetophenone	105	7.868	7.868	(0.876)	965125	15.0000	15.3(A)	
16 N-Nitroso-di-n-propylamine	70	7.888	7.888	(1.075)	435565	15.0000	15.9(A)	
17 3&4-Methylphenol	108	7.938	7.938	(1.082)	609392	15.0000	14.6	
18 Hexachloroethane	117	7.978	7.978	(1.088)	319573	15.0000	15.6(A)	
19 Nitrobenzene	77	8.079	8.079	(0.900)	666311	15.0000	15.2(A)	
20 Isophorone	82	8.402	8.402	(0.936)	1164519	15.0000	16.0(A)	
21 2-Nitrophenol	139	8.498	8.498	(0.946)	379703	15.0000	15.4(A)	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1374.D
Report Date: 14-Jan-2021 08:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.605	8.605	(0.958)	635715	15.0000	14.9	
	23 bis(2-Chloroethoxy)methane	93	8.702	8.702	(0.969)	746459	15.0000	15.2(A)	
	24 Benzoic acid	105	8.830	8.830	(0.983)	400466	15.0000	15.2(A)	
	25 2,4-Dichlorophenol	162	8.851	8.851	(0.986)	646006	15.0000	15.5(A)	
	26 1,2,4-Trichlorobenzene	180	8.926	8.926	(0.994)	663205	15.0000	15.0	
*	27 Naphthalene-D8	136	8.980	8.980	(1.000)	91875	0.80000	(a)	
	28 Naphthalene	128	9.012	9.012	(1.004)	1809618	15.0000	14.5	
	29 4-Chloroaniline	127	9.129	9.129	(1.017)	464562	15.0000	12.3	
	30 Hexachlorobutadiene	225	9.204	9.204	(1.025)	271598	15.0000	13.9	
	31 Caprolactam	113	9.604	9.604	(1.070)	201067	15.0000	16.9(A)	
	32 4-Chloro-3-Methylphenol	107	9.811	9.811	(1.093)	558696	15.0000	15.4(A)	
$	33 2-Methylnaphthalene-D10	152	9.900	9.900	(1.102)	973317	15.0000	14.7	
	34 2-Methylnaphthalene	142	9.939	9.939	(1.107)	1258484	15.0000	14.2	
	35 1-Methylnaphthalene	142	10.067	10.067	(1.121)	1162627	15.0000	15.2(A)	
	36 Hexachlorocyclopentadiene	237	10.165	10.165	(1.000)	238019	15.0000	15.0	
	37 1,2,4,5-Tetrachlorobenzene	216	10.175	10.175	(1.000)	526463	15.0000	14.3	
$	38 2,4-Dibromophenol	252	10.333	10.333	(1.000)	293731	15.0000	14.8	
	39 2,4,6-Trichlorophenol	196	10.352	10.352	(1.000)	416259	15.0000	16.5(A)	
	40 2,4,5-Trichlorophenol	196	10.421	10.421	(1.000)	500437	15.0000	13.6	
	41 1,1'-Biphenyl	154	10.564	10.564	(1.000)	1438897	15.0000	13.8	
	42 2-Chloronaphthalene	164	10.586	10.586	(1.000)	408710	15.0000	14.5	
	43 2-Nitroaniline	65	10.750	10.750	(1.000)	289065	15.0000	15.3(A)	
	44 Dimethyl Phthalate	163	11.000	11.000	(1.000)	1414556	15.0000	14.6	
	45 2,6-Dinitrotoluene	165	11.076	11.076	(1.000)	343680	15.0000	15.5(A)	
	46 Acenaphthylene	152	11.131	11.131	(1.000)	1910215	15.0000	14.7	
	47 3-Nitroaniline	138	11.316	11.316	(1.000)	70009	15.0000	7.26	
*	48 Acenaphthene-D10	164	11.316	11.316	(1.000)	52472	0.80000	(aM)	M6
	49 Acenaphthene	153	11.360	11.360	(1.000)	1161533	15.0000	14.0	
	50 2,4-Dinitrophenol	184	11.469	11.469	(1.000)	146763	15.0000	14.9	
	51 Dibenzofuran	168	11.599	11.599	(1.000)	1559842	15.0000	14.6	
	52 2,4-Dinitrotoluene	165	11.632	11.632	(1.000)	416423	15.0000	16.0(A)	
	53 4-Nitrophenol	109	11.621	11.621	(1.000)	138057	15.0000	15.0(Q)	
	54 2,3,4,6-Tetrachlorophenol	232	11.806	11.806	(1.000)	314374	15.0000	15.5(A)	
	55 Diethylphthalate	149	11.948	11.948	(1.000)	1462192	15.0000	14.2	
$	56 Fluorene-D10	174	12.024	12.024	(1.000)	880733	15.0000	13.9(A)	
	57 Fluorene	166	12.057	12.057	(1.000)	1205207	15.0000	14.2	
	58 4-Chlorophenyl-phenylether	204	12.079	12.079	(1.000)	632344	15.0000	14.6	
	59 4-Nitroaniline	138	12.177	12.177	(1.000)	148847	15.0000	15.1(A)	
	60 4,6-Dinitro-2-Methylphenol	198	12.188	12.188	(0.916)	200018	15.0000	14.9	
	61 N-Nitrosodiphenylamine	169	12.242	12.242	(0.920)	985891	15.0000	14.3	
	62 4-Bromophenyl-phenylether	248	12.723	12.723	(0.957)	368951	15.0000	14.9	
	63 Hexachlorobenzene	284	12.815	12.815	(0.964)	338495	15.0000	14.6	
	64 Atrazine	200	12.988	12.988	(0.977)	298123	15.0000	15.1(A)	
	65 Pentachlorophenol	266	13.104	13.104	(0.985)	173270	15.0000	15.2(A)	
*	66 Phenanthrene-D10	188	13.300	13.300	(1.000)	77171	0.80000	(a)	
	67 Phenanthrene	178	13.335	13.335	(1.003)	1500557	15.0000	15.0(A)	
	68 Anthracene	178	13.404	13.404	(1.008)	1540024	15.0000	14.7	
	69 Carbazole	167	13.646	13.646	(1.026)	940483	15.0000	12.6(M)	M9
	70 Di-n-butylphthalate	149	14.148	14.148	(1.064)	2421806	15.0000	14.8	
	71 Fluoranthene	202	14.936	14.936	(1.123)	1383968	15.0000	14.9	
$	72 Pyrene-D10	212	15.214	15.214	(0.891)	912519	15.0000	14.7(A)	
	73 Pyrene	202	15.236	15.236	(0.892)	1383292	15.0000	14.7	
	74 Butylbenzylphthalate	149	16.191	16.191	(0.948)	839278	15.0000	13.0	
	75 3,3'-Dichlorobenzidine	252	17.068	17.068	(0.999)	115585	15.0000	14.9	

LCG

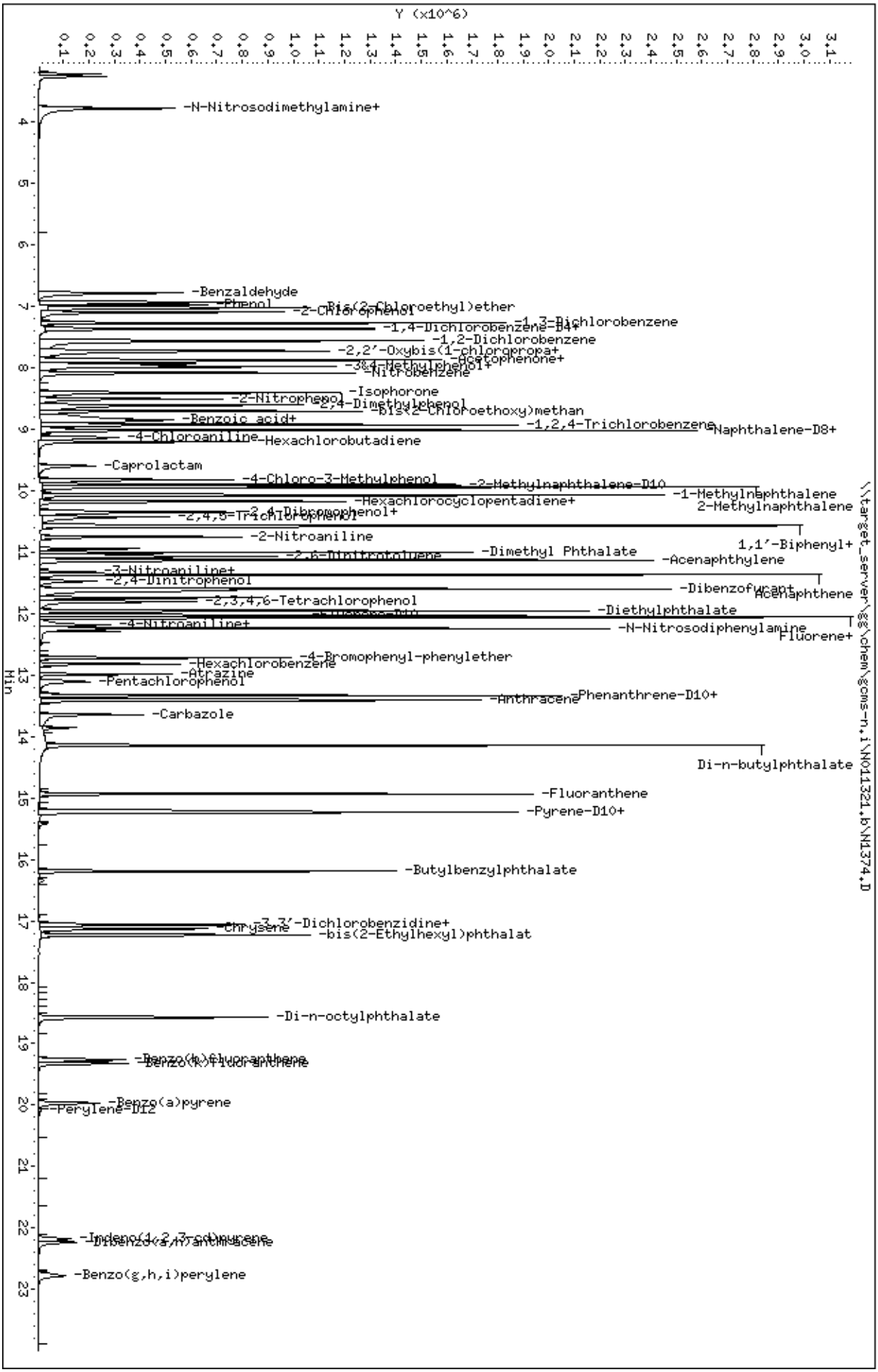
1:46 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1374.D
Report Date: 14-Jan-2021 08:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
	76 Benzo(a)anthracene	228	17.057	17.057	(0.999)	745412	15.0000	14.0	
*	77 Chrysene-D12	240	17.079	17.079	(1.000)	34079	0.80000	(a)	
	78 Chrysene	228	17.124	17.124	(1.003)	757195	15.0000	14.7	
	79 bis(2-Ethylhexyl)phthalate	149	17.224	17.224	(1.008)	1170737	15.0000	15.0(A)	
	80 Di-n-octylphthalate	149	18.575	18.575	(1.088)	1536901	15.0000	12.8	
	81 Benzo(b)fluoranthene	252	19.259	19.259	(0.959)	487140	15.0000	14.6	
	82 Benzo(k)fluoranthene	252	19.316	19.316	(0.961)	488640	15.0000	14.6(H)	
	83 Benzo(a)pyrene	252	19.967	19.967	(0.994)	359393	15.0000	14.2	
*	84 Perylene-D12	264	20.090	20.090	(1.000)	17670	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.178	22.178	(1.299)	321570	15.0000	14.3	
	86 Dibenzo(a,h)anthracene	278	22.235	22.235	(1.107)	248582	15.0000	14.8	
	87 Benzo(g,h,i)perylene	276	22.773	22.773	(1.134)	285363	15.0000	14.1	
M	88 Total PAHs	100				18008820	270.000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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Date : 13-JAN-2021 16:00
Client ID:
Sample Info: WG293350-7
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
Y (x10^6)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-2-Chlorophenol
-Bis(2-Chloroethyl)ether
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan
-Benzoic acid+
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-4-Chloroaniline
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
2-Methylnaphthalene
-2,4-Dibromophenol+
-2,4,5-Trichlorophenol
-2-Nitroaniline
1,1'-Biphenyl+
-Dimethyl Phthalate
-2,6-Dinitrotoluene
-Acenaphthylene
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
-Acenaphthene
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline+
-N-Nitrosodiphenylamine
-Fluorene+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene
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Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1375.D
Report Date: 13-Jan-2021 17:27

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1375.D
Lab Smp Id: WG293350-8
Inj Date : 13-JAN-2021 16:32
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293350-8
Misc Info : WG293350,WG293350,WG293350-4
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 13-Jan-2021 16:34 gcms-n.i Quant Type: ISTD
Cal Date : 13-JAN-2021 16:00 Cal File: N1374.D
Als bottle: 8 QC Sample: INDCHECK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
2 1,4-Dioxane	88	3.286	3.254	(0.447)	69350	4.93137	4.93	
3 N-Nitrosodimethylamine	74	3.789	3.758	(0.516)	109112	5.10261	5.10	
4 Pyridine	79	3.810	3.779	(0.519)	213933	5.93323	5.93	
5 Benzaldehyde	77	6.801	6.781	(0.926)	33550	1.32846	1.33(R)	
6 Phenol	94	6.982	6.972	(0.951)	258777	5.31551	5.32	
7 Bis(2-Chloroethyl)ether	93	7.022	7.022	(0.956)	234738	5.49051	5.49	
8 2-Chlorophenol	128	7.103	7.093	(0.967)	257099	5.29021	5.29	
9 1,3-Dichlorobenzene	146	7.264	7.264	(0.989)	282407	4.79105	4.79	
* 10 1,4-Dichlorobenzene-D4	152	7.344	7.334	(1.000)	30427	0.80000	(aQ)	
11 1,4-Dichlorobenzene	146	7.364	7.364	(1.003)	319687	4.99487	4.99	
12 1,2-Dichlorobenzene	146	7.556	7.556	(1.029)	289021	4.99857	5.00	
13 2,2'-Oxybis(1-chloropropane)	45	7.717	7.717	(1.051)	98930	3.29623	3.30(QR)	
14 2-Methylphenol	108	7.737	7.727	(1.053)	235201	5.84027	5.84	
15 Acetophenone	105	7.878	7.868	(0.877)	313852	5.06854	5.07	
16 N-Nitroso-di-n-propylamine	70	7.888	7.888	(1.074)	134839	4.98421	4.98	
17 3&4-Methylphenol	108	7.948	7.938	(1.082)	214076	5.19459	5.19(Q)	
18 Hexachloroethane	117	7.978	7.978	(1.086)	105509	5.22842	5.23	
19 Nitrobenzene	77	8.079	8.079	(0.900)	233223	5.42228	5.42	
20 Isophorone	82	8.392	8.402	(0.935)	271117	3.80793	3.81(R)	
21 2-Nitrophenol	139	8.509	8.498	(0.948)	133573	5.53554	5.54	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1375.D
Report Date: 13-Jan-2021 17:27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
	22 2,4-Dimethylphenol	107	8.616	8.605	(0.960)	201177	4.80234	4.80	
	23 bis(2-Chloroethoxy)methane	93	8.702	8.702	(0.969)	245991	5.09993	5.10	
	24 Benzoic acid	105	8.798	8.830	(0.980)	124999	4.82576	4.82	
	25 2,4-Dichlorophenol	162	8.873	8.851	(0.988)	222538	5.45905	5.46	
	26 1,2,4-Trichlorobenzene	180	8.926	8.926	(0.994)	222794	5.12539	5.12	
*	27 Naphthalene-D8	136	8.980	8.980	(1.000)	90141	0.80000	(a)	
	28 Naphthalene	128	9.012	9.012	(1.004)	602447	4.91970	4.92	
	29 4-Chloroaniline	127	9.129	9.129	(1.017)	272920	7.35651	7.36(R)	
	30 Hexachlorobutadiene	225	9.204	9.204	(1.025)	95489	4.97230	4.97	
	31 Caprolactam	113	9.565	9.604	(1.065)	62911	5.38339	5.38	
	32 4-Chloro-3-Methylphenol	107	9.831	9.811	(1.095)	186848	5.24473	5.24	
	34 2-Methylnaphthalene	142	9.939	9.939	(1.107)	513205	5.90905	5.91	
	35 1-Methylnaphthalene	142	10.067	10.067	(1.121)	394490	5.27046	5.27	
	36 Hexachlorocyclopentadiene	237	10.165	10.165	(0.898)	43438	3.24490	3.24(R)	
	37 1,2,4,5-Tetrachlorobenzene	216	10.185	10.175	(0.900)	193614	5.34315	5.34	
	39 2,4,6-Trichlorophenol	196	10.362	10.352	(0.916)	132762	5.36895	5.37	
	40 2,4,5-Trichlorophenol	196	10.431	10.421	(0.922)	174837	4.82347	4.82	
	41 1,1'-Biphenyl	154	10.564	10.564	(0.934)	497019	4.83750	4.84	
	42 2-Chloronaphthalene	164	10.586	10.586	(0.935)	134079	4.83862	4.84	
	43 2-Nitroaniline	65	10.750	10.750	(0.950)	116446	6.27221	6.27(R)	
	44 Dimethyl Phthalate	163	11.000	11.000	(0.972)	467557	4.90717	4.91	
	45 2,6-Dinitrotoluene	165	11.076	11.076	(0.979)	106560	4.88164	4.88	
	46 Acenaphthylene	152	11.131	11.131	(0.984)	505043	3.95910	3.96(R)	
	47 3-Nitroaniline	138	11.316	11.316	(1.000)	58748	6.20176	6.20(R)	
*	48 Acenaphthene-D10	164	11.316	11.316	(1.000)	51577	0.80000	(a)	
	49 Acenaphthene	153	11.360	11.360	(1.004)	382705	4.69619	4.70	
	50 2,4-Dinitrophenol	184	11.480	11.469	(1.014)	38469	5.38119	5.38	
	51 Dibenzofuran	168	11.600	11.599	(1.025)	643182	6.11459	6.11(R)	
	52 2,4-Dinitrotoluene	165	11.632	11.632	(1.028)	131942	5.15683	5.16	
	53 4-Nitrophenol	109	11.654	11.621	(1.030)	38299	5.09033	5.09(QM)	M6
	54 2,3,4,6-Tetrachlorophenol	232	11.807	11.806	(1.043)	92808	4.64809	4.65	
	55 Diethylphthalate	149	11.948	11.948	(1.056)	504113	4.96773	4.97	
	57 Fluorene	166	12.057	12.057	(1.065)	402038	4.82076	4.82	
	58 4-Chlorophenyl-phenylether	204	12.079	12.079	(1.067)	211318	4.95565	4.96	
	59 4-Nitroaniline	138	12.144	12.177	(1.073)	66817	6.47977	6.48(R)	
	60 4,6-Dinitro-2-Methylphenol	198	12.199	12.188	(0.917)	64459	5.83447	5.83	
	61 N-Nitrosodiphenylamine	169	12.242	12.242	(0.920)	273644	4.03498	4.03	
	62 4-Bromophenyl-phenylether	248	12.723	12.723	(0.957)	119050	4.90053	4.90	
	63 Hexachlorobenzene	284	12.815	12.815	(0.964)	113446	5.00245	5.00	
	64 Atrazine	200	12.977	12.988	(0.976)	95416	4.93643	4.94	
	65 Pentachlorophenol	266	13.104	13.104	(0.985)	59586	5.32708	5.33	
*	66 Phenanthrene-D10	188	13.300	13.300	(1.000)	75710	0.80000	(a)	
	67 Phenanthrene	178	13.335	13.335	(1.003)	510672	5.20428	5.20	
	68 Anthracene	178	13.404	13.404	(1.008)	517274	5.04928	5.05	
	69 Carbazole	167	13.646	13.646	(1.026)	443363	6.07932	6.08(R)	
	70 Di-n-butylphthalate	149	14.148	14.148	(1.064)	798629	4.95814	4.96	
	71 Fluoranthene	202	14.936	14.936	(1.123)	466433	5.13046	5.13	
	73 Pyrene	202	15.236	15.236	(0.892)	457113	5.26599	5.26	
	74 Butylbenzylphthalate	149	16.191	16.191	(0.948)	280107	4.67723	4.68	
	75 3,3'-Dichlorobenzidine	252	17.079	17.068	(1.000)	34082	3.09017	3.09(R)	
	76 Benzo(a)anthracene	228	17.057	17.057	(0.999)	243289	4.94718	4.95	
*	77 Chrysene-D12	240	17.079	17.079	(1.000)	31518	0.80000	(a)	
	78 Chrysene	228	17.124	17.124	(1.003)	267415	5.63072	5.63	
	79 bis(2-Ethylhexyl)phthalate	149	17.224	17.224	(1.008)	392056	4.78382	4.78	

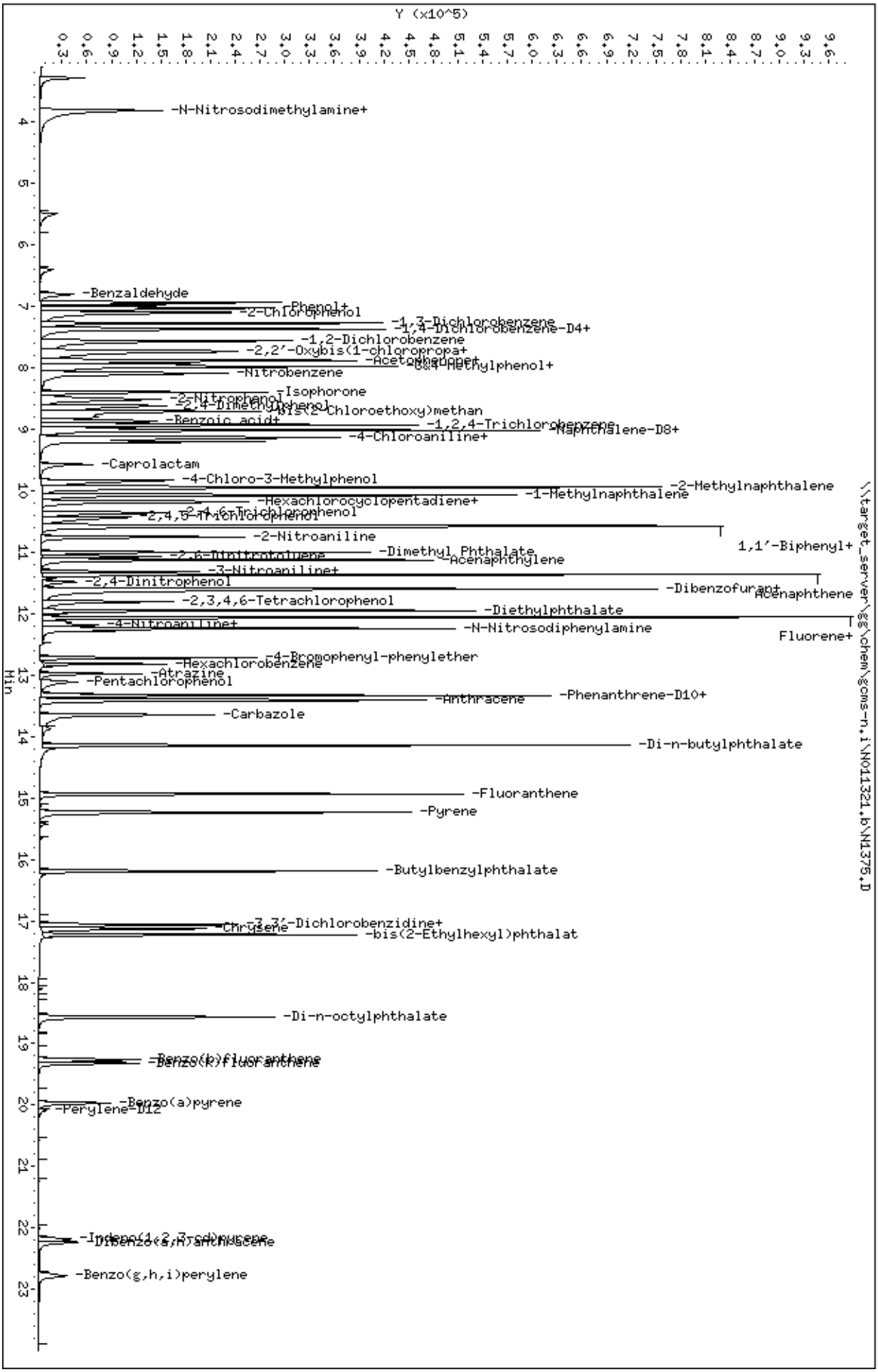
1:47 pm, Jan 18, 2021

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1375.D
Report Date: 13-Jan-2021 17:27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
	80 Di-n-octylphthalate	149	18.563	18.575	(1.087)	545302	4.89444	4.89	
	81 Benzo(b)fluoranthene	252	19.259	19.259	(0.959)	180914	5.00850	5.01	
	82 Benzo(k)fluoranthene	252	19.316	19.316	(0.961)	187674	5.19910	5.20(H)	
	83 Benzo(a)pyrene	252	19.967	19.967	(0.994)	132005	4.81958	4.82	
*	84 Perylene-D12	264	20.090	20.090	(1.000)	19114	0.80000	(a)	
	85 Indeno(1,2,3-cd)pyrene	276	22.178	22.178	(1.299)	111639	5.38198	5.38	
	86 Dibenzo(a,h)anthracene	278	22.235	22.235	(1.107)	85601	4.70135	4.70	
	87 Benzo(g,h,i)perylene	276	22.774	22.773	(1.134)	98085	4.49164	4.49	
M	88 Total PAHs	100				6058042	90.4053	90.4	

QC Flag Legend

a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.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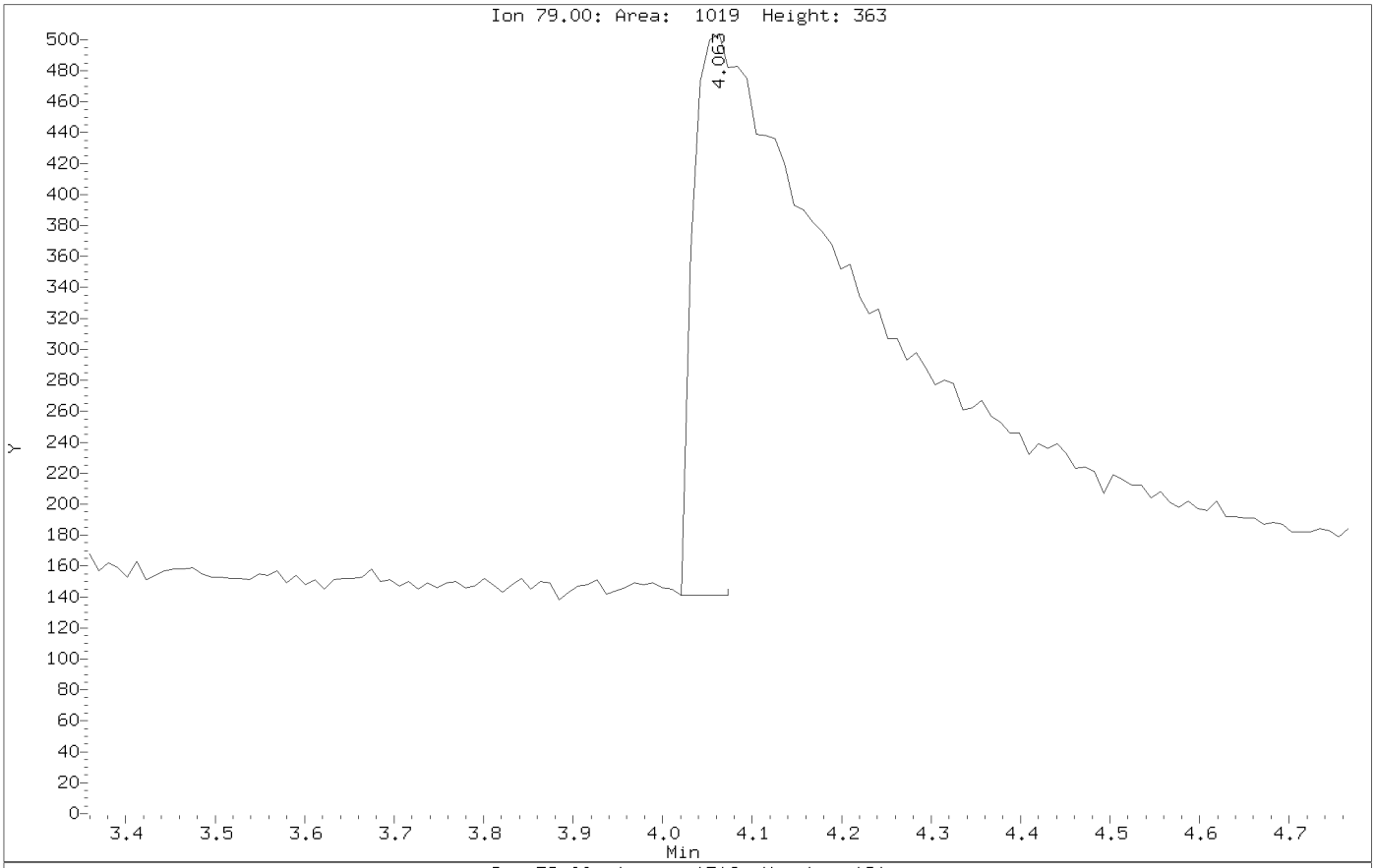
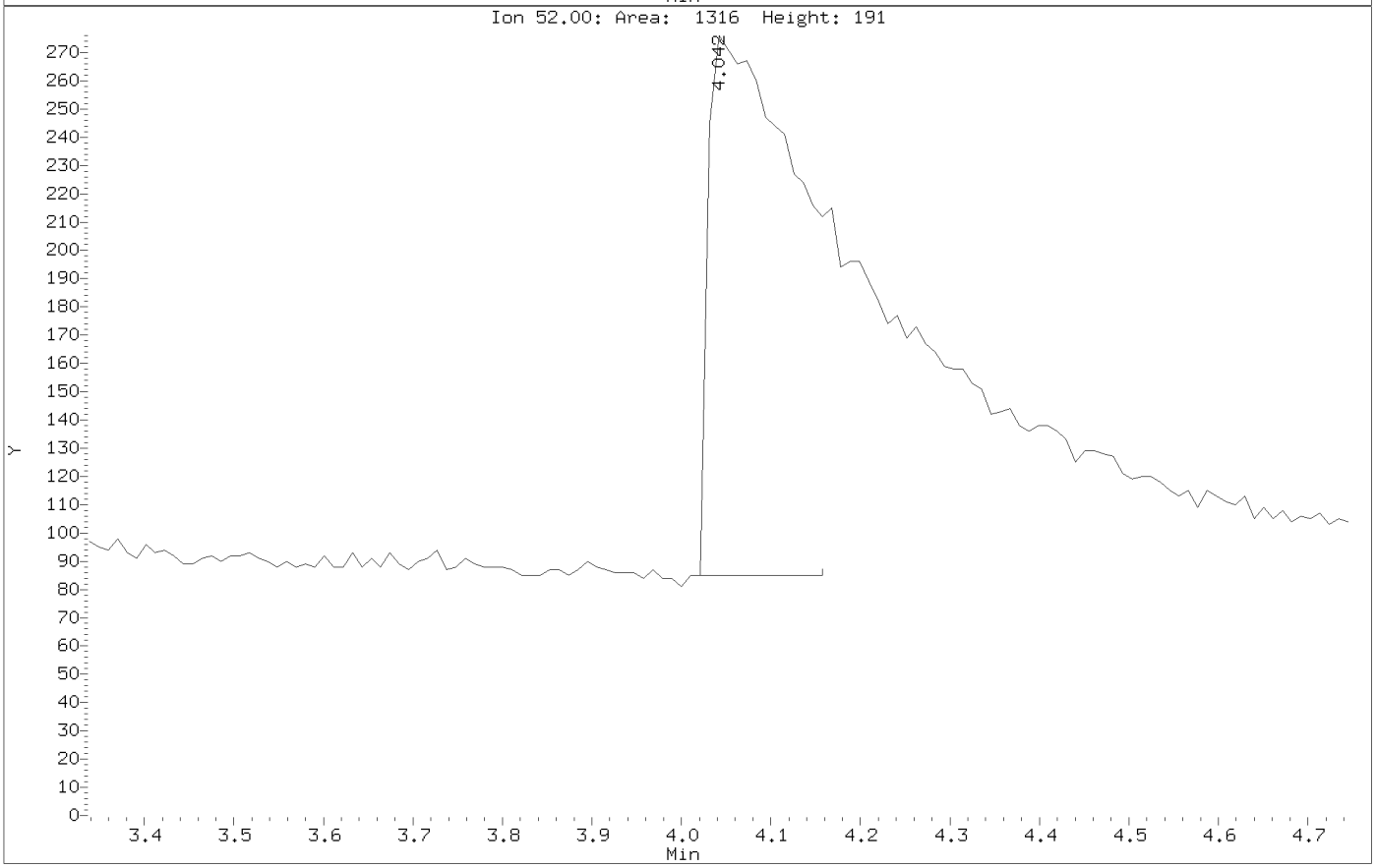
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011321,b\N1375,D
Y (x10^5)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol+
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-Nitrobenzene
-2-Nitrophenol
-Isophorone
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan
-Benzoic acid+
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-4-Chloroaniline+
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4,6-Trichlorophenol
-2,4,5-Trichlorophenol
-2-Nitroaniline
-Dimethyl Phthalate
1,1'-Biphenyl+
-2,6-Dinitrotoluene
-Acenaphthylene
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
-Acenaphthene
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-4-Nitroaniline+
-N-Nitrosodiphenylamine
Fluorene+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Anthracene
-Phenanthrene-D10+
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1370.D
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: Pyridine
CAS Number: 110-86-1

BEFORE MANUAL INTEGRATION





AFTER MANUAL INTEGRATION

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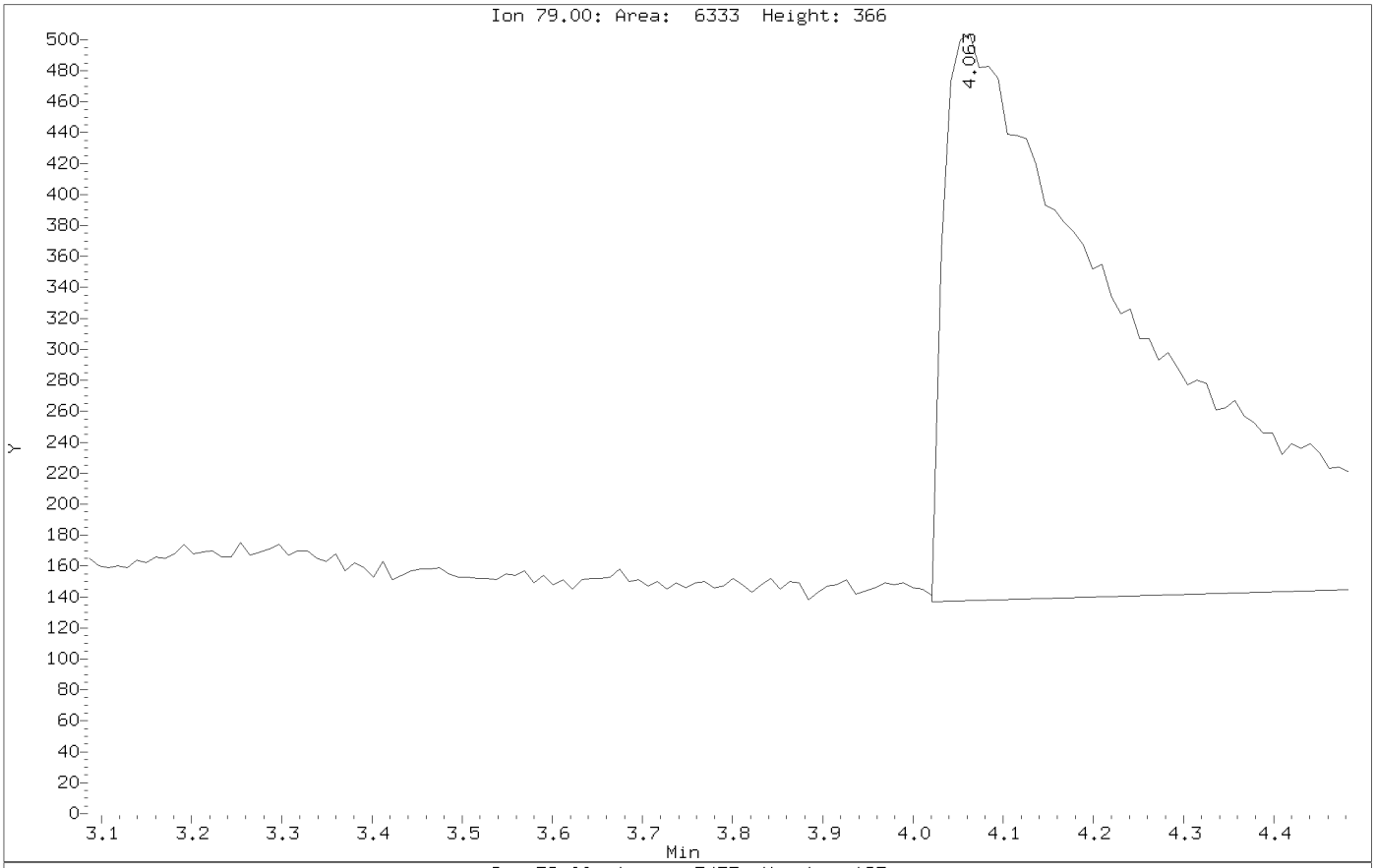
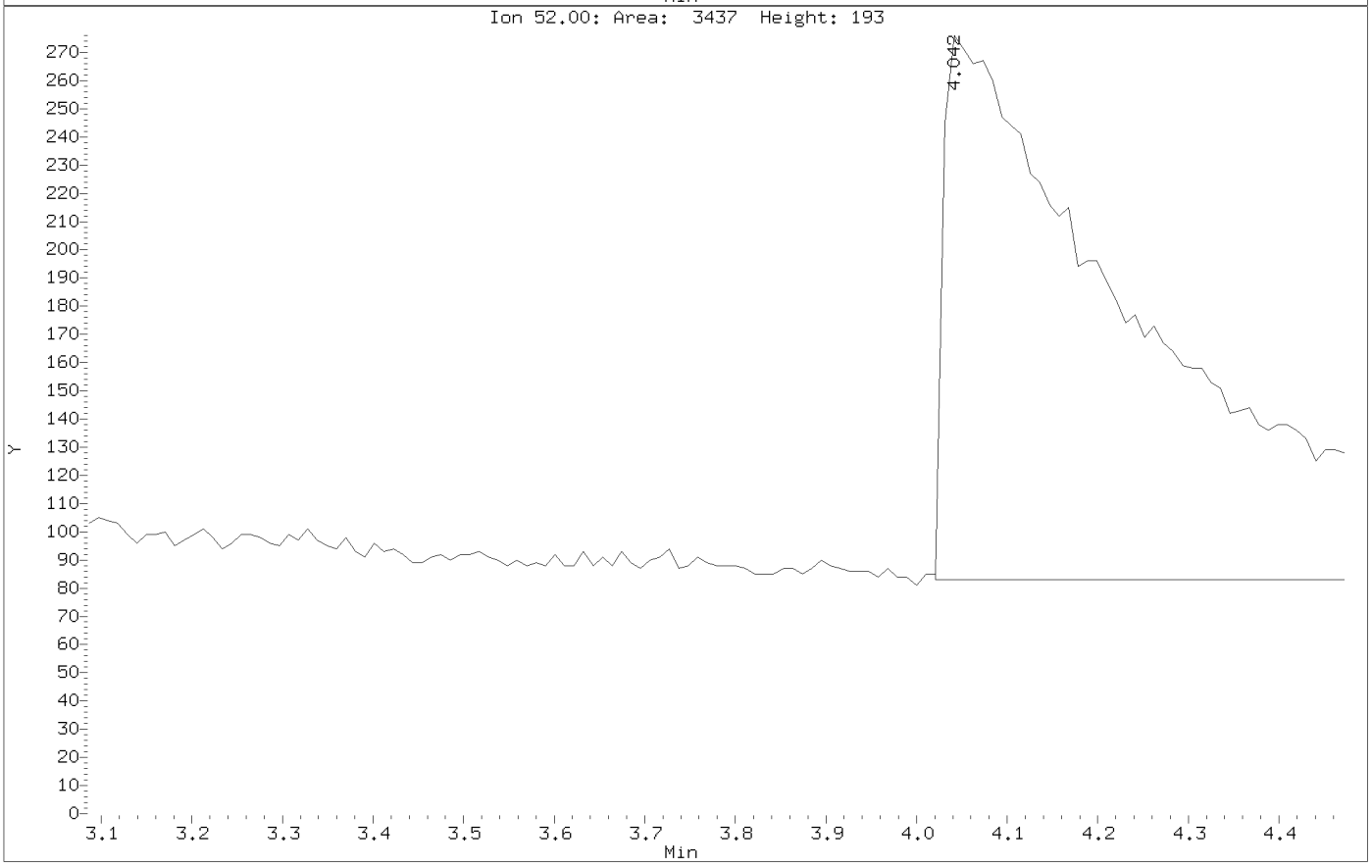
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: Pyridine
CAS Number: 110-86-1





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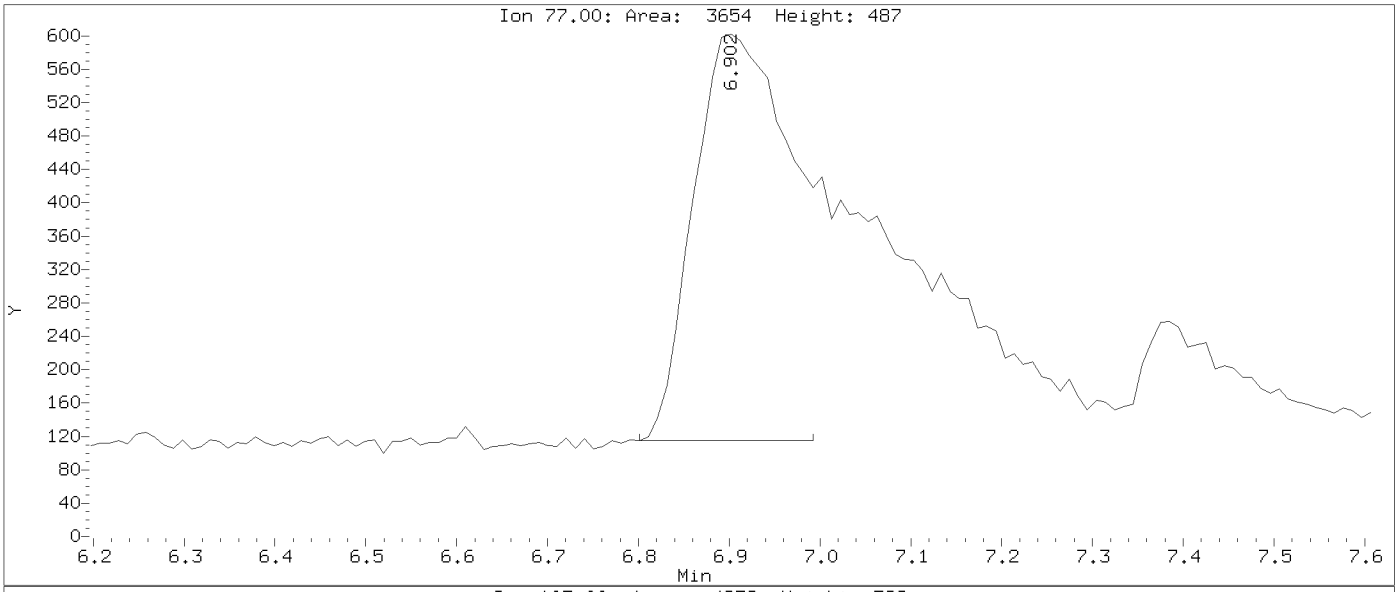
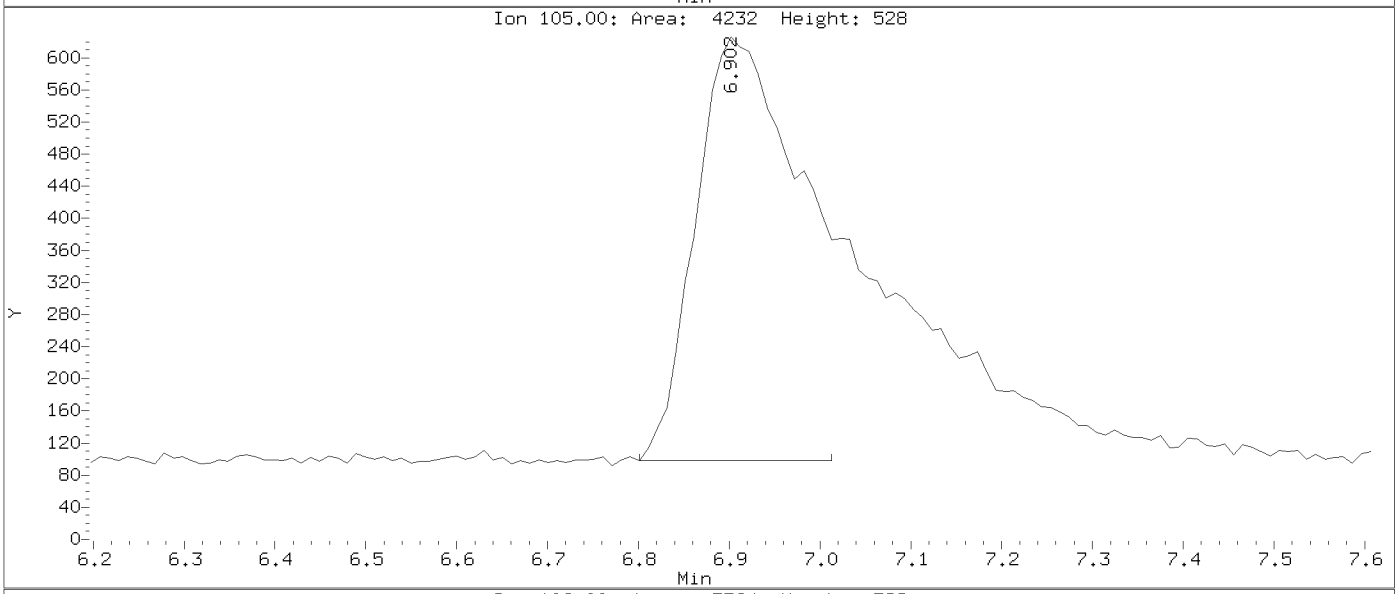
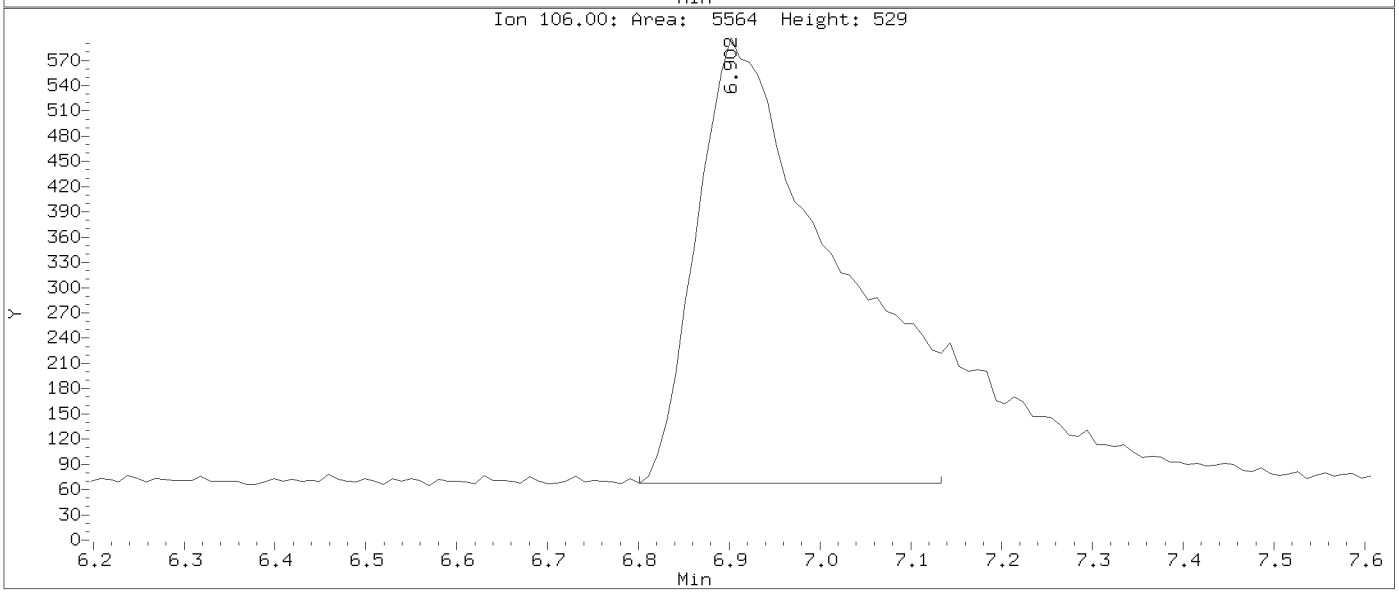
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: Benzaldehyde
CAS Number: 100-52-7

BEFORE MANUAL INTEGRATION







AFTER MANUAL INTEGRATION

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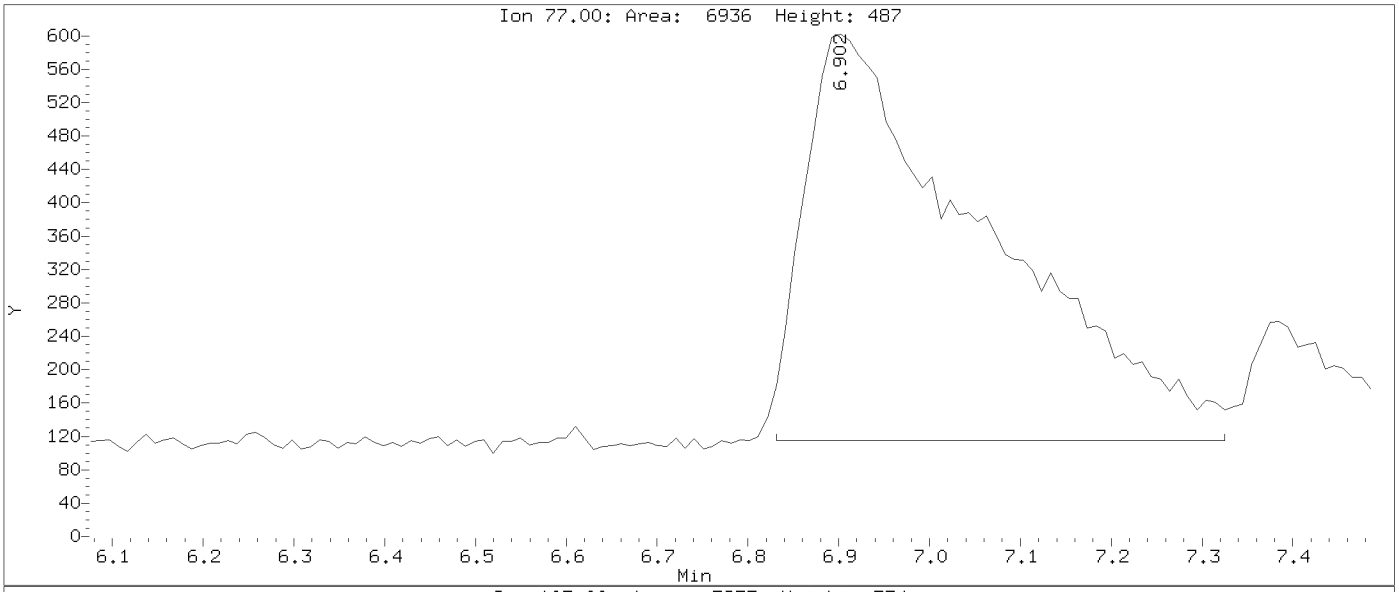
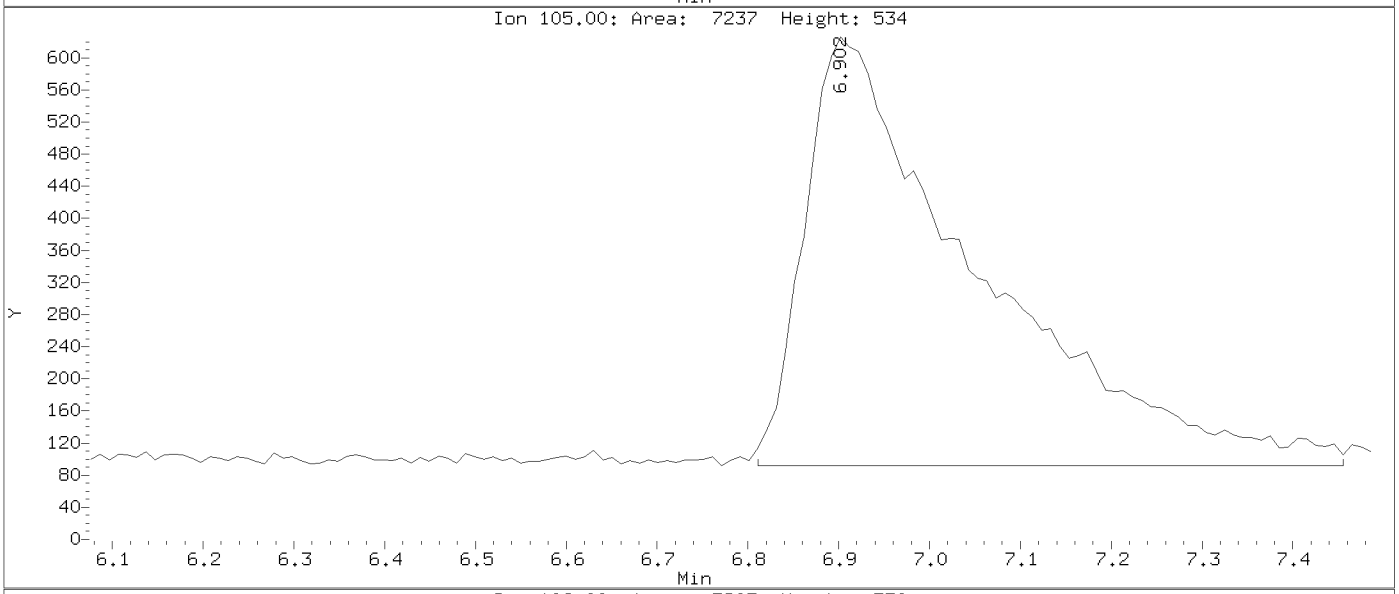
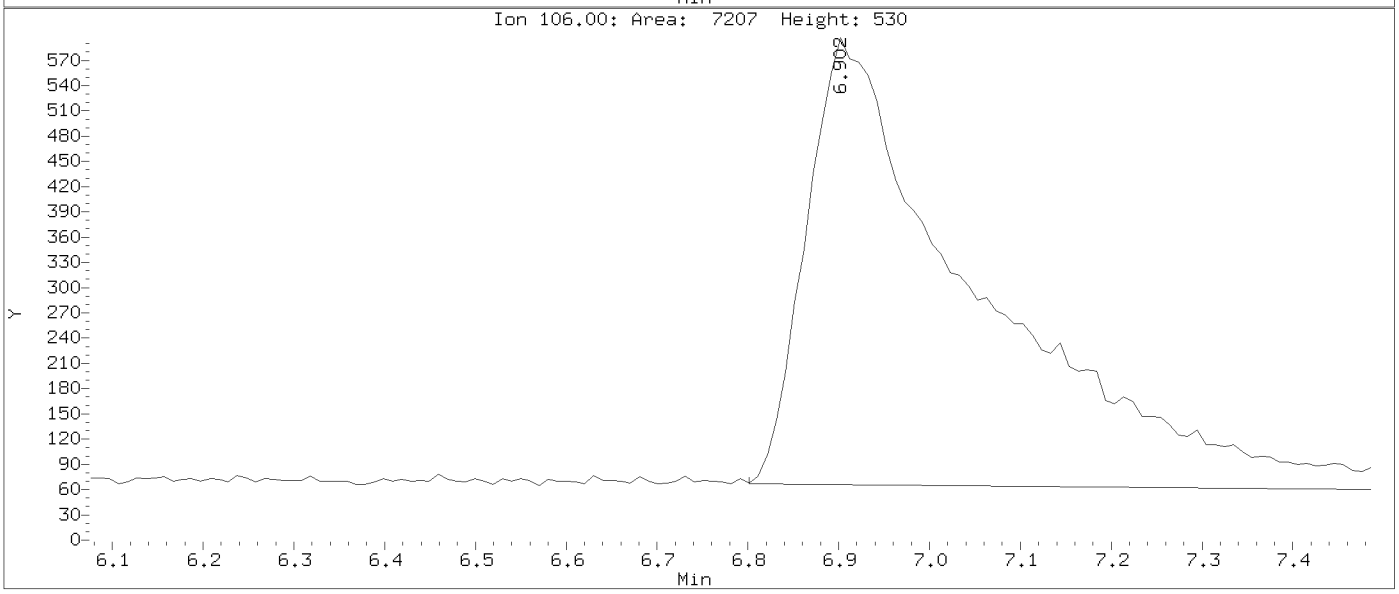
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: Benzaldehyde
CAS Number: 100-52-7







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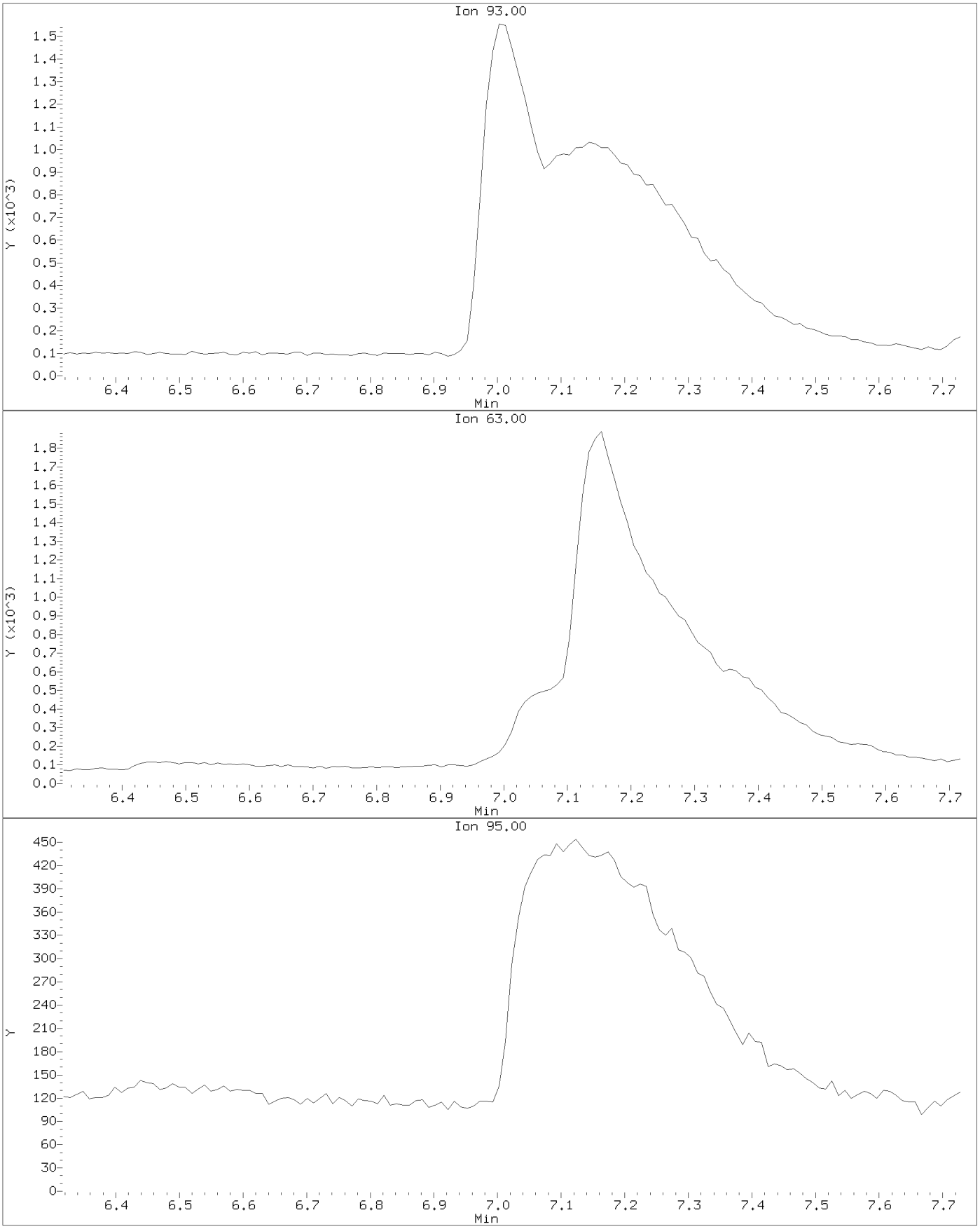
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: Bis(2-Chloroethyl)ether
CAS Number: 111-44-4

BEFORE MANUAL INTEGRATION



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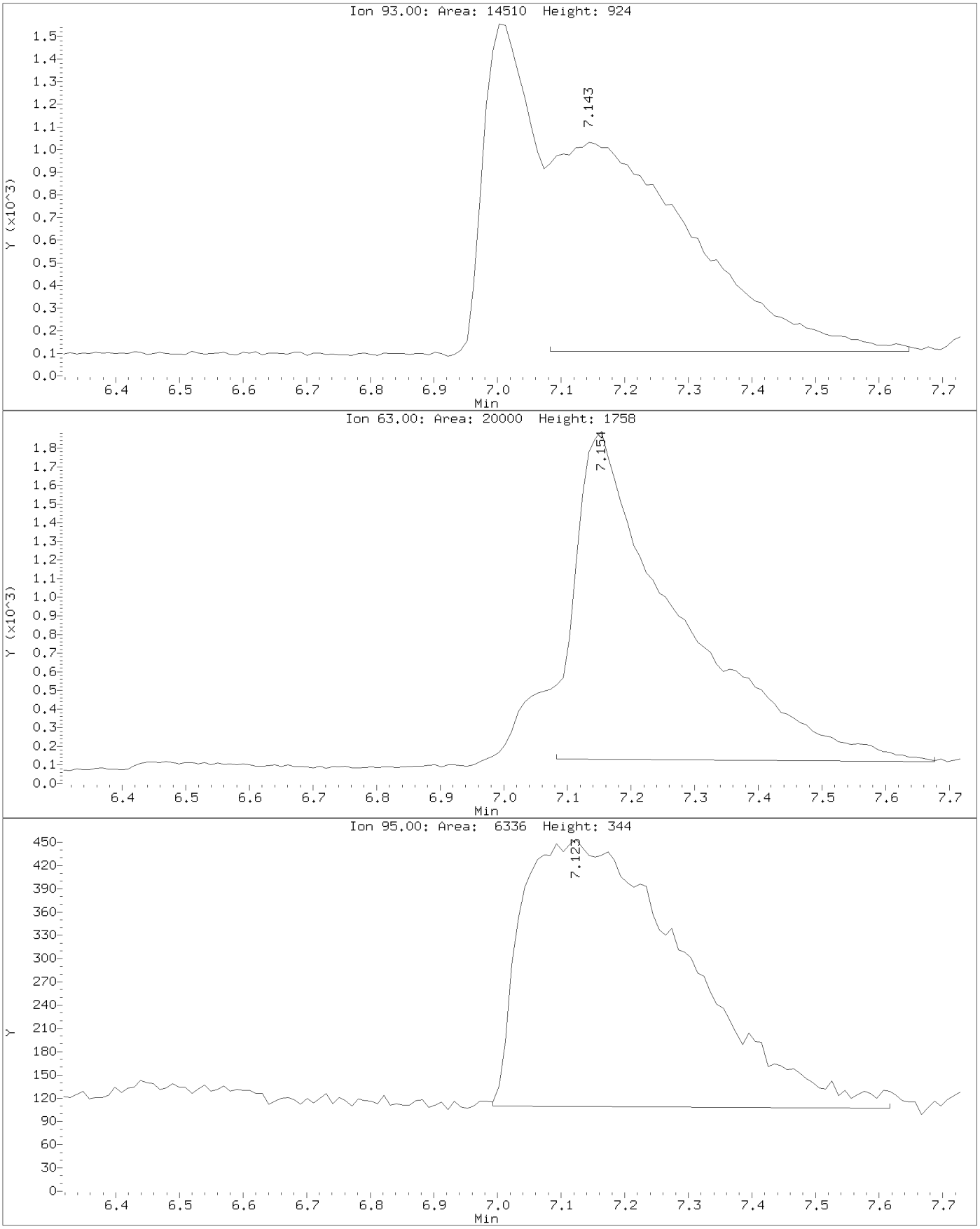
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: Bis(2-Chloroethyl)ether
CAS Number: 111-44-4

AFTER MANUAL INTEGRATION



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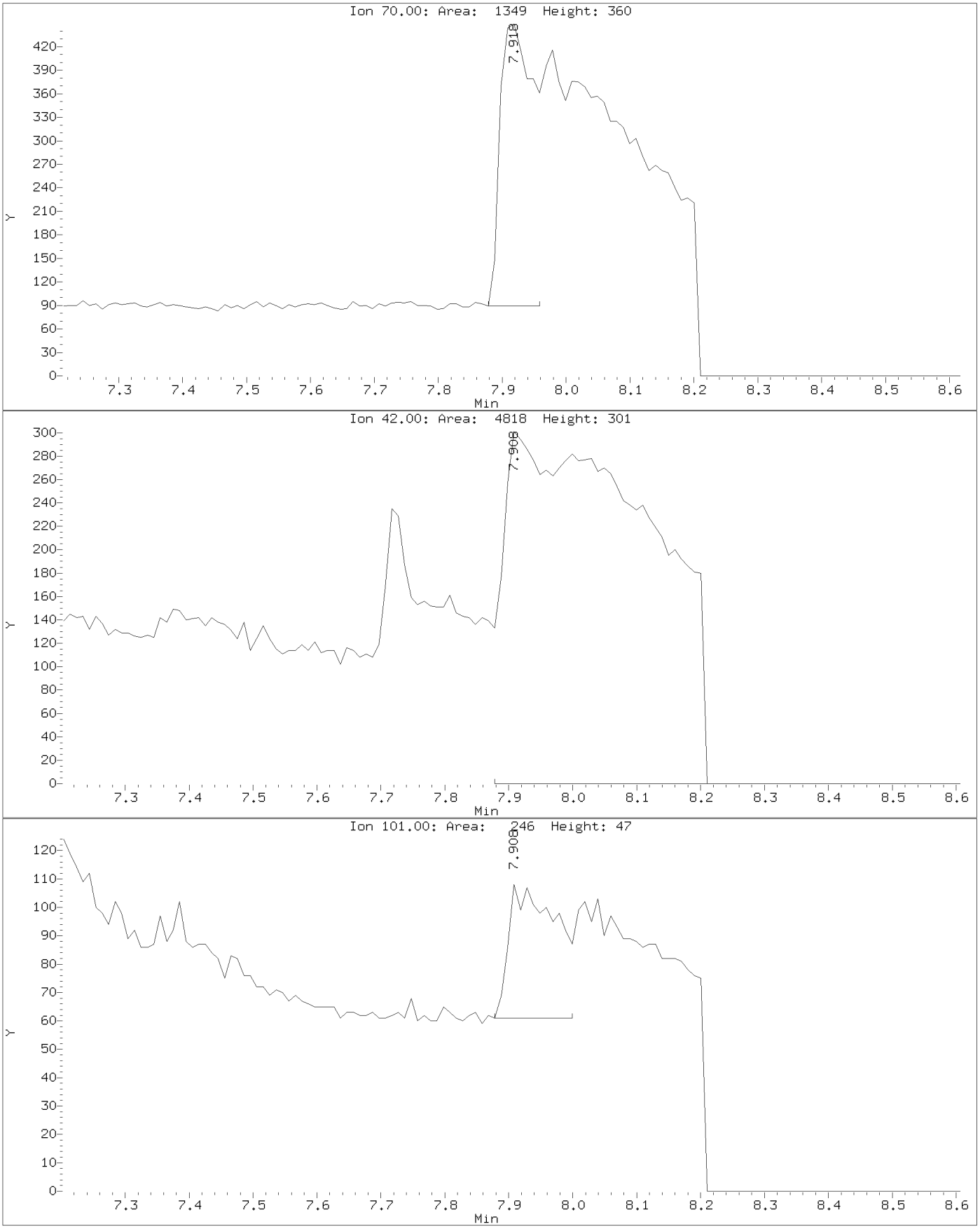
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: N-Nitroso-di-n-propylamine
CAS Number: 621-64-7

BEFORE MANUAL INTEGRATION



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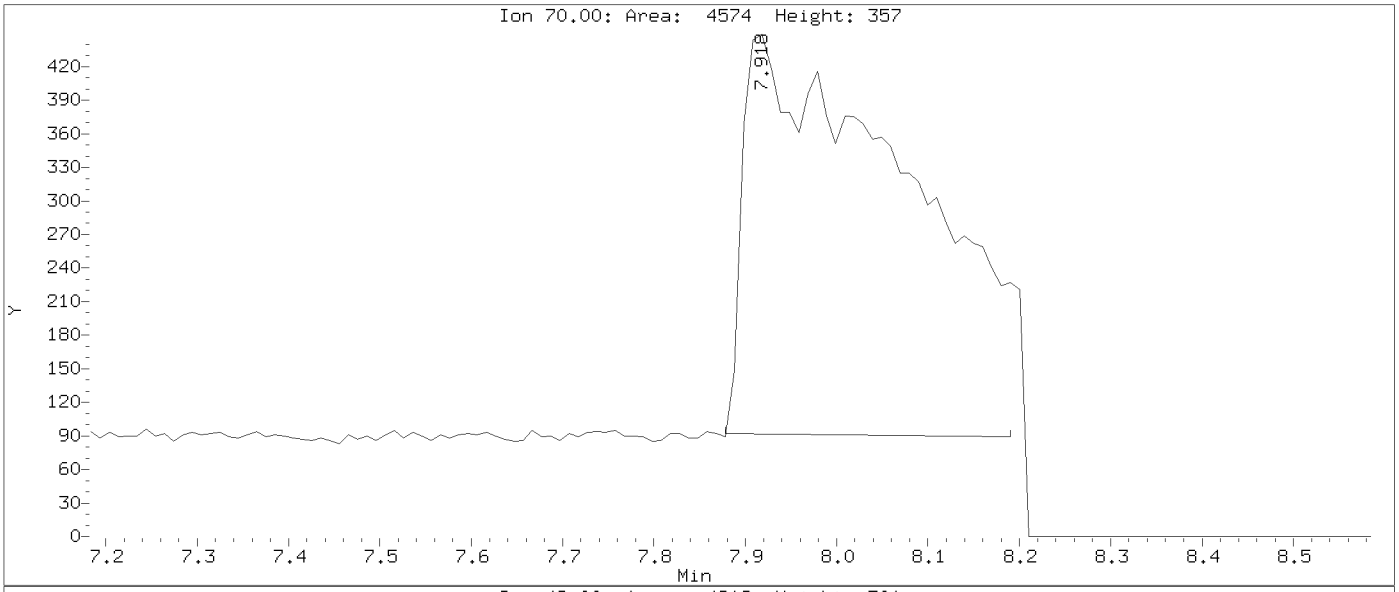
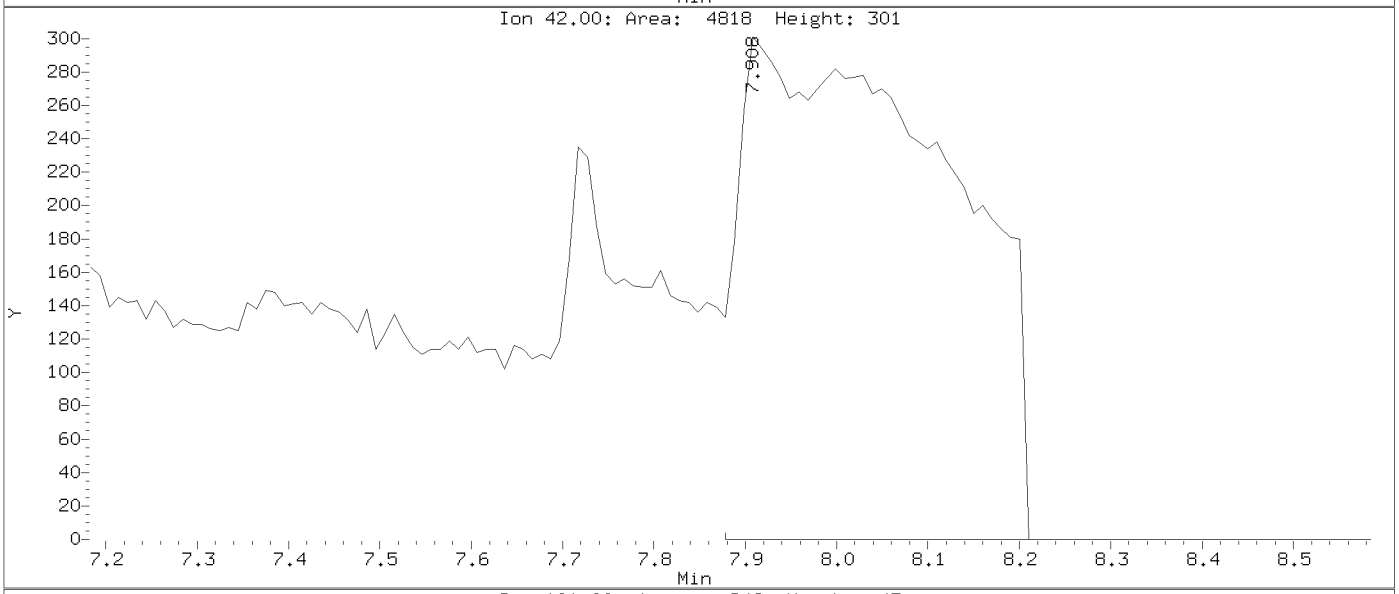
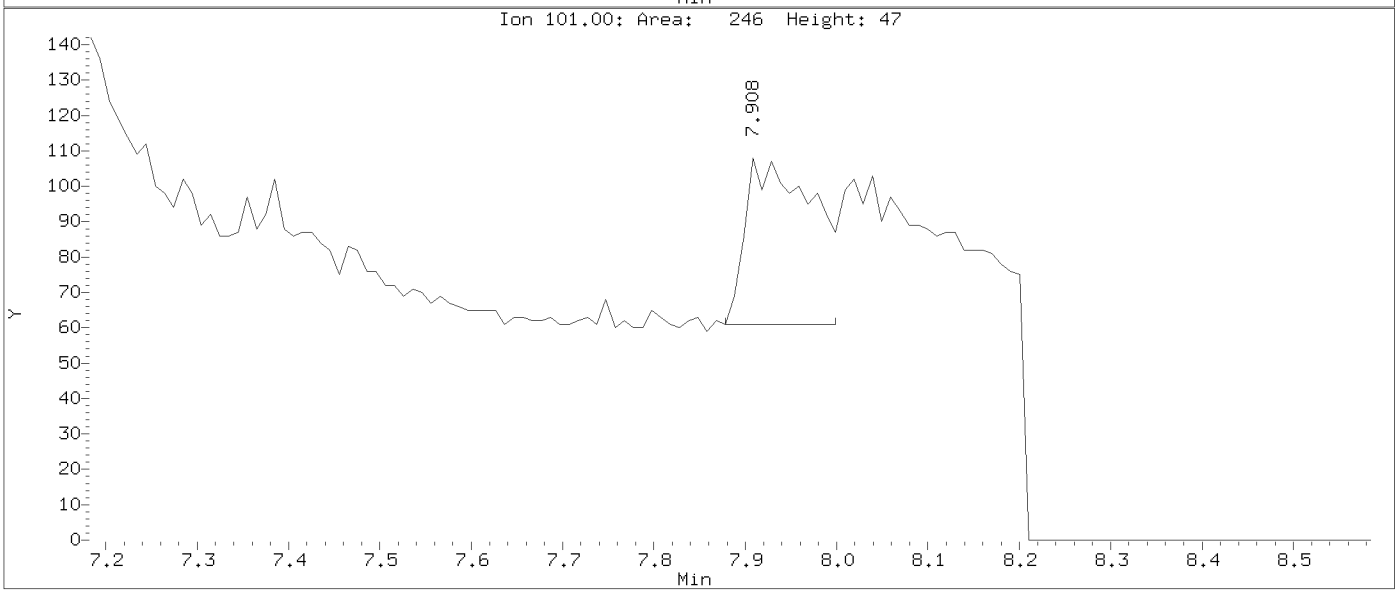
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: N-Nitroso-di-n-propylamine
CAS Number: 621-64-7

AFTER MANUAL INTEGRATION







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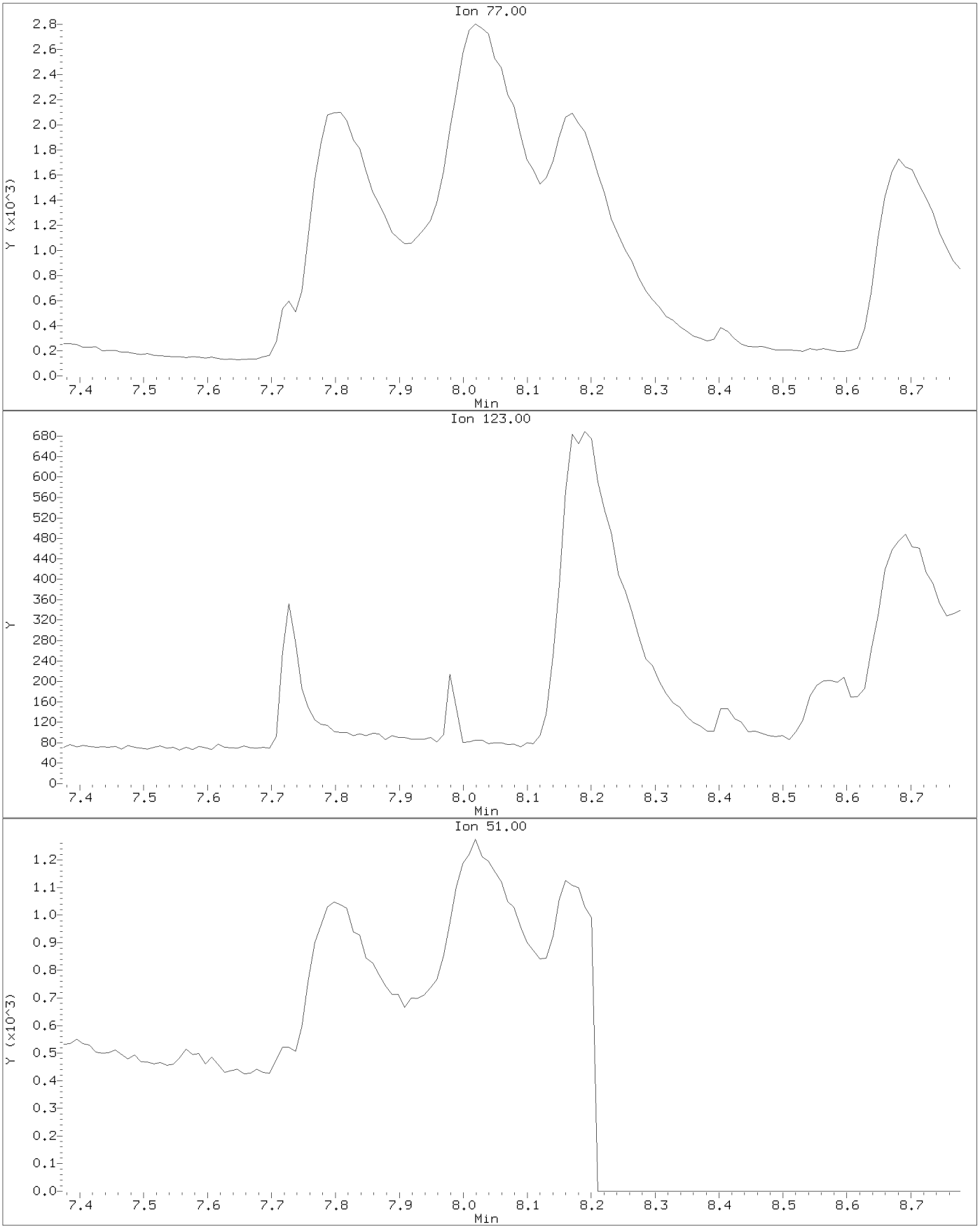
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: Nitrobenzene
CAS Number: 98-95-3

BEFORE MANUAL INTEGRATION



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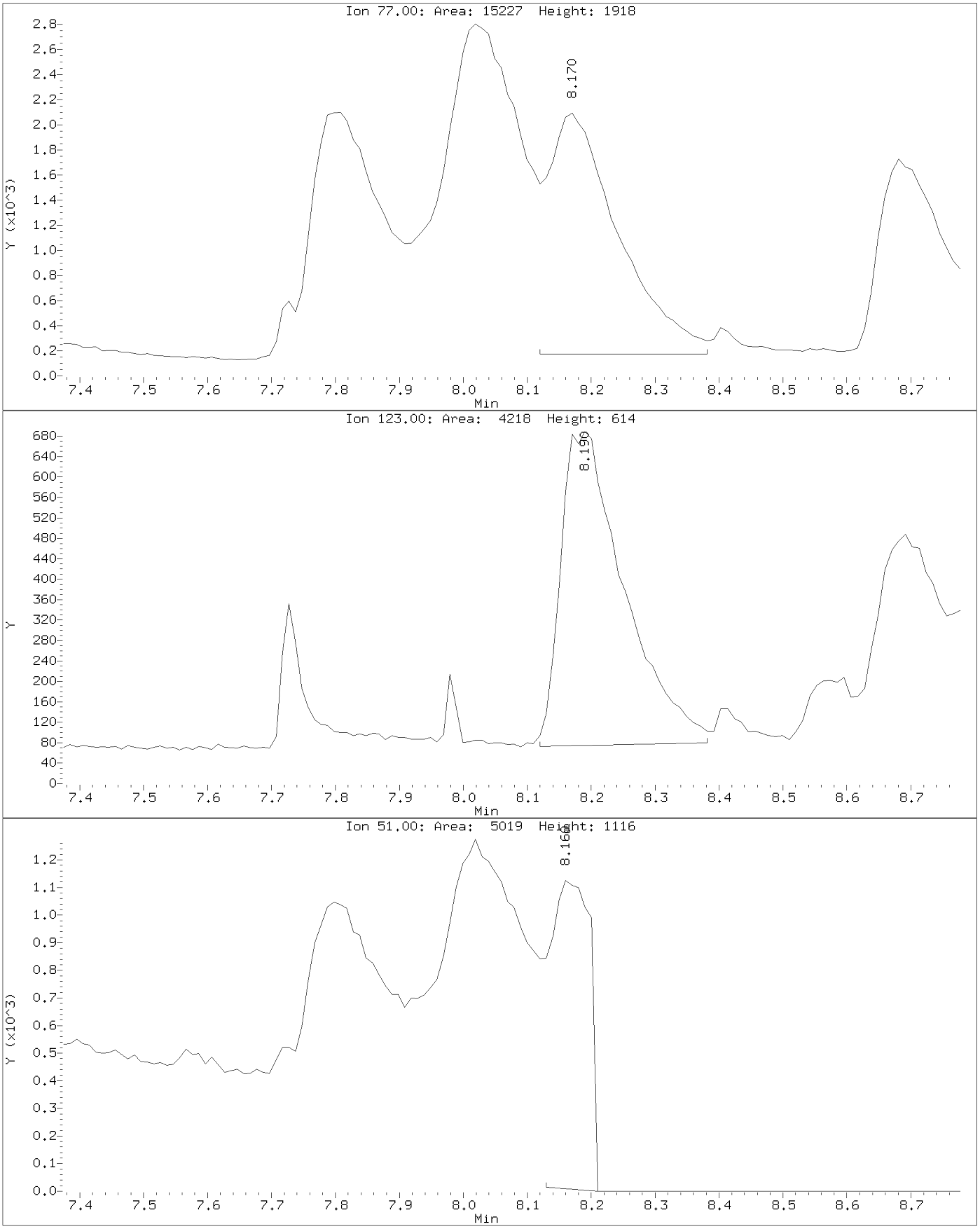
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: Nitrobenzene
CAS Number: 98-95-3

AFTER MANUAL INTEGRATION



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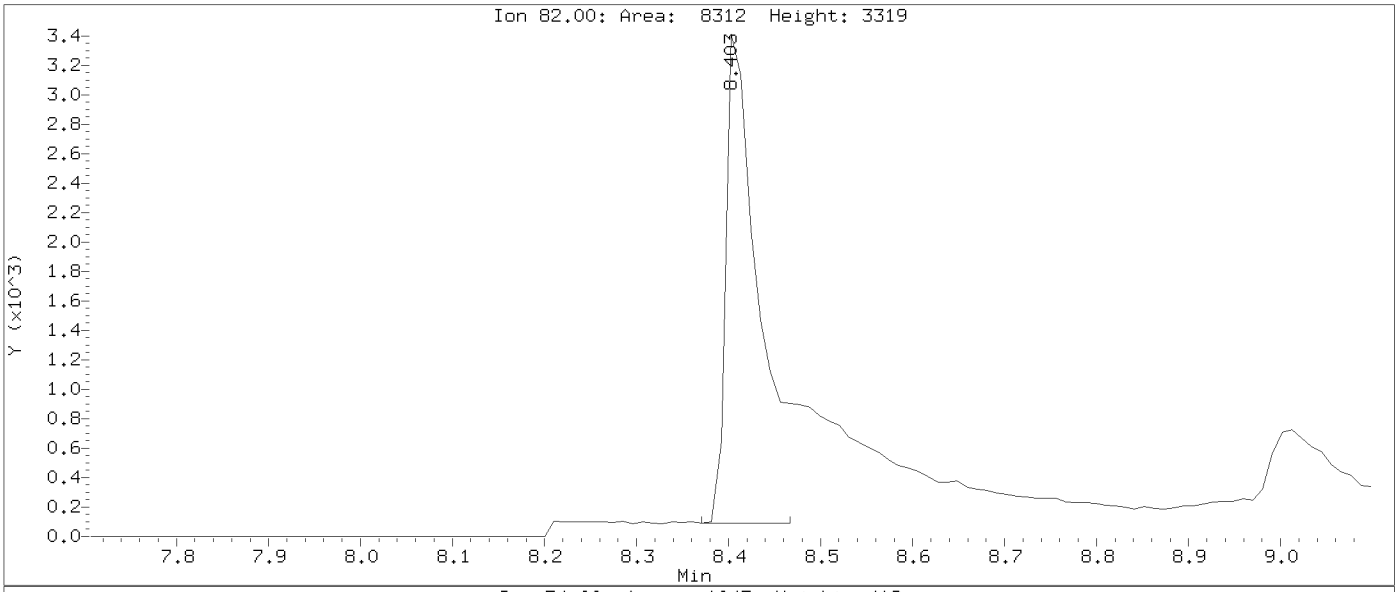
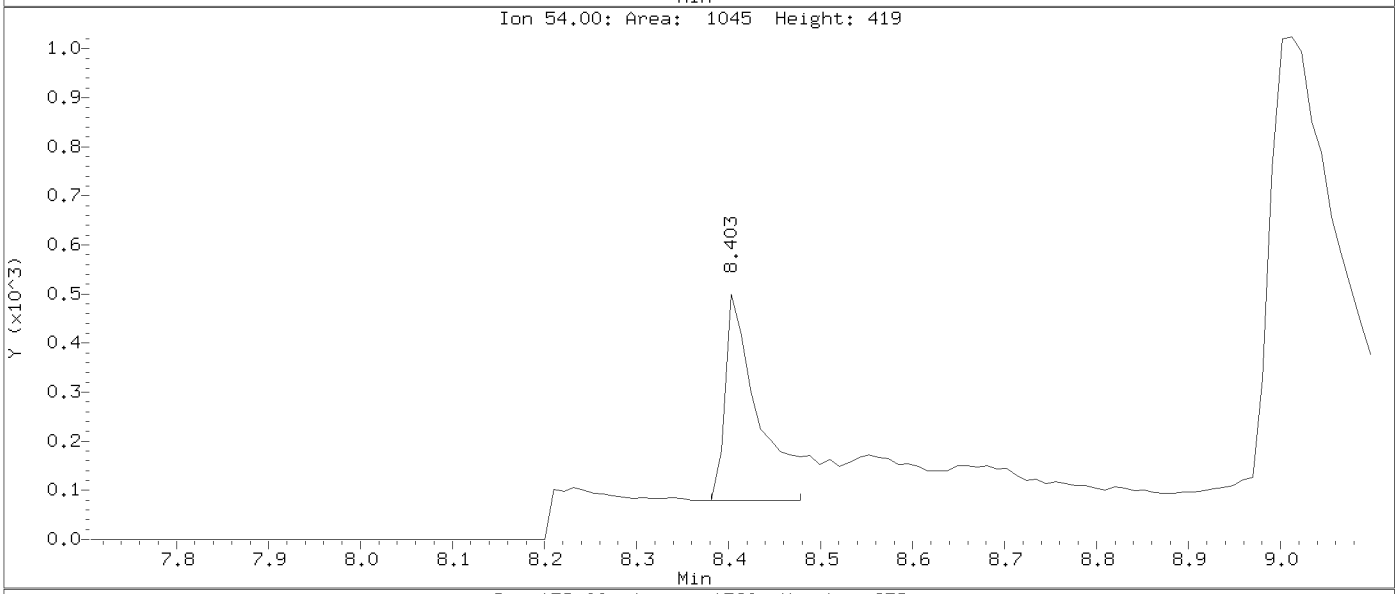
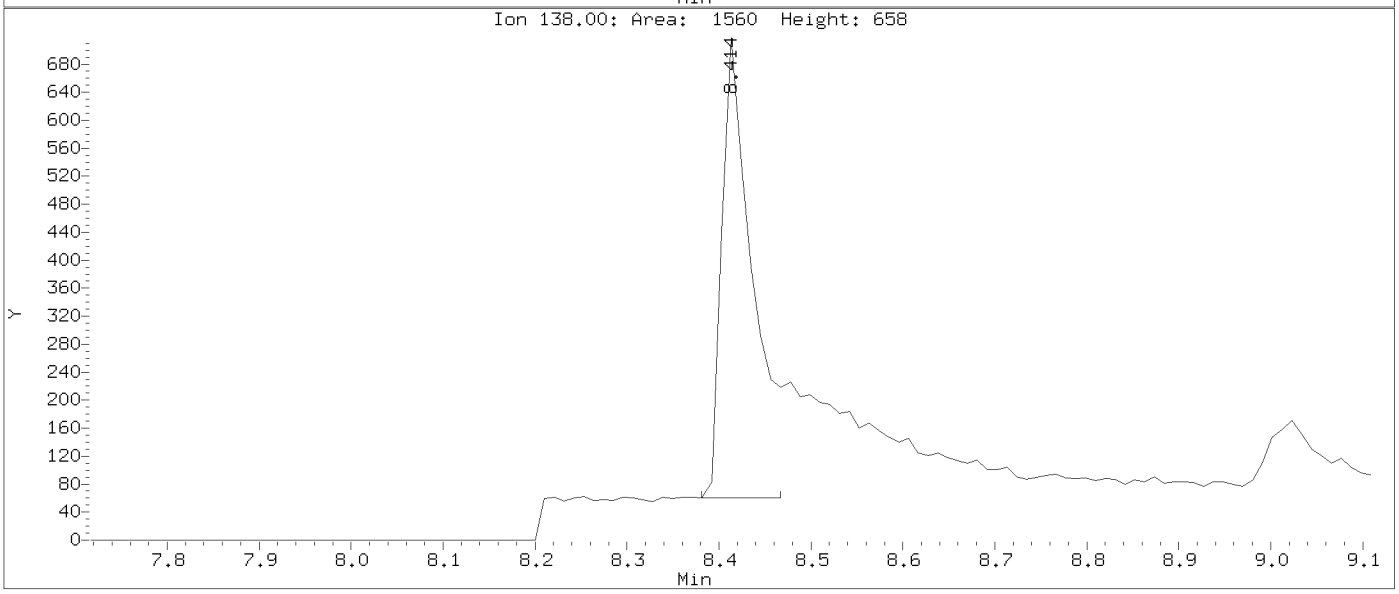
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: Isophorone
CAS Number: 78-59-1

BEFORE MANUAL INTEGRATION







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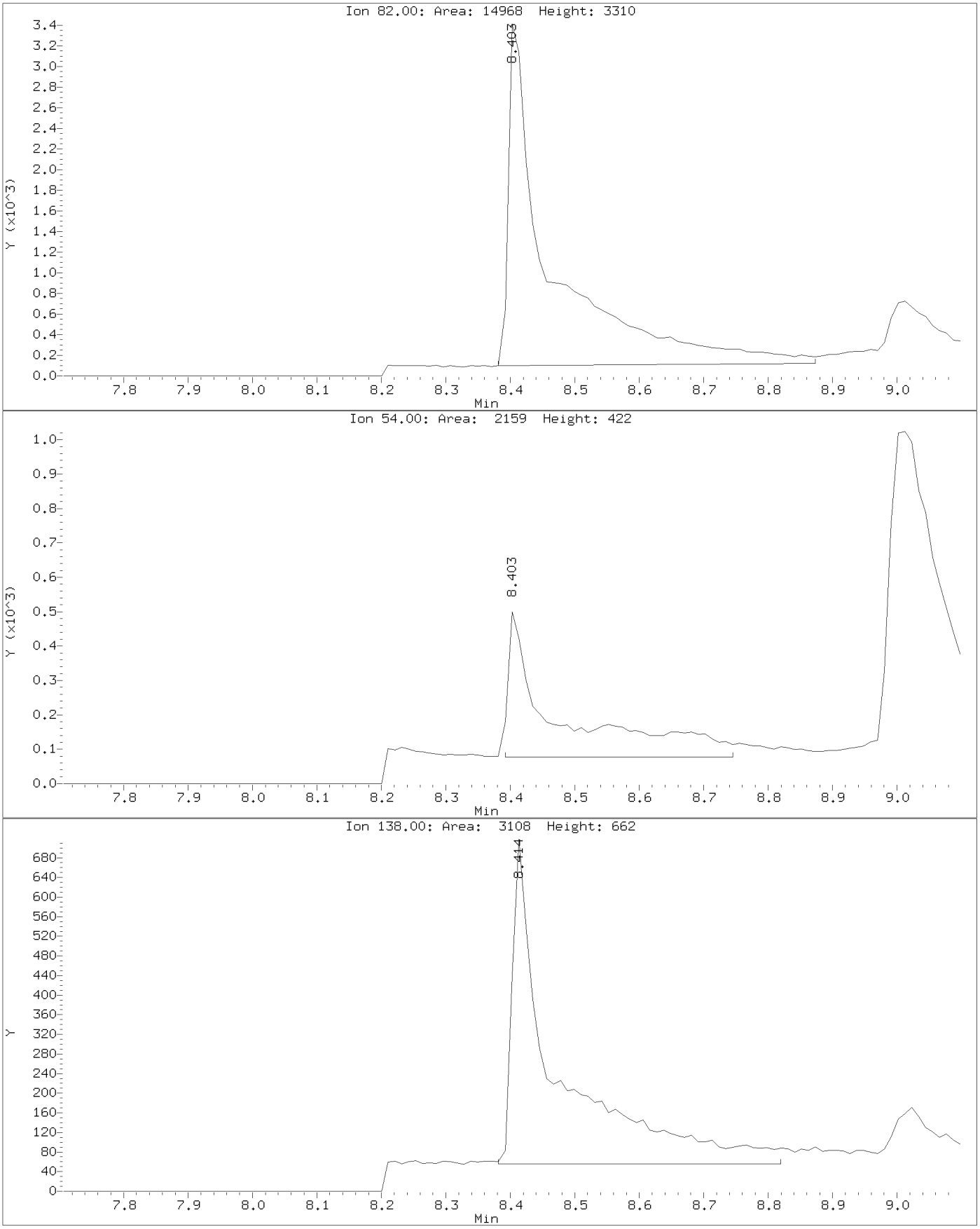
Instrument: gcms-n.i
Client Sample ID:

Compound: Isophorone
CAS Number: 78-59-1

AFTER MANUAL INTEGRATION



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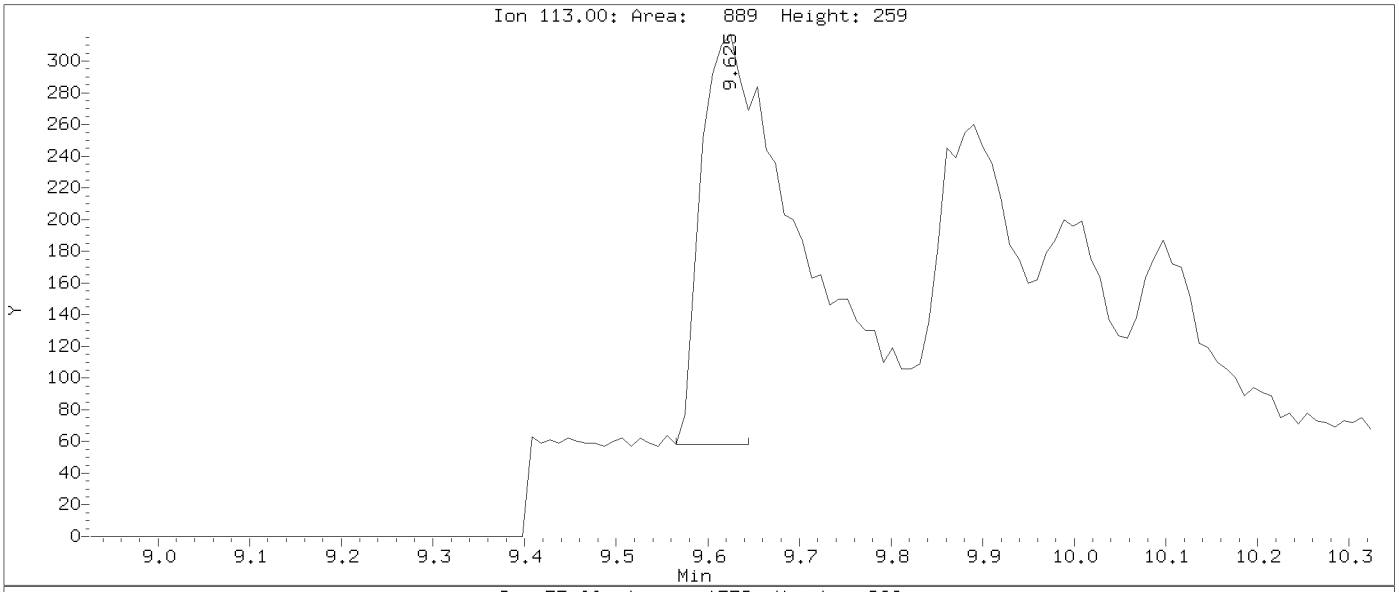
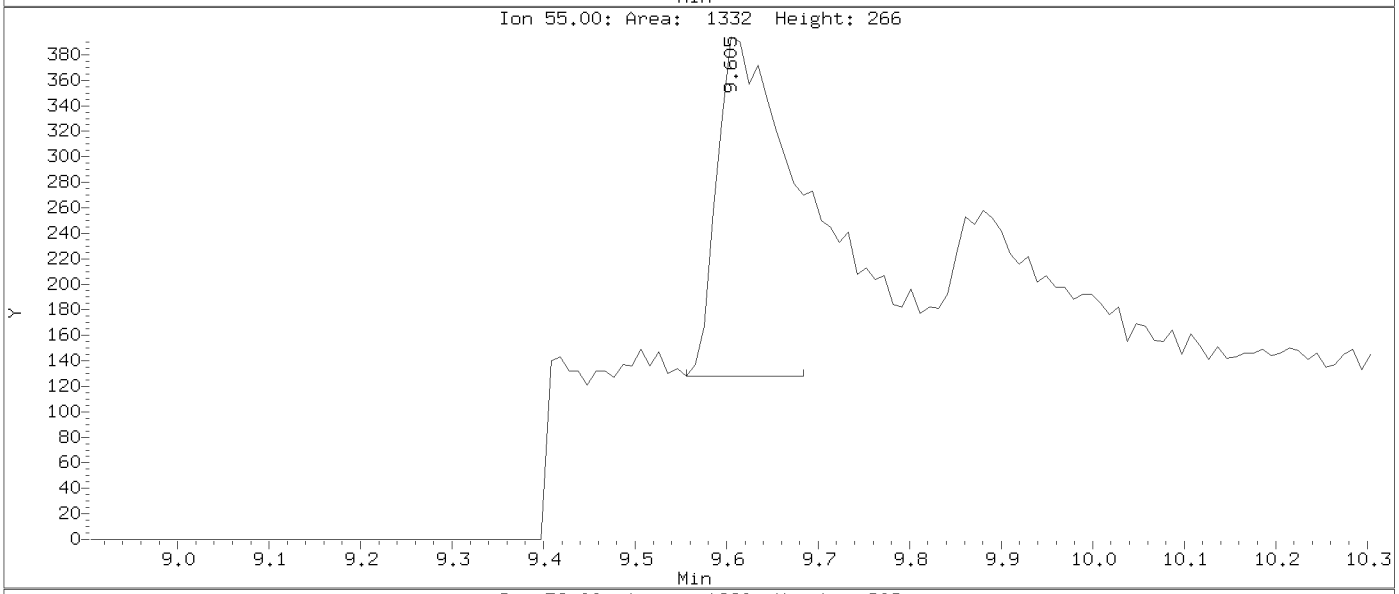
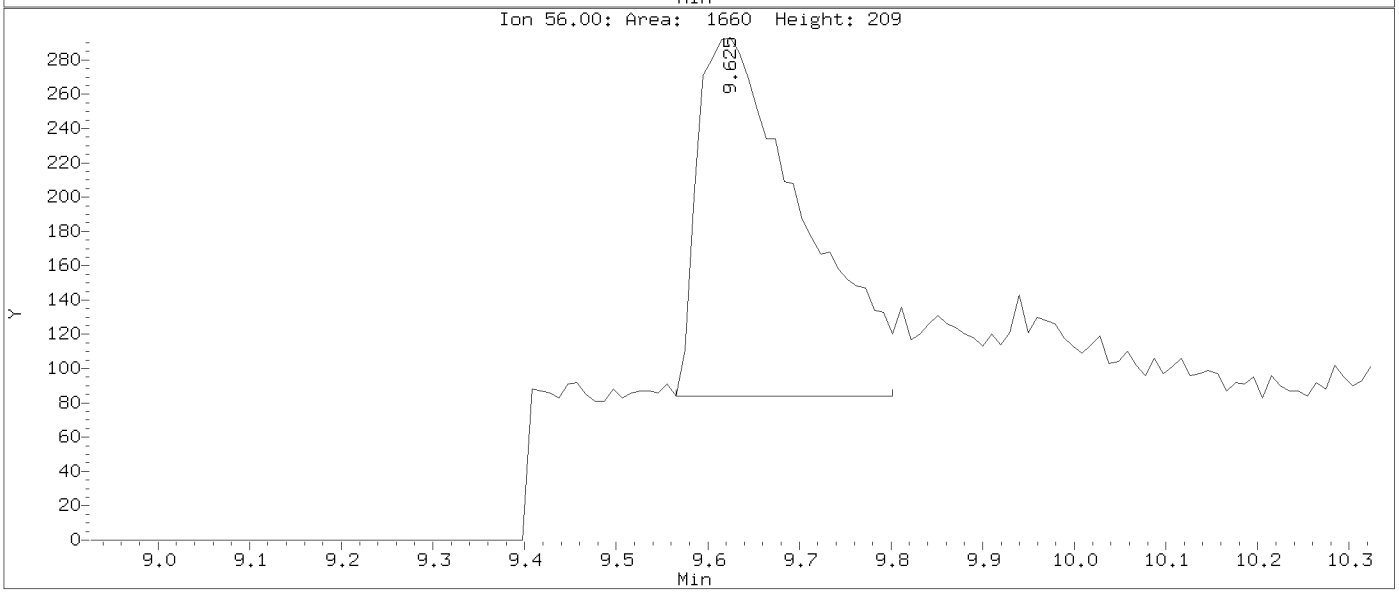
Injection Date: 13-JAN-2021 13:49
Instrument: gcms-n.i
Client Sample ID:

Compound: Caprolactam
CAS Number: 105-60-2

BEFORE MANUAL INTEGRATION







AFTER MANUAL INTEGRATION

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1370.D
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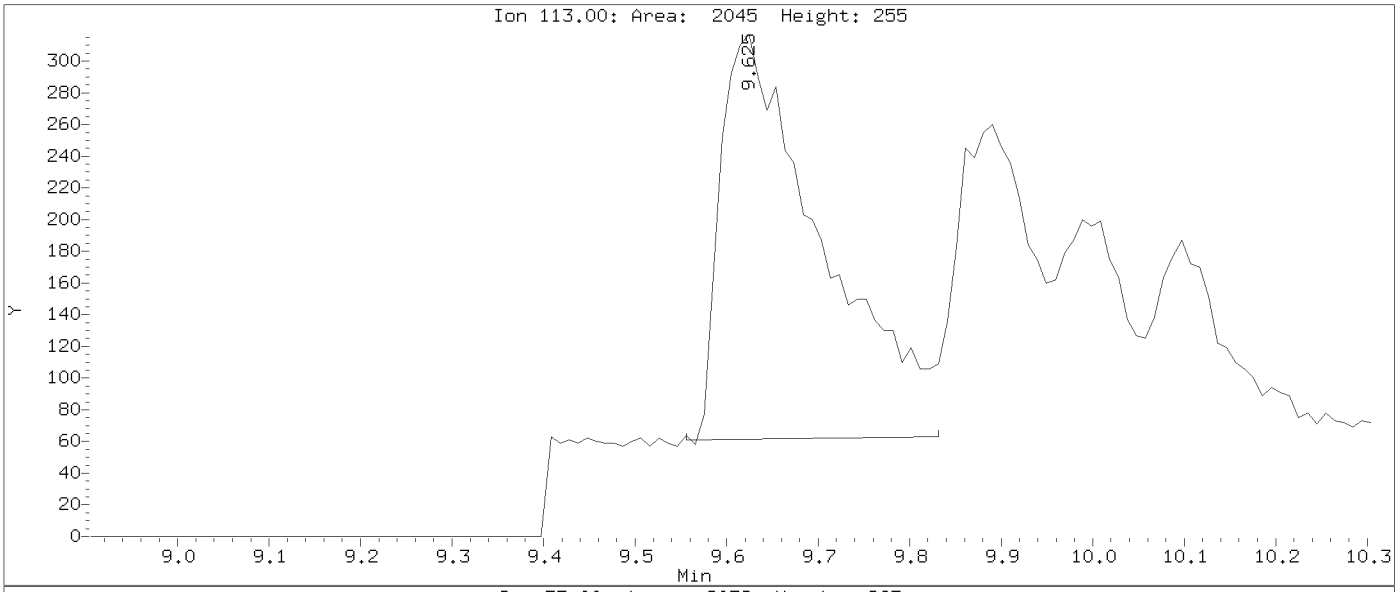
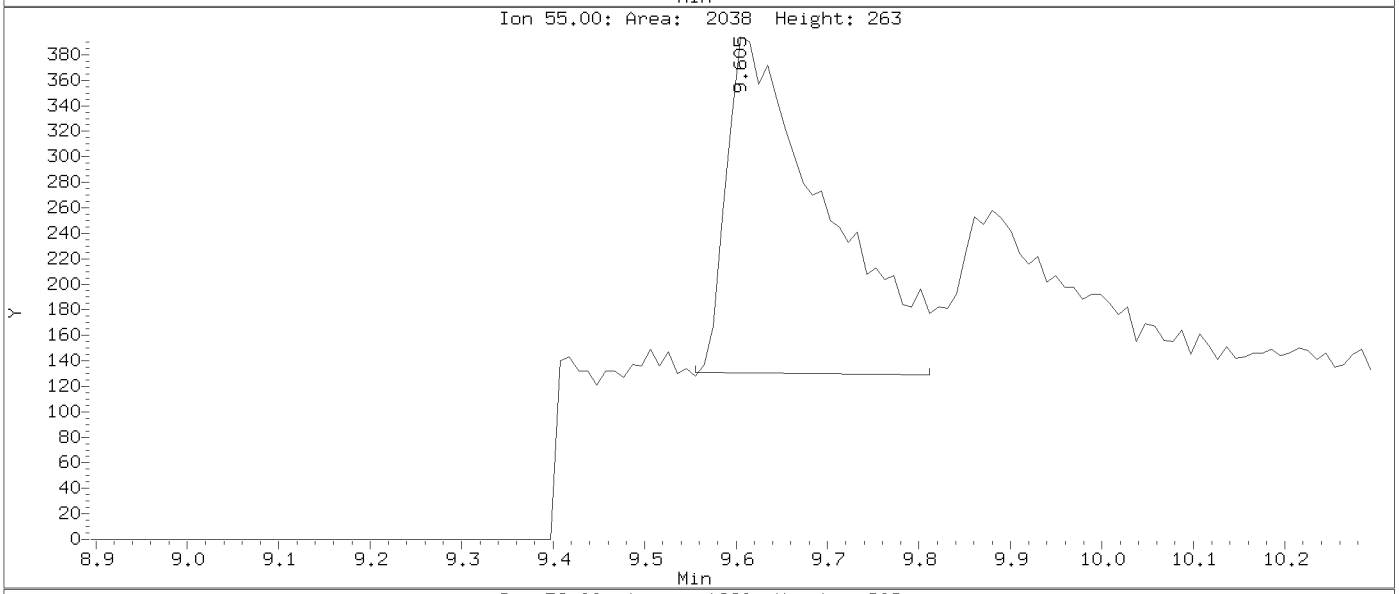
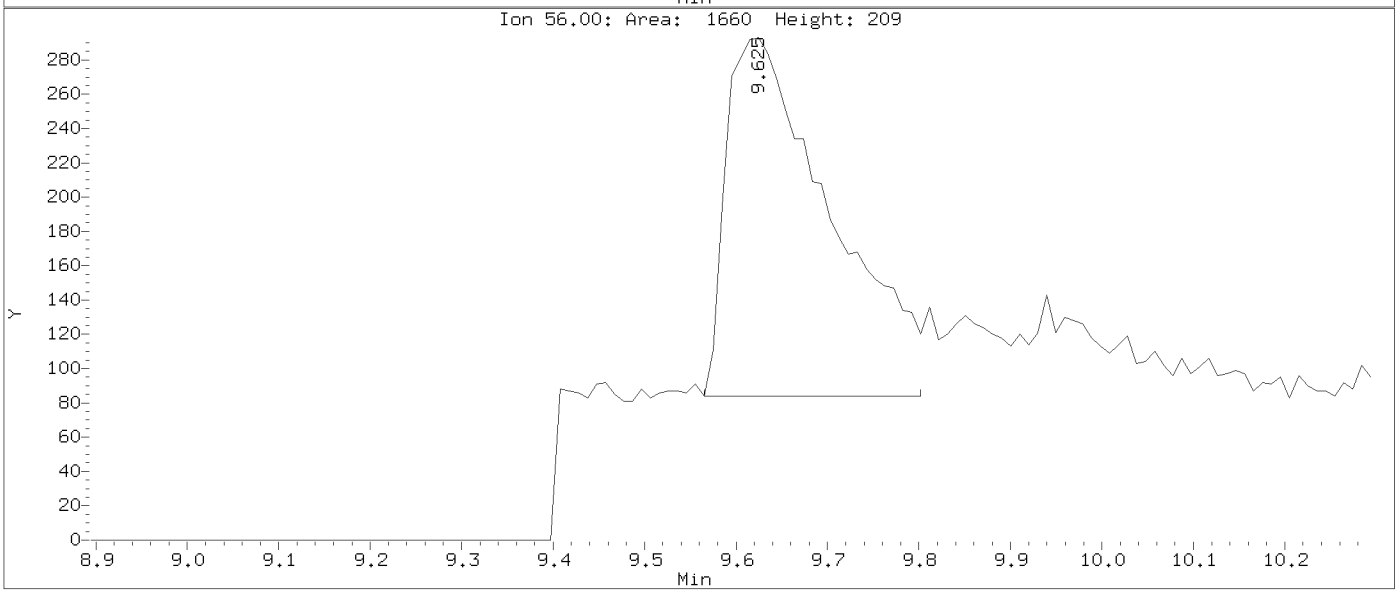
Client Sample ID:

Compound: Caprolactam
CAS Number: 105-60-2







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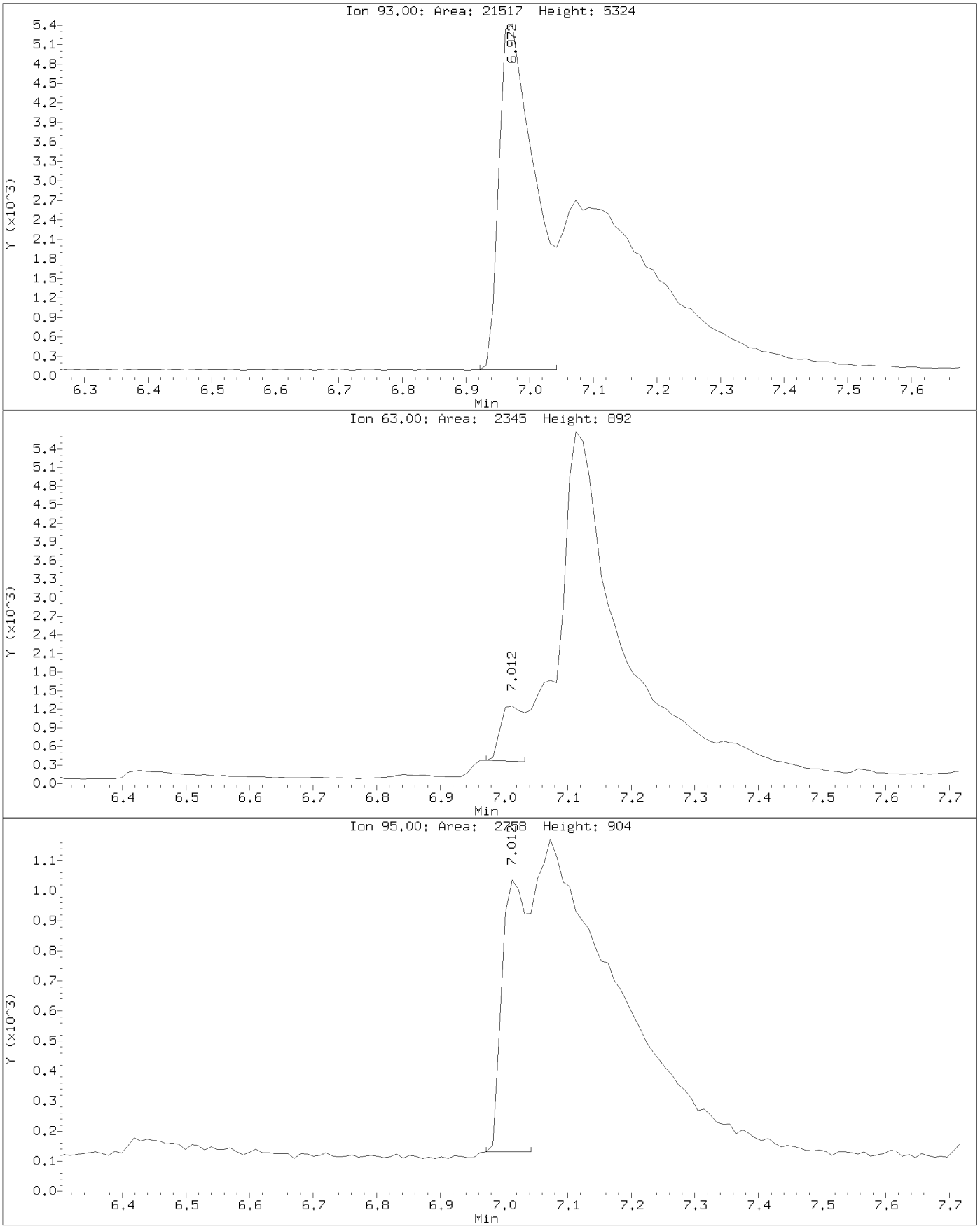
Injection Date: 13-JAN-2021 14:21
Instrument: gcms-n.i
Client Sample ID:

Compound: Bis(2-Chloroethyl)ether
CAS Number: 111-44-4

BEFORE MANUAL INTEGRATION



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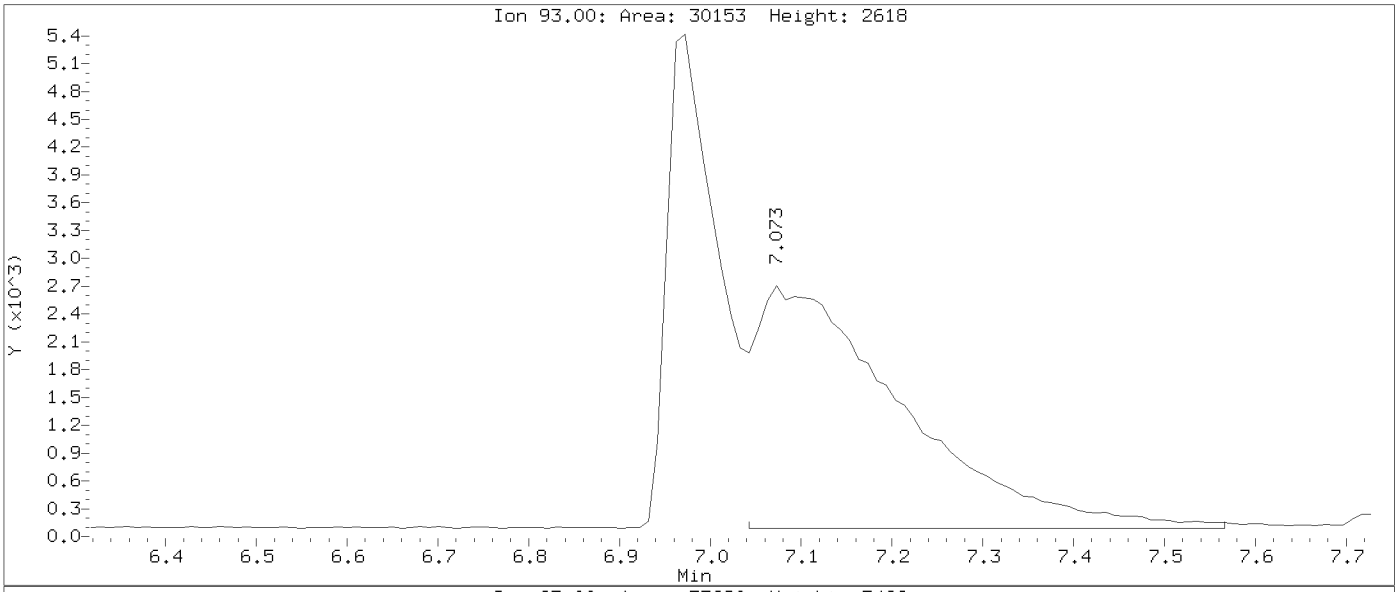
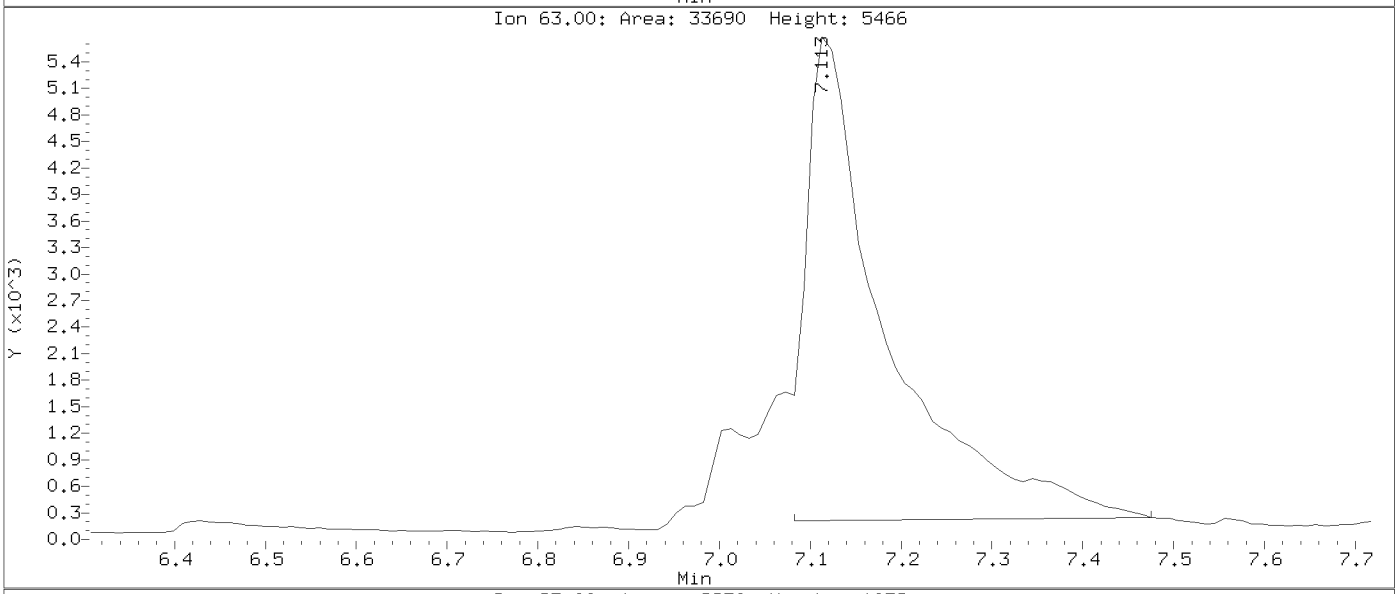
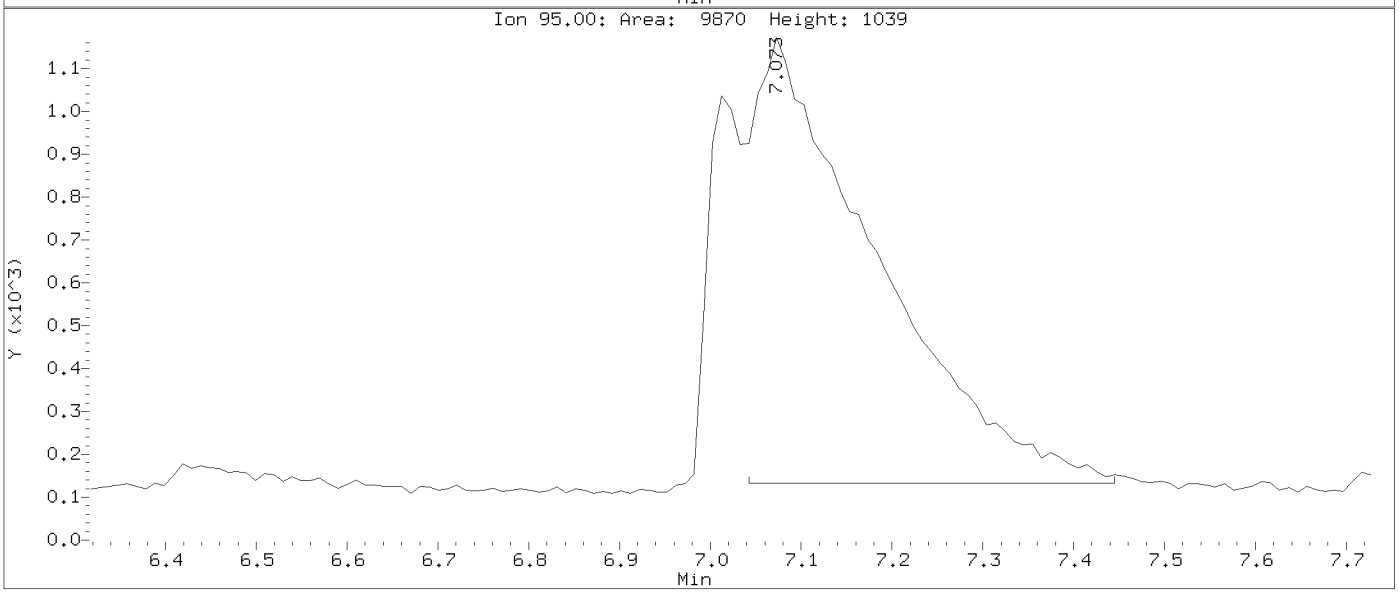
Injection Date: 13-JAN-2021 14:21
Instrument: gcms-n.i
Client Sample ID:

Compound: Bis(2-Chloroethyl)ether
CAS Number: 111-44-4

AFTER MANUAL INTEGRATION







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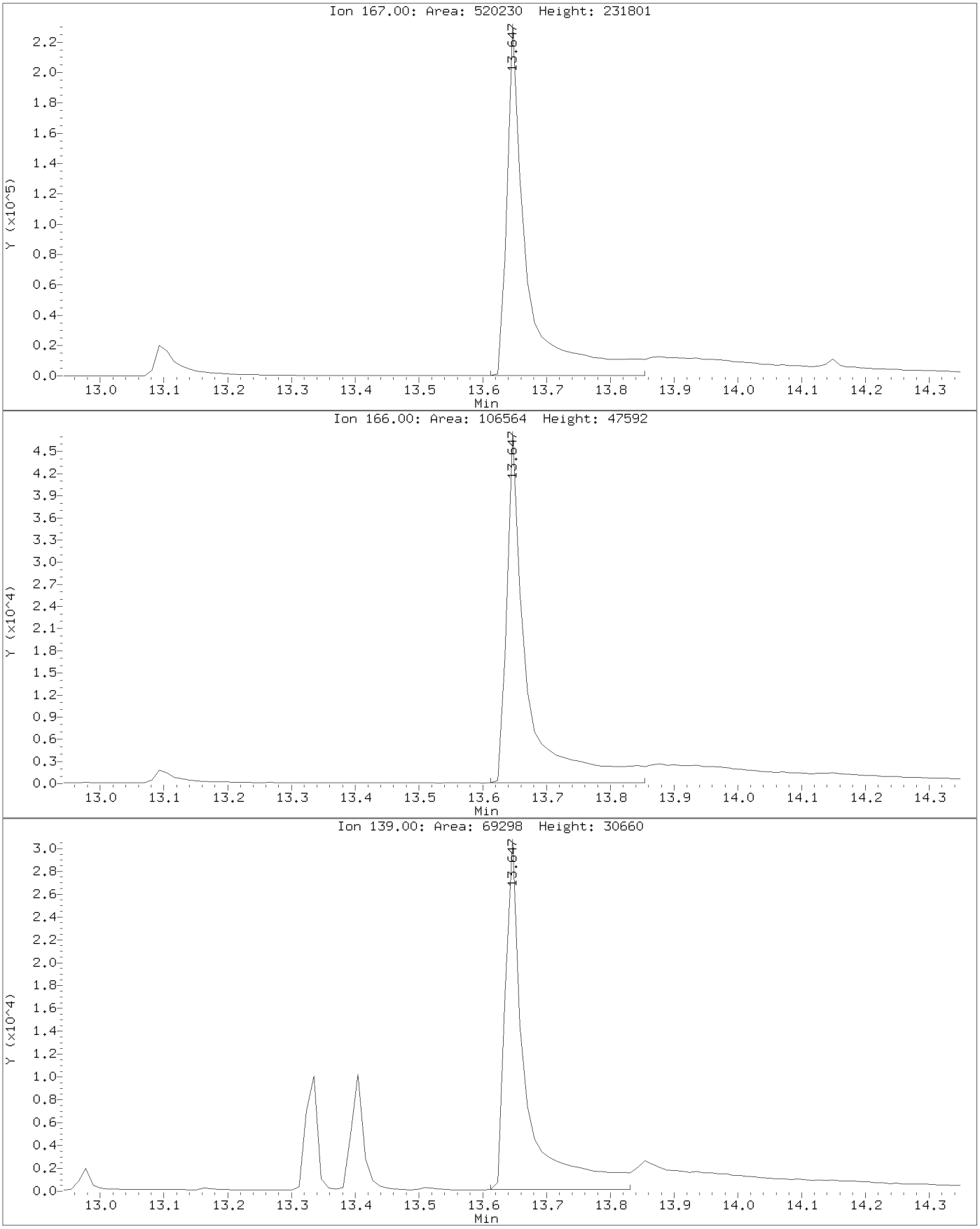
Injection Date: 13-JAN-2021 15:27
Instrument: gcms-n.i
Client Sample ID:

Compound: Carbazole
CAS Number: 86-74-8

BEFORE MANUAL INTEGRATION



AFTER MANUAL INTEGRATION

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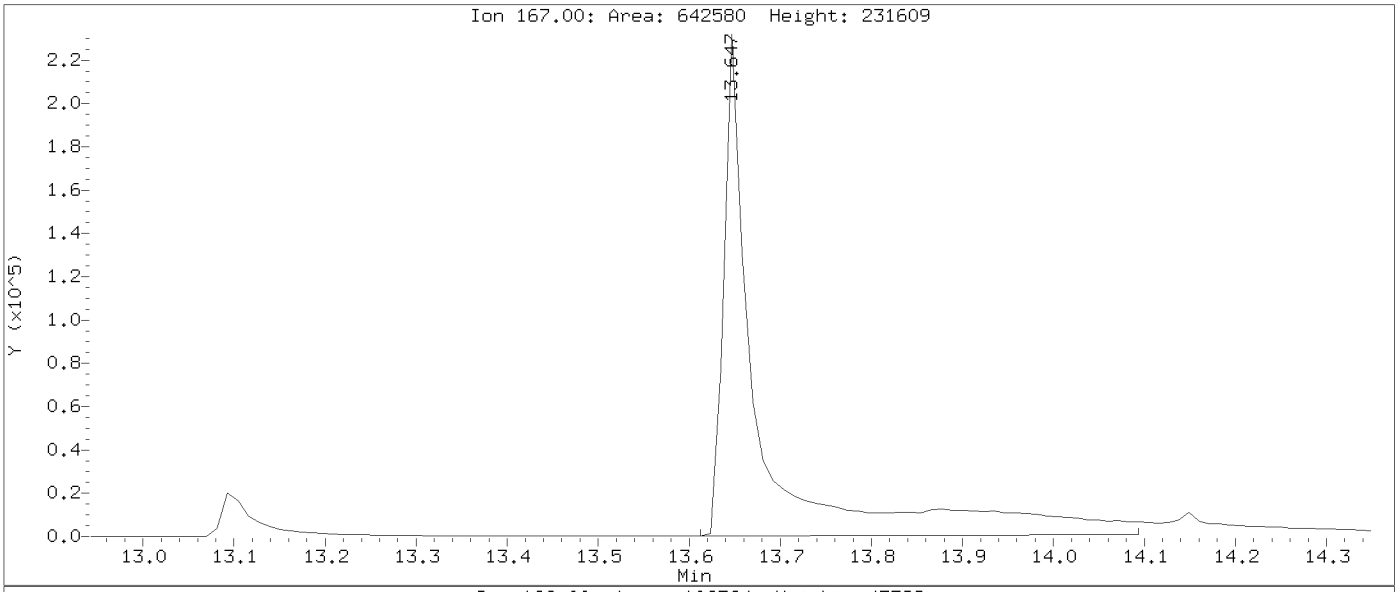
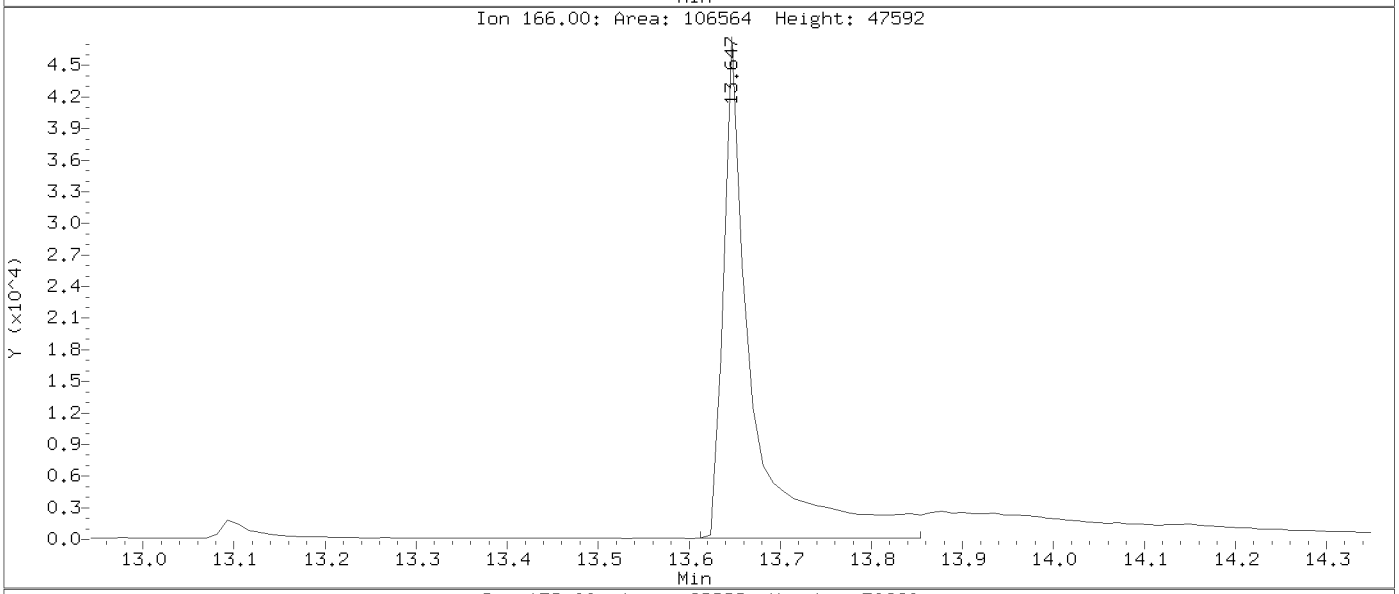
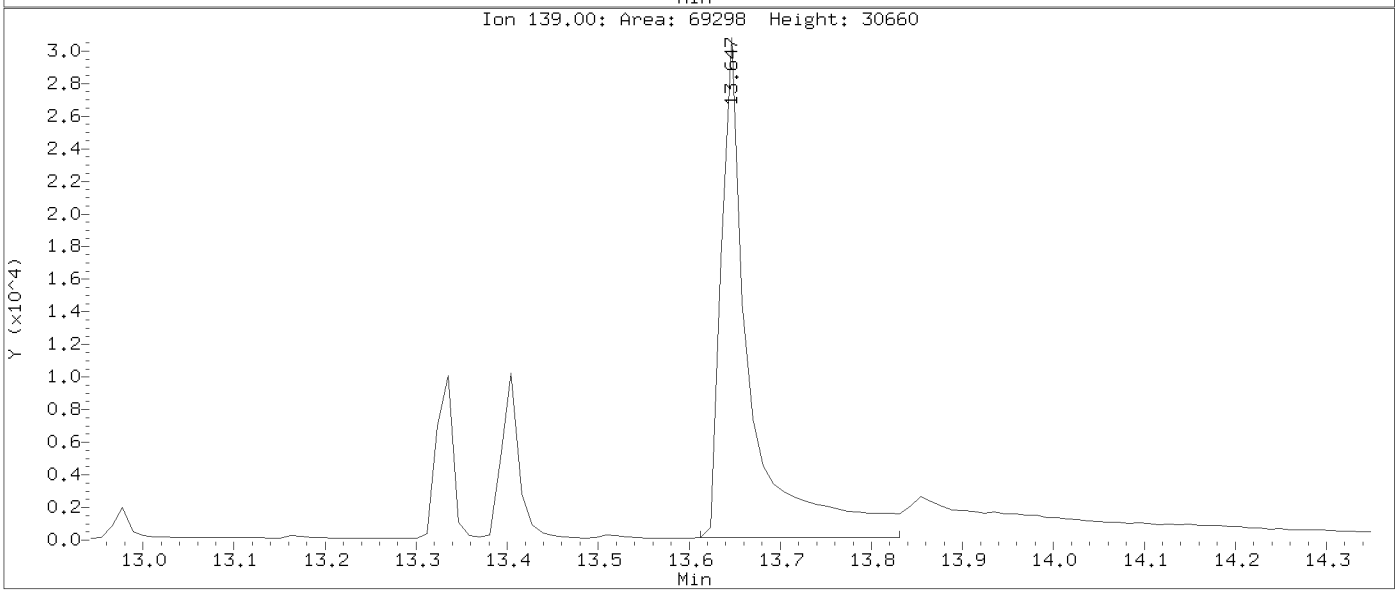
Injection Date: 13-JAN-2021 15:27
Instrument: gcms-n.i
Client Sample ID:

Compound: Carbazole
CAS Number: 86-74-8







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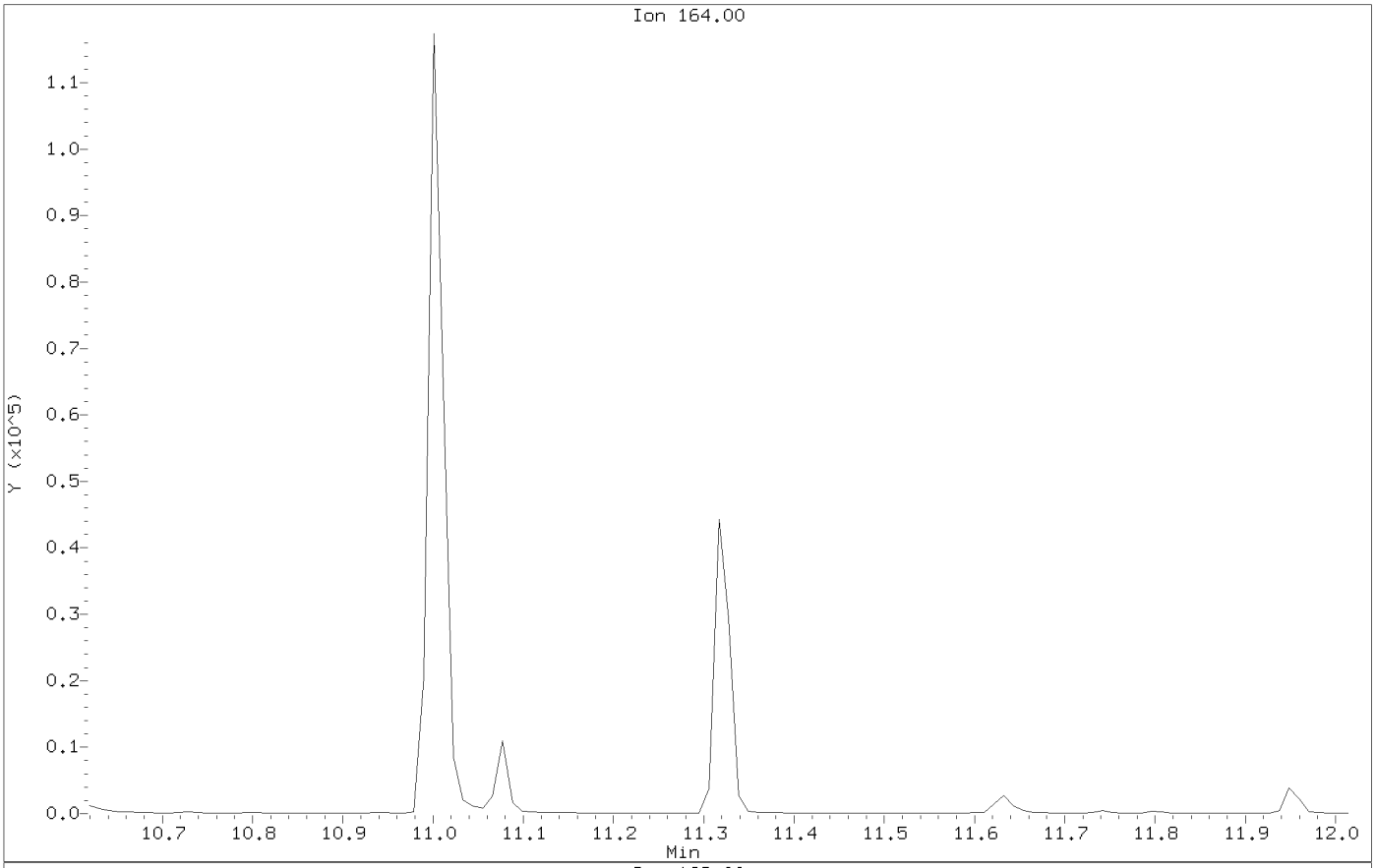
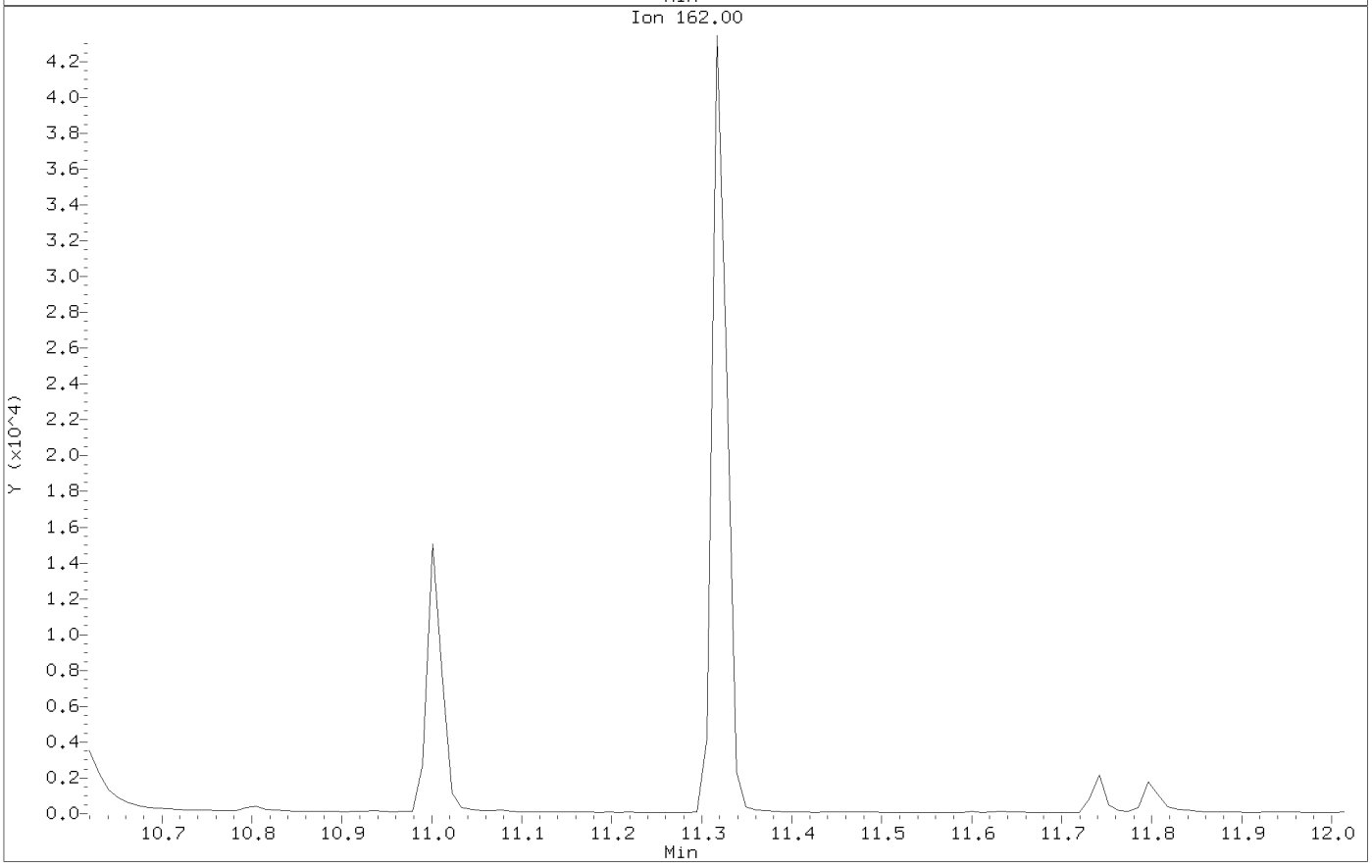
Injection Date: 13-JAN-2021 16:00
Instrument: gcms-n.i
Client Sample ID:

Compound: Acenaphthene-D10
CAS Number: 15067-26-2

BEFORE MANUAL INTEGRATION





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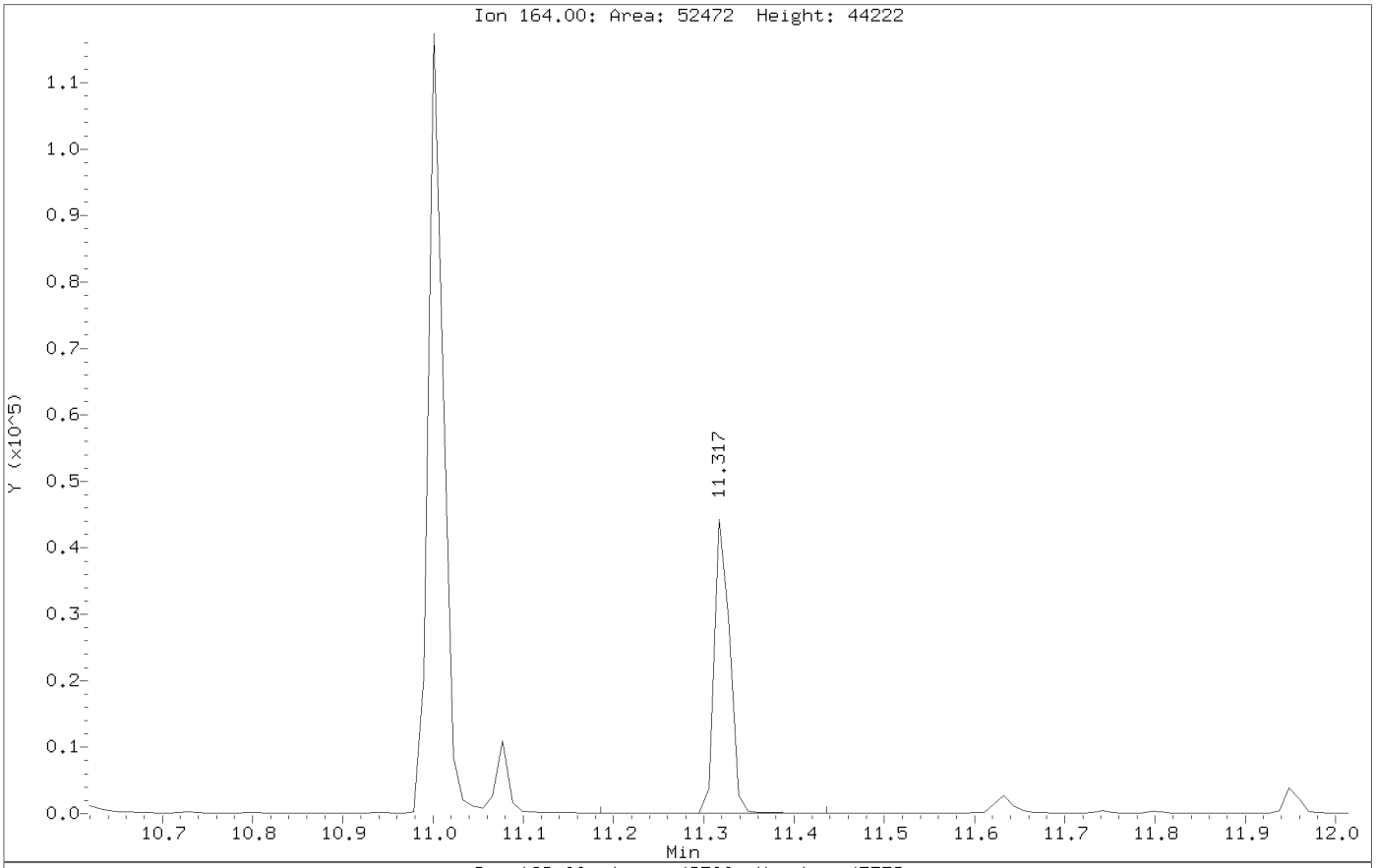
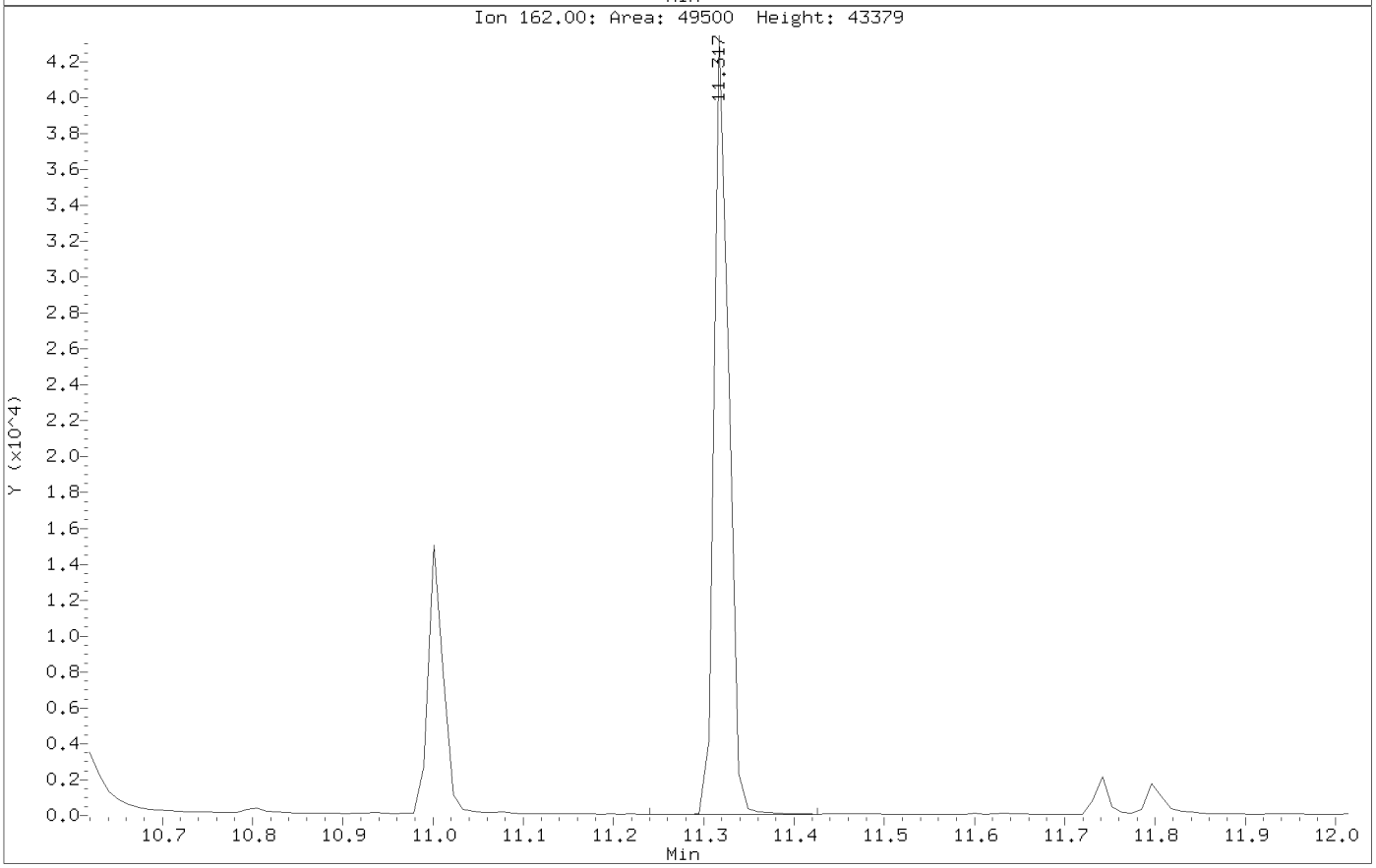
Instrument: gcms-n.i
Client Sample ID:

Compound: Acenaphthene-D10
CAS Number: 15067-26-2

AFTER MANUAL INTEGRATION

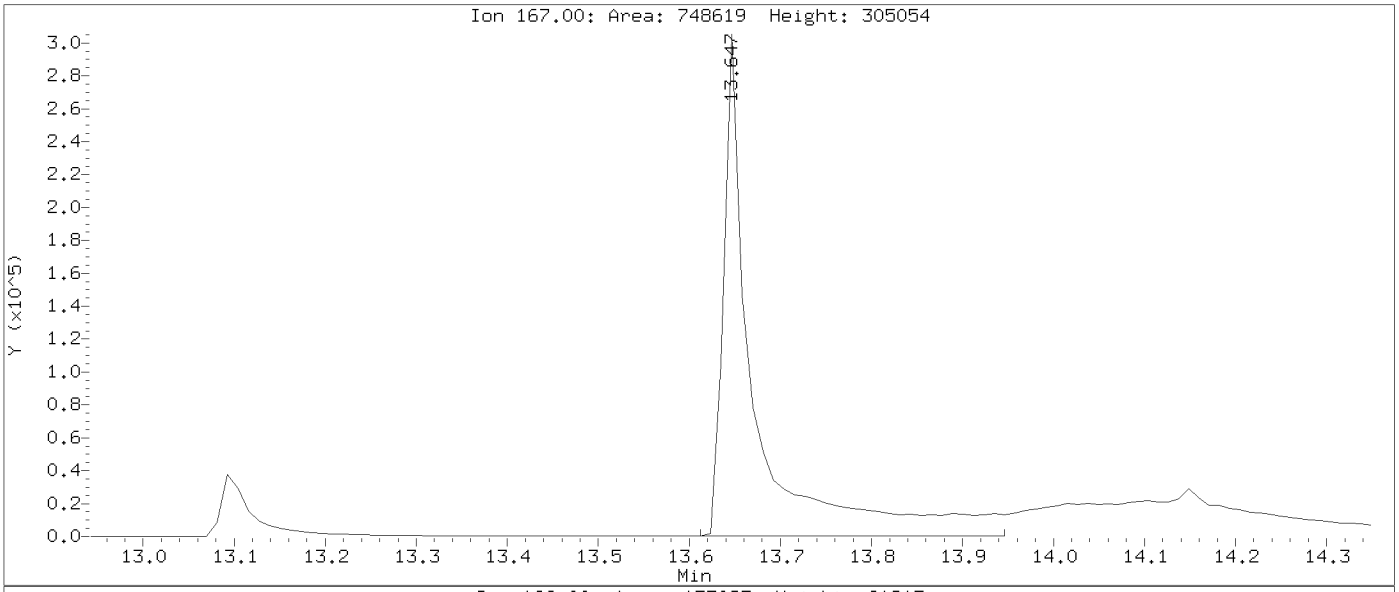


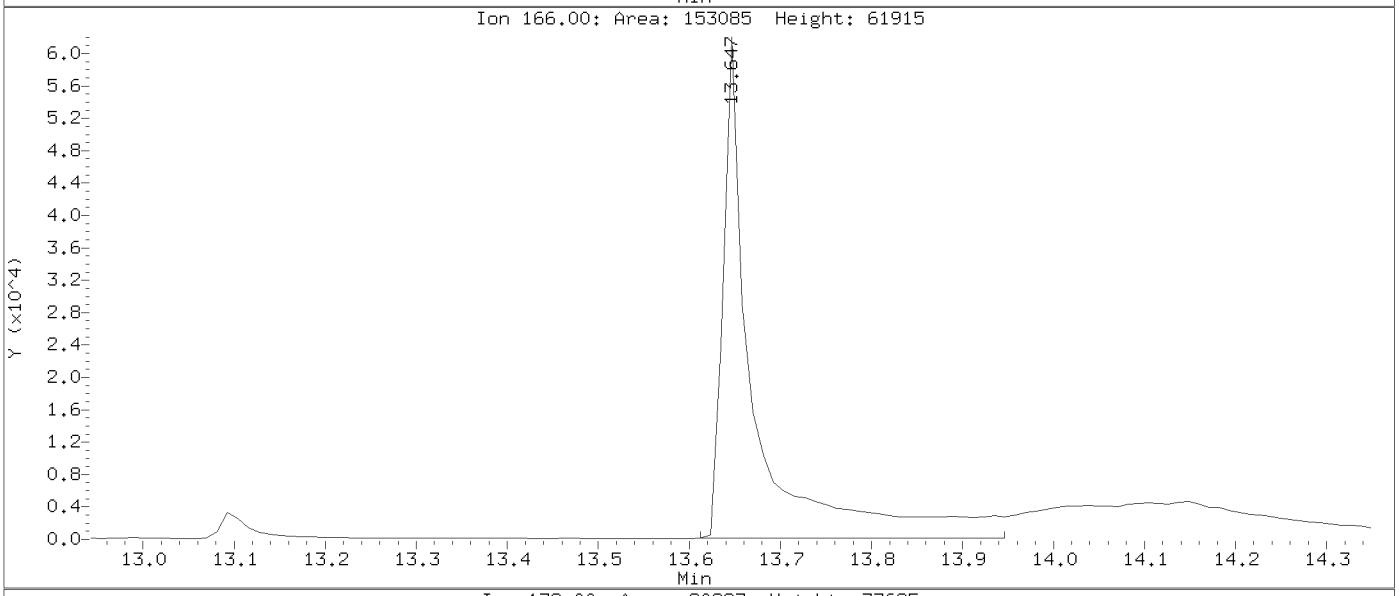


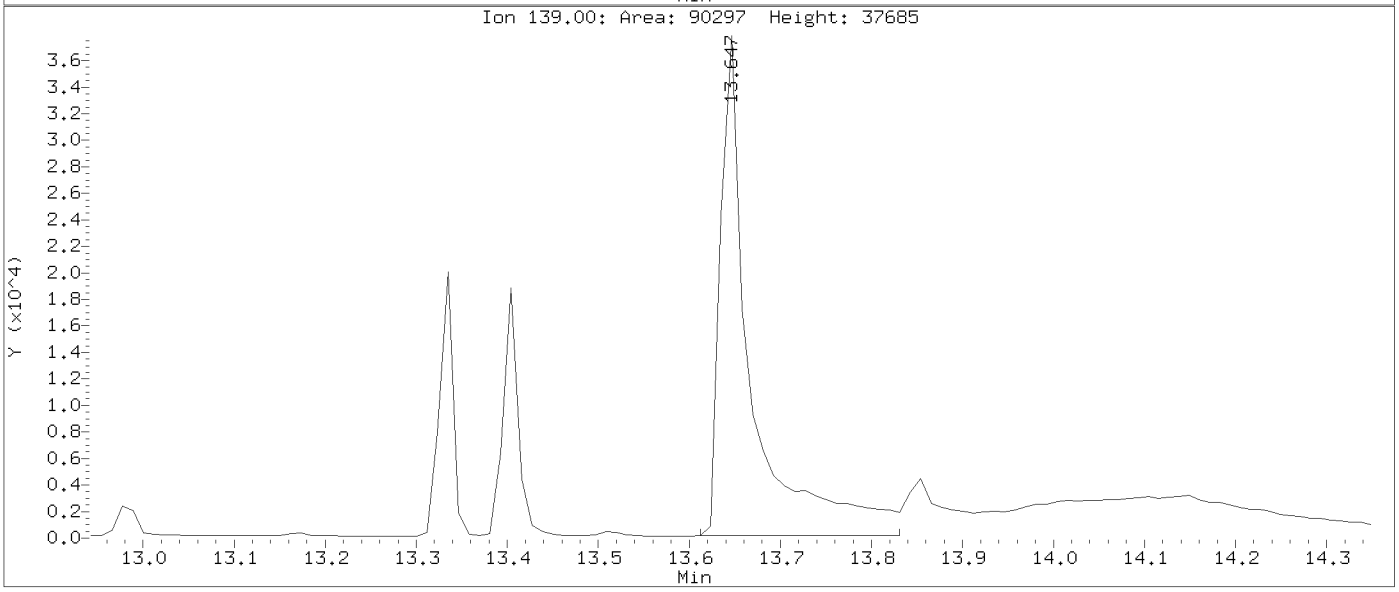
Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1374.D
Injection Date: 13-JAN-2021 16:00
Instrument: gcms-n.i
Client Sample ID:

Compound: Carbazole
CAS Number: 86-74-8

BEFORE MANUAL INTEGRATION



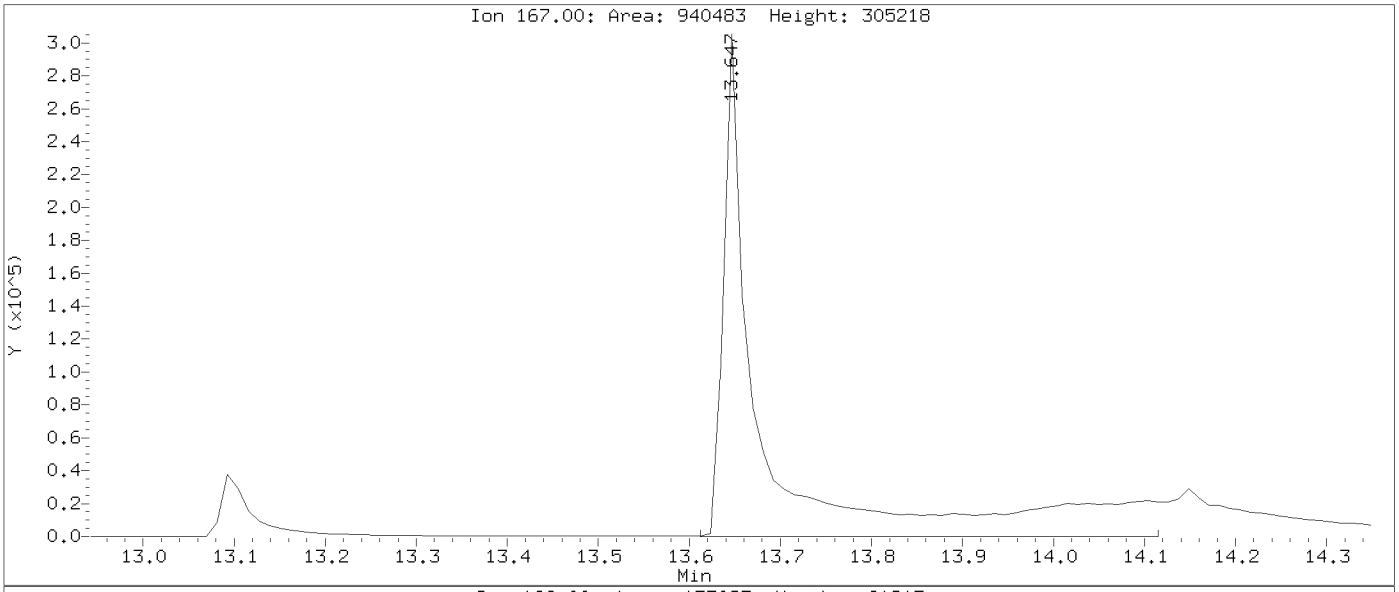


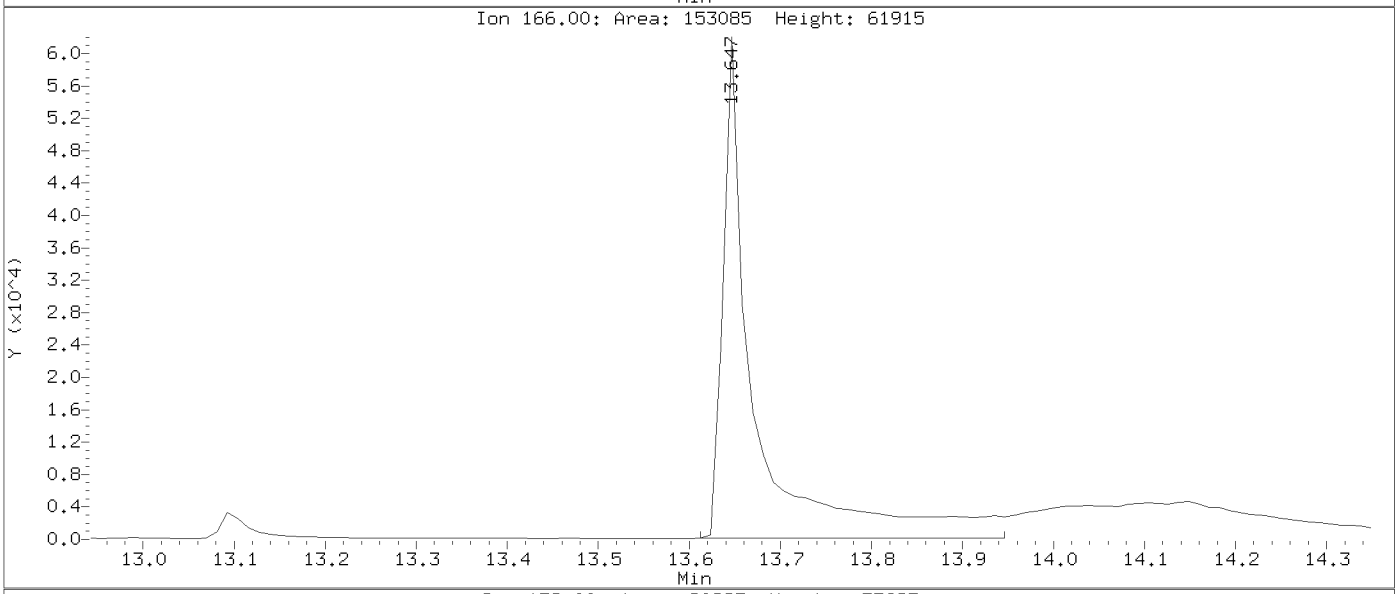


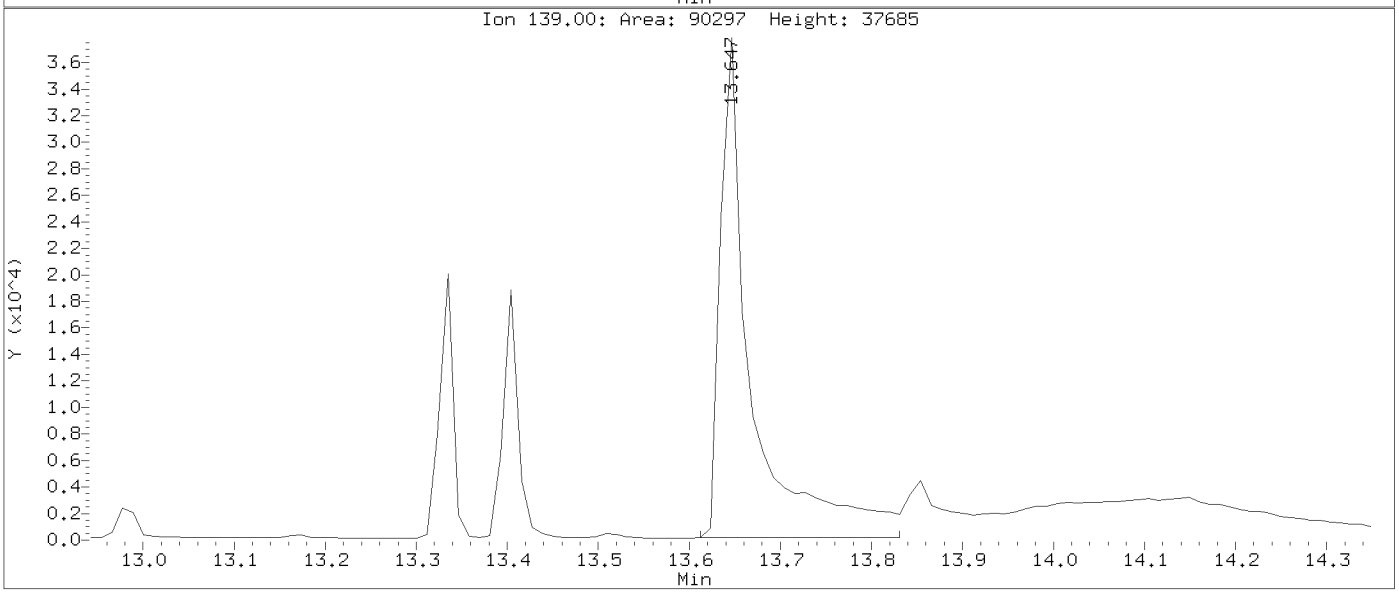
Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1374.D
Injection Date: 13-JAN-2021 16:00
Instrument: gcms-n.i
Client Sample ID:

Compound: Carbazole
CAS Number: 86-74-8

AFTER MANUAL INTEGRATION



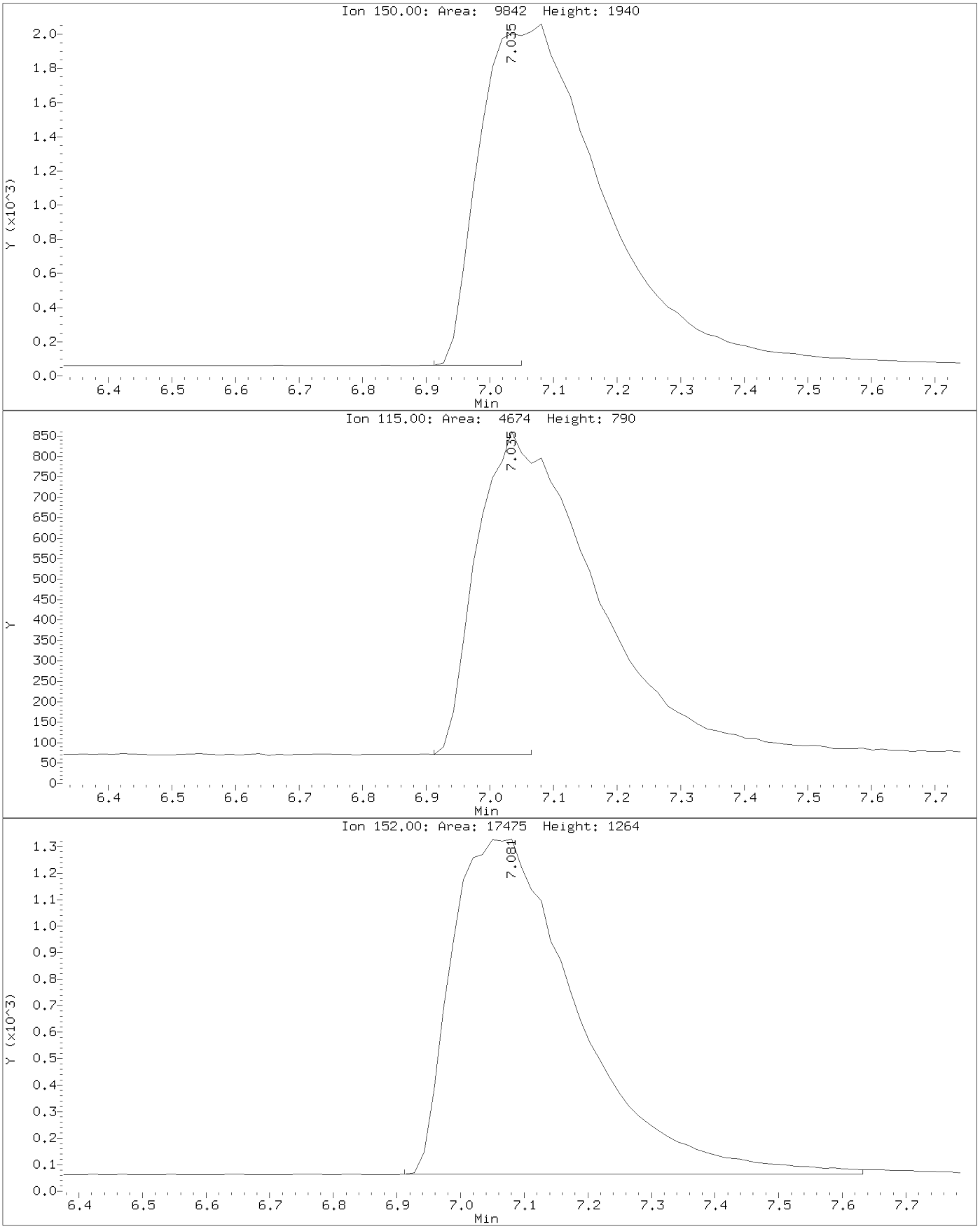




Data File: \\target_server\gg\chem\gcms-g.i\G011121.b\G3175.D
Injection Date: 11-JAN-2021 16:15
Instrument: gcms-g.i
Client Sample ID:

Compound: 1,4-Dichlorobenzene-d4
CAS Number: 3855-82-1

BEFORE MANUAL INTEGRATION



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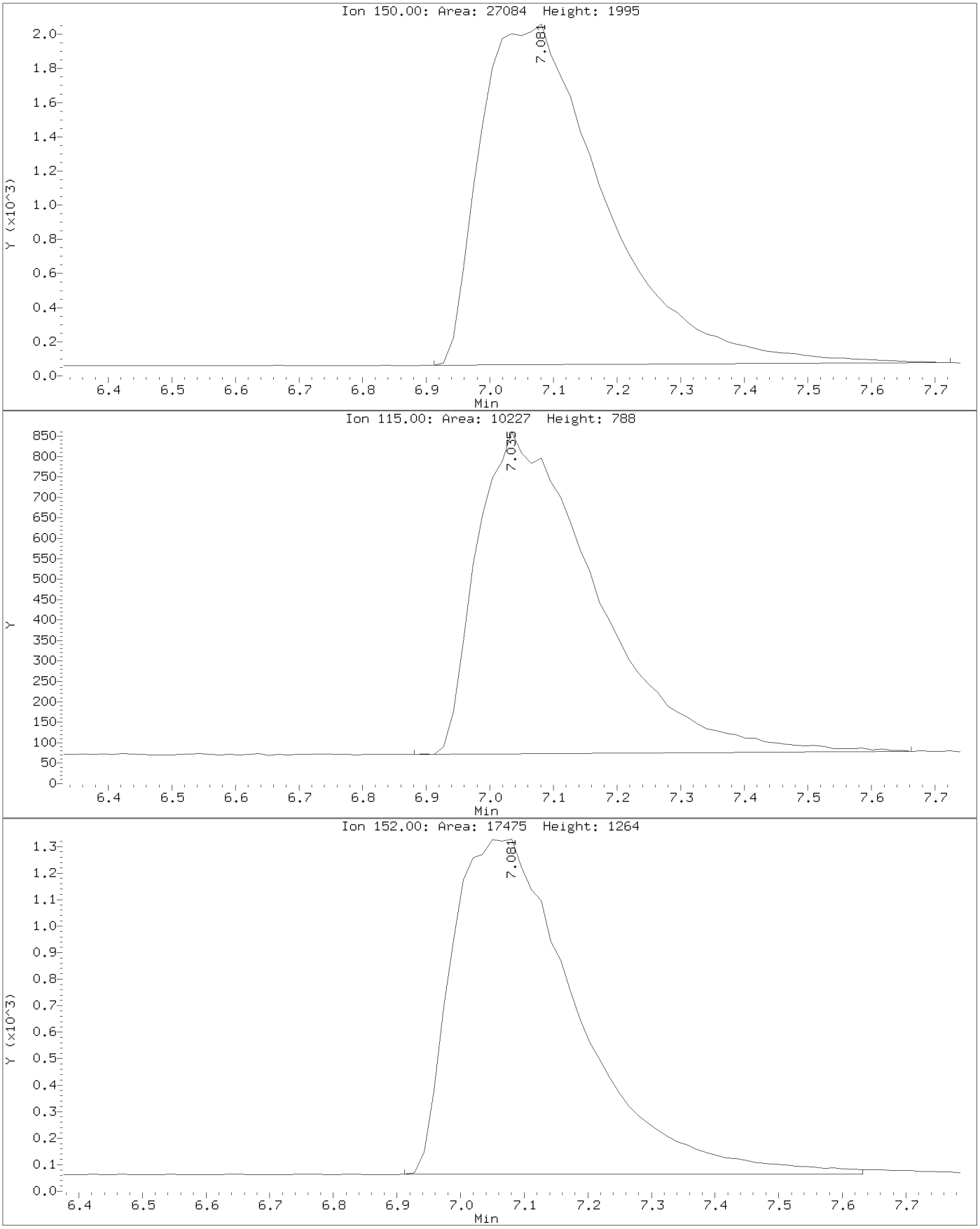
Injection Date: 11-JAN-2021 16:15
Instrument: gcms-g.i
Client Sample ID:

Compound: 1,4-Dichlorobenzene-d4
CAS Number: 3855-82-1

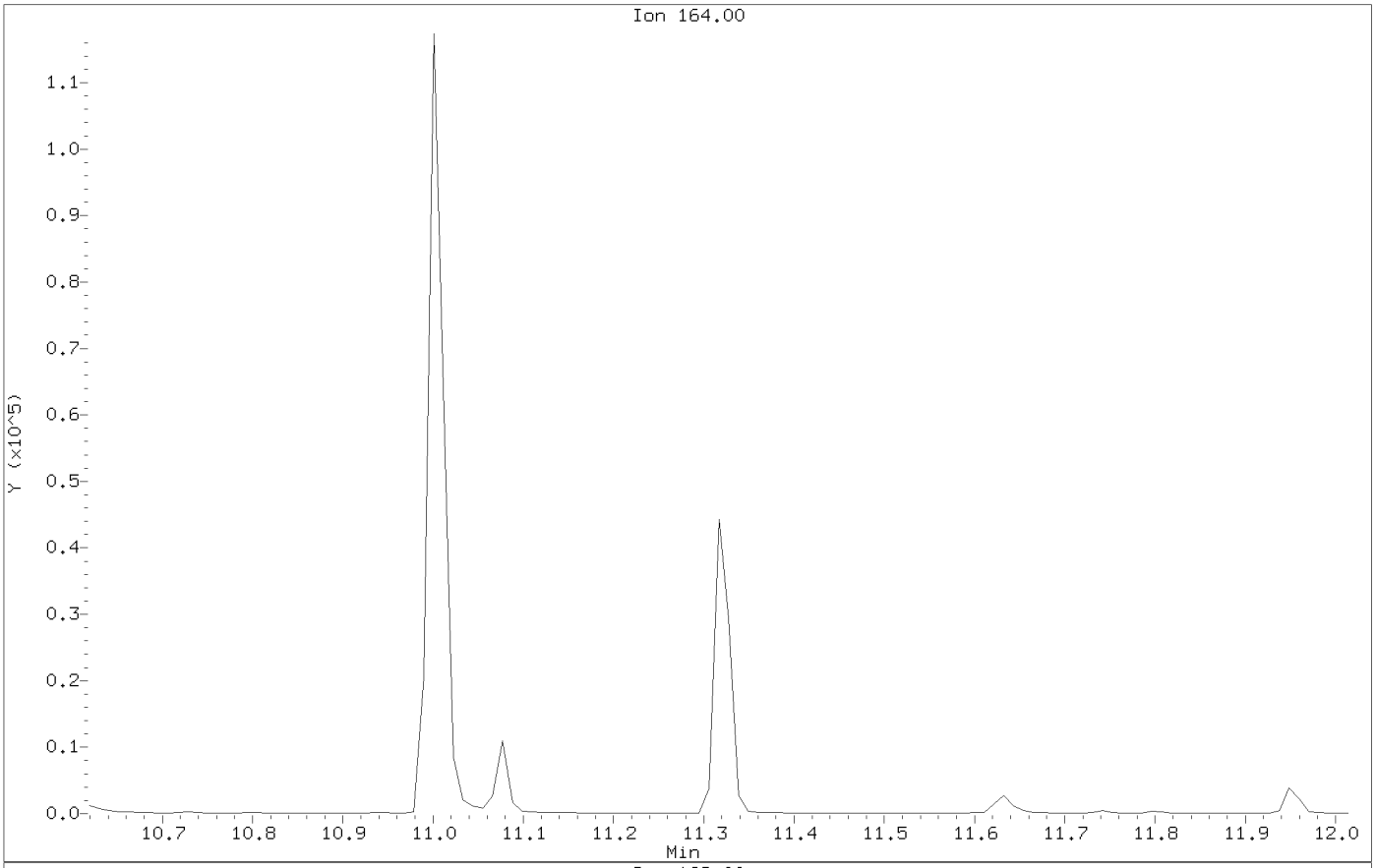
AFTER MANUAL INTEGRATION

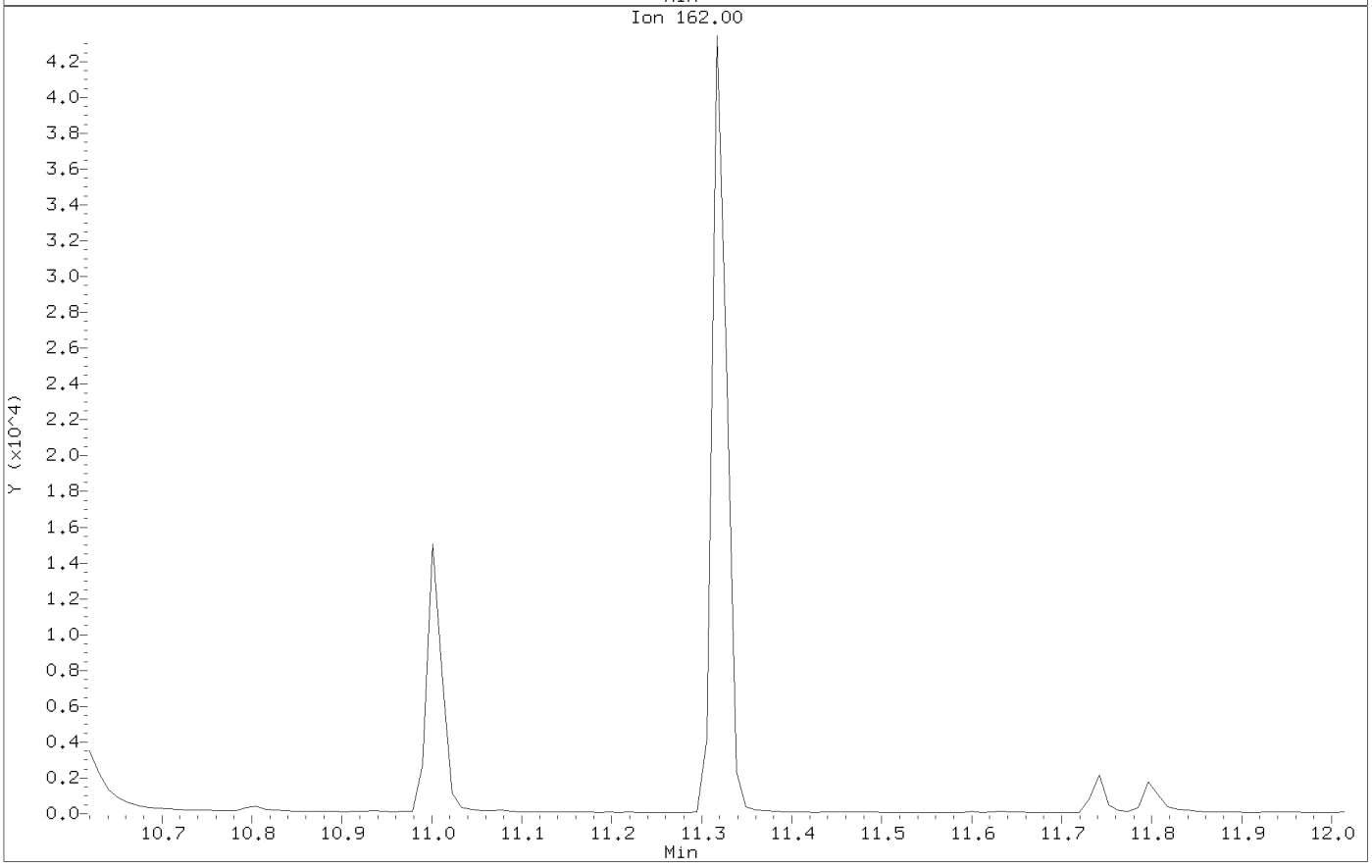


Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1374.D
Injection Date: 13-JAN-2021 16:00
Instrument: gcms-n.i
Client Sample ID:

Compound: Acenaphthene-D10
CAS Number: 15067-26-2

BEFORE MANUAL INTEGRATION

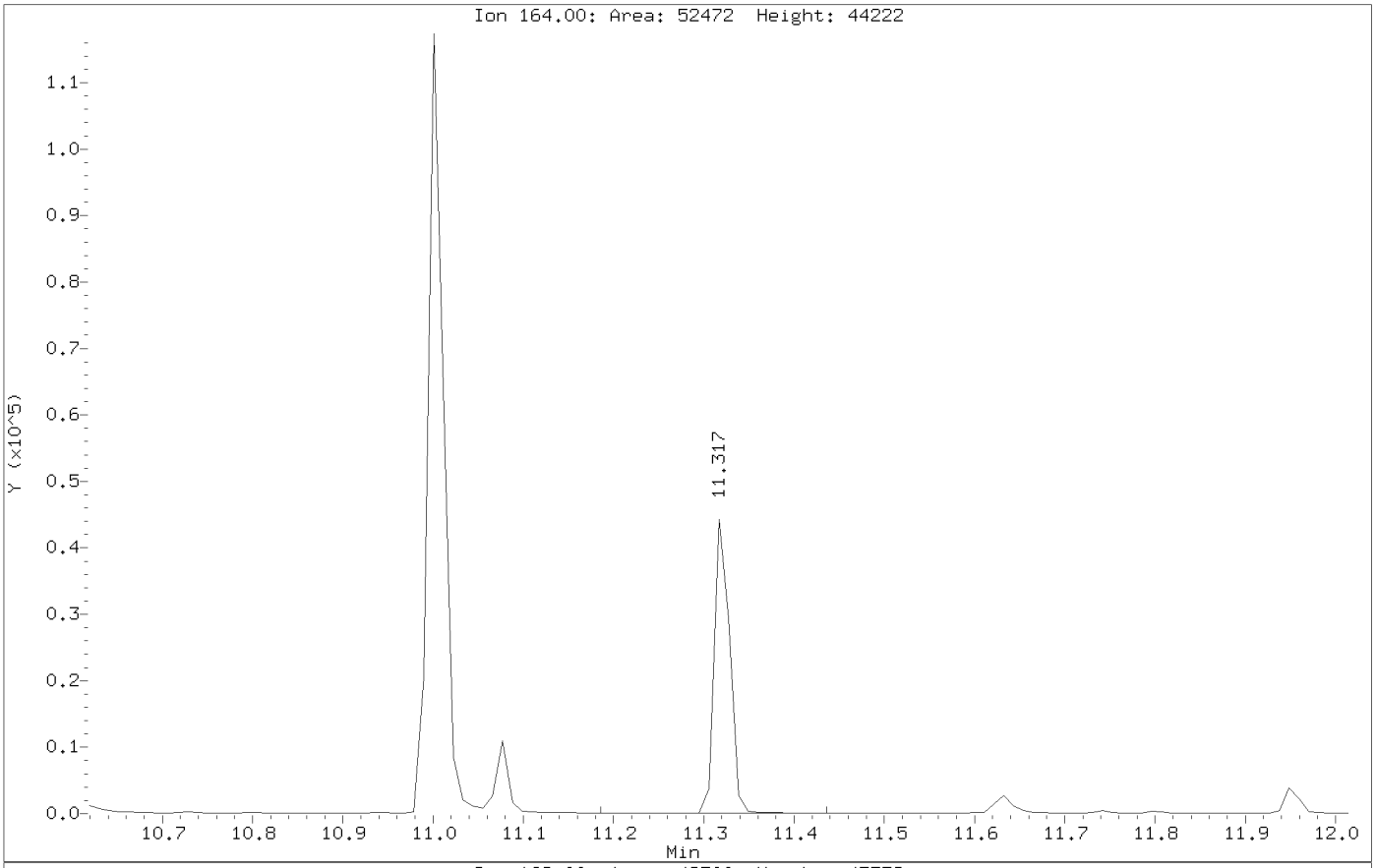


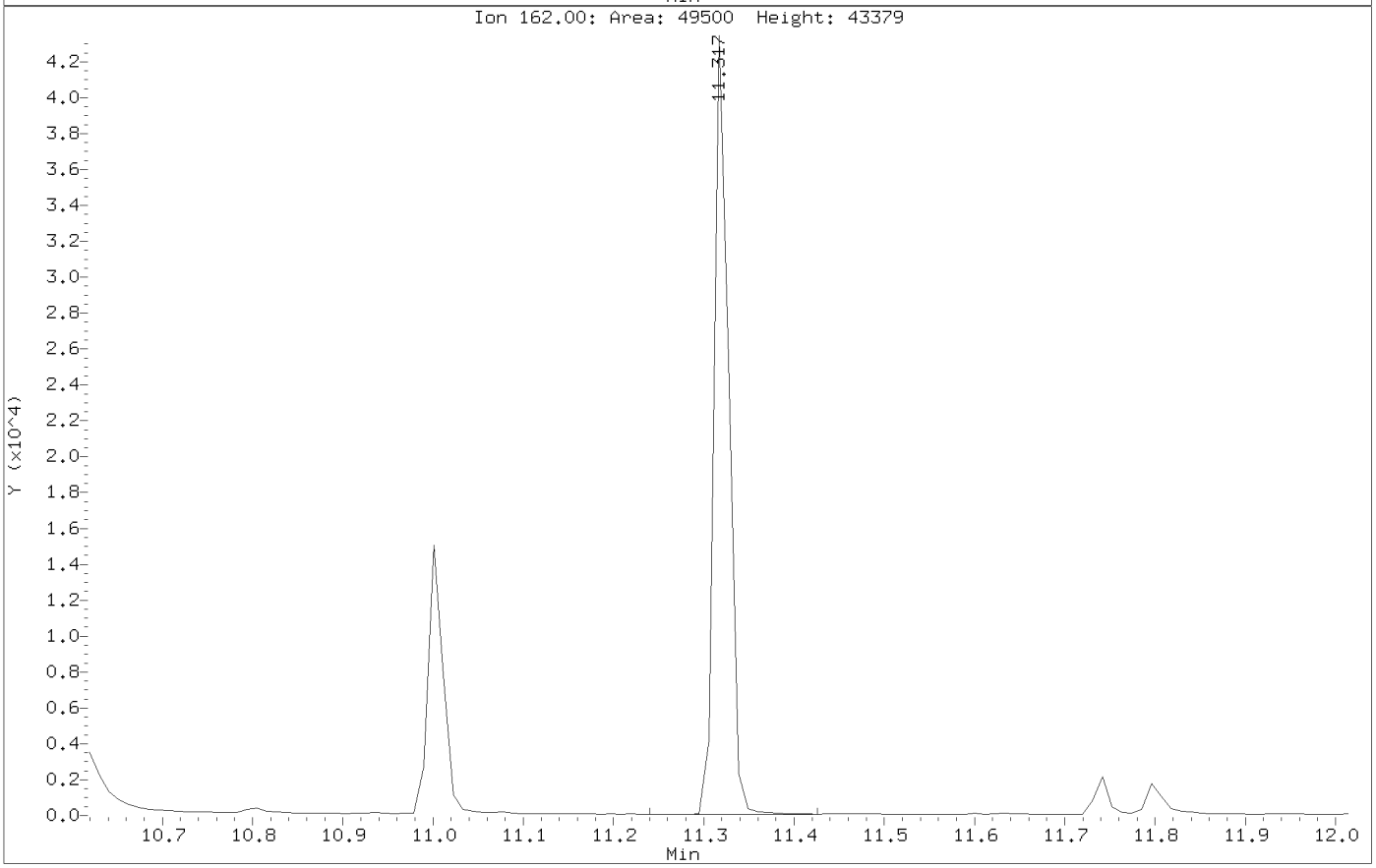


Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1374.D
Injection Date: 13-JAN-2021 16:00
Instrument: gcms-n.i
Client Sample ID:

Compound: Acenaphthene-D10
CAS Number: 15067-26-2

AFTER MANUAL INTEGRATION





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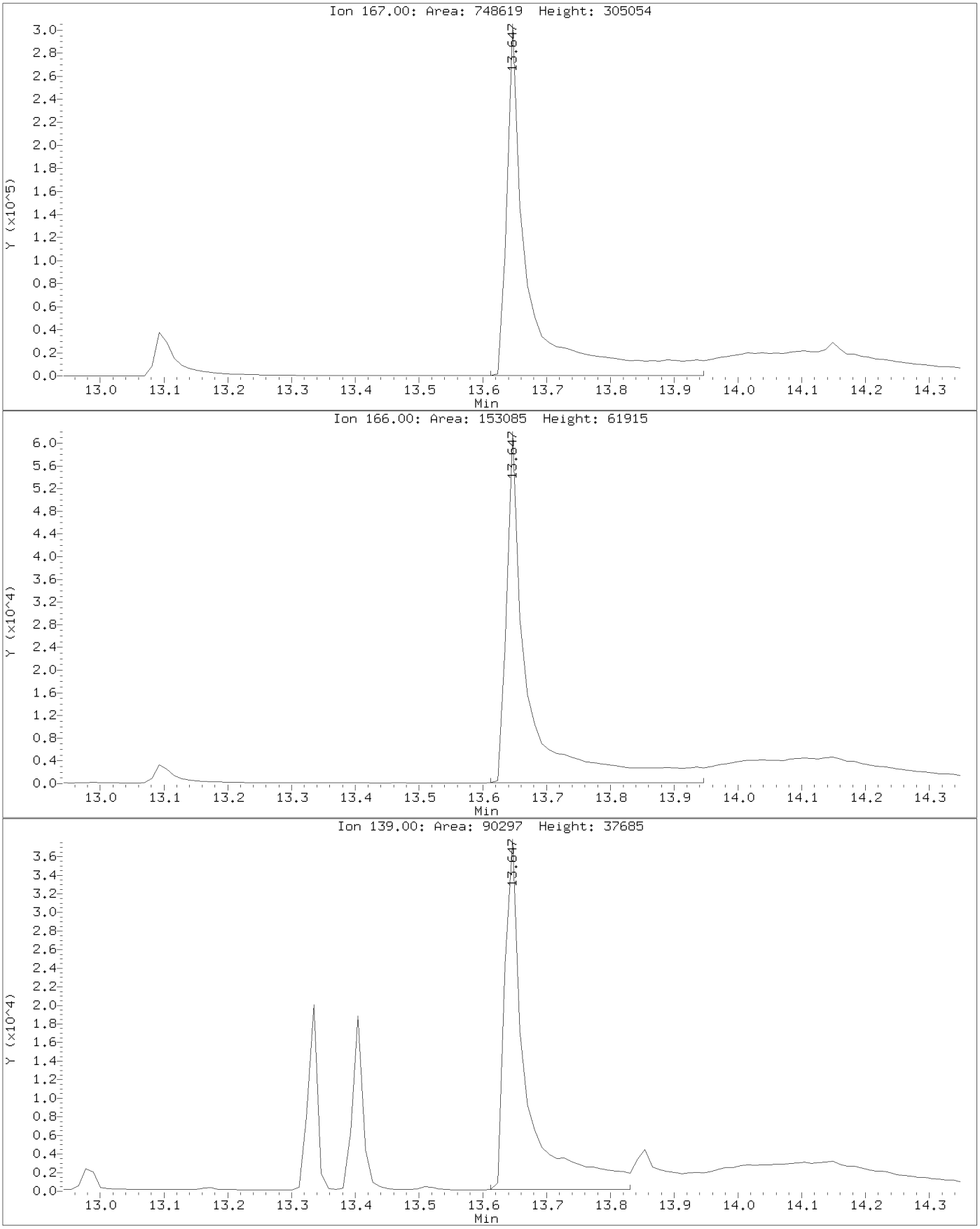
Injection Date: 13-JAN-2021 16:00
Instrument: gcms-n.i
Client Sample ID:

Compound: Carbazole
CAS Number: 86-74-8

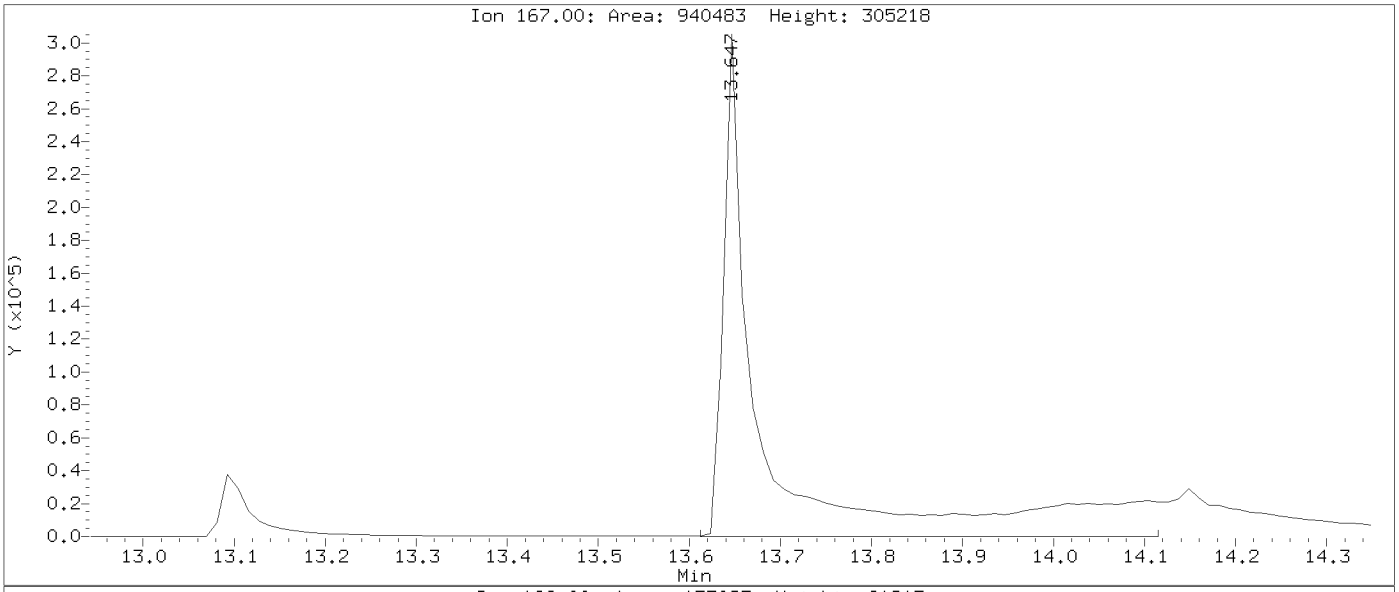
BEFORE MANUAL INTEGRATION

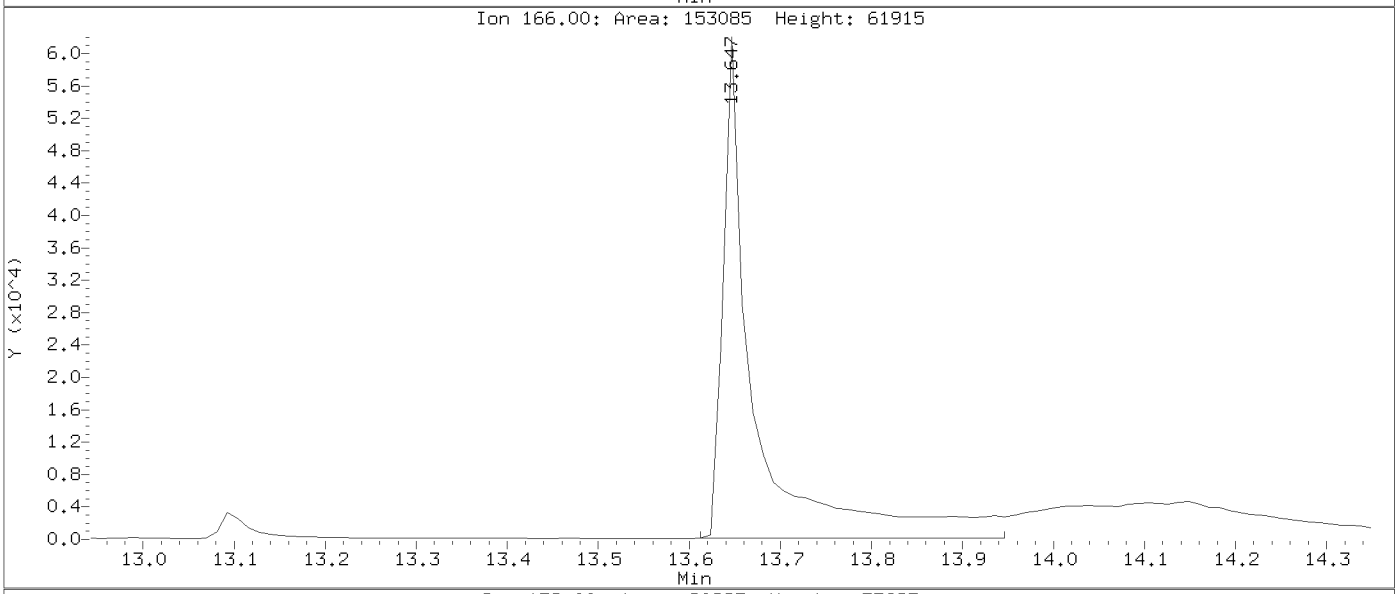


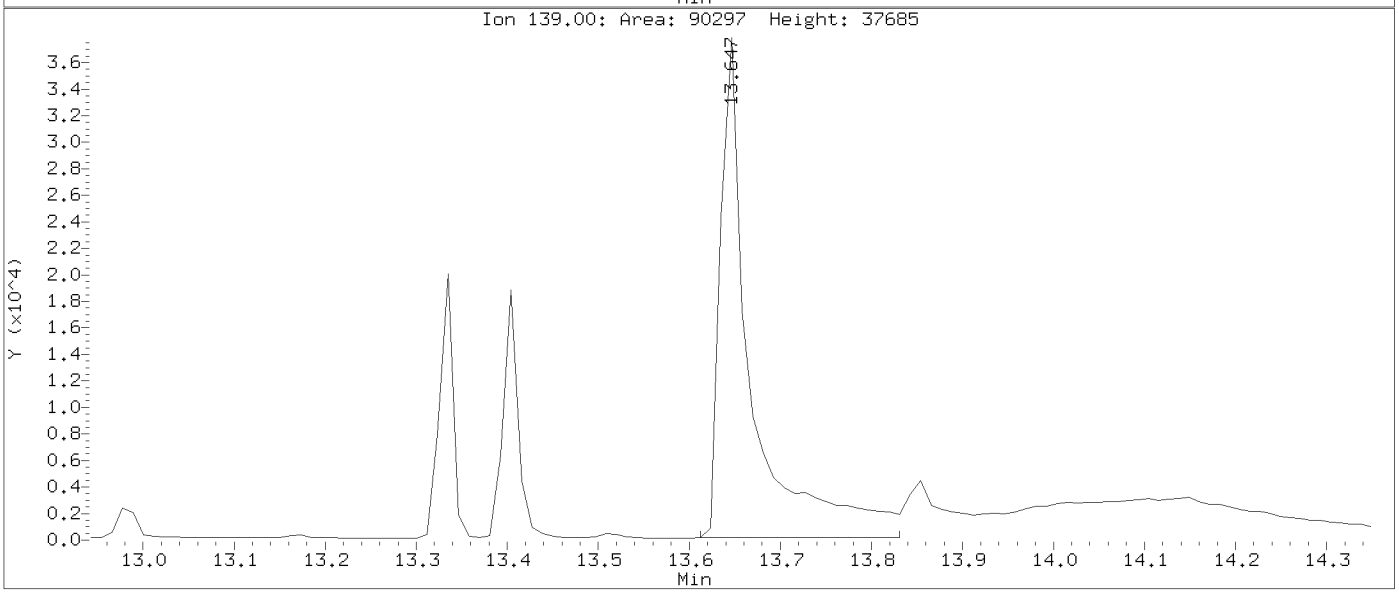
Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1374.D
Injection Date: 13-JAN-2021 16:00
Instrument: gcms-n.i
Client Sample ID:

Compound: Carbazole
CAS Number: 86-74-8

AFTER MANUAL INTEGRATION

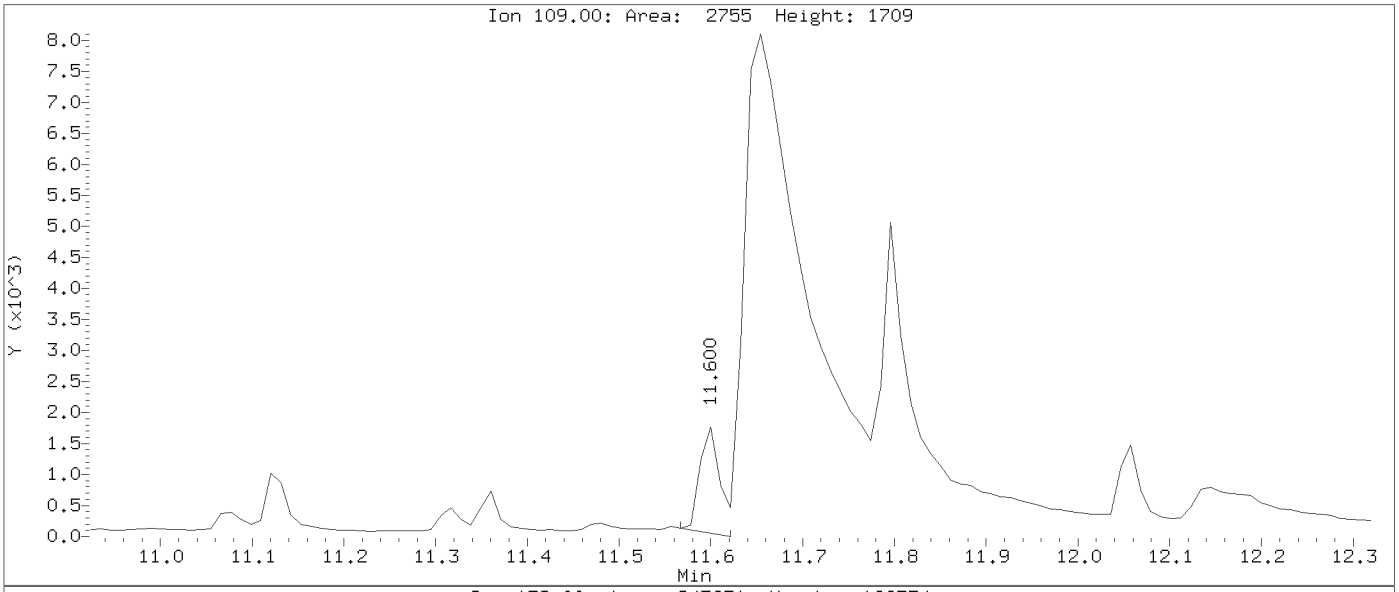


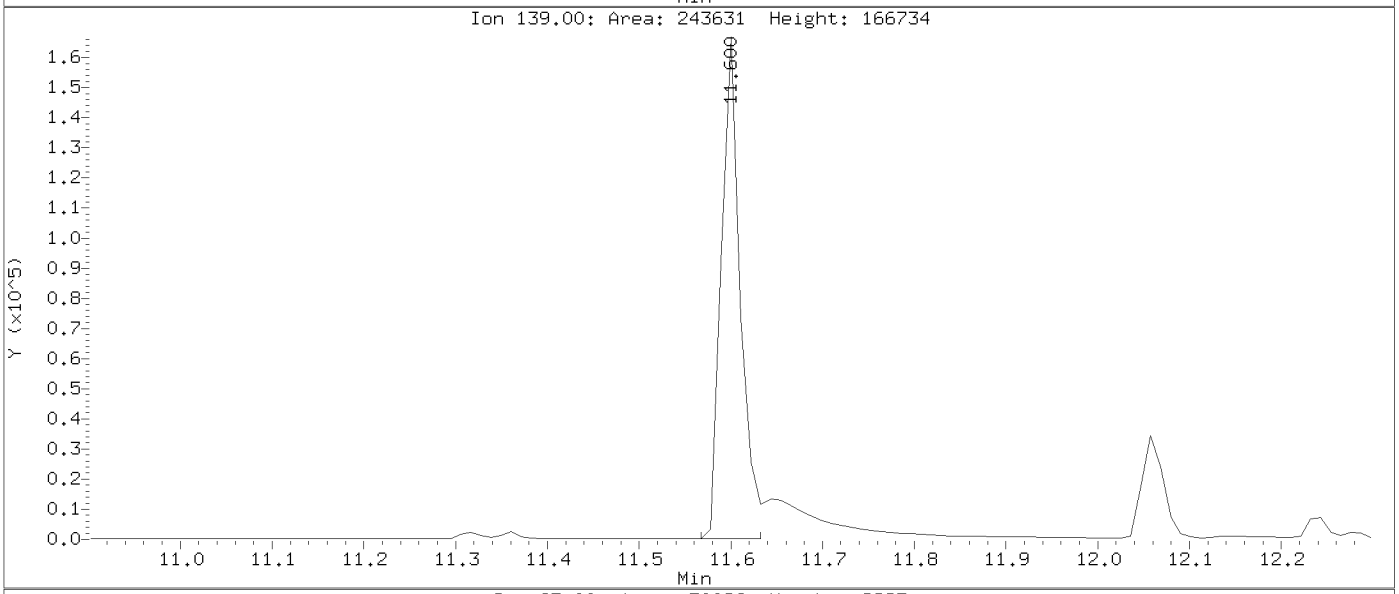


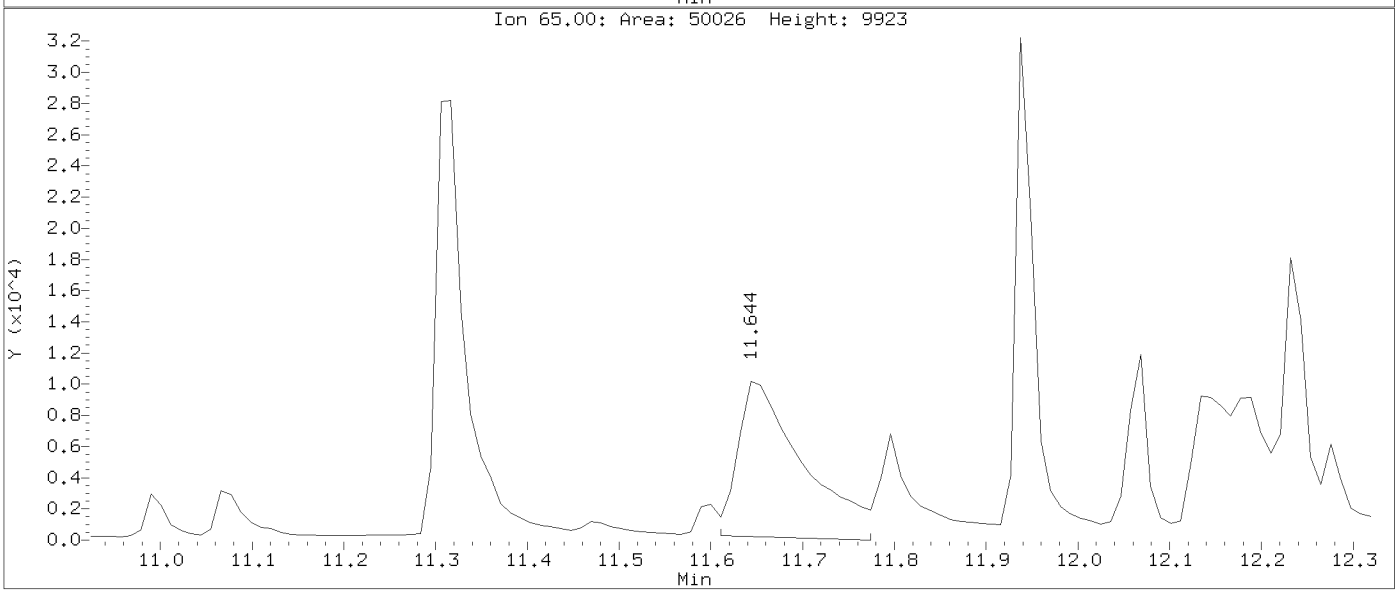


Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1375.D
Injection Date: 13-JAN-2021 16:32
Instrument: gcms-n.i
Client Sample ID:

Compound: 4-Nitrophenol
CAS Number: 100-02-7

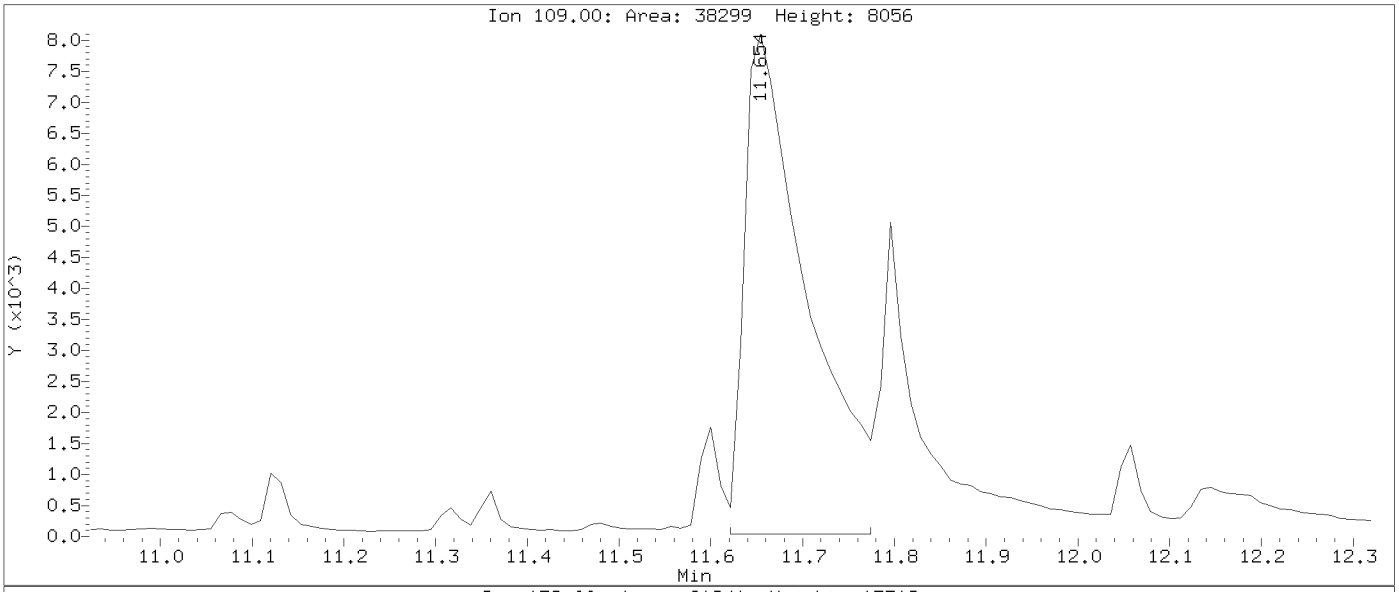


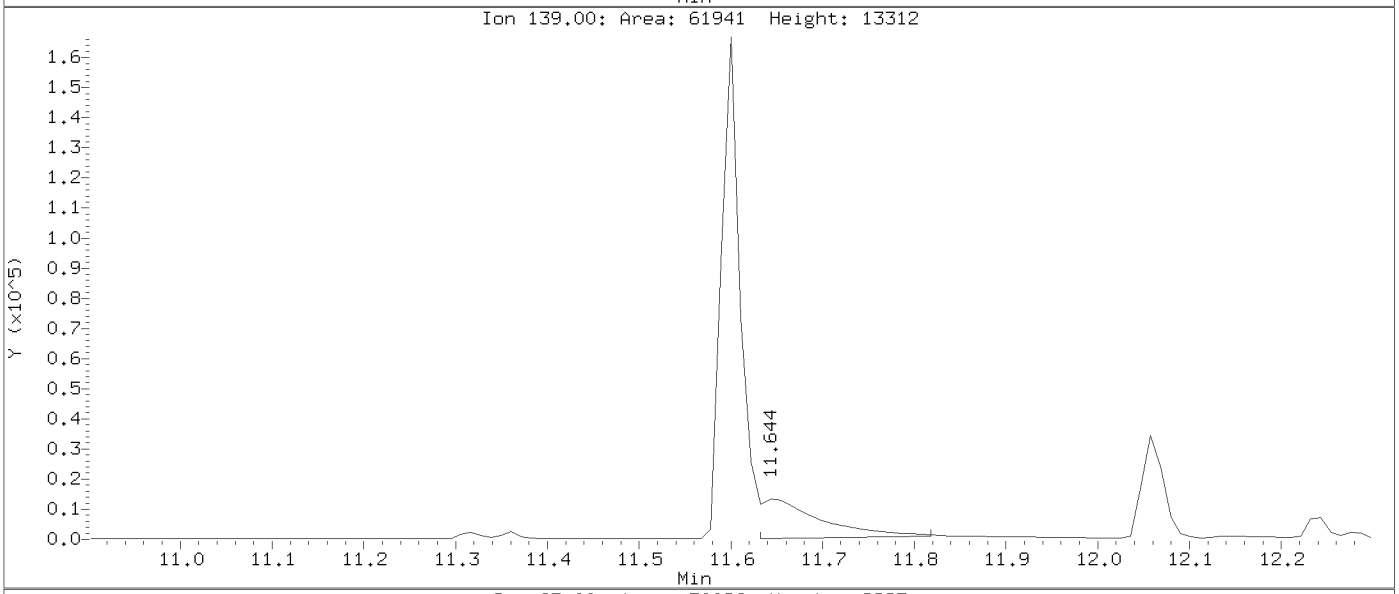


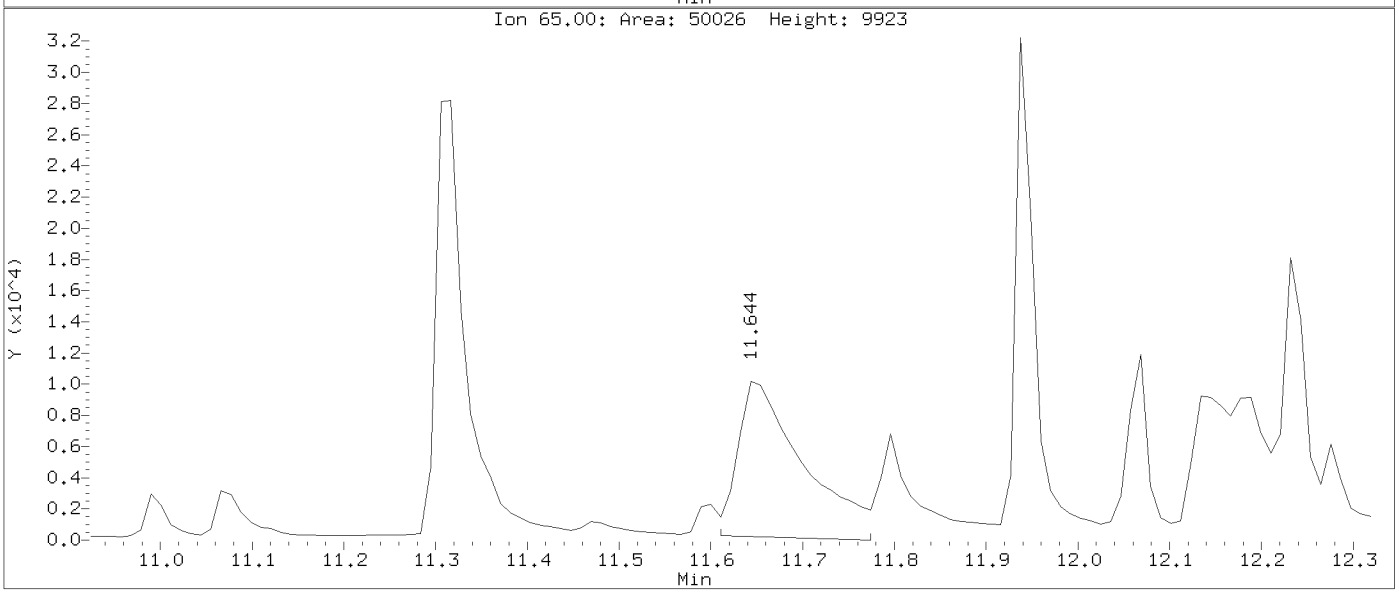


Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1375.D
Injection Date: 13-JAN-2021 16:32
Instrument: gcms-n.i
Client Sample ID:

Compound: 4-Nitrophenol
CAS Number: 100-02-7







Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG293131-2
Analytical Date: 01/08/21 10:02
Lab File ID : N1284.D
Instrument ID: GCMS-N
Initial Calibration Date(s): 01/06/21 13:20 01/06/21 16:03
Column ID:

Compound	RRF/Amount	RF2	CCAL RRF2	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
28 Naphthalene	0.96824	0.96118	0.96118	0.010	-0.72984	20.00000	Averaged	
34 2-Methylnaphthalene	2.00000	2.66714	0.69966	0.010	33.35706	20.00000	Quadratic	*
35 1-Methylnaphthalene	2.00000	2.63026	0.63064	0.010	31.51309	20.00000	Quadratic	*
46 Acenaphthylene	1.74467	1.74855	1.74855	0.010	0.22215	20.00000	Averaged	
49 Acenaphthene	1.11428	1.12377	1.12377	0.010	0.85142	20.00000	Averaged	
57 Fluorene	1.14039	1.15772	1.15772	0.010	1.51944	20.00000	Averaged	
67 Phenanthrene	0.98531	0.99122	0.99122	0.010	0.59960	20.00000	Averaged	
68 Anthracene	1.06922	1.00895	1.00895	0.010	-5.63675	20.00000	Averaged	
71 Fluoranthene	0.91153	0.86092	0.86092	0.010	-5.55149	20.00000	Averaged	
73 Pyrene	2.09840	2.10553	2.10553	0.010	0.33975	20.00000	Averaged	
76 Benzo(a)anthracene	1.15900	1.15812	1.15812	0.010	-0.07599	20.00000	Averaged	
78 Chrysene	2.00000	2.08721	1.26271	0.010	4.36053	20.00000	Linear	
81 Benzo(b)fluoranthene	1.24536	1.27189	1.27189	0.010	2.13063	20.00000	Averaged	
82 Benzo(k)fluoranthene	1.32345	1.30835	1.30835	0.010	-1.14056	20.00000	Averaged	
83 Benzo(a)pyrene	0.97325	0.93524	0.93524	0.010	-3.90574	20.00000	Averaged	
85 Indeno(1,2,3-cd)pyrene	0.60709	0.62366	0.62366	0.010	2.73005	20.00000	Averaged	
86 Dibenzo(a,h)anthracene	0.75604	0.64923	0.64923	0.010	-14.12735	20.00000	Averaged	
87 Benzo(g,h,i)perylene	0.90993	0.80020	0.80020	0.010	-12.05920	20.00000	Averaged	
33 2-Methylnaphthalene-D10	0.48536	0.53032	0.53032	0.010	9.26308	20.00000	Averaged	
56 Fluorene-D10	0.85499	0.84243	0.84243	0.010	-1.46917	20.00000	Averaged	
72 Pyrene-D10	1.37408	1.38327	1.38327	0.010	0.66831	20.00000	Averaged	

*** = Compound out of QC criteria**

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1284.D
Report Date: 15-Jan-2021 15:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1284.D
Lab Smp Id: WG293131-2
Inj Date : 08-JAN-2021 10:02
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293131-2,TN0377
Misc Info : WG293131,WG293131,WG292998-4,TN0377-2
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: KATHADIN-50E985

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

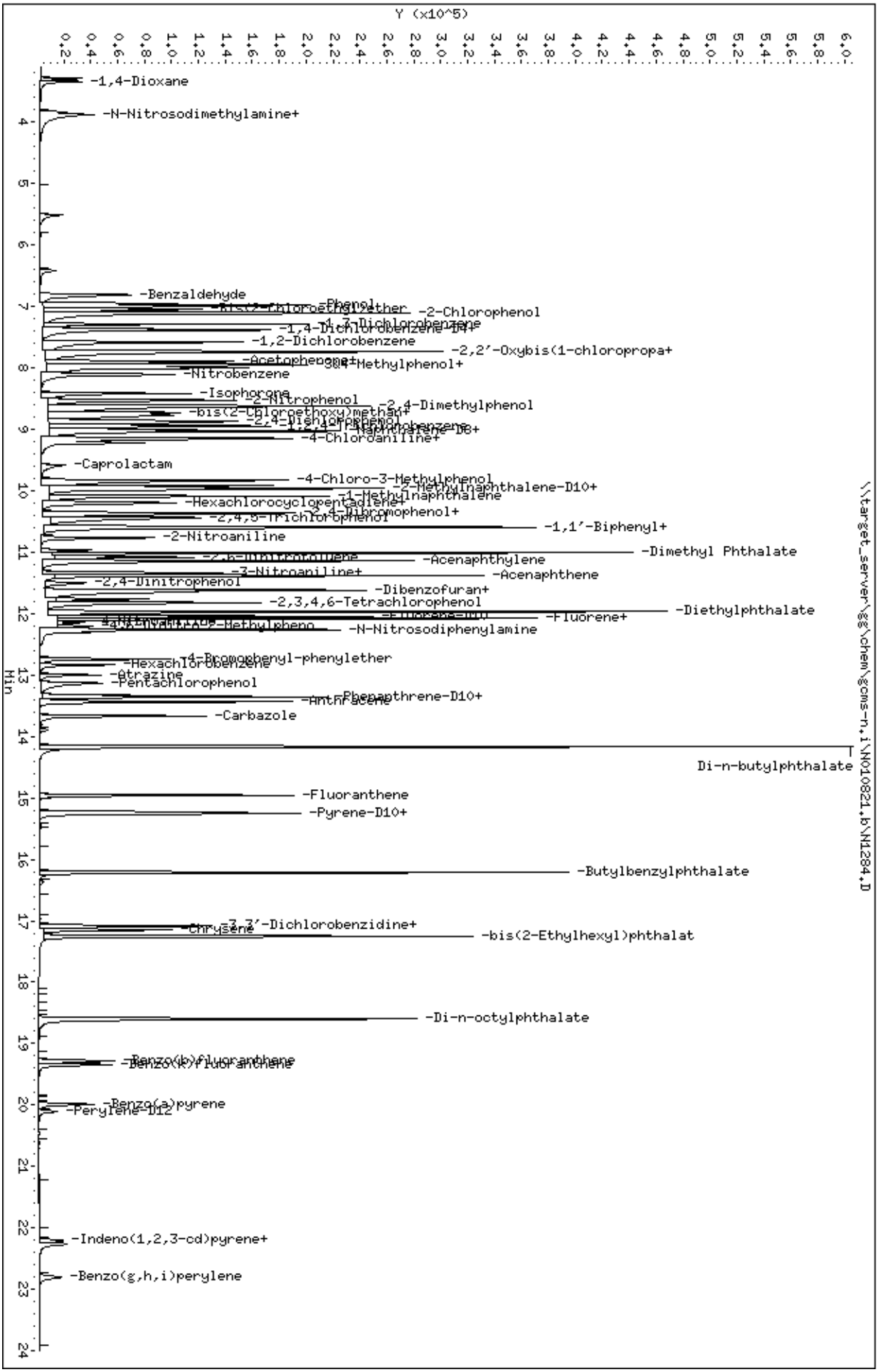
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.355	7.374	(1.000)	37123	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	9.012	(1.000)	109543	0.80000	(a)	
28 Naphthalene	128	9.033	9.044	(1.004)	263225	2.00000	1.98	
$ 33 2-Methylnaphthalene-D10	152	9.920	9.919	(1.102)	145233	2.00000	2.18	
34 2-Methylnaphthalene	142	9.959	9.969	(1.106)	191607	2.00000	2.67	
35 1-Methylnaphthalene	142	10.087	10.097	(1.121)	172705	2.00000	2.63	
46 Acenaphthylene	152	11.142	11.153	(0.983)	267401	2.00000	2.00	
* 48 Acenaphthene-D10	164	11.338	11.349	(1.000)	61171	0.80000	(a)	
49 Acenaphthene	153	11.382	11.393	(1.004)	171855	2.00000	2.02	
$ 56 Fluorene-D10	174	12.036	12.057	(1.062)	128831	2.00000	1.97	
57 Fluorene	166	12.079	12.090	(1.065)	177047	2.00000	2.03	
* 66 Phenanthrene-D10	188	13.323	13.335	(1.000)	85235	0.80000	(a)	
67 Phenanthrene	178	13.358	13.369	(1.003)	211217	2.00000	2.01	
68 Anthracene	178	13.427	13.438	(1.008)	214994	2.00000	1.89	
71 Fluoranthene	202	14.959	14.970	(1.123)	183452	2.00000	1.89	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	123159	2.00000	2.01	
73 Pyrene	202	15.259	15.270	(0.892)	187466	2.00000	2.01	
76 Benzo(a)anthracene	228	17.080	17.113	(0.999)	103113	2.00000	2.00	
* 77 Chrysene-D12	240	17.102	17.124	(1.000)	35614	0.80000	(a)	
78 Chrysene	228	17.146	17.179	(1.003)	112425	2.00000	2.09	

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1284.D
Report Date: 15-Jan-2021 15:59

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.327	(0.959)	82886	2.00000	2.04	
82 Benzo(k)fluoranthene	252	19.338	19.383	(0.961)	85262	2.00000	1.98(H)	
83 Benzo(a)pyrene	252	19.989	20.023	(0.994)	60947	2.00000	1.92	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	26067	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.212	22.257	(1.299)	55528	2.00000	2.05	
86 Dibenzo(a,h)anthracene	278	22.269	22.313	(1.107)	42309	2.00000	1.72	
87 Benzo(g,h,i)perylene	276	22.796	22.852	(1.133)	52147	2.00000	1.76	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1284,D
Date : 08-JAN-2021 10:02
Client ID:
Sample Info: WG293131-2,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010821,b\N1284,D
Y (x10^5)
Min
-1,4-Dioxane
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-2-Chlorophenol
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-2-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)method+
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-4-Chloroaniline+
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4,6-Tribromophenol+
-2,4,5-Trichlorophenol
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene
-Acenaphthylene
-3-Nitroaniline+
-Acenaphthene
-2,4-Dinitrophenol
-Dibenzofuran+
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-Fluorene-D10
-Fluorene+
-4,6-Dinitro-2-Methylpheno
-N-Nitrosodiphenylamine
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG293131-3
Analytical Date: 01/08/21 21:34
Lab File ID : N1304.D
Instrument ID: GCMS-N
Initial Calibration Date(s): 01/06/21 13:20 01/06/21 16:03
Column ID:

Compound	$\overline{RRF}$/Amount	RF2	CCAL RRF2	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
28 Naphthalene	0.96824	0.95139	0.95139	0.010	-1.74042	20.00000	Averaged	
34 2-Methylnaphthalene	2.00000	2.61364	0.68516	0.010	30.68178	20.00000	Quadratic	*
35 1-Methylnaphthalene	2.00000	2.67164	0.64089	0.010	33.58180	20.00000	Quadratic	*
46 Acenaphthylene	1.74467	1.72717	1.72717	0.010	-1.00320	20.00000	Averaged	
49 Acenaphthene	1.11428	1.13391	1.13391	0.010	1.76181	20.00000	Averaged	
57 Fluorene	1.14039	1.13866	1.13866	0.010	-0.15152	20.00000	Averaged	
67 Phenanthrene	0.98531	0.98210	0.98210	0.010	-0.32600	20.00000	Averaged	
68 Anthracene	1.06922	1.02119	1.02119	0.010	-4.49181	20.00000	Averaged	
71 Fluoranthene	0.91153	0.87503	0.87503	0.010	-4.00444	20.00000	Averaged	
73 Pyrene	2.09840	1.90768	1.90768	0.010	-9.08883	20.00000	Averaged	
76 Benzo(a)anthracene	1.15900	1.03305	1.03305	0.010	-10.86712	20.00000	Averaged	
78 Chrysene	2.00000	1.97164	1.19279	0.010	-1.41817	20.00000	Linear	
81 Benzo(b)fluoranthene	1.24536	1.23253	1.23253	0.010	-1.02965	20.00000	Averaged	
82 Benzo(k)fluoranthene	1.32345	1.31304	1.31304	0.010	-0.78650	20.00000	Averaged	
83 Benzo(a)pyrene	0.97325	0.93083	0.93083	0.010	-4.35815	20.00000	Averaged	
85 Indeno(1,2,3-cd)pyrene	0.60709	0.57522	0.57522	0.010	-5.25009	20.00000	Averaged	
86 Dibenzo(a,h)anthracene	0.75604	0.67502	0.67502	0.010	-10.71711	20.00000	Averaged	
87 Benzo(g,h,i)perylene	0.90993	0.81701	0.81701	0.010	-10.21196	20.00000	Averaged	
33 2-Methylnaphthalene-D10	0.48536	0.51943	0.51943	0.010	7.01844	20.00000	Averaged	
56 Fluorene-D10	0.85499	0.82684	0.82684	0.010	-3.29282	20.00000	Averaged	
72 Pyrene-D10	1.37408	1.27354	1.27354	0.010	-7.31678	20.00000	Averaged	

*** = Compound out of QC criteria**

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http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1304.D
Report Date: 15-Jan-2021 16:00

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1304.D
Lab Smp Id: WG293131-3
Inj Date : 08-JAN-2021 21:34
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293131-3,TN0377
Misc Info : WG293131,WG293131,WG292998-4,TN0377-2
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

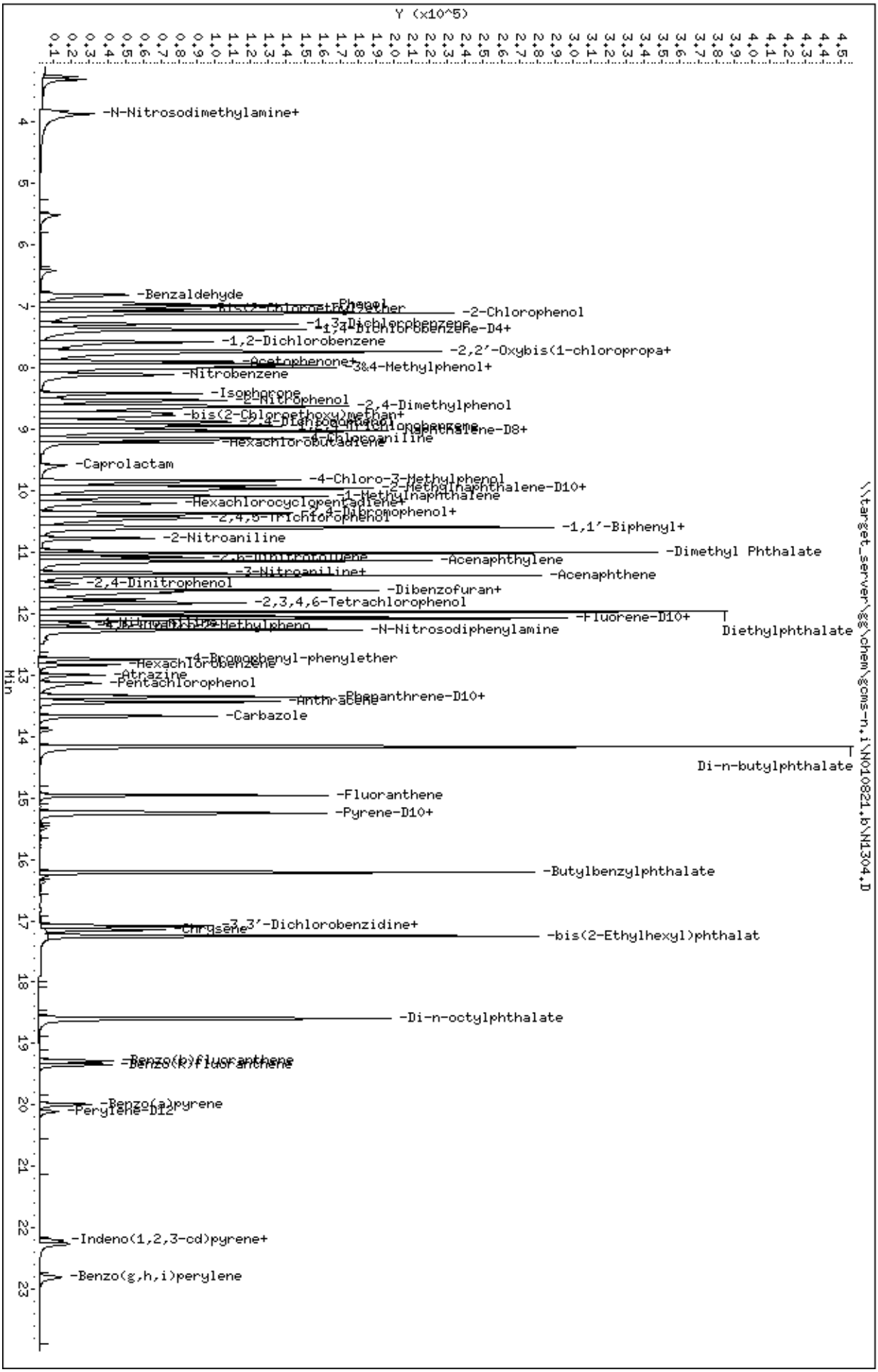
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.374	(1.000)	31972	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	9.012	(1.000)	93800	0.80000	(a)	
28 Naphthalene	128	9.023	9.044	(1.002)	223101	2.00000	1.96	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.102)	121806	2.00000	2.14	
34 2-Methylnaphthalene	142	9.959	9.969	(1.106)	160669	2.00000	2.61	
35 1-Methylnaphthalene	142	10.087	10.097	(1.121)	150288	2.00000	2.67	
46 Acenaphthylene	152	11.142	11.153	(0.983)	222848	2.00000	1.98	
* 48 Acenaphthene-D10	164	11.338	11.349	(1.000)	51610	0.80000	(a)	
49 Acenaphthene	153	11.371	11.393	(1.003)	146303	2.00000	2.04	
$ 56 Fluorene-D10	174	12.035	12.057	(1.062)	106683	2.00000	1.93	
57 Fluorene	166	12.079	12.090	(1.065)	146916	2.00000	2.00	
* 66 Phenanthrene-D10	188	13.323	13.335	(1.000)	70499	0.80000	(a)	
67 Phenanthrene	178	13.358	13.369	(1.003)	173093	2.00000	1.99	
68 Anthracene	178	13.427	13.438	(1.008)	179982	2.00000	1.91	
71 Fluoranthene	202	14.959	14.970	(1.123)	154221	2.00000	1.92	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	103988	2.00000	1.85	
73 Pyrene	202	15.247	15.270	(0.892)	155767	2.00000	1.82	
76 Benzo(a)anthracene	228	17.079	17.113	(0.999)	84351	2.00000	1.78	
* 77 Chrysene-D12	240	17.102	17.124	(1.000)	32661	0.80000	(a)	
78 Chrysene	228	17.146	17.179	(1.003)	97394	2.00000	1.97	

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1304.D
Report Date: 15-Jan-2021 16:00

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.327	(0.959)	65728	2.00000	1.98	
82 Benzo(k)fluoranthene	252	19.338	19.383	(0.961)	70021	2.00000	1.98(H)	
83 Benzo(a)pyrene	252	19.989	20.023	(0.994)	49639	2.00000	1.91	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	21331	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.212	22.257	(1.299)	46968	2.00000	1.89	
86 Dibenzo(a,h)anthracene	278	22.268	22.313	(1.107)	35997	2.00000	1.78	
87 Benzo(g,h,i)perylene	276	22.796	22.852	(1.133)	43569	2.00000	1.80	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1304.D
Date : 08-JAN-2021 21:34
Client ID:
Sample Info: WG293131-3,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
Y (x10^5)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan+
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-4-Chloroaniline
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4,6-Trichlorophenol
-2,4,5-Trichlorophenol
-4-Bromophenol+
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene
-Acenaphthylene
-3-Nitroaniline+
-Acenaphthene
-2,4-Dinitrophenol
-Dibenzofuran+
-2,3,4,6-Tetrachlorophenol
-Fluorene-D10+
-4-Nitrophenol
-2-Methylphenol
-N-Nitrosodiphenylamine
Diethylphthalate
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-d12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene
\\target_server\gg\chem\gcms-n,i\N010821,b\N1304.D

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG293230-9
Analytical Date: 01/11/21 22:45
Lab File ID : N1331.D
Instrument ID: GCMS-N
Initial Calibration Date(s): 01/11/21 11:09 01/11/21 13:52
Column ID:

Compound	RRF/Amount	RF2	CCAL RRF2	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
28 Naphthalene	1.13212	1.03200	1.03200	0.010	-8.84353	20.00000	Averaged	
34 2-Methylnaphthalene	0.76332	0.75912	0.75912	0.010	-0.55106	20.00000	Averaged	
35 1-Methylnaphthalene	2.00000	2.15801	0.68925	0.010	7.90027	20.00000	Linear	
46 Acenaphthylene	1.91717	1.89535	1.89535	0.010	-1.13828	20.00000	Averaged	
49 Acenaphthene	1.24262	1.22463	1.22463	0.010	-1.44715	20.00000	Averaged	
57 Fluorene	1.25593	1.25645	1.25645	0.010	0.04189	20.00000	Averaged	
67 Phenanthrene	1.09619	1.04476	1.04476	0.010	-4.69151	20.00000	Averaged	
68 Anthracene	2.00000	1.91163	1.07140	0.010	-4.41867	20.00000	Linear	
71 Fluoranthene	0.97836	1.01202	1.01202	0.010	3.44022	20.00000	Averaged	
73 Pyrene	2.00000	1.98407	2.10539	0.010	-0.79674	20.00000	Linear	
76 Benzo(a)anthracene	1.22585	1.12776	1.12776	0.010	-8.00120	20.00000	Averaged	
78 Chrysene	2.00000	2.14672	1.42599	0.010	7.33622	20.00000	Quadratic	
81 Benzo(b)fluoranthene	1.32669	1.36695	1.36695	0.010	3.03442	20.00000	Averaged	
82 Benzo(k)fluoranthene	1.75693	1.76712	1.76712	0.010	0.58047	20.00000	Averaged	
83 Benzo(a)pyrene	1.15668	1.12224	1.12224	0.010	-2.97729	20.00000	Averaged	
85 Indeno(1,2,3-cd)pyrene	0.74602	0.47562	0.47562	0.010	-36.24569	20.00000	Averaged	*
86 Dibenzo(a,h)anthracene	0.77412	0.61460	0.61460	0.010	-20.60640	20.00000	Averaged	*
87 Benzo(g,h,i)perylene	1.05292	0.84760	0.84760	0.010	-19.49977	20.00000	Averaged	
33 2-Methylnaphthalene-D10	0.55412	0.57331	0.57331	0.010	3.46248	20.00000	Averaged	
56 Fluorene-D10	0.90577	0.91481	0.91481	0.010	0.99746	20.00000	Averaged	
72 Pyrene-D10	1.52911	1.41140	1.41140	0.010	-7.69819	20.00000	Averaged	

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1331.D
Report Date: 18-Jan-2021 13:16

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1331.D
Lab Smp Id: WG293230-9
Inj Date : 11-JAN-2021 22:45
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293230-9,TN0377
Misc Info : WG293230,WG293230,WG293230-4,TN0377-7
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 13:52 Cal File: N1316.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

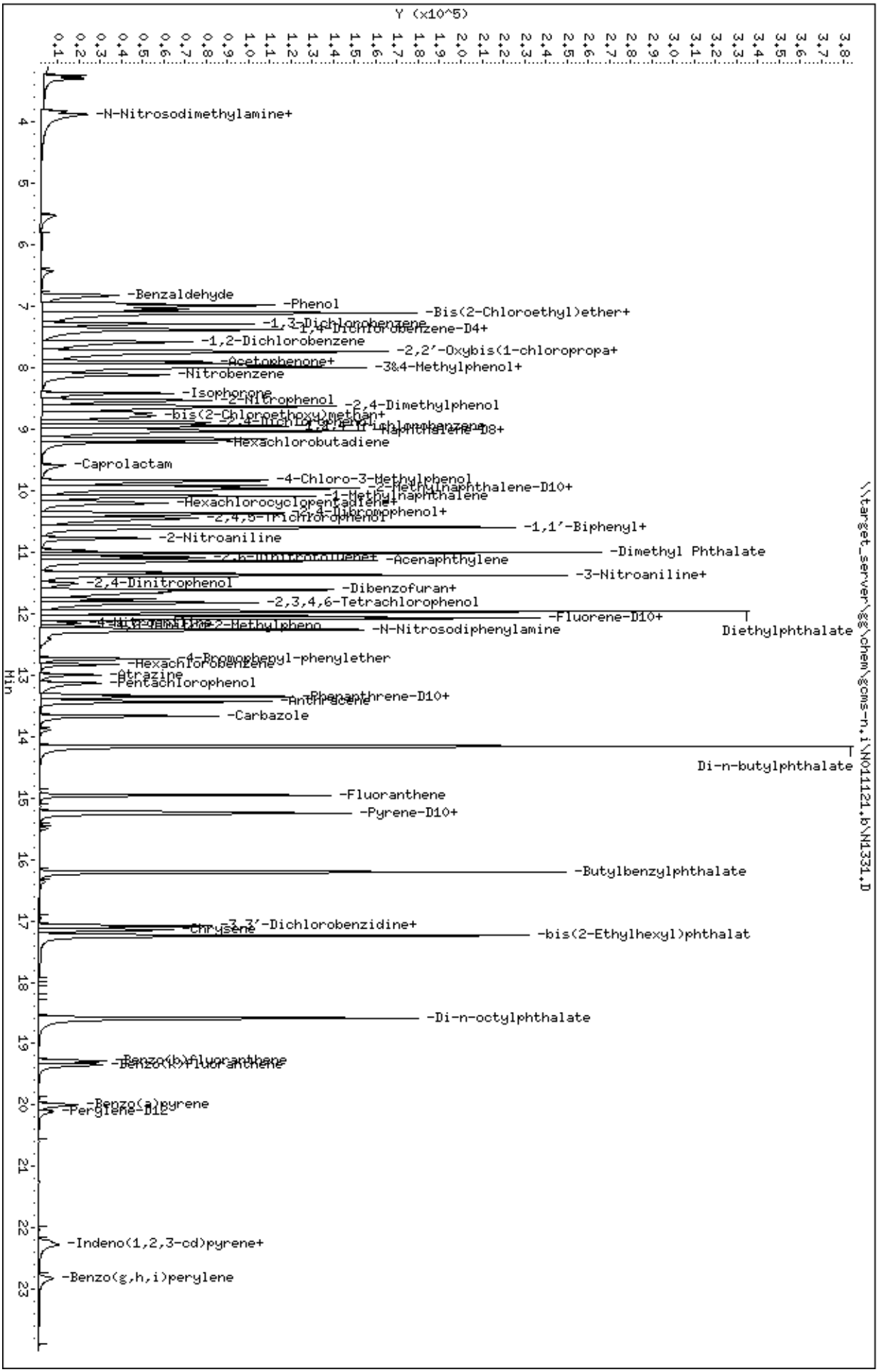
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.354	(1.000)	24460	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	8.990	(1.000)	70697	0.80000	(a)	
28 Naphthalene	128	9.023	9.022	(1.002)	182399	2.00000	1.82	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.900	(1.102)	101328	2.00000	2.07	
34 2-Methylnaphthalene	142	9.959	9.949	(1.106)	134168	2.00000	1.99	
35 1-Methylnaphthalene	142	10.077	10.077	(1.119)	121820	2.00000	2.16	
46 Acenaphthylene	152	11.142	11.131	(0.984)	183958	2.00000	1.98	
* 48 Acenaphthene-D10	164	11.327	11.327	(1.000)	38823	0.80000	(a)	
49 Acenaphthene	153	11.371	11.371	(1.004)	118860	2.00000	1.97	
$ 56 Fluorene-D10	174	12.035	12.024	(1.063)	88789	2.00000	2.02	
57 Fluorene	166	12.068	12.068	(1.065)	121948	2.00000	2.00	
* 66 Phenanthrene-D10	188	13.323	13.311	(1.000)	57577	0.80000	(a)	
67 Phenanthrene	178	13.358	13.346	(1.003)	150385	2.00000	1.91	
68 Anthracene	178	13.427	13.415	(1.008)	154220	2.00000	1.91	
71 Fluoranthene	202	14.959	14.947	(1.123)	145673	2.00000	2.07	
$ 72 Pyrene-D10	212	15.225	15.225	(0.890)	99687	2.00000	1.85	
73 Pyrene	202	15.247	15.247	(0.892)	148704	2.00000	1.98	
76 Benzo(a)anthracene	228	17.079	17.068	(0.999)	79654	2.00000	1.84	
* 77 Chrysene-D12	240	17.102	17.090	(1.000)	28252	0.80000	(a)	
78 Chrysene	228	17.146	17.135	(1.003)	100718	2.00000	2.15	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1331.D
Report Date: 18-Jan-2021 13:16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.271	(0.959)	54531	2.00000	2.06	
82 Benzo(k)fluoranthene	252	19.338	19.327	(0.961)	70495	2.00000	2.01(H)	
83 Benzo(a)pyrene	252	20.000	19.978	(0.994)	44769	2.00000	1.94	
* 84 Perylene-D12	264	20.113	20.101	(1.000)	15957	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.223	22.190	(1.299)	33593	2.00000	1.28	
86 Dibenzo(a,h)anthracene	278	22.280	22.246	(1.108)	24518	2.00000	1.59	
87 Benzo(g,h,i)perylene	276	22.818	22.785	(1.135)	33813	2.00000	1.61	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.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Date : 11-JAN-2021 22:45
Client ID:
Sample Info: WG293230-9,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011121,b\N1331,D
Y (x10^5)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-Bis(2-Chloroethyl)ether+
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan+
-2,4-Dichlorophenol
-Naphthalene-D8+
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4,6-Trichlorophenol
-2,4-Dibromophenol+
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-Acenaphthylene
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
-2,3,4,6-Tetrachlorophenol
-Fluorene-D10+
-4-Nitrophenol
-2-Methylpheno
-N-Nitrosodiphenylamine
Diethylphthalate
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG293230-10
Analytical Date: 01/11/21 23:21
Lab File ID : N1332.D
Instrument ID: GCMS-N
Initial Calibration Date(s): 01/11/21 11:09 01/11/21 13:52
Column ID:

Compound	RRF/Amount	RF2	CCAL RRF2	Min	%D/ %Drift	Max %D/ %Drift	Curve Type
28 Naphthalene	1.13212	1.03869	1.03869	0.010	-8.25290	20.00000	Averaged
34 2-Methylnaphthalene	0.76332	0.75067	0.75067	0.010	-1.65687	20.00000	Averaged
35 1-Methylnaphthalene	2.00000	2.16195	0.69051	0.010	8.09738	20.00000	Linear
46 Acenaphthylene	1.91717	1.91592	1.91592	0.010	-0.06523	20.00000	Averaged
49 Acenaphthene	1.24262	1.24836	1.24836	0.010	0.46174	20.00000	Averaged
57 Fluorene	1.25593	1.24569	1.24569	0.010	-0.81477	20.00000	Averaged
67 Phenanthrene	1.09619	1.11115	1.11115	0.010	1.36509	20.00000	Averaged
68 Anthracene	2.00000	2.03148	1.13857	0.010	1.57408	20.00000	Linear
71 Fluoranthene	0.97836	1.02403	1.02403	0.010	4.66780	20.00000	Averaged
73 Pyrene	2.00000	2.15175	2.28334	0.010	7.58759	20.00000	Linear
76 Benzo(a)anthracene	1.22585	1.23843	1.23843	0.010	1.02682	20.00000	Averaged
78 Chrysene	2.00000	2.32804	1.54680	0.010	16.40214	20.00000	Quadratic
81 Benzo(b)fluoranthene	1.32669	1.35599	1.35599	0.010	2.20872	20.00000	Averaged
82 Benzo(k)fluoranthene	1.75693	1.72234	1.72234	0.010	-1.96850	20.00000	Averaged
83 Benzo(a)pyrene	1.15668	1.14858	1.14858	0.010	-0.70048	20.00000	Averaged
85 Indeno(1,2,3-cd)pyrene	0.74602	0.64205	0.64205	0.010	-13.93676	20.00000	Averaged
86 Dibenzo(a,h)anthracene	0.77412	0.68809	0.68809	0.010	-11.11286	20.00000	Averaged
87 Benzo(g,h,i)perylene	1.05292	0.92378	0.92378	0.010	-12.26449	20.00000	Averaged
33 2-Methylnaphthalene-D10	0.55412	0.56277	0.56277	0.010	1.56142	20.00000	Averaged
56 Fluorene-D10	0.90577	0.91026	0.91026	0.010	0.49554	20.00000	Averaged
72 Pyrene-D10	1.52911	1.52709	1.52709	0.010	-0.13215	20.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1332.D
Report Date: 18-Jan-2021 13:16

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1332.D
Lab Smp Id: WG293230-10
Inj Date : 11-JAN-2021 23:21
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293230-10,TN0377
Misc Info : WG293230,WG293230,WG293230-4,TN0377-7
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 13:52 Cal File: N1316.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

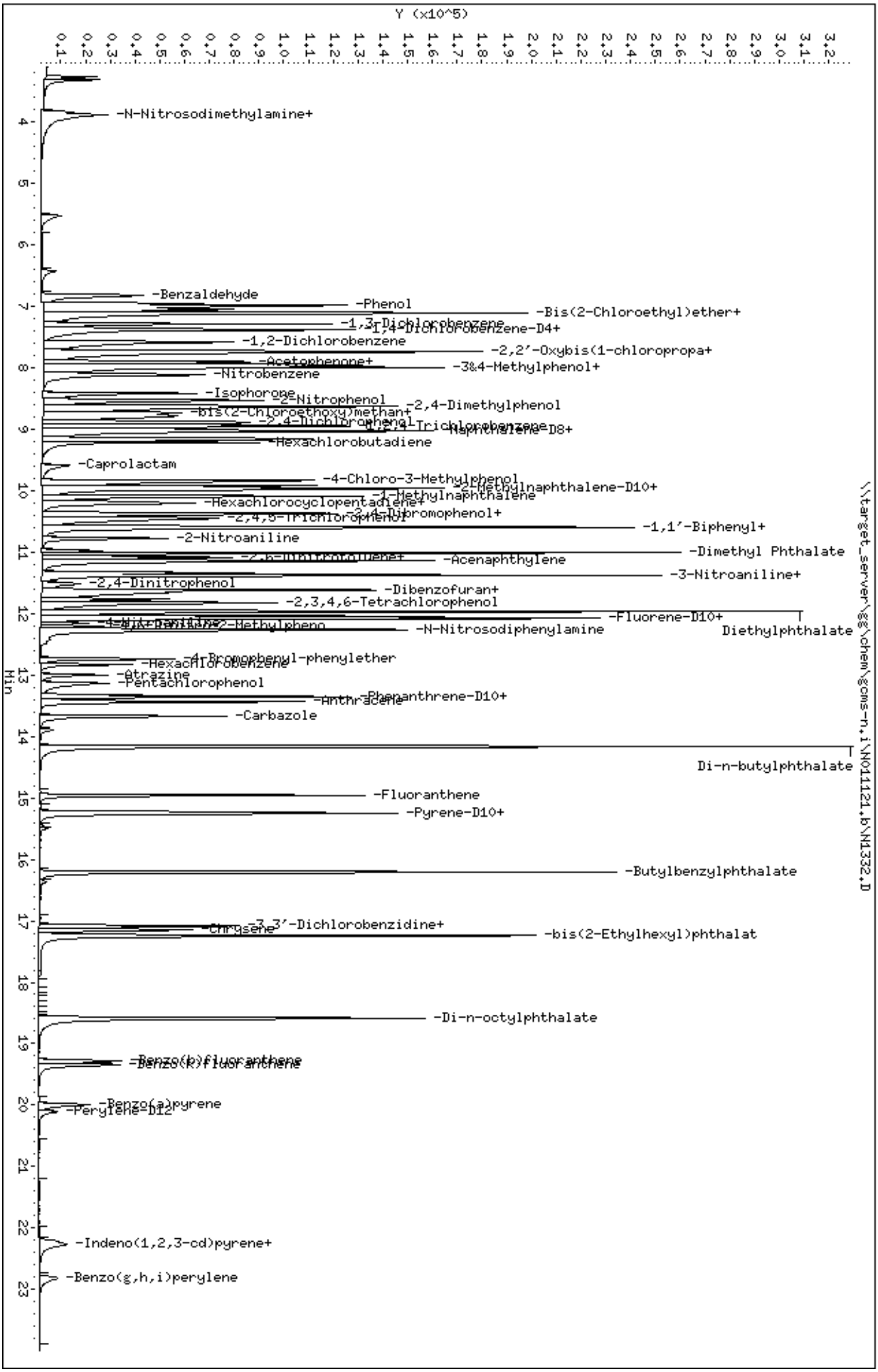
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.354	(1.000)	29738	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	8.990	(1.000)	74250	0.80000	(a)	
28 Naphthalene	128	9.023	9.022	(1.002)	192807	2.00000	1.83	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.900	(1.102)	104465	2.00000	2.03	
34 2-Methylnaphthalene	142	9.959	9.949	(1.106)	139344	2.00000	1.97	
35 1-Methylnaphthalene	142	10.077	10.077	(1.119)	128176	2.00000	2.16	
46 Acenaphthylene	152	11.142	11.131	(0.984)	185629	2.00000	2.00	
* 48 Acenaphthene-D10	164	11.327	11.327	(1.000)	38755	0.80000	(a)	
49 Acenaphthene	153	11.371	11.371	(1.004)	120950	2.00000	2.01	
$ 56 Fluorene-D10	174	12.035	12.024	(1.063)	88193	2.00000	2.01	
57 Fluorene	166	12.068	12.068	(1.065)	120692	2.00000	1.98	
* 66 Phenanthrene-D10	188	13.323	13.311	(1.000)	52812	0.80000	(a)	
67 Phenanthrene	178	13.358	13.346	(1.003)	146705	2.00000	2.03	
68 Anthracene	178	13.427	13.415	(1.008)	150326	2.00000	2.03	
71 Fluoranthene	202	14.959	14.947	(1.123)	135203	2.00000	2.09	
$ 72 Pyrene-D10	212	15.225	15.225	(0.890)	95279	2.00000	2.00	
73 Pyrene	202	15.247	15.247	(0.892)	142463	2.00000	2.15	
76 Benzo(a)anthracene	228	17.079	17.068	(0.999)	77269	2.00000	2.02	
* 77 Chrysene-D12	240	17.102	17.090	(1.000)	24957	0.80000	(a)	
78 Chrysene	228	17.146	17.135	(1.003)	96509	2.00000	2.33	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1332.D
Report Date: 18-Jan-2021 13:16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.271	(0.959)	58223	2.00000	2.04	
82 Benzo(k)fluoranthene	252	19.338	19.327	(0.961)	73953	2.00000	1.96(H)	
83 Benzo(a)pyrene	252	20.000	19.978	(0.994)	49317	2.00000	1.98	
* 84 Perylene-D12	264	20.113	20.101	(1.000)	17175	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.223	22.190	(1.299)	40059	2.00000	1.72	
86 Dibenzo(a,h)anthracene	278	22.280	22.246	(1.108)	29545	2.00000	1.78	
87 Benzo(g,h,i)perylene	276	22.818	22.785	(1.135)	39665	2.00000	1.75	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-n,i\N011121,b\N1332,D
Date : 11-JAN-2021 23:21
Client ID:
Sample Info: WG293230-10,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
Y (x10^5)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-Bis(2-Chloroethyl)ether+
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan+
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4,6-Trichlorophenol
-2,4-Dibromophenol+
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-Acenaphthylene
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
-2,3,4,6-Tetrachlorophenol
-Fluorene-D10+
-4-Nitroaniline
-2-Methylpheno
-N-Nitrosodiphenylamine
Diethylphthalate
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene
\\target_server\gg\chem\gcms-n,i\N011121,b\N1332,D

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG293230-11
Analytical Date: 01/11/21 23:58
Lab File ID : N1333.D
Instrument ID: GCMS-N
Initial Calibration Date(s): 01/11/21 11:09 01/11/21 13:52
Column ID:

Compound	RRF/Amount	RF2	CCAL RRF2	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
28 Naphthalene	1.13212	1.05187	1.05187	0.010	-7.08907	20.00000	Averaged	
34 2-Methylnaphthalene	0.76332	0.76478	0.76478	0.010	0.19115	20.00000	Averaged	
35 1-Methylnaphthalene	2.00000	2.21755	0.70827	0.010	10.87725	20.00000	Linear	
46 Acenaphthylene	1.91717	1.88386	1.88386	0.010	-1.73773	20.00000	Averaged	
49 Acenaphthene	1.24262	1.23040	1.23040	0.010	-0.98326	20.00000	Averaged	
57 Fluorene	1.25593	1.25323	1.25323	0.010	-0.21480	20.00000	Averaged	
67 Phenanthrene	1.09619	1.08284	1.08284	0.010	-1.21751	20.00000	Averaged	
68 Anthracene	2.00000	2.09229	1.17266	0.010	4.61475	20.00000	Linear	
71 Fluoranthene	0.97836	1.03963	1.03963	0.010	6.26155	20.00000	Averaged	
73 Pyrene	2.00000	2.36219	2.50665	0.010	18.10967	20.00000	Linear	
76 Benzo(a)anthracene	1.22585	1.25674	1.25674	0.010	2.51989	20.00000	Averaged	
78 Chrysene	2.00000	2.38430	1.58430	0.010	19.21516	20.00000	Quadratic	
81 Benzo(b)fluoranthene	1.32669	1.37042	1.37042	0.010	3.29613	20.00000	Averaged	
82 Benzo(k)fluoranthene	1.75693	1.78545	1.78545	0.010	1.62325	20.00000	Averaged	
83 Benzo(a)pyrene	1.15668	1.13331	1.13331	0.010	-2.02074	20.00000	Averaged	
85 Indeno(1,2,3-cd)pyrene	0.74602	0.52329	0.52329	0.010	-29.85612	20.00000	Averaged	*
86 Dibenzo(a,h)anthracene	0.77412	0.64121	0.64121	0.010	-17.16935	20.00000	Averaged	
87 Benzo(g,h,i)perylene	1.05292	0.88771	0.88771	0.010	-15.69022	20.00000	Averaged	
33 2-Methylnaphthalene-D10	0.55412	0.57547	0.57547	0.010	3.85249	20.00000	Averaged	
56 Fluorene-D10	0.90577	0.92138	0.92138	0.010	1.72287	20.00000	Averaged	
72 Pyrene-D10	1.52911	1.66086	1.66086	0.010	8.61635	20.00000	Averaged	

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1333.D
Report Date: 18-Jan-2021 13:16

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1333.D
Lab Smp Id: WG293230-11
Inj Date : 11-JAN-2021 23:58
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293230-11,TN0377
Misc Info : WG293230,WG293230,WG293230-4,TN0377-7
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 13:52 Cal File: N1316.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

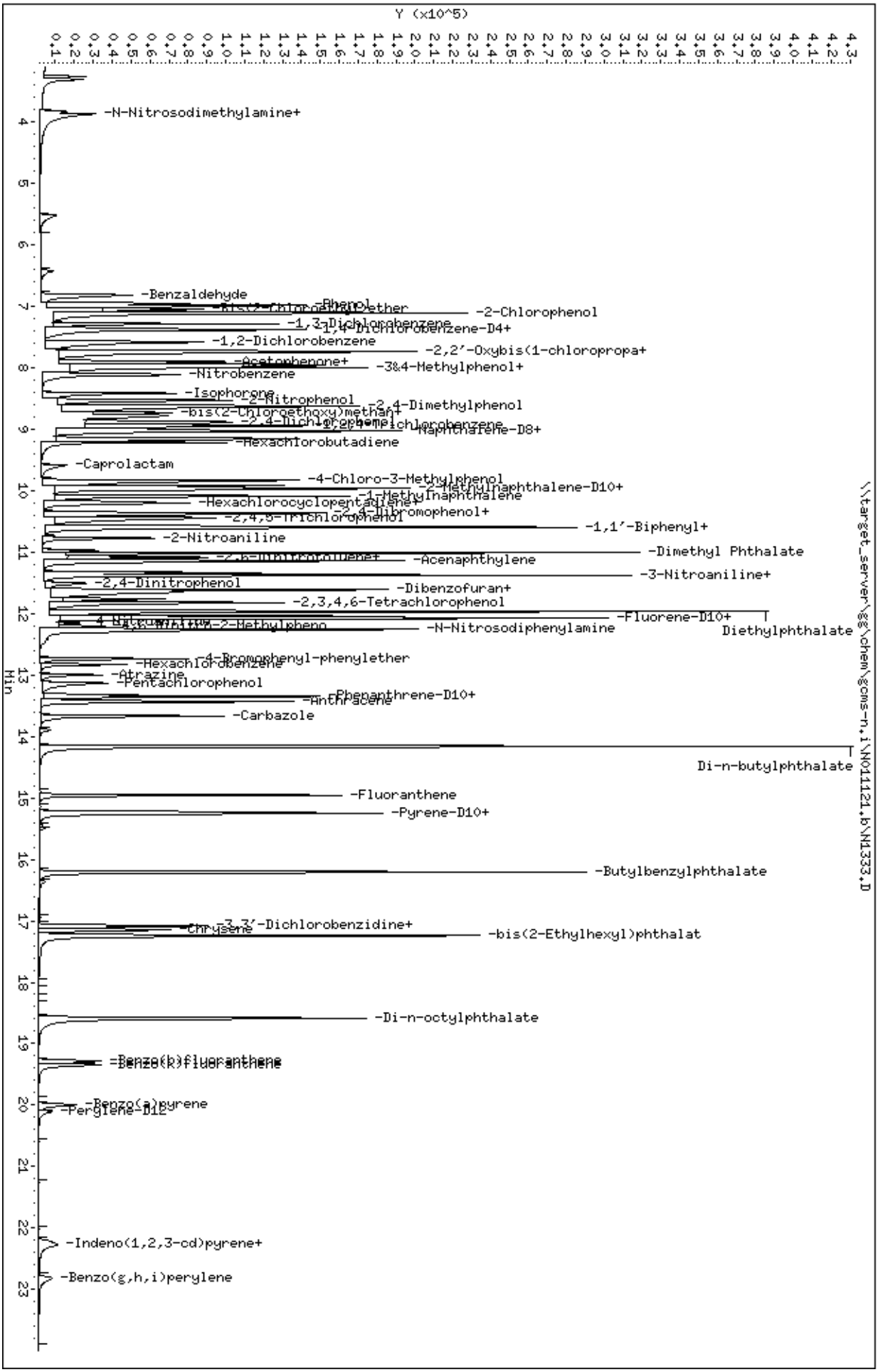
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.354	(1.000)	28378	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	8.990	(1.000)	81956	0.80000	(a)	
28 Naphthalene	128	9.022	9.022	(1.002)	215517	2.00000	1.86	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.900	(1.102)	117908	2.00000	2.08	
34 2-Methylnaphthalene	142	9.959	9.949	(1.106)	156696	2.00000	2.00	
35 1-Methylnaphthalene	142	10.077	10.077	(1.119)	145117	2.00000	2.22	
46 Acenaphthylene	152	11.142	11.131	(0.984)	215471	2.00000	1.96	
* 48 Acenaphthene-D10	164	11.327	11.327	(1.000)	45751	0.80000	(a)	
49 Acenaphthene	153	11.371	11.371	(1.004)	140730	2.00000	1.98	
$ 56 Fluorene-D10	174	12.035	12.024	(1.063)	105385	2.00000	2.03	
57 Fluorene	166	12.068	12.068	(1.065)	143341	2.00000	2.00	
* 66 Phenanthrene-D10	188	13.323	13.311	(1.000)	64868	0.80000	(a)	
67 Phenanthrene	178	13.346	13.346	(1.002)	175604	2.00000	1.98	
68 Anthracene	178	13.427	13.415	(1.008)	190170	2.00000	2.09	
71 Fluoranthene	202	14.959	14.947	(1.123)	168596	2.00000	2.12	
$ 72 Pyrene-D10	212	15.225	15.225	(0.891)	116273	2.00000	2.17	
73 Pyrene	202	15.247	15.247	(0.892)	175484	2.00000	2.36	
76 Benzo(a)anthracene	228	17.079	17.068	(0.999)	87981	2.00000	2.05	
* 77 Chrysene-D12	240	17.090	17.090	(1.000)	28003	0.80000	(a)	
78 Chrysene	228	17.146	17.135	(1.003)	110913	2.00000	2.38	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1333.D
Report Date: 18-Jan-2021 13:16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.271	(0.959)	56917	2.00000	2.06	
82 Benzo(k)fluoranthene	252	19.338	19.327	(0.961)	74154	2.00000	2.03(H)	
83 Benzo(a)pyrene	252	20.000	19.978	(0.994)	47069	2.00000	1.96	
* 84 Perylene-D12	264	20.113	20.101	(1.000)	16613	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.223	22.190	(1.300)	36634	2.00000	1.40	
86 Dibenzo(a,h)anthracene	278	22.279	22.246	(1.108)	26631	2.00000	1.66	
87 Benzo(g,h,i)perylene	276	22.818	22.785	(1.135)	36869	2.00000	1.69	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.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Date : 11-JAN-2021 23:58
Client ID:
Sample Info: WG293230-11,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011121,b\N1333,D
Y (x10^5)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol
-bis(2-Chloroethoxy)methan+
-2,4-Dichlorophenol
-1,2,4-Trichlorobenzene
-Naphthalene-D8+
-Hexachlorobutadiene
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4,6-Trichlorophenol
-2,4-Dibromophenol+
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-Acenaphthylene
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
-2,3,4,6-Tetrachlorophenol
-Fluorene-D10+
-N-Nitrosodiphenylamine
Diethylphthalate
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG293350-9
Analytical Date: 01/14/21 01:28
Lab File ID : N1389.D
Instrument ID: GCMS-N
Initial Calibration Date(s): 01/13/21 13:16 01/13/21 16:00
Column ID:

Compound	RRF/Amount	RF2	CCAL RRF2	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
28 Naphthalene	1.08680	0.96922	0.96922	0.010	-10.81874	20.00000	Averaged	
34 2-Methylnaphthalene	0.77080	0.80408	0.80408	0.010	4.31753	20.00000	Averaged	
35 1-Methylnaphthalene	2.00000	2.48635	0.82582	0.010	24.31734	20.00000	Linear	*
46 Acenaphthylene	1.97864	1.92779	1.92779	0.010	-2.57004	20.00000	Averaged	
49 Acenaphthene	1.26402	1.25031	1.25031	0.010	-1.08442	20.00000	Averaged	
57 Fluorene	1.29356	1.27827	1.27827	0.010	-1.18171	20.00000	Averaged	
67 Phenanthrene	1.03685	0.96777	0.96777	0.010	-6.66321	20.00000	Averaged	
68 Anthracene	2.00000	2.13683	1.15656	0.010	6.84157	20.00000	Linear	
71 Fluoranthene	0.96066	0.74382	0.74382	0.010	-22.57180	20.00000	Averaged	*
73 Pyrene	2.00000	2.68371	2.95651	0.010	34.18534	20.00000	Linear	*
76 Benzo(a)anthracene	1.24823	1.32479	1.32479	0.010	6.13298	20.00000	Averaged	
78 Chrysene	2.00000	2.52761	1.52347	0.010	26.38063	20.00000	Linear	*
81 Benzo(b)fluoranthene	1.51183	1.09680	1.09680	0.010	-27.45218	20.00000	Averaged	*
82 Benzo(k)fluoranthene	2.00000	1.68784	1.27501	0.010	-15.60813	20.00000	Linear	
83 Benzo(a)pyrene	1.14636	0.91882	0.91882	0.010	-19.84852	20.00000	Averaged	
85 Indeno(1,2,3-cd)pyrene	0.52651	0.71768	0.71768	0.010	36.30893	20.00000	Averaged	*
86 Dibenzo(a,h)anthracene	0.76207	0.73322	0.73322	0.010	-3.78623	20.00000	Averaged	
87 Benzo(g,h,i)perylene	0.91398	0.77890	0.77890	0.010	-14.77876	20.00000	Averaged	
33 2-Methylnaphthalene-D10	0.57467	0.59013	0.59013	0.010	2.69026	20.00000	Averaged	
56 Fluorene-D10	0.96460	0.94092	0.94092	0.010	-2.45522	20.00000	Averaged	
72 Pyrene-D10	2.00000	2.66964	1.94506	0.010	33.48178	20.00000	Linear	*

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1389.D
Report Date: 15-Jan-2021 16:03

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1389.D
Lab Smp Id: WG293350-9
Inj Date : 14-JAN-2021 01:28
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293350-9,TN0377
Misc Info : WG293350,WG293350,WG293350-4,TN0377-5
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 14-Jan-2021 08:20 cgomez Quant Type: ISTD
Cal Date : 13-JAN-2021 16:00 Cal File: N1374.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

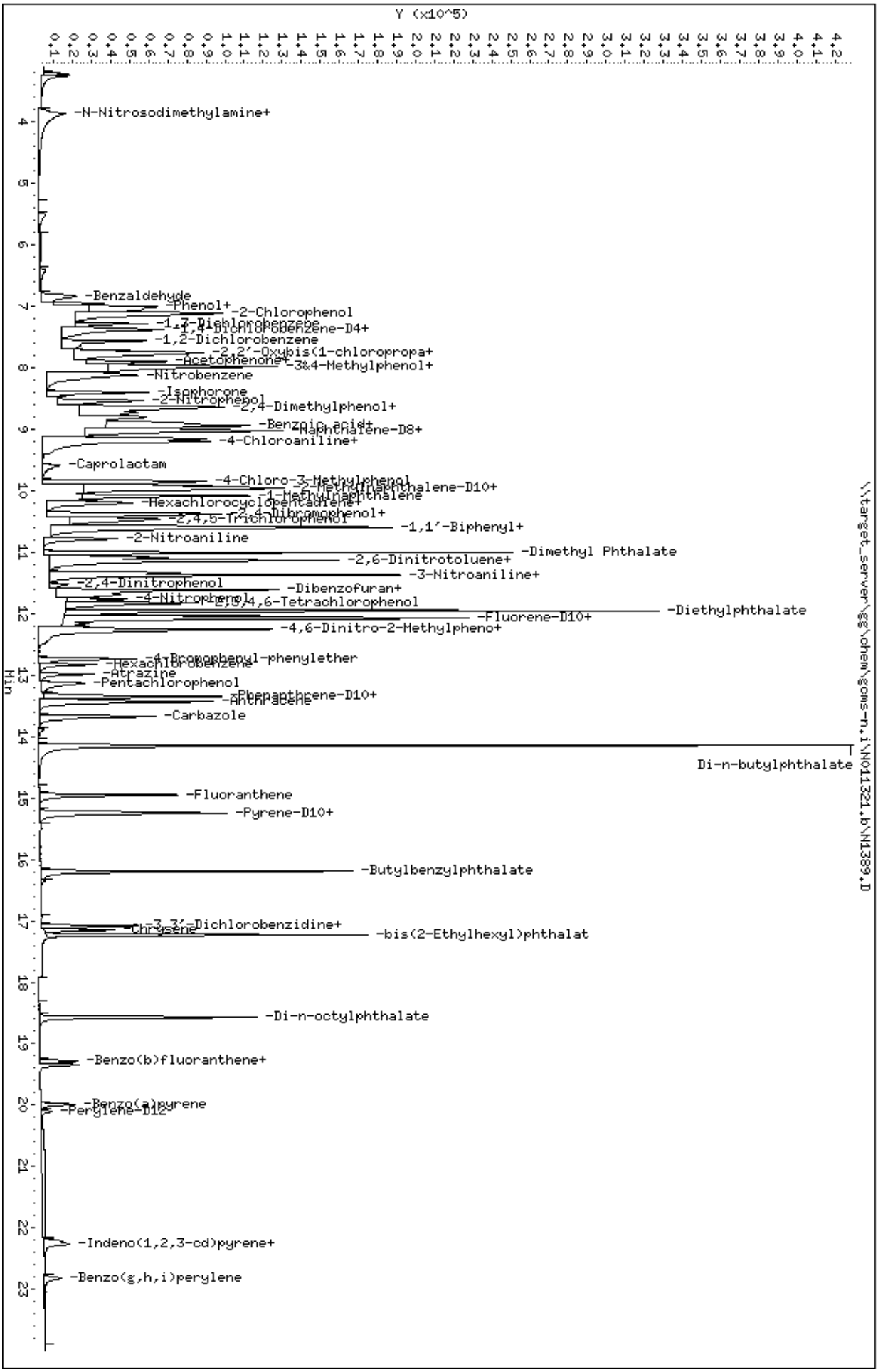
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.334	(1.000)	27989	0.80000	(a)	
* 27 Naphthalene-D8	136	8.990	8.980	(1.000)	73283	0.80000	(a)	
28 Naphthalene	128	9.022	9.012	(1.004)	177568	2.00000	1.78	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.900	(1.103)	108117	2.00000	2.05	
34 2-Methylnaphthalene	142	9.959	9.939	(1.108)	147313	2.00000	2.09	
35 1-Methylnaphthalene	142	10.077	10.067	(1.121)	151297	2.00000	2.49	
46 Acenaphthylene	152	11.131	11.131	(0.983)	204967	2.00000	1.95	
* 48 Acenaphthene-D10	164	11.327	11.316	(1.000)	42529	0.80000	(a)	
49 Acenaphthene	153	11.371	11.360	(1.004)	132936	2.00000	1.98	
$ 56 Fluorene-D10	174	12.035	12.024	(1.063)	100041	2.00000	1.95	
57 Fluorene	166	12.068	12.057	(1.065)	135909	2.00000	1.98	
* 66 Phenanthrene-D10	188	13.323	13.300	(1.000)	61924	0.80000	(a)	
67 Phenanthrene	178	13.358	13.335	(1.003)	149820	2.00000	1.87	
68 Anthracene	178	13.427	13.404	(1.008)	179047	2.00000	2.14	
71 Fluoranthene	202	14.959	14.936	(1.123)	115151	2.00000	1.55	
$ 72 Pyrene-D10	212	15.225	15.214	(0.890)	71544	2.00000	2.67	
73 Pyrene	202	15.247	15.236	(0.892)	108748	2.00000	2.68	
76 Benzo(a)anthracene	228	17.079	17.057	(0.999)	48729	2.00000	2.12	
* 77 Chrysene-D12	240	17.101	17.079	(1.000)	14713	0.80000	(a)	
78 Chrysene	228	17.146	17.124	(1.003)	56037	2.00000	2.53	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1389.D
Report Date: 15-Jan-2021 16:03

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.259	(0.959)	32649	2.00000	1.45	
82 Benzo(k)fluoranthene	252	19.338	19.316	(0.961)	37954	2.00000	1.69(H)	
83 Benzo(a)pyrene	252	19.989	19.967	(0.994)	27351	2.00000	1.60	
* 84 Perylene-D12	264	20.113	20.090	(1.000)	11907	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.223	22.178	(1.299)	26398	2.00000	2.73	
86 Dibenzo(a,h)anthracene	278	22.268	22.235	(1.107)	21826	2.00000	1.92	
87 Benzo(g,h,i)perylene	276	22.818	22.773	(1.135)	23186	2.00000	1.70	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-n,i\N011321,b\N1389,D
Date : 14-JAN-2021 01:28
Client ID:
Sample Info: WG293350-9,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011321,b\N1389,D
Y (x10^5)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol+
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Nitrobenzene
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol+
-Benzoic acid+
-Naphthalene-D8+
-4-Chloroaniline+
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4-Dibromophenol+
-2,4,5-Trichlorophenol
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
-4-Nitrophenol
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-Fluorene-D10+
-4,6-Dinitro-2-Methylpheno+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene+
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG293350-10
Analytical Date: 01/14/21 02:06
Lab File ID : N1390.D
Instrument ID: GCMS-N
Initial Calibration Date(s): 01/13/21 13:16 01/13/21 16:00
Column ID:

Compound	RRF/Amount	RF2	CCAL RRF2	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
28 Naphthalene	1.08680	1.11701	1.11701	0.010	2.78035	20.00000	Averaged	
34 2-Methylnaphthalene	0.77080	0.77083	0.77083	0.010	0.00422	20.00000	Averaged	
35 1-Methylnaphthalene	2.00000	2.32840	0.77336	0.010	16.41998	20.00000	Linear	
46 Acenaphthylene	1.97864	1.91144	1.91144	0.010	-3.39610	20.00000	Averaged	
49 Acenaphthene	1.26402	1.26153	1.26153	0.010	-0.19703	20.00000	Averaged	
57 Fluorene	1.29356	1.28110	1.28110	0.010	-0.96315	20.00000	Averaged	
67 Phenanthrene	1.03685	0.90160	0.90160	0.010	-13.04455	20.00000	Averaged	
68 Anthracene	2.00000	2.30913	1.24982	0.010	15.45669	20.00000	Linear	
71 Fluoranthene	0.96066	0.77603	0.77603	0.010	-19.21864	20.00000	Averaged	
73 Pyrene	2.00000	2.59677	2.86074	0.010	29.83837	20.00000	Linear	*
76 Benzo(a)anthracene	1.24823	1.27141	1.27141	0.010	1.85635	20.00000	Averaged	
78 Chrysene	2.00000	2.62085	1.57967	0.010	31.04271	20.00000	Linear	*
81 Benzo(b)fluoranthene	1.51183	1.20040	1.20040	0.010	-20.59958	20.00000	Averaged	*
82 Benzo(k)fluoranthene	2.00000	1.78841	1.35099	0.010	-10.57926	20.00000	Linear	
83 Benzo(a)pyrene	1.14636	0.97164	0.97164	0.010	-15.24137	20.00000	Averaged	
85 Indeno(1,2,3-cd)pyrene	0.52651	0.69188	0.69188	0.010	31.40844	20.00000	Averaged	*
86 Dibenzo(a,h)anthracene	0.76207	0.75164	0.75164	0.010	-1.36880	20.00000	Averaged	
87 Benzo(g,h,i)perylene	0.91398	0.77708	0.77708	0.010	-14.97818	20.00000	Averaged	
33 2-Methylnaphthalene-D10	0.57467	0.58178	0.58178	0.010	1.23628	20.00000	Averaged	
56 Fluorene-D10	0.96460	0.95367	0.95367	0.010	-1.13325	20.00000	Averaged	
72 Pyrene-D10	2.00000	2.57768	1.87806	0.010	28.88399	20.00000	Linear	*

*** = Compound out of QC criteria**

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sales@katahdinlab.com

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1390.D
Report Date: 15-Jan-2021 16:03

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1390.D
Lab Smp Id: WG293350-10
Inj Date : 14-JAN-2021 02:06
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293350-10,TN0377
Misc Info : WG293350,WG293350,WG293350-4,TN0377-5
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 14-Jan-2021 08:20 cgomez Quant Type: ISTD
Cal Date : 13-JAN-2021 16:00 Cal File: N1374.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

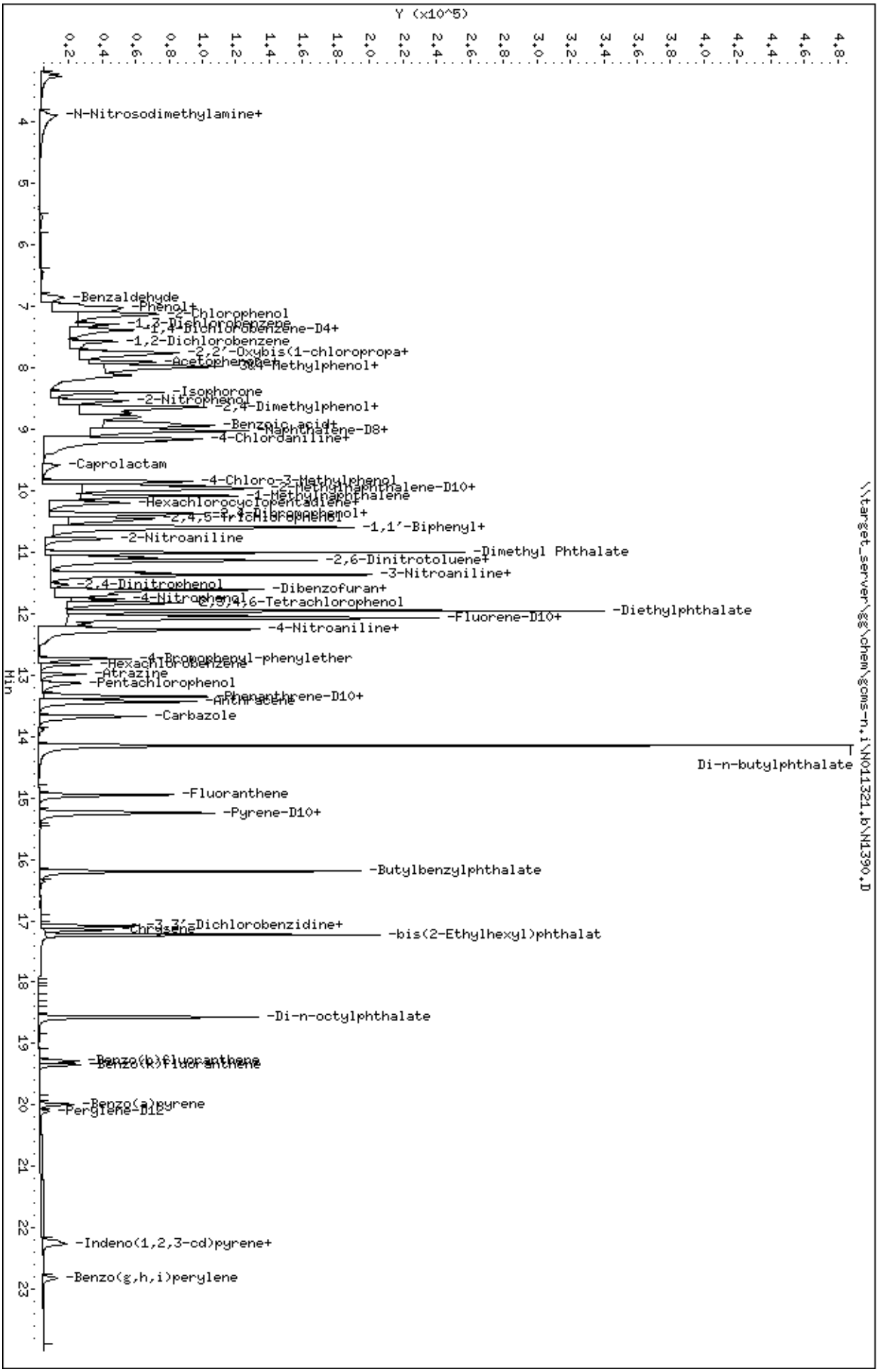
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	ON-COL (ug/ml)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.334	(1.000)	25108	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	8.980	(1.000)	79631	0.80000	(a)	
28 Naphthalene	128	9.023	9.012	(1.002)	222372	2.00000	2.06	
$ 33 2-Methylnaphthalene-D10	152	9.910	9.900	(1.101)	115819	2.00000	2.02	
34 2-Methylnaphthalene	142	9.959	9.939	(1.106)	153455	2.00000	2.00	
35 1-Methylnaphthalene	142	10.077	10.067	(1.119)	153959	2.00000	2.33	
46 Acenaphthylene	152	11.131	11.131	(0.983)	213680	2.00000	1.93	
* 48 Acenaphthene-D10	164	11.327	11.316	(1.000)	44716	0.80000	(a)	
49 Acenaphthene	153	11.371	11.360	(1.004)	141026	2.00000	2.00	
$ 56 Fluorene-D10	174	12.035	12.024	(1.063)	106611	2.00000	1.98	
57 Fluorene	166	12.068	12.057	(1.065)	143214	2.00000	1.98	
* 66 Phenanthrene-D10	188	13.323	13.300	(1.000)	65743	0.80000	(a)	
67 Phenanthrene	178	13.358	13.335	(1.003)	148185	2.00000	1.74	
68 Anthracene	178	13.427	13.404	(1.008)	205417	2.00000	2.31	
71 Fluoranthene	202	14.948	14.936	(1.122)	127547	2.00000	1.62	
$ 72 Pyrene-D10	212	15.225	15.214	(0.890)	80456	2.00000	2.58	
73 Pyrene	202	15.247	15.236	(0.892)	122554	2.00000	2.60	
76 Benzo(a)anthracene	228	17.079	17.057	(0.999)	54467	2.00000	2.04	
* 77 Chrysene-D12	240	17.102	17.079	(1.000)	17136	0.80000	(a)	
78 Chrysene	228	17.146	17.124	(1.003)	67673	2.00000	2.62	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1390.D
Report Date: 15-Jan-2021 16:03

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.259	(0.959)	39019	2.00000	1.59	
82 Benzo(k)fluoranthene	252	19.338	19.316	(0.962)	43914	2.00000	1.79(H)	
83 Benzo(a)pyrene	252	19.989	19.967	(0.994)	31583	2.00000	1.70	
* 84 Perylene-D12	264	20.102	20.090	(1.000)	13002	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.223	22.178	(1.299)	29640	2.00000	2.63	
86 Dibenzo(a,h)anthracene	278	22.268	22.235	(1.108)	24432	2.00000	1.97	
87 Benzo(g,h,i)perylene	276	22.819	22.773	(1.135)	25259	2.00000	1.70	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-n,i\N011321,b\N1390,D
Date : 14-JAN-2021 02:06
Client ID:
Sample Info: WG293350-10,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011321,b\N1390,D
Y (x10^5)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol+
-2-Chlorophenol
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone
-3&4-Methylphenol+
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol+
-Benzoic acid+
-Naphthalene-D8+
-4-Chloroaniline+
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4,6-Trichlorophenol+
-2,4,5-Trichlorophenol+
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
-4-Nitrophenol
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-Fluorene-D10+
-4-Nitroaniline+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab ID : WG293350-11
Analytical Date: 01/14/21 02:43
Lab File ID : N1391.D
Instrument ID: GCMS-N
Initial Calibration Date(s): 01/13/21 13:16 01/13/21 16:00
Column ID:

Compound	RRF/Amount	RF2	CCAL RRF2	Min	%D/ %Drift	Max %D/ %Drift	Curve Type	
28 Naphthalene	1.08680	1.10178	1.10178	0.010	1.37883	20.00000	Averaged	
34 2-Methylnaphthalene	0.77080	0.74918	0.74918	0.010	-2.80467	20.00000	Averaged	
35 1-Methylnaphthalene	2.00000	2.30861	0.76679	0.010	15.43038	20.00000	Linear	
46 Acenaphthylene	1.97864	1.93576	1.93576	0.010	-2.16689	20.00000	Averaged	
49 Acenaphthene	1.26402	1.24993	1.24993	0.010	-1.11406	20.00000	Averaged	
57 Fluorene	1.29356	1.27015	1.27015	0.010	-1.80983	20.00000	Averaged	
67 Phenanthrene	1.03685	0.88048	0.88048	0.010	-15.08158	20.00000	Averaged	
68 Anthracene	2.00000	2.12389	1.14956	0.010	6.19460	20.00000	Linear	
71 Fluoranthene	0.96066	0.74290	0.74290	0.010	-22.66777	20.00000	Averaged	*
73 Pyrene	2.00000	2.62555	2.89244	0.010	31.27731	20.00000	Linear	*
76 Benzo(a)anthracene	1.24823	1.34217	1.34217	0.010	7.52518	20.00000	Averaged	
78 Chrysene	2.00000	2.62736	1.58359	0.010	31.36814	20.00000	Linear	*
81 Benzo(b)fluoranthene	1.51183	1.15246	1.15246	0.010	-23.77041	20.00000	Averaged	*
82 Benzo(k)fluoranthene	2.00000	1.79783	1.35810	0.010	-10.10869	20.00000	Linear	
83 Benzo(a)pyrene	1.14636	0.94722	0.94722	0.010	-17.37117	20.00000	Averaged	
85 Indeno(1,2,3-cd)pyrene	0.52651	0.70357	0.70357	0.010	33.62988	20.00000	Averaged	*
86 Dibenzo(a,h)anthracene	0.76207	0.72760	0.72760	0.010	-4.52297	20.00000	Averaged	
87 Benzo(g,h,i)perylene	0.91398	0.75230	0.75230	0.010	-17.68908	20.00000	Averaged	
33 2-Methylnaphthalene-D10	0.57467	0.55446	0.55446	0.010	-3.51730	20.00000	Averaged	
56 Fluorene-D10	0.96460	0.94332	0.94332	0.010	-2.20600	20.00000	Averaged	
72 Pyrene-D10	2.00000	2.57535	1.87636	0.010	28.76749	20.00000	Linear	*

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1391.D
Report Date: 15-Jan-2021 16:03

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011321.b\N1391.D
Lab Smp Id: WG293350-11
Inj Date : 14-JAN-2021 02:43
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG293350-11,TN0377
Misc Info : WG293350,WG293350,WG293350-4,TN0377-5
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011321.b\NSPSIM43.m
Meth Date : 14-Jan-2021 08:20 cgomez Quant Type: ISTD
Cal Date : 13-JAN-2021 16:00 Cal File: N1374.D
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

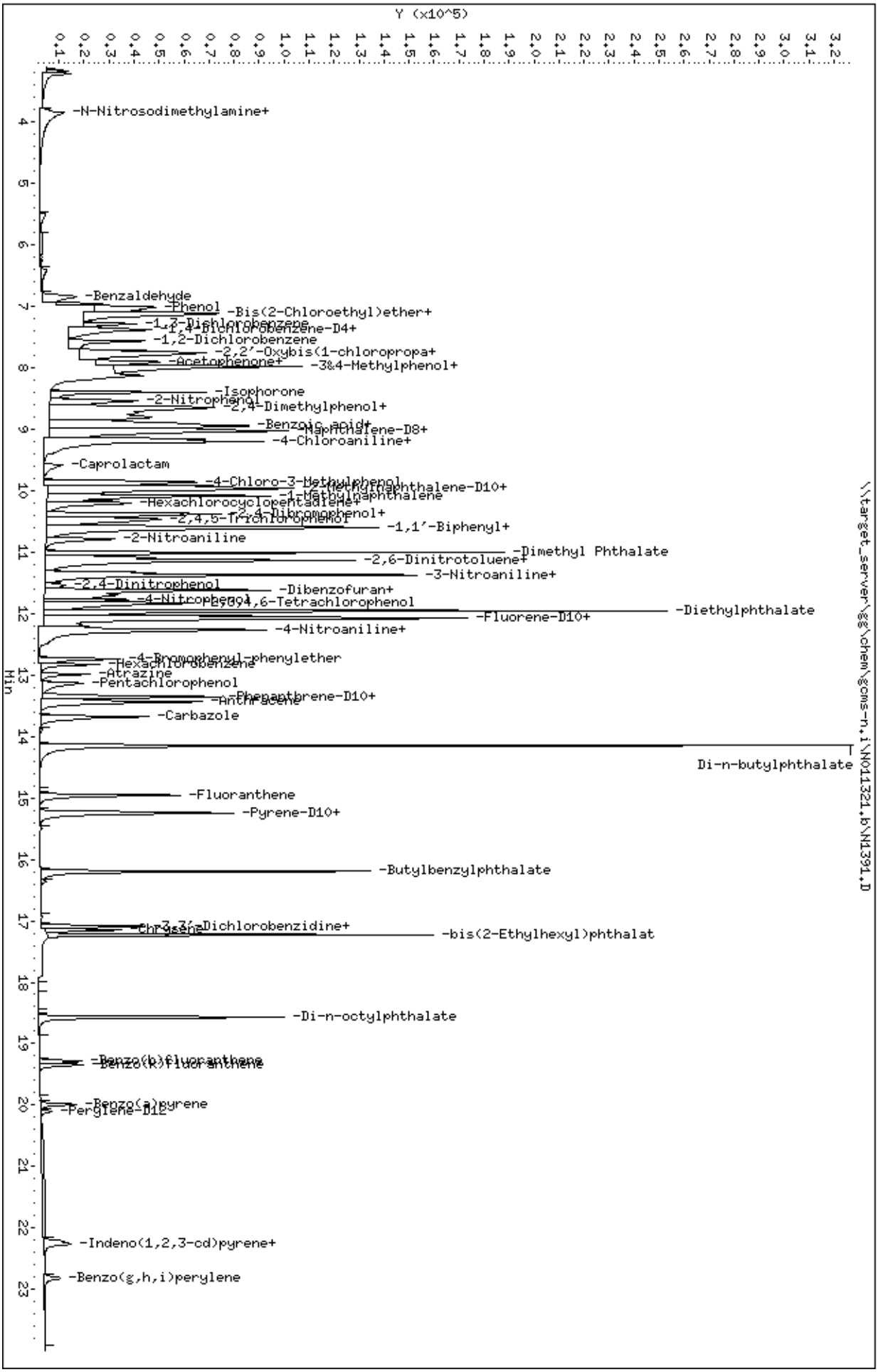
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.334	(1.000)	23432	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	8.980	(1.000)	63014	0.80000	(a)	
28 Naphthalene	128	9.022	9.012	(1.002)	173569	2.00000	2.03	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.900	(1.102)	87347	2.00000	1.93	
34 2-Methylnaphthalene	142	9.959	9.939	(1.106)	118022	2.00000	1.94	
35 1-Methylnaphthalene	142	10.077	10.067	(1.119)	120796	2.00000	2.31	
46 Acenaphthylene	152	11.131	11.131	(0.983)	162817	2.00000	1.96	
* 48 Acenaphthene-D10	164	11.327	11.316	(1.000)	33644	0.80000	(a)	
49 Acenaphthene	153	11.371	11.360	(1.004)	105132	2.00000	1.98	
$ 56 Fluorene-D10	174	12.035	12.024	(1.063)	79343	2.00000	1.96	
57 Fluorene	166	12.068	12.057	(1.065)	106832	2.00000	1.96	
* 66 Phenanthrene-D10	188	13.323	13.300	(1.000)	51257	0.80000	(a)	
67 Phenanthrene	178	13.358	13.335	(1.003)	112827	2.00000	1.70	
68 Anthracene	178	13.427	13.404	(1.008)	147307	2.00000	2.12	
71 Fluoranthene	202	14.959	14.936	(1.123)	95197	2.00000	1.55	
$ 72 Pyrene-D10	212	15.225	15.214	(0.890)	60264	2.00000	2.58	
73 Pyrene	202	15.247	15.236	(0.892)	92898	2.00000	2.62	
76 Benzo(a)anthracene	228	17.079	17.057	(0.999)	43107	2.00000	2.15	
* 77 Chrysene-D12	240	17.102	17.079	(1.000)	12847	0.80000	(a)	
78 Chrysene	228	17.146	17.124	(1.003)	50861	2.00000	2.63	

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\N1391.D
Report Date: 15-Jan-2021 16:03

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/ml)	AMOUNTS ON-COL (ug/ml)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.259	(0.959)	29019	2.00000	1.52	
82 Benzo(k)fluoranthene	252	19.338	19.316	(0.961)	34197	2.00000	1.80(H)	
83 Benzo(a)pyrene	252	19.989	19.967	(0.994)	23851	2.00000	1.65	
* 84 Perylene-D12	264	20.113	20.090	(1.000)	10072	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.223	22.178	(1.299)	22597	2.00000	2.67	
86 Dibenzo(a,h)anthracene	278	22.268	22.235	(1.107)	18321	2.00000	1.91	
87 Benzo(g,h,i)perylene	276	22.818	22.773	(1.135)	18943	2.00000	1.65	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-n,i\N011321,b\N1391,D
Date : 14-JAN-2021 02:43
Client ID:
Sample Info: WG293350-11,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011321,b\N1391,D
Y (x10^5)
Min
-N-Nitrosodimethylamine+
-Benzaldehyde
-Phenol
-Bis(2-Chloroethyl)ether+
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene
-2,2'-Oxybis(1-chloropropa+
-Acetophenone+
-3&4-Methylphenol+
-Isophorone
-2-Nitrophenol
-2,4-Dimethylphenol+
-Benzoic acid+
-Naphthalene-D8+
-4-Chloroaniline+
-Caprolactam
-4-Chloro-3-Methylphenol
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Hexachlorocyclopentadiene+
-2,4-Dichlorophenol+
-2,4,5-Trichlorophenol
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-2,6-Dinitrotoluene+
-3-Nitroaniline+
-2,4-Dinitrophenol
-Dibenzofuran+
-4-Nitrophenol
-2,3,4,6-Tetrachlorophenol
-Diethylphthalate
-Fluorene-D10+
-4-Nitroaniline+
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Pentachlorophenol
-Phenanthrene-D10+
-Anthracene
-Carbazole
Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\ND088.D

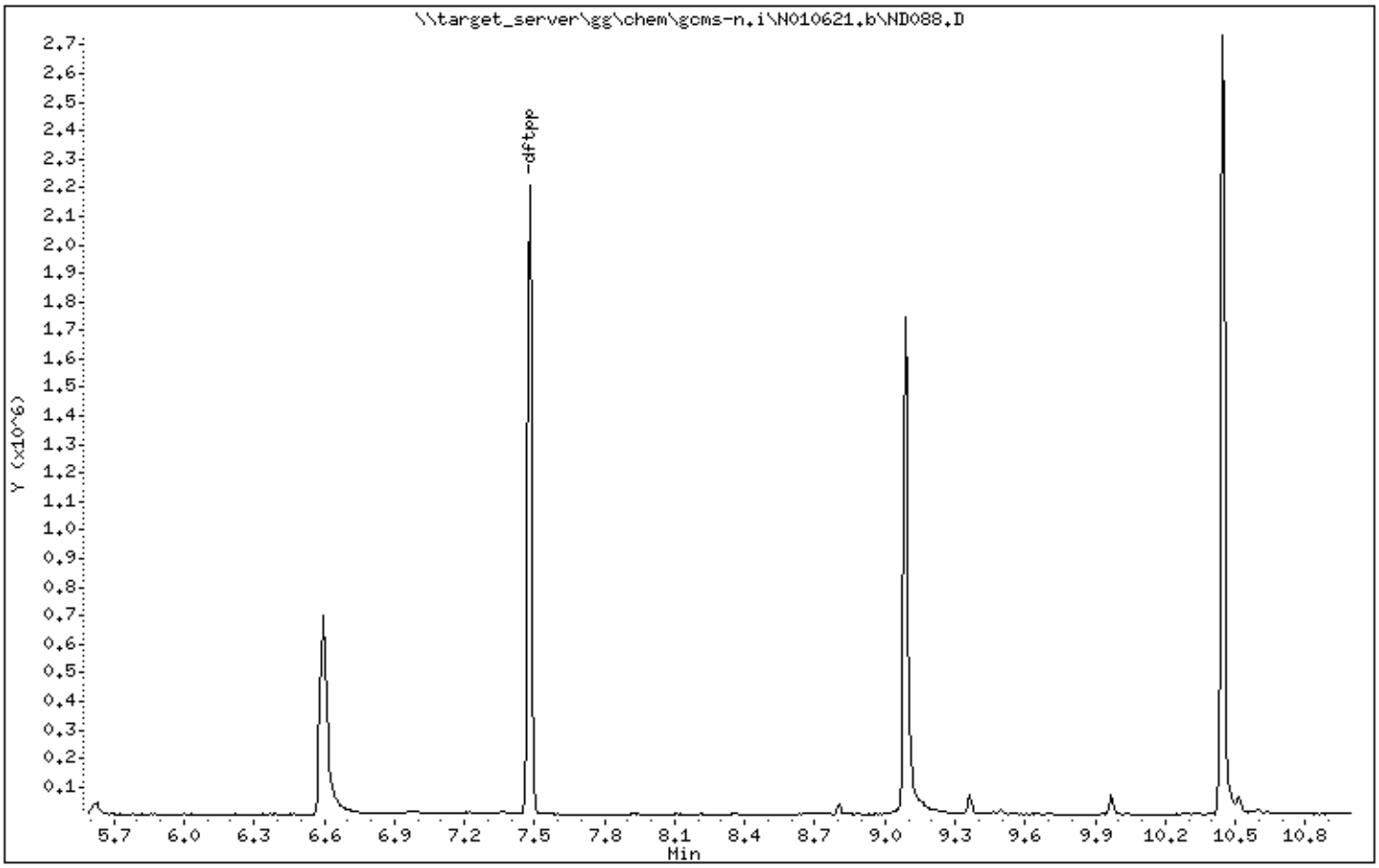
Date : 06-JAN-2021 13:02

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG292998-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25



Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\ND088.D

Date : 06-JAN-2021 13:02

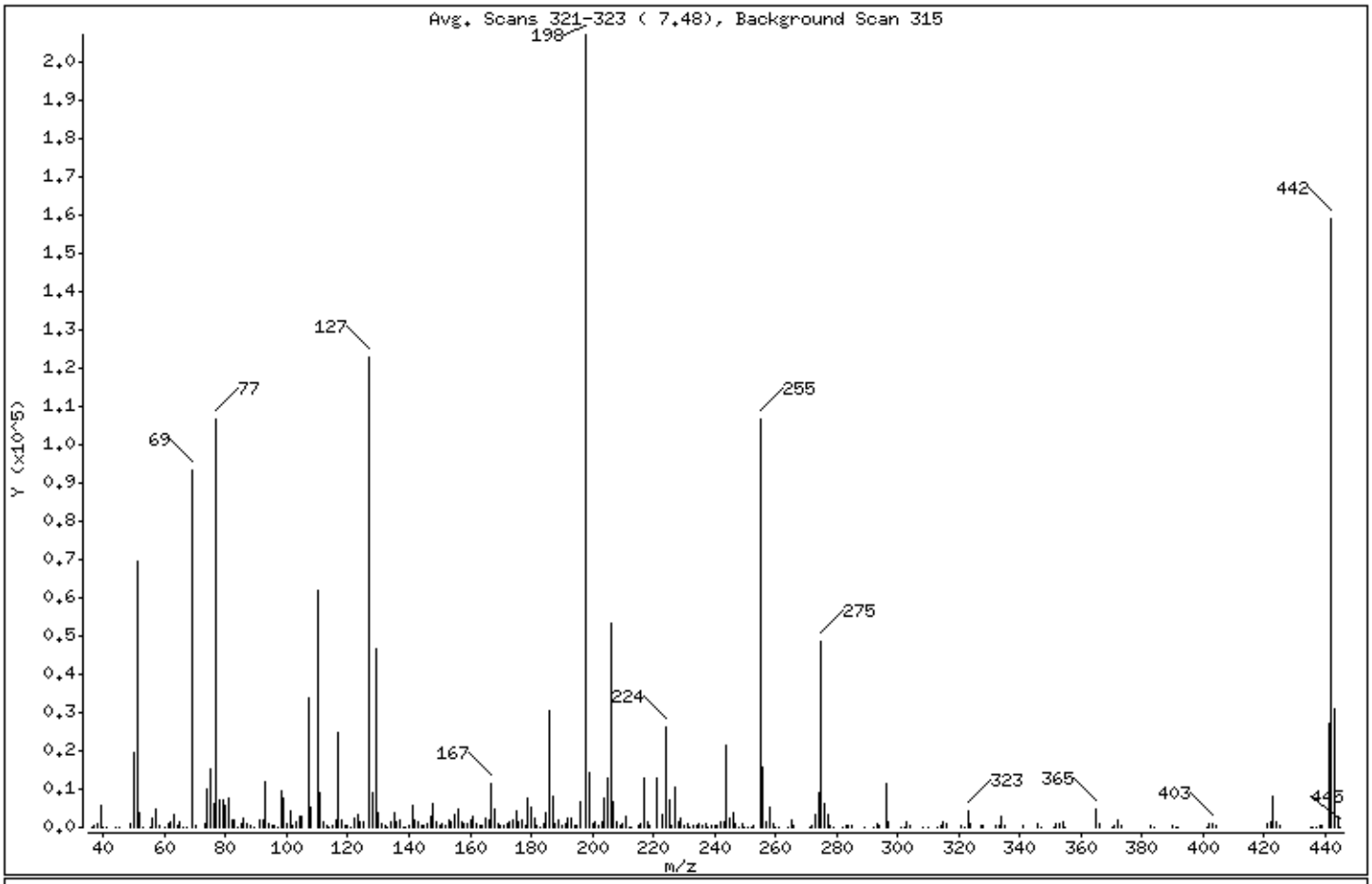
Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG292998-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	33.61
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Less than 100.00% of mass 198	44.95
70	Less than 2.00% of mass 69	0.27 (0.60)
127	40.00 - 60.00% of mass 198	59.29
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.87
275	10.00 - 30.00% of mass 198	23.50
365	1.00 - 100.00% of mass 198	2.35
441	0.01 - 100.00% of mass 443	13.04 (86.84)
442	40.00 - 100.00% of mass 198	76.75
443	17.00 - 23.00% of mass 442	15.01 (19.56)

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\ND088.D

Date : 06-JAN-2021 13:02

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG292998-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND088.D
Spectrum: Avg. Scans 321-323 (7.48), Background Scan 315
Location of Maximum: 198.00
Number of points: 287

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	51	121.00	216	194.00	622	277.00	3349
37.00	430	122.00	2421	195.00	566	278.00	662
38.00	1136	123.00	3406	196.00	6760	279.00	57
39.00	5548	124.00	1462	198.00	206976	282.00	58
40.00	68	125.00	1417	199.00	14215	283.00	352
41.00	36	127.00	122712	200.00	1093	284.00	297
44.00	50	128.00	9258	201.00	1315	285.00	599
45.00	115	129.00	46832	202.00	368	289.00	172
49.00	743	130.00	4027	203.00	1470	292.00	235
50.00	19656	131.00	927	204.00	7379	293.00	858
51.00	69568	132.00	538	205.00	12770	294.00	282
52.00	3734	133.00	213	206.00	53336	296.00	11483
53.00	202	134.00	1521	207.00	6688	297.00	1408
55.00	203	135.00	3627	208.00	1636	301.00	62
56.00	2334	136.00	1572	209.00	527	302.00	171
57.00	4880	137.00	1761	210.00	812	303.00	1307
58.00	239	138.00	219	211.00	2662	304.00	432
60.00	157	139.00	211	212.00	179	308.00	109
61.00	996	140.00	363	213.00	109	310.00	129
62.00	1246	141.00	5650	215.00	620	313.00	80
63.00	3360	142.00	2007	216.00	922	314.00	523
64.00	479	143.00	1438	217.00	13000	315.00	1211
65.00	1644	144.00	381	218.00	1600	316.00	774
66.00	120	145.00	468	219.00	297	321.00	495
67.00	148	146.00	995	221.00	12800	322.00	64
69.00	93040	147.00	2963	223.00	3135	323.00	4161
70.00	556	148.00	6321	224.00	26288	324.00	724
73.00	971	149.00	1234	225.00	6938	327.00	600
74.00	10017	150.00	433	226.00	684	328.00	360
75.00	15046	151.00	1093	227.00	10535	332.00	276
76.00	6419	152.00	659	228.00	1320	333.00	331
77.00	106568	153.00	1790	229.00	2143	334.00	2628
78.00	7251	154.00	1489	230.00	293	335.00	552
79.00	7343	155.00	3273	231.00	1140	341.00	363
80.00	5663	156.00	4560	232.00	206	346.00	743

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\ND088.D

Date : 06-JAN-2021 13:02

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG292998-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND088.D
Spectrum: Avg. Scans 321-323 (7.48), Background Scan 315
Location of Maximum: 198.00
Number of points: 287

m/z	Y	m/z	Y	m/z	Y	m/z	Y
81.00	7528	157.00	1265	233.00	317	347.00	228
82.00	2060	158.00	925	234.00	574	351.00	131
83.00	1874	159.00	1023	235.00	825	352.00	1065
84.00	191	160.00	1826	236.00	611	353.00	841
85.00	1032	161.00	2697	237.00	940	354.00	1286
86.00	2291	162.00	877	238.00	58	355.00	236
87.00	1099	163.00	302	239.00	390	365.00	4873
88.00	370	164.00	349	240.00	352	366.00	816
89.00	135	165.00	2166	241.00	530	370.00	134
91.00	1880	166.00	1769	242.00	1284	371.00	381
92.00	2008	167.00	11597	243.00	1340	372.00	1917
93.00	11939	168.00	4676	244.00	21224	373.00	564
94.00	1015	169.00	833	245.00	2449	383.00	470
95.00	300	170.00	395	246.00	3925	384.00	69
96.00	460	171.00	515	247.00	768	390.00	276
97.00	101	172.00	981	248.00	189	391.00	208
98.00	9736	173.00	1217	249.00	745	392.00	183
99.00	7515	174.00	2137	250.00	123	401.00	130
100.00	893	175.00	4139	251.00	148	402.00	904
101.00	4231	176.00	1404	252.00	167	403.00	1124
102.00	324	177.00	2010	253.00	621	404.00	434
103.00	1438	178.00	518	255.00	106448	421.00	1089
104.00	2704	179.00	7619	256.00	15662	422.00	1334
105.00	2702	180.00	5413	257.00	1326	423.00	8277
107.00	33736	181.00	2397	258.00	5395	424.00	1567
108.00	5281	182.00	469	259.00	872	425.00	257
110.00	62088	183.00	236	260.00	144	435.00	51
111.00	9111	184.00	772	261.00	73	436.00	92
112.00	1207	185.00	3747	264.00	127	437.00	193
113.00	367	186.00	30320	265.00	2109	438.00	632
114.00	70	187.00	8293	266.00	500	439.00	704
115.00	244	188.00	868	271.00	86	441.00	26984
116.00	2026	189.00	1736	272.00	324	442.00	158848
117.00	24736	190.00	310	273.00	3289	443.00	31072
118.00	1759	191.00	768	274.00	8854	444.00	2606

Data File: \\target_server\gg\chem\gcms-n.i\N010621.b\ND088.D

Date : 06-JAN-2021 13:02

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG292998-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND088.D
Spectrum: Avg. Scans 321-323 (7.48), Background Scan 315
Location of Maximum: 198.00
Number of points: 287

m/z	Y	m/z	Y	m/z	Y	m/z	Y
119.00	328	192.00	2397	275.00	48632	445.00	64
120.00	431	193.00	2447	276.00	6386		

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\ND090.D

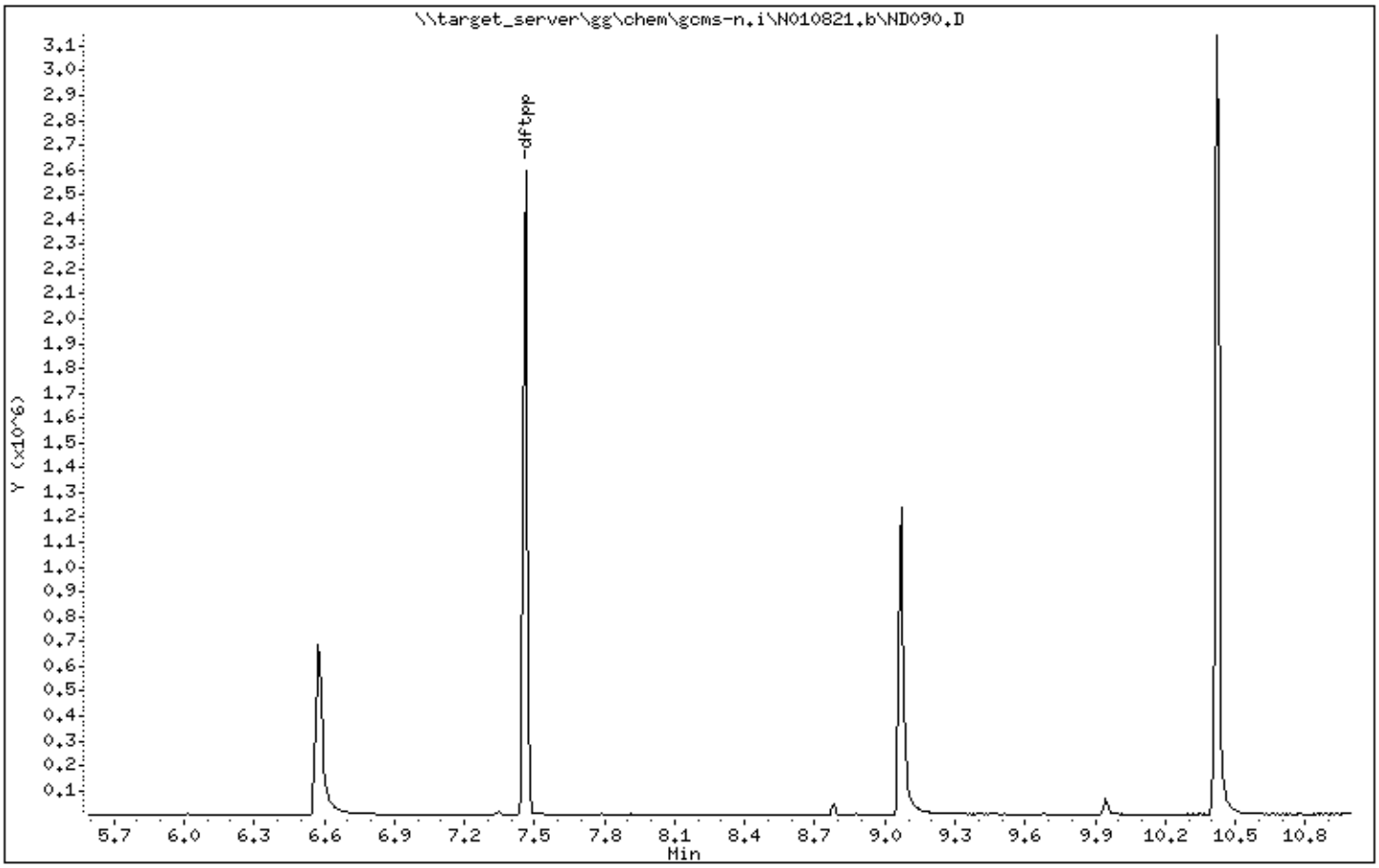
Date : 08-JAN-2021 09:44

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293131-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25



Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\ND090.D

Date : 08-JAN-2021 09:44

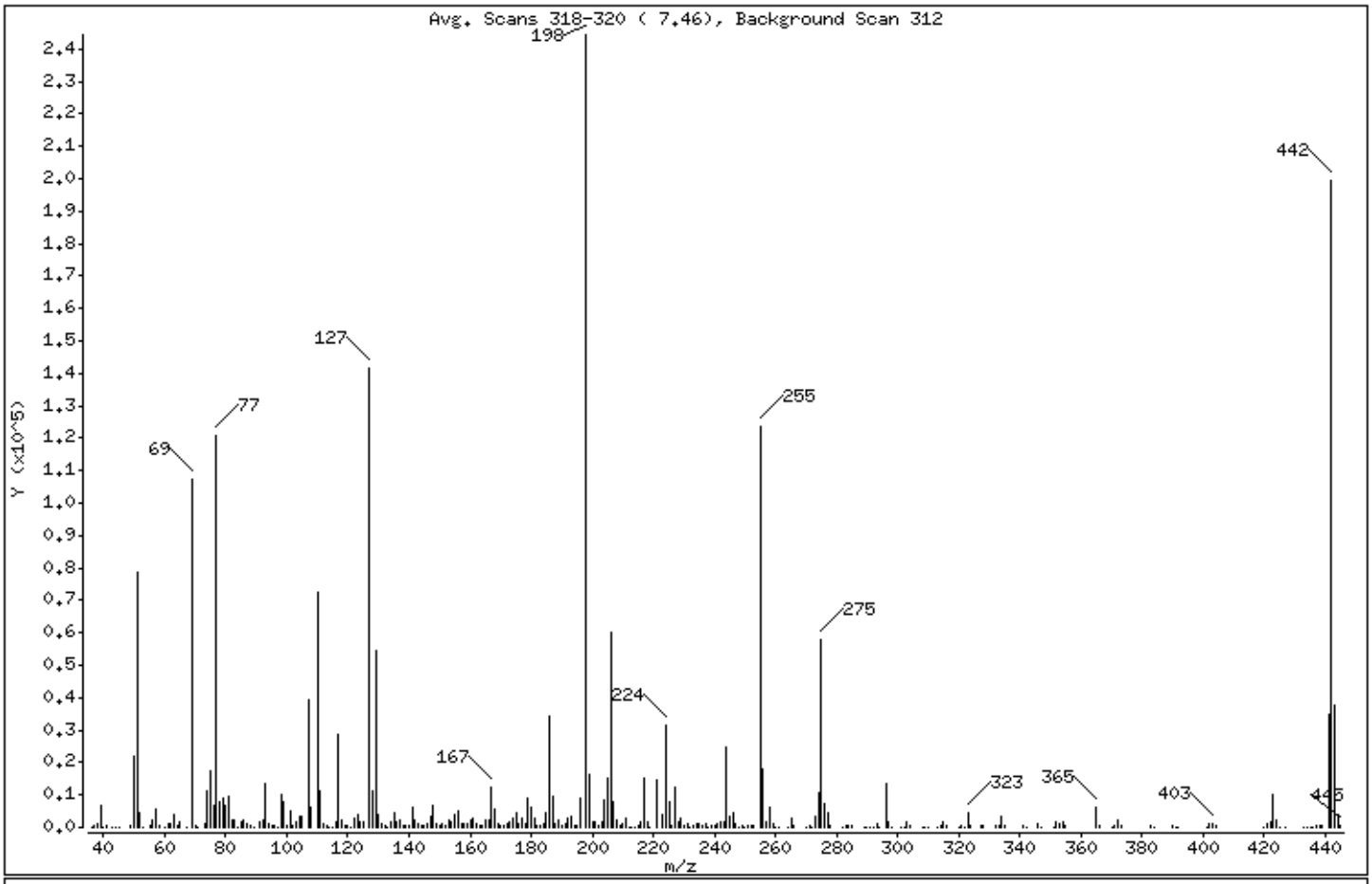
Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293131-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	32.15
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Less than 100.00% of mass 198	43.88
70	Less than 2.00% of mass 69	0.27 (0.62)
127	40.00 - 60.00% of mass 198	57.97
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.76
275	10.00 - 30.00% of mass 198	23.79
365	1.00 - 100.00% of mass 198	2.57
441	0.01 - 100.00% of mass 443	14.24 (93.15)
442	40.00 - 100.00% of mass 198	81.67
443	17.00 - 23.00% of mass 442	15.29 (18.72)

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\ND090.D

Date : 08-JAN-2021 09:44

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293131-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND090.D
Spectrum: Avg. Scans 318-320 (7.46), Background Scan 312
Location of Maximum: 198.00
Number of points: 299

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	111	123.00	3797	200.00	1443	289.00	119
37.00	439	124.00	1761	201.00	1537	290.00	182
38.00	1297	125.00	1765	202.00	295	291.00	170
39.00	6466	127.00	141696	203.00	1657	292.00	203
40.00	206	128.00	11124	204.00	8592	293.00	949
41.00	303	129.00	54568	205.00	15091	294.00	272
43.00	162	130.00	4201	206.00	60008	296.00	13417
44.00	32	131.00	994	207.00	8050	297.00	1652
45.00	154	132.00	556	208.00	1983	298.00	58
49.00	422	133.00	227	209.00	645	301.00	238
50.00	21920	134.00	1720	210.00	1197	302.00	218
51.00	78584	135.00	4561	211.00	2530	303.00	1645
52.00	4444	136.00	1895	212.00	94	304.00	502
53.00	174	137.00	2171	213.00	140	308.00	117
55.00	480	138.00	325	214.00	66	309.00	182
56.00	2512	139.00	329	215.00	676	310.00	154
57.00	5735	140.00	757	216.00	1630	313.00	64
58.00	299	141.00	6455	217.00	15356	314.00	667
60.00	69	142.00	2345	218.00	1746	315.00	1516
61.00	1236	143.00	1401	219.00	137	316.00	793
62.00	1275	144.00	362	221.00	14797	320.00	124
63.00	3981	145.00	461	223.00	3688	321.00	493
64.00	511	146.00	1312	224.00	31648	322.00	247
65.00	1918	147.00	3561	225.00	8081	323.00	4505
67.00	141	148.00	7014	226.00	522	324.00	827
69.00	107240	149.00	1383	227.00	12353	327.00	842
70.00	663	150.00	565	228.00	1855	328.00	445
71.00	191	151.00	1143	229.00	2572	332.00	379
73.00	1098	152.00	351	230.00	355	333.00	746
74.00	11334	153.00	2112	231.00	1169	334.00	3103
75.00	17656	154.00	1688	232.00	161	335.00	690
76.00	6664	155.00	3744	233.00	299	341.00	538
77.00	120704	156.00	5149	234.00	887	342.00	107
78.00	8051	157.00	1129	235.00	921	346.00	1019
79.00	8728	158.00	1186	236.00	632	347.00	78

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\ND090.D

Date : 08-JAN-2021 09:44

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293131-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND090.D
Spectrum: Avg. Scans 318-320 (7.46), Background Scan 312
Location of Maximum: 198.00
Number of points: 299

m/z	Y	m/z	Y	m/z	Y	m/z	Y
80.00	6489	159.00	996	237.00	867	351.00	98
81.00	9301	160.00	2116	238.00	86	352.00	1506
82.00	2072	161.00	2998	239.00	490	353.00	960
83.00	2138	162.00	861	240.00	444	354.00	1534
84.00	107	163.00	323	241.00	845	355.00	350
85.00	1833	164.00	506	242.00	1692	365.00	6275
86.00	2499	165.00	2230	243.00	1549	366.00	803
87.00	1127	166.00	2246	244.00	24536	370.00	141
88.00	599	167.00	12407	245.00	3411	371.00	511
89.00	243	168.00	5613	246.00	4320	372.00	2498
91.00	1820	169.00	1260	247.00	902	373.00	561
92.00	2356	170.00	497	248.00	208	383.00	668
93.00	13627	171.00	610	249.00	807	384.00	220
94.00	1132	172.00	1061	250.00	152	390.00	302
95.00	369	173.00	1538	251.00	325	391.00	241
96.00	791	174.00	2761	252.00	316	392.00	65
97.00	126	175.00	4656	253.00	710	401.00	124
98.00	10145	176.00	1330	255.00	123608	402.00	1092
99.00	8077	177.00	2678	256.00	18048	403.00	1389
100.00	719	178.00	967	257.00	1508	404.00	561
101.00	5016	179.00	8948	258.00	6228	420.00	73
102.00	387	180.00	5920	259.00	950	421.00	1305
103.00	1614	181.00	2867	260.00	251	422.00	1629
104.00	3223	182.00	529	261.00	151	423.00	10114
105.00	3113	183.00	290	264.00	191	424.00	2455
107.00	39360	184.00	845	265.00	2789	425.00	170
108.00	6229	185.00	4446	266.00	477	427.00	50
110.00	72728	186.00	34352	270.00	117	433.00	52
111.00	11001	187.00	9743	271.00	394	434.00	123
112.00	1245	188.00	1102	272.00	96	435.00	121
113.00	409	189.00	1998	273.00	3641	436.00	153
114.00	137	190.00	381	274.00	10576	437.00	460
115.00	74	191.00	1133	275.00	58144	438.00	453
116.00	1698	192.00	2829	276.00	7248	439.00	727
117.00	28936	193.00	3104	277.00	4521	441.00	34808

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\ND090.D

Date : 08-JAN-2021 09:44

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293131-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND090.D
Spectrum: Avg. Scans 318-320 (7.46), Background Scan 312
Location of Maximum: 198.00
Number of points: 299

m/z	Y	m/z	Y	m/z	Y	m/z	Y
118.00	2163	194.00	616	278.00	584	442.00	199616
119.00	344	195.00	397	282.00	55	443.00	37368
120.00	503	196.00	8819	283.00	568	444.00	3588
121.00	212	198.00	244416	284.00	333	445.00	309
122.00	2781	199.00	16512	285.00	643		

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\ND091.D

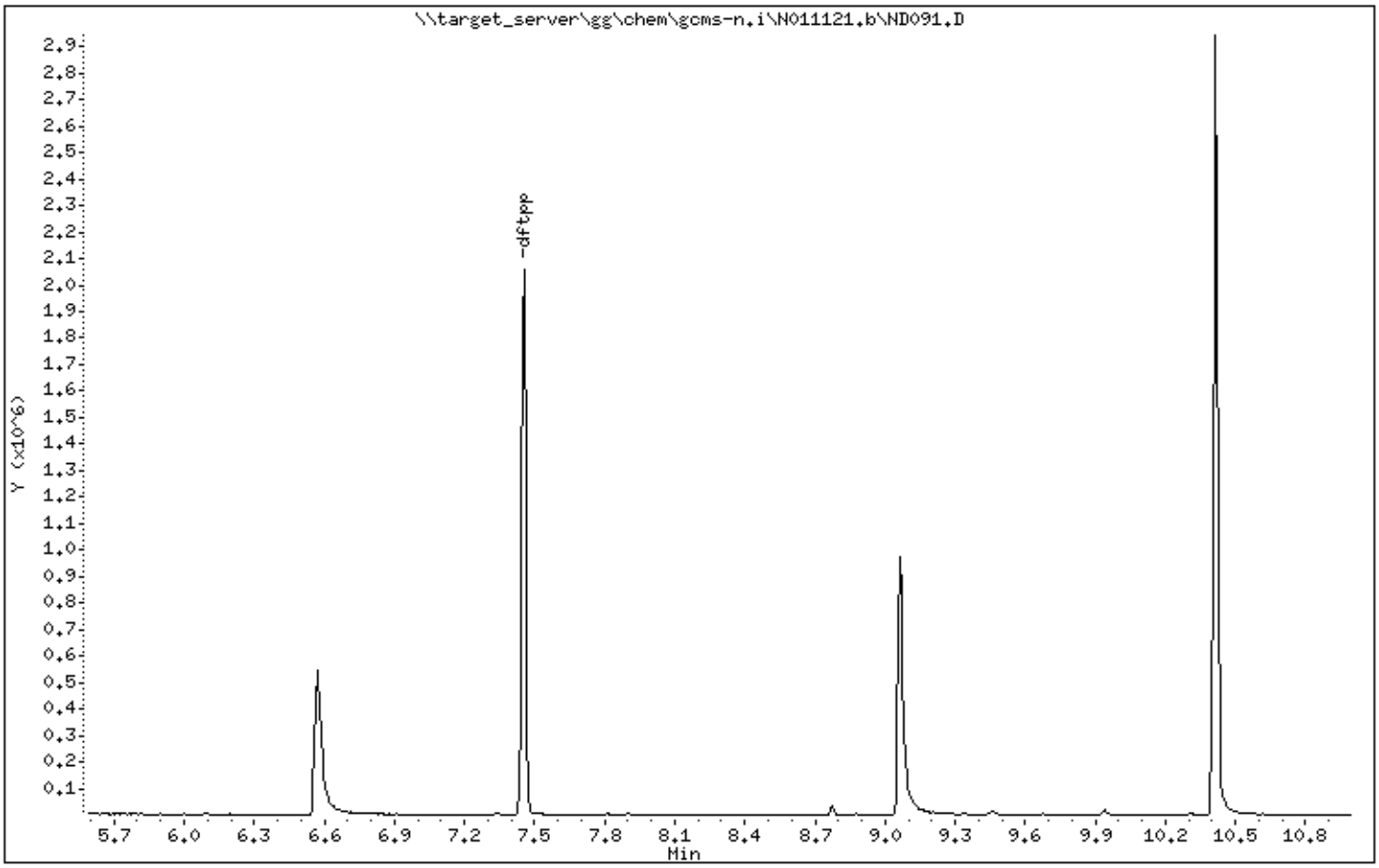
Date : 11-JAN-2021 10:51

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293230-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25



Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\ND091.D

Date : 11-JAN-2021 10:51

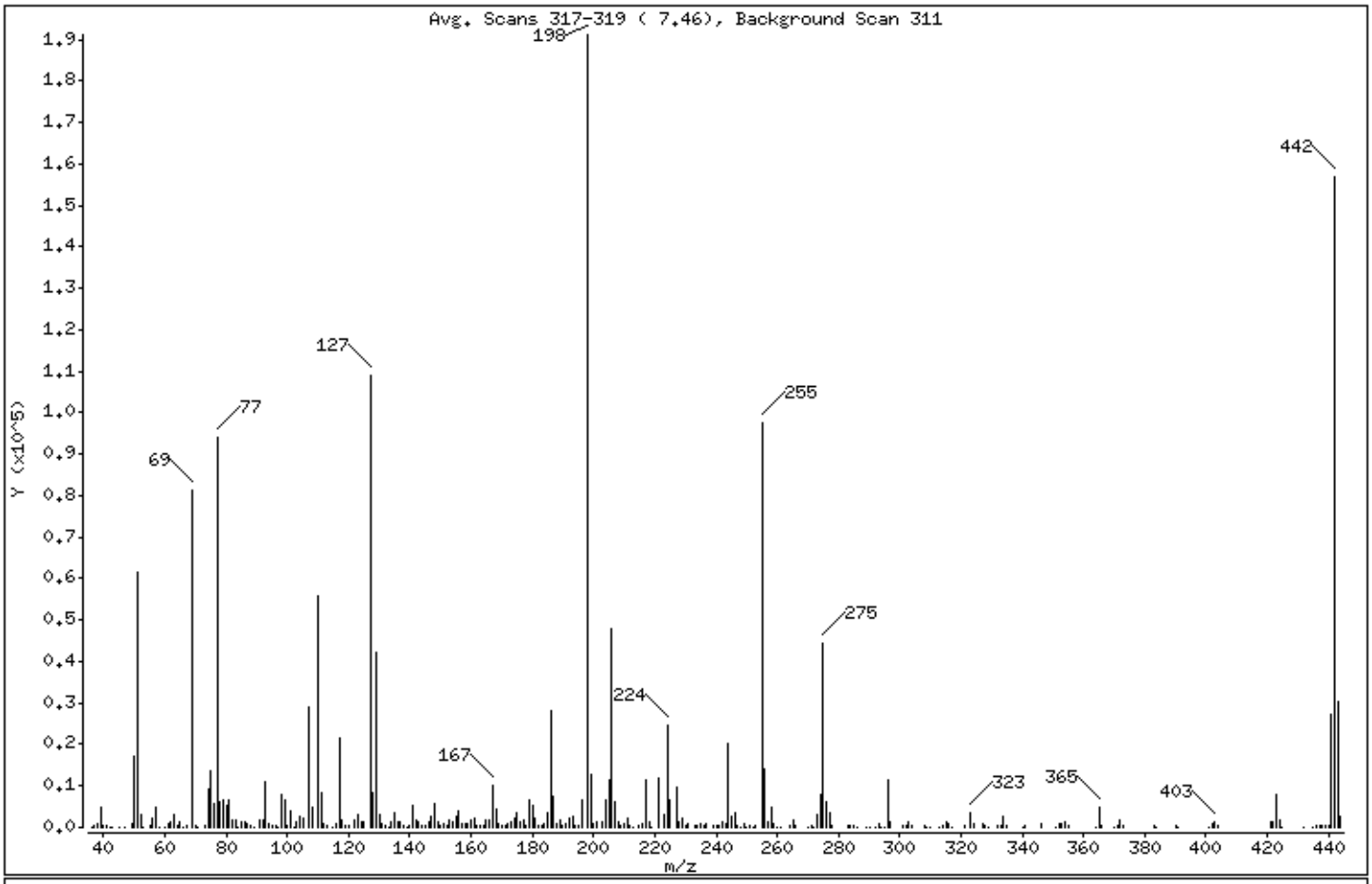
Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293230-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	32.16
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Less than 100.00% of mass 198	42.62
70	Less than 2.00% of mass 69	0.25 (0.59)
127	40.00 - 60.00% of mass 198	57.12
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.72
275	10.00 - 30.00% of mass 198	23.18
365	1.00 - 100.00% of mass 198	2.47
441	0.01 - 100.00% of mass 443	14.34 (90.51)
442	40.00 - 100.00% of mass 198	82.08
443	17.00 - 23.00% of mass 442	15.84 (19.30)

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\ND091.D

Date : 11-JAN-2021 10:51

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293230-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND091.D
Spectrum: Avg. Scans 317-319 (7.46), Background Scan 311
Location of Maximum: 198.00
Number of points: 289

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	63	120.00	425	195.00	509	286.00	134
37.00	474	122.00	1813	196.00	6535	289.00	128
38.00	839	123.00	2958	198.00	191104	290.00	53
39.00	4990	124.00	1372	199.00	12844	292.00	151
40.00	390	125.00	1379	200.00	940	293.00	687
41.00	251	127.00	109152	201.00	1344	294.00	149
42.00	63	128.00	8368	203.00	1290	295.00	192
43.00	55	129.00	42072	204.00	6687	296.00	11304
45.00	57	130.00	3156	205.00	11490	297.00	1470
47.00	91	131.00	776	206.00	47912	301.00	234
49.00	738	132.00	402	207.00	6235	302.00	301
50.00	17352	133.00	153	208.00	1535	303.00	1316
51.00	61464	134.00	1337	209.00	562	304.00	393
52.00	3104	135.00	3379	210.00	897	308.00	278
53.00	53	136.00	1384	211.00	2296	309.00	50
55.00	472	137.00	1497	212.00	478	310.00	128
56.00	2004	138.00	405	213.00	128	313.00	74
57.00	4626	139.00	210	215.00	580	314.00	600
58.00	170	140.00	370	216.00	738	315.00	1393
60.00	131	141.00	5330	217.00	11398	316.00	660
61.00	909	142.00	1683	218.00	1484	317.00	59
62.00	1181	143.00	1114	219.00	146	321.00	306
63.00	3124	144.00	401	221.00	11868	323.00	3449
64.00	484	145.00	291	223.00	3019	324.00	755
65.00	1383	146.00	1185	224.00	24712	327.00	749
66.00	67	147.00	2614	225.00	6664	328.00	307
67.00	292	148.00	5615	227.00	9584	329.00	65
69.00	81448	149.00	1159	228.00	1472	332.00	312
70.00	477	150.00	291	229.00	2133	333.00	267
71.00	54	151.00	947	230.00	427	334.00	2461
73.00	593	152.00	416	231.00	943	335.00	595
74.00	9069	153.00	1620	233.00	232	340.00	55
75.00	13513	154.00	1132	234.00	612	341.00	408
76.00	5643	155.00	2642	235.00	687	346.00	849
77.00	93976	156.00	4083	236.00	525	351.00	54

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\ND091.D

Date : 11-JAN-2021 10:51

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293230-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND091.D
Spectrum: Avg. Scans 317-319 (7.46), Background Scan 311
Location of Maximum: 198.00
Number of points: 289

m/z	Y	m/z	Y	m/z	Y	m/z	Y
78.00	6097	157.00	955	237.00	858	352.00	1069
79.00	6583	158.00	1047	239.00	386	353.00	906
80.00	5306	159.00	884	240.00	288	354.00	1277
81.00	6684	160.00	1578	241.00	562	355.00	260
82.00	1572	161.00	2243	242.00	1234	364.00	52
83.00	1593	162.00	612	243.00	991	365.00	4718
84.00	22	163.00	231	244.00	20392	366.00	626
85.00	1430	164.00	380	245.00	2550	370.00	51
86.00	1526	165.00	1870	246.00	3401	371.00	425
87.00	903	166.00	1680	247.00	651	372.00	1937
88.00	497	167.00	10011	248.00	138	373.00	579
89.00	50	168.00	4182	249.00	728	383.00	507
91.00	1775	169.00	764	250.00	169	384.00	61
92.00	1827	170.00	486	251.00	286	390.00	348
93.00	10986	171.00	515	252.00	198	391.00	186
94.00	784	172.00	882	253.00	531	401.00	53
95.00	250	173.00	1302	255.00	97648	402.00	756
96.00	482	174.00	2096	256.00	14139	403.00	1198
97.00	131	175.00	3643	257.00	1234	404.00	439
98.00	8020	176.00	1138	258.00	5003	421.00	1130
99.00	6592	177.00	1683	259.00	934	422.00	1257
100.00	615	178.00	308	260.00	130	423.00	7965
101.00	3829	179.00	6708	261.00	60	424.00	1674
102.00	174	180.00	5156	264.00	257	425.00	52
103.00	1383	181.00	2257	265.00	1930	432.00	50
104.00	2616	182.00	466	266.00	284	435.00	54
105.00	2282	183.00	247	270.00	152	436.00	236
107.00	29144	184.00	674	271.00	255	437.00	271
108.00	4820	185.00	3517	272.00	121	438.00	480
110.00	55656	186.00	28152	273.00	2925	439.00	380
111.00	8201	187.00	7678	274.00	7790	440.00	285
112.00	1064	188.00	719	275.00	44304	441.00	27400
113.00	355	189.00	1572	276.00	6361	442.00	156864
115.00	100	190.00	338	277.00	3392	443.00	30272
116.00	1012	191.00	803	278.00	566	444.00	2578

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\ND091.D

Date : 11-JAN-2021 10:51

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293230-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND091.D
Spectrum: Avg. Scans 317-319 (7.46), Background Scan 311
Location of Maximum: 198.00
Number of points: 289

m/z	Y	m/z	Y	m/z	Y	m/z	Y
117.00	21408	192.00	2192	283.00	432		
118.00	1591	193.00	2559	284.00	373		
119.00	264	194.00	628	285.00	610		

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\ND093.D

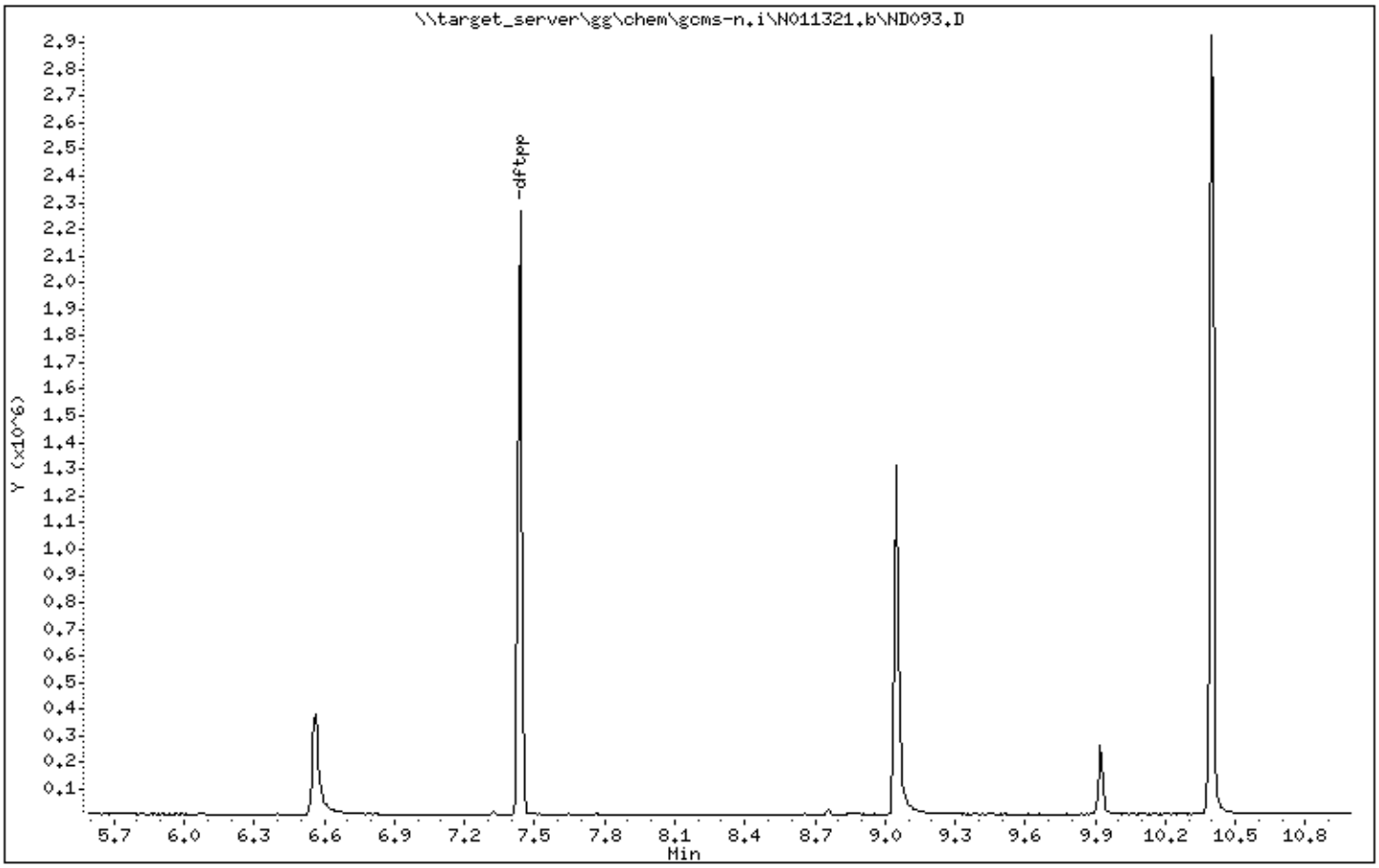
Date : 13-JAN-2021 12:57

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293350-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25



Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\ND093.D

Date : 13-JAN-2021 12:57

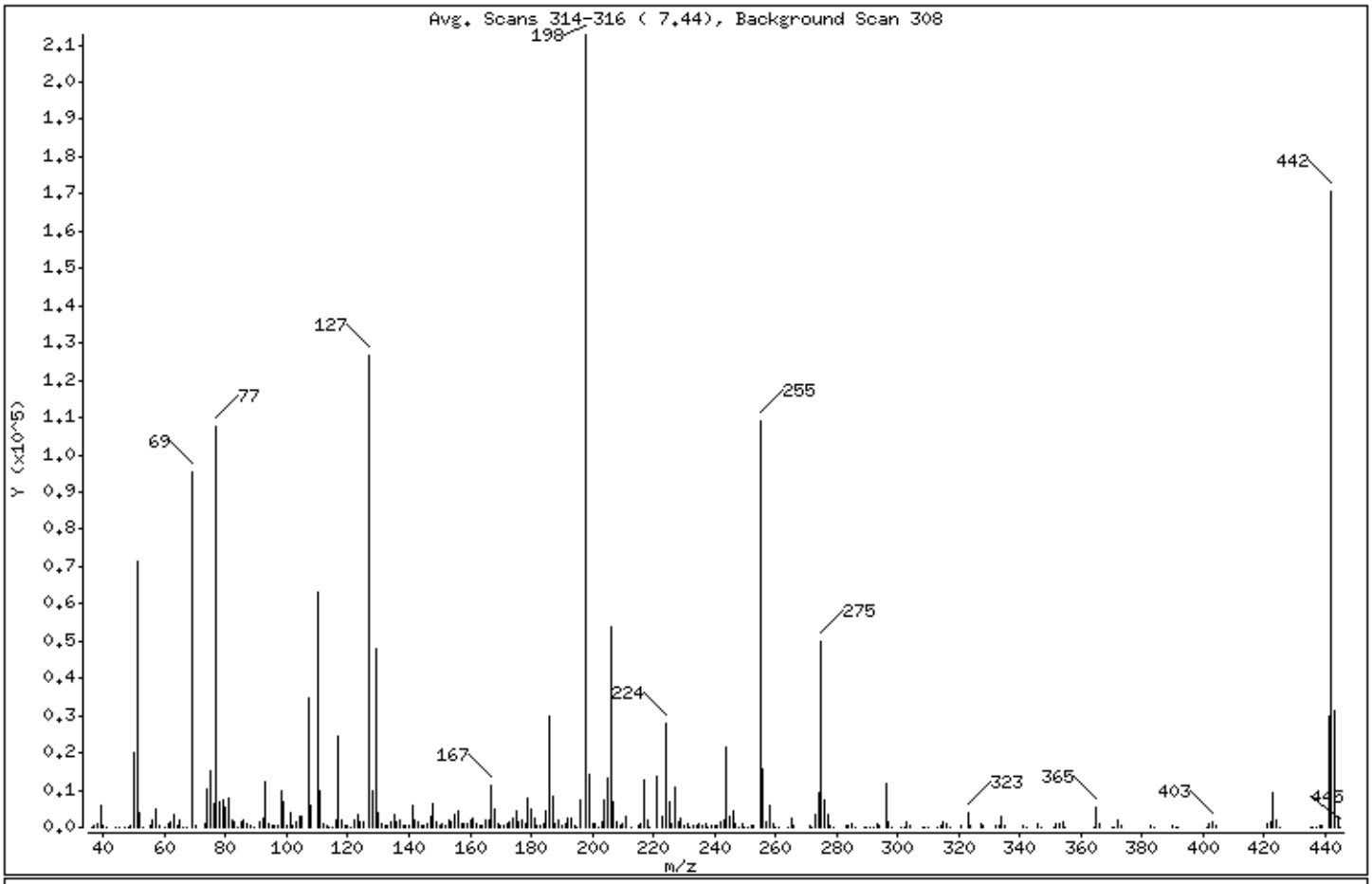
Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293350-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	33.56
68	Less than 2.00% of mass 69	0.00 (0.00)
69	Less than 100.00% of mass 198	44.74
70	Less than 2.00% of mass 69	0.26 (0.59)
127	40.00 - 60.00% of mass 198	59.56
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.58
275	10.00 - 30.00% of mass 198	23.49
365	1.00 - 100.00% of mass 198	2.45
441	0.01 - 100.00% of mass 443	13.97 (95.40)
442	40.00 - 100.00% of mass 198	80.20
443	17.00 - 23.00% of mass 442	14.65 (18.26)

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\ND093.D

Date : 13-JAN-2021 12:57

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293350-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND093.D
Spectrum: Avg. Scans 314-316 (7.44), Background Scan 308
Location of Maximum: 198.00
Number of points: 294

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	63	121.00	81	196.00	7280	285.00	779
37.00	466	122.00	2183	198.00	212736	286.00	130
38.00	1149	123.00	3604	199.00	13997	289.00	115
39.00	5625	124.00	1609	200.00	1168	290.00	220
40.00	479	125.00	1521	201.00	1215	291.00	63
41.00	201	127.00	126704	202.00	132	292.00	131
44.00	104	128.00	9618	203.00	1538	293.00	931
45.00	56	129.00	47696	204.00	7130	294.00	268
47.00	22	130.00	3723	205.00	13271	296.00	11812
48.00	79	131.00	922	206.00	53992	297.00	1664
49.00	531	132.00	548	207.00	6975	298.00	55
50.00	20200	133.00	303	208.00	1611	301.00	118
51.00	71384	134.00	1387	209.00	555	302.00	199
52.00	3909	135.00	3511	210.00	1034	303.00	1364
53.00	164	136.00	1332	211.00	3096	304.00	369
55.00	331	137.00	1769	213.00	207	308.00	141
56.00	2166	138.00	458	215.00	563	309.00	54
57.00	5133	139.00	312	216.00	1129	310.00	189
58.00	259	140.00	714	217.00	12922	313.00	137
60.00	112	141.00	6081	218.00	1872	314.00	570
61.00	1076	142.00	2174	219.00	131	315.00	1232
62.00	1243	143.00	1482	221.00	13511	316.00	835
63.00	3482	144.00	354	223.00	3116	317.00	168
64.00	541	145.00	378	224.00	27896	321.00	455
65.00	1826	146.00	1188	225.00	6857	323.00	3947
66.00	174	147.00	2966	226.00	748	324.00	591
67.00	131	148.00	6228	227.00	10776	327.00	743
69.00	95184	149.00	1413	228.00	1704	328.00	299
70.00	563	150.00	405	229.00	2462	332.00	313
73.00	990	151.00	1086	230.00	323	333.00	476
74.00	10154	152.00	525	231.00	1209	334.00	2753
75.00	15343	153.00	1929	232.00	183	335.00	644
76.00	6477	154.00	1511	233.00	253	341.00	430
77.00	107576	155.00	3282	234.00	702	342.00	113
78.00	7083	156.00	4629	235.00	735	346.00	899

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\ND093.D

Date : 13-JAN-2021 12:57

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293350-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND093.D
Spectrum: Avg. Scans 314-316 (7.44), Background Scan 308
Location of Maximum: 198.00
Number of points: 294

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	7531	157.00	915	236.00	618	347.00	202
80.00	5504	158.00	1128	237.00	792	351.00	57
81.00	7986	159.00	902	238.00	71	352.00	1199
82.00	1802	160.00	1905	239.00	503	353.00	906
83.00	1686	161.00	2618	240.00	425	354.00	1232
84.00	77	162.00	826	241.00	668	355.00	215
85.00	1490	163.00	248	242.00	1387	364.00	56
86.00	2125	164.00	348	243.00	2092	365.00	5207
87.00	1017	165.00	2169	244.00	21304	366.00	803
88.00	473	166.00	1775	245.00	2693	370.00	63
89.00	117	167.00	11255	246.00	4223	371.00	234
91.00	1681	168.00	4865	247.00	894	372.00	2122
92.00	2218	169.00	787	248.00	179	373.00	612
93.00	12071	170.00	580	249.00	998	383.00	603
94.00	840	171.00	547	250.00	168	384.00	167
95.00	346	172.00	956	251.00	154	390.00	282
96.00	594	173.00	1346	252.00	256	391.00	208
97.00	263	174.00	2497	253.00	688	392.00	68
98.00	9620	175.00	4408	255.00	108856	401.00	76
99.00	7040	176.00	1470	256.00	15439	402.00	1143
100.00	688	177.00	2137	257.00	1497	403.00	1396
101.00	4134	178.00	884	258.00	5692	404.00	405
102.00	280	179.00	8066	259.00	890	421.00	1153
103.00	1540	180.00	4895	260.00	136	422.00	1542
104.00	2867	181.00	2397	261.00	153	423.00	9090
105.00	2693	182.00	468	264.00	107	424.00	1803
107.00	34872	183.00	269	265.00	2255	425.00	112
108.00	5698	184.00	796	266.00	406	435.00	120
110.00	63328	185.00	4210	271.00	265	436.00	229
111.00	9586	186.00	29912	272.00	144	437.00	183
112.00	1101	187.00	8343	273.00	3389	438.00	418
113.00	405	188.00	845	274.00	9279	439.00	688
114.00	59	189.00	1873	275.00	49976	441.00	29728
115.00	59	190.00	252	276.00	7165	442.00	170624
116.00	2186	191.00	815	277.00	3603	443.00	31160

Data File: \\target_server\gg\chem\gcms-n.i\N011321.b\ND093.D

Date : 13-JAN-2021 12:57

Client ID: DFTPP02 Instrument: gcms-n.i

Sample Info: WG293350-1,TN0377

Operator: JCG

Column phase: RTX-5SILMS Column diameter: 0.25

Data File: ND093.D
Spectrum: Avg. Scans 314-316 (7.44), Background Scan 308
Location of Maximum: 198.00
Number of points: 294

m/z	Y	m/z	Y	m/z	Y	m/z	Y
117.00	24584	192.00	2292	278.00	592	444.00	2915
118.00	1802	193.00	2567	279.00	148	445.00	128
119.00	346	194.00	524	283.00	546		
120.00	479	195.00	194	284.00	297		

Raw QC Data Section

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG292336-1
Client ID: Method Blank Sample
Project:
SDG: TN0377
Lab File ID: N1286.D

Sample Date:
Received Date:
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Naphthalene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
2-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.077	0.10
1-Methylnaphthalene	U	0.10	ug/L	1	.2	0.20	0.068	0.10
Acenaphthylene	U	0.10	ug/L	1	.2	0.20	0.054	0.10
Acenaphthene	U	0.10	ug/L	1	.2	0.20	0.064	0.10
Fluorene	U	0.10	ug/L	1	.2	0.20	0.061	0.10
Phenanthrene	U	0.10	ug/L	1	.2	0.20	0.051	0.10
Anthracene	U	0.10	ug/L	1	.2	0.20	0.044	0.10
Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.073	0.10
Pyrene	U	0.10	ug/L	1	.2	0.20	0.059	0.10
Benzo(a)anthracene	U	0.10	ug/L	1	.2	0.20	0.046	0.10
Chrysene	U	0.10	ug/L	1	.2	0.20	0.036	0.10
Benzo(b)Fluoranthene	U	0.10	ug/L	1	.2	0.20	0.089	0.10
Benzo(k)fluoranthene	U	0.10	ug/L	1	.2	0.20	0.049	0.10
Benzo(a)pyrene	U	0.10	ug/L	1	.2	0.20	0.066	0.10
Indeno(1,2,3-cd)pyrene	U	0.10	ug/L	1	.2	0.20	0.052	0.10
Dibenzo(a,h)anthracene	U	0.10	ug/L	1	.2	0.20	0.070	0.10
Benzo(g,h,i)perylene	U	0.10	ug/L	1	.2	0.20	0.065	0.10
2-Methylnaphthalene-D10		79.8	%					
Fluorene-D10		72.0	%					
Pyrene-D10		81.9	%					

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1286.D
Report Date: 15-Jan-2021 15:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1286.D
Lab Smp Id: WG292336-1 Client Smp ID: WG292336-Blank
Inj Date : 08-JAN-2021 11:12
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292336-1,TN0377
Misc Info : WG293131,WG292336,WG292998-4,TN0377-2
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 4 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

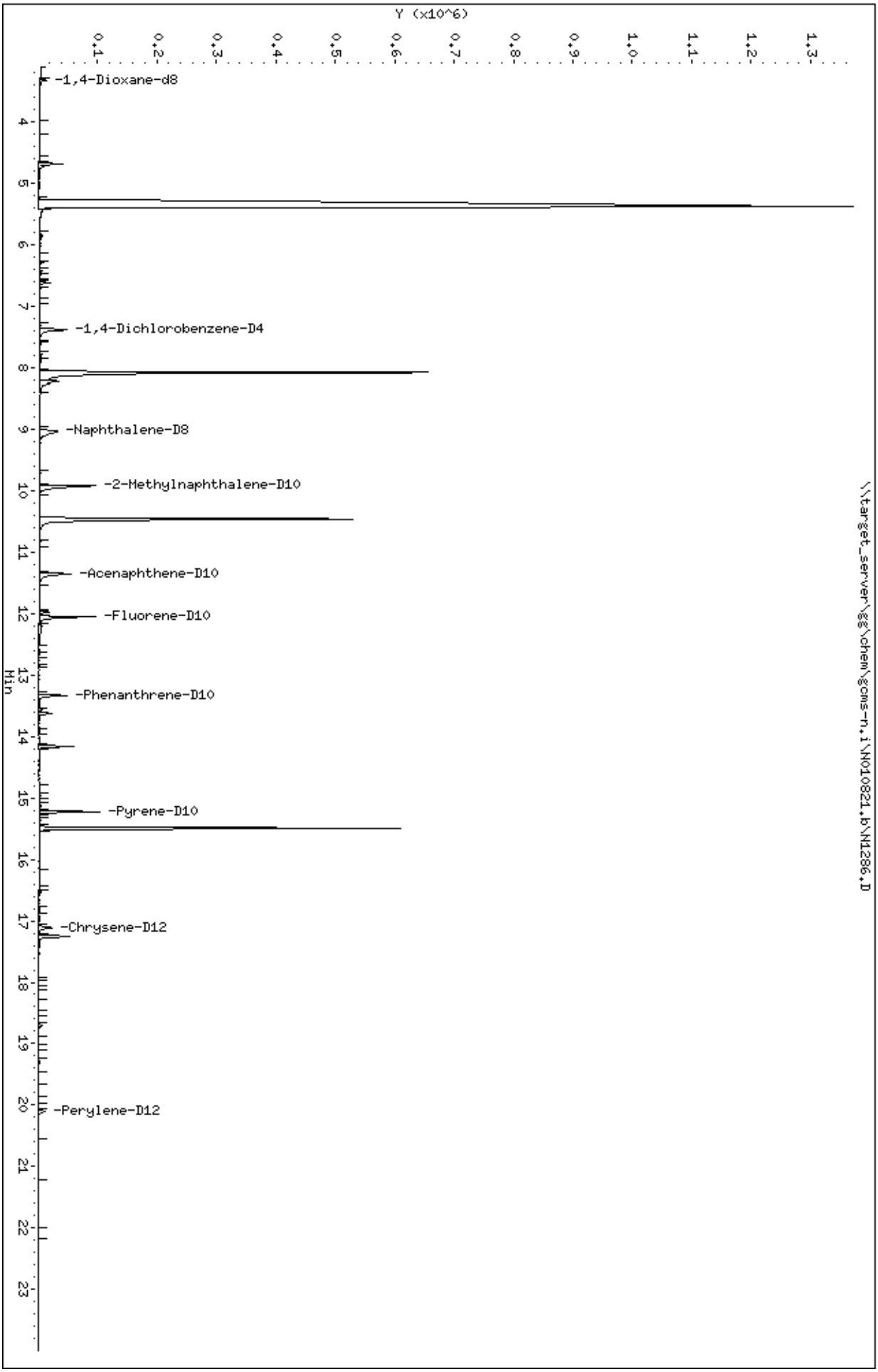
Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.374	7.374	(1.000)	38778	0.80000	(aQ)	
* 27 Naphthalene-D8	136	9.023	9.012	(1.000)	105159	0.80000	(a)	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.099)	101848	1.59635	1.60	
* 48 Acenaphthene-D10	164	11.349	11.349	(1.000)	56479	0.80000	(a)	
$ 56 Fluorene-D10	174	12.046	12.057	(1.061)	86901	1.43968	1.44	
* 66 Phenanthrene-D10	188	13.335	13.335	(1.000)	76569	0.80000	(a)	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	89779	1.63753	1.64	
* 77 Chrysene-D12	240	17.113	17.124	(1.000)	31920	0.80000	(a)	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	21113	0.80000	(a)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.


Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1286,D
Date : 08-JAN-2021 11:12
Client ID: WG292336-Blank
Sample Info: WG292336-1,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010821,b\N1286,D
Y (x10^6)
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
-1,4-Dioxane-d8
-1,4-Dichlorobenzene-D4
-Naphthalene-D8
-2-Methylnaphthalene-D10
-Acenaphthene-D10
-Fluorene-D10
-Phenanthrene-D10
-Pyrene-D10
-Chrysene-D12
-Perylene-D12
Min
4
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Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG292336-2
Client ID: LCS
Project:
SDG: TN0377
LCS File ID: N1285.D

Sample Date:
Received Date:
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA
Report Date: 18-JAN-21

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Naphthalene	64.0	2.00	1.28	ug/L	43-114
2-Methylnaphthalene	88.5	2.00	1.77	ug/L	39-114
1-Methylnaphthalene	89.0	2.00	1.78	ug/L	41-115
Acenaphthylene	53.0	2.00	1.06	ug/L	35-121
Acenaphthene	61.5	2.00	1.23	ug/L	48-114
Fluorene	63.0	2.00	1.26	ug/L	50-118
Phenanthrene	77.5	2.00	1.55	ug/L	53-115
Anthracene	72.0	2.00	1.44	ug/L	53-119
Fluoranthene	82.5	2.00	1.65	ug/L	58-120
Pyrene	86.0	2.00	1.72	ug/L	53-121
Benzo(a)anthracene	82.0	2.00	1.64	ug/L	59-120
Chrysene	90.5	2.00	1.81	ug/L	57-120
Benzo(b)Fluoranthene	87.5	2.00	1.75	ug/L	53-126
Benzo(k)fluoranthene	89.5	2.00	1.79	ug/L	54-125
Benzo(a)pyrene	76.5	2.00	1.53	ug/L	53-120
Indeno(1,2,3-cd)pyrene	82.5	2.00	1.65	ug/L	48-130
Dibenzo(a,h)anthracene	71.0	2.00	1.42	ug/L	44-131
Benzo(g,h,i)perylene	73.5	2.00	1.47	ug/L	44-128
2-Methylnaphthalene-D10	69.6				43-92
Fluorene-D10	56.4				29-101
Pyrene-D10	82.9				53-166

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1285.D
Report Date: 15-Jan-2021 15:59

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1285.D
Lab Smp Id: WG292336-2 Client Smp ID: WG292336-LCS
Inj Date : 08-JAN-2021 10:39
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292336-2,TN0377
Misc Info : WG293131,WG292336,WG292998-4,TN0377-2
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

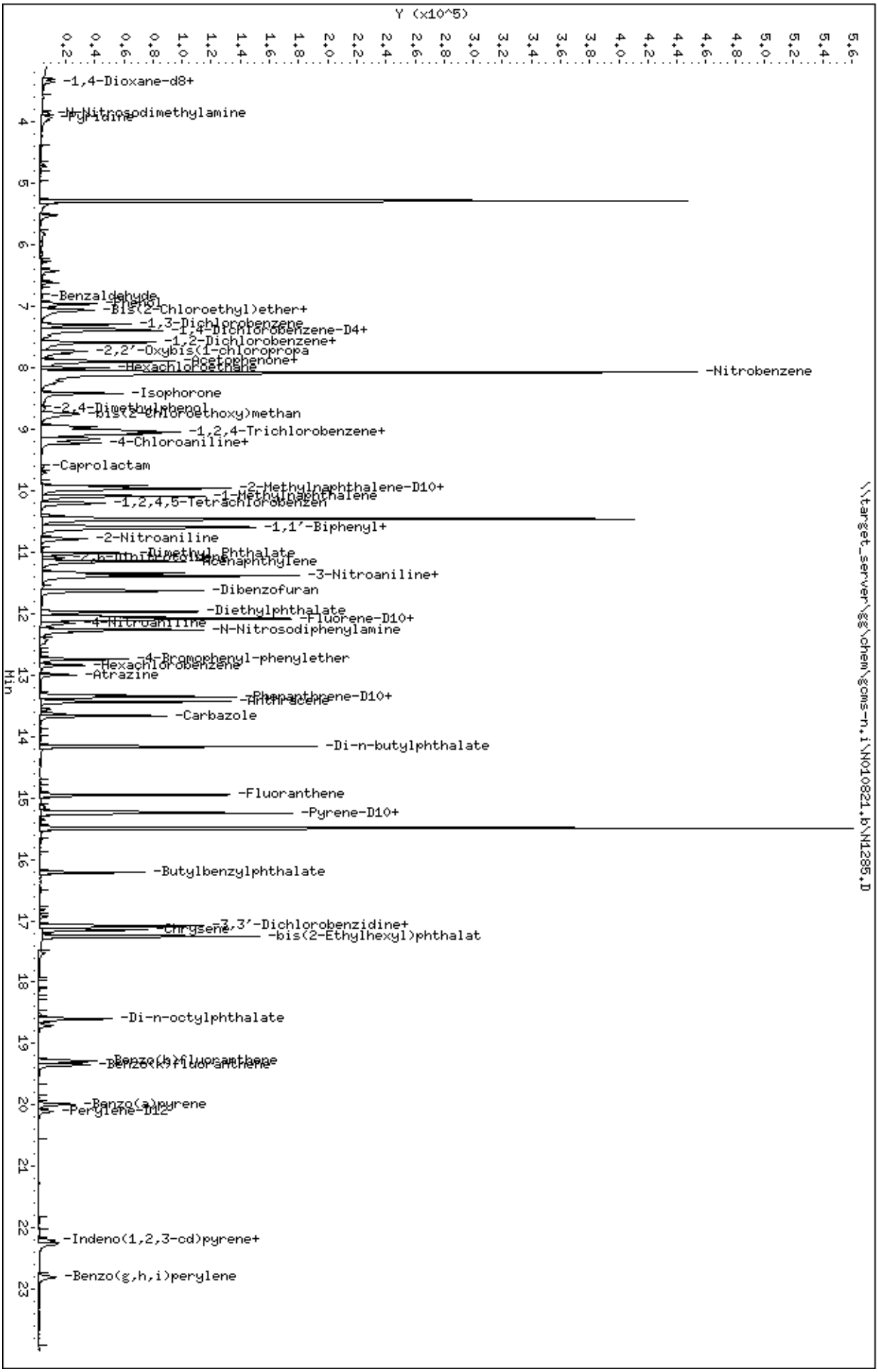
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.364	7.374	(1.000)	33302	0.80000	(a)	
* 27 Naphthalene-D8	136	9.012	9.012	(1.000)	80350	0.80000	(a)	
28 Naphthalene	128	9.033	9.044	(1.002)	124217	1.27732	1.28	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.101)	67828	1.39138	1.39	
34 2-Methylnaphthalene	142	9.959	9.969	(1.105)	92036	1.76645	1.77	
35 1-Methylnaphthalene	142	10.087	10.097	(1.119)	84613	1.77525	1.78	
46 Acenaphthylene	152	11.153	11.153	(0.984)	119930	1.05505	1.06	
* 48 Acenaphthene-D10	164	11.338	11.349	(1.000)	52123	0.80000	(a)	
49 Acenaphthene	153	11.382	11.393	(1.004)	89344	1.23064	1.23	
$ 56 Fluorene-D10	174	12.046	12.057	(1.062)	62849	1.12823	1.13	
57 Fluorene	166	12.079	12.090	(1.065)	93267	1.25526	1.26	
* 66 Phenanthrene-D10	188	13.323	13.335	(1.000)	70575	0.80000	(a)	
67 Phenanthrene	178	13.358	13.369	(1.003)	134913	1.55209	1.55	
68 Anthracene	178	13.427	13.438	(1.008)	135856	1.44030	1.44	
71 Fluoranthene	202	14.959	14.970	(1.123)	132794	1.65138	1.65	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	80964	1.65844	1.66	
73 Pyrene	202	15.247	15.270	(0.892)	128059	1.71768	1.72	
76 Benzo(a)anthracene	228	17.079	17.113	(0.999)	67695	1.64397	1.64	
* 77 Chrysene-D12	240	17.102	17.124	(1.000)	28423	0.80000	(a)	
78 Chrysene	228	17.146	17.179	(1.003)	77987	1.81416	1.81	

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1285.D
Report Date: 15-Jan-2021 15:59

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.327	(0.959)	54278	1.75354	1.75	
82 Benzo(k)fluoranthene	252	19.338	19.383	(0.961)	58763	1.78642	1.79(H)	
83 Benzo(a)pyrene	252	19.989	20.023	(0.994)	37087	1.53315	1.53	
* 84 Perylene-D12	264	20.113	20.135	(1.000)	19884	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.212	22.257	(1.299)	35566	1.64893	1.65	
86 Dibenzo(a,h)anthracene	278	22.268	22.313	(1.107)	26763	1.42421	1.42	
87 Benzo(g,h,i)perylene	276	22.796	22.852	(1.133)	33236	1.46956	1.47	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1285,D
Date : 08-JAN-2021 10:39
Client ID: WG292336-LCS
Sample Info: WG292336-2,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N010821,b\N1285,D
Y (x10^5)
Min
-1,4-Dioxane-d8+
-N-Nitrosodimethylamine
-Pyridine
-Benzaldehyde
-Phenol
-Bis(2-Chloroethyl)ether+
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-D4+
-1,2-Dichlorobenzene+
-2,2'-Oxybis(1-chloropropa
-Acetophenone+
-Hexachloroethane
-Nitrobenzene
-Isophorone
-2,4-Dimethylphenol
-bis(2-chloroethoxy)methan
-1,2,4-Trichlorobenzene+
-4-Chloroaniline+
-Caprolactam
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-1,2,4,5-Tetrachlorobenzen
-1,1'-Biphenyl+
-2-Nitroaniline
-Dimethyl Phthalate
-Acenaphthylene
-3-Nitroaniline+
-Dibenzofuran
-Diethylphthalate
-Fluorene-D10+
-4-Nitroaniline
-N-Nitrosodiphenylamine
-4-Bromophenyl-phenylether
-Hexachlorobenzene
-Atrazine
-Phenanthrene-D10+
-Anthracene
-Carbazole
-Di-n-butylphthalate
-Fluoranthene
-Pyrene-D10+
-Butylbenzylphthalate
-3,3'-Dichlorobenzidine+
-Chrysene
-bis(2-Ethylhexyl)phthalat
-Di-n-octylphthalate
-Benzo(b)fluoranthene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene+
-Benzo(g,h,i)perylene

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG292336-3
MSD ID: WG292336-4
Sample ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project:
SDG: TN0377
MS File ID: N1289.D

Received Date:
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336
Report Date: 18-JAN-21
MSD File ID: N1290.D

Analysis Date: 08-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Naphthalene	1.89	1.90	ug/L	U0.095	1.4	1.2	73.1	64.0	12	20	43-114
2-Methylnaphthalene	1.89	1.90	ug/L	U0.095	1.9	1.7	102.	88.2	13	20	39-114
1-Methylnaphthalene	1.89	1.90	ug/L	U0.095	1.8	1.6	94.9	81.9	14	20	41-115
Acenaphthylene	1.89	1.90	ug/L	U0.095	1.2	1.0	63.6	54.6	14	20	35-121
Acenaphthene	1.89	1.90	ug/L	U0.095	1.4	1.2	72.1	61.4	15	20	48-114
Fluorene	1.89	1.90	ug/L	U0.095	1.5	1.2	79.5	64.0	20	20	50-118
Phenanthrene	1.89	1.90	ug/L	U0.095	1.7	1.3	88.0	69.8	22*	20	53-115
Anthracene	1.89	1.90	ug/L	U0.095	1.6	1.2	82.7	65.1	23*	20	53-119
Fluoranthene	1.89	1.90	ug/L	U0.095	1.7	1.4	90.6	74.6	18	20	58-120
Pyrene	1.89	1.90	ug/L	U0.095	1.9	1.6	98.6	84.0	15	20	53-121
Benzo(a)anthracene	1.89	1.90	ug/L	U0.095	1.7	1.4	89.6	75.1	17	20	59-120
Chrysene	1.89	1.90	ug/L	U0.095	1.8	1.6	98.0	82.4	16	20	57-120
Benzo(b)Fluoranthene	1.89	1.90	ug/L	U0.095	1.7	1.3	89.0	67.7	26*	20	53-126
Benzo(k)fluoranthene	1.89	1.90	ug/L	U0.095	2.0	1.5	105.	77.7	29*	20	54-125
Benzo(a)pyrene	1.89	1.90	ug/L	U0.095	1.6	1.2	84.3	63.5	27*	20	53-120
Indeno(1,2,3-cd)pyrene	1.89	1.90	ug/L	U0.095	1.7	1.1	88.0	58.3	40*	20	48-130
Dibenzo(a,h)anthracene	1.89	1.90	ug/L	U0.095	1.5	0.94	81.1	49.2	48*	20	44-131
Benzo(g,h,i)perylene	1.89	1.90	ug/L	U0.095	1.5	1.0	81.1	55.1	37*	20	44-128
2-Methylnaphthalene-D10							108.*	69.2			43-92
Fluorene-D10							74.3	59.7			29-101
Pyrene-D10							98.6	82.4			53-166

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Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1289.D
Report Date: 15-Jan-2021 16:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1289.D
Lab Smp Id: WG292336-3 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 08-JAN-2021 12:49
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292336-3,TN0377
Misc Info : WG293131,WG292336,WG292998-4,TN0377-2
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 7 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.060	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.374	(1.000)	36502	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	9.012	(1.000)	102928	0.80000	(a)	
28 Naphthalene	128	9.033	9.044	(1.004)	182040	1.46130	1.38	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.102)	135255	2.16592	2.04(R)	
34 2-Methylnaphthalene	142	9.959	9.969	(1.106)	135982	2.03074	1.92	
35 1-Methylnaphthalene	142	10.077	10.097	(1.119)	115889	1.89535	1.79	
46 Acenaphthylene	152	11.142	11.153	(0.983)	167017	1.26954	1.20	
* 48 Acenaphthene-D10	164	11.338	11.349	(1.000)	60324	0.80000	(a)	
49 Acenaphthene	153	11.382	11.393	(1.004)	121444	1.44538	1.36	
$ 56 Fluorene-D10	174	12.035	12.057	(1.062)	95777	1.48559	1.40	
57 Fluorene	166	12.068	12.090	(1.064)	136885	1.59185	1.50	
* 66 Phenanthrene-D10	188	13.323	13.335	(1.000)	86314	0.80000	(a)	
67 Phenanthrene	178	13.358	13.369	(1.003)	187443	1.76321	1.66	
68 Anthracene	178	13.427	13.438	(1.008)	190492	1.65128	1.56	
71 Fluoranthene	202	14.948	14.970	(1.122)	178084	1.81077	1.71	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	110597	1.97117	1.86	
73 Pyrene	202	15.247	15.270	(0.892)	169426	1.97736	1.86	
76 Benzo(a)anthracene	228	17.079	17.113	(0.999)	84805	1.79198	1.69(H)	
* 77 Chrysene-D12	240	17.102	17.124	(1.000)	32666	0.80000	(a)	
78 Chrysene	228	17.146	17.179	(1.003)	97026	1.96389	1.85	

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1289.D
Report Date: 15-Jan-2021 16:08

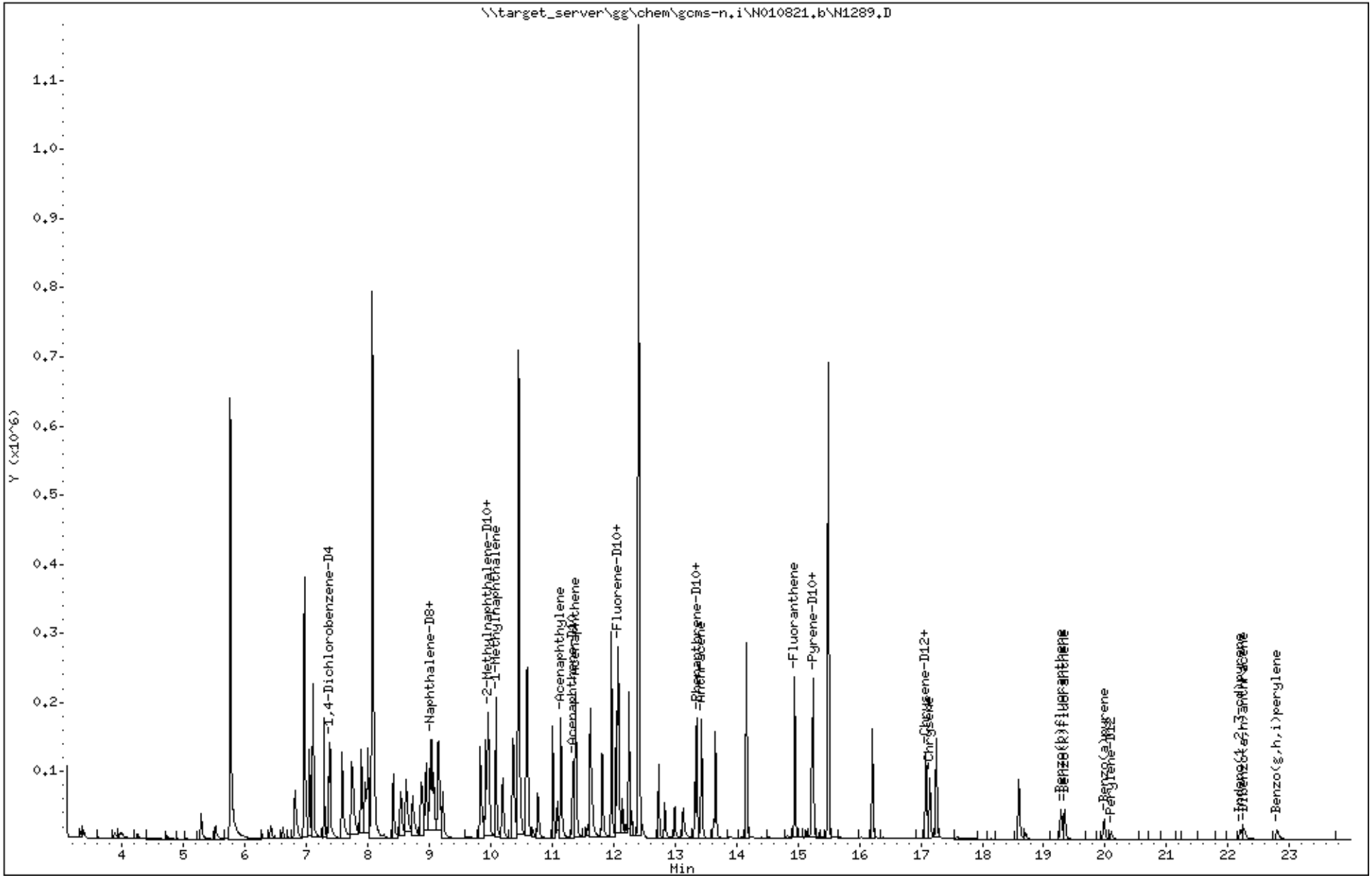
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.327	(0.959)	60365	1.78345	1.68	
82 Benzo(k)fluoranthene	252	19.338	19.383	(0.962)	75545	2.10024	1.98(H)	
83 Benzo(a)pyrene	252	19.989	20.023	(0.994)	44492	1.68201	1.59	
* 84 Perylene-D12	264	20.101	20.135	(1.000)	21743	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.201	22.257	(1.298)	43728	1.76401	1.66	
86 Dibenzo(a,h)anthracene	278	22.268	22.313	(1.108)	33249	1.61809	1.53	
87 Benzo(g,h,i)perylene	276	22.796	22.852	(1.134)	40106	1.62171	1.53	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1289.D
Date : 08-JAN-2021 12:49
Client ID: W-01-INF-WINTER2020
Sample Info: WG292336-3,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n.i
Operator: JCG
Column diameter: 0.25



Katahdin Analytical Services 3000324

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1290.D
Report Date: 15-Jan-2021 16:08

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N010821.b\N1290.D
Lab Smp Id: WG292336-4 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 08-JAN-2021 13:21
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292336-4,TN0377
Misc Info : WG293131,WG292336,WG292998-4,TN0377-2
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N010821.b\NSPSIM41.m
Meth Date : 11-Jan-2021 09:55 cgomez Quant Type: ISTD
Cal Date : 06-JAN-2021 16:03 Cal File: N1244.D
Als bottle: 8 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.050	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.374	(1.000)	35194	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	9.012	(1.000)	98031	0.80000	(a)	
28 Naphthalene	128	9.033	9.044	(1.004)	151961	1.28078	1.22	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.919	(1.102)	82302	1.38379	1.32	
34 2-Methylnaphthalene	142	9.959	9.969	(1.106)	112235	1.76563	1.68	
35 1-Methylnaphthalene	142	10.077	10.097	(1.119)	95467	1.64429	1.56	
46 Acenaphthylene	152	11.142	11.153	(0.983)	136111	1.09497	1.04	
* 48 Acenaphthene-D10	164	11.338	11.349	(1.000)	56999	0.80000	(a)	
49 Acenaphthene	153	11.382	11.393	(1.004)	97856	1.23258	1.17	
$ 56 Fluorene-D10	174	12.035	12.057	(1.062)	72729	1.19390	1.14	
57 Fluorene	166	12.079	12.090	(1.065)	104302	1.28369	1.22	
* 66 Phenanthrene-D10	188	13.323	13.335	(1.000)	76944	0.80000	(a)	
67 Phenanthrene	178	13.358	13.369	(1.003)	132097	1.39391	1.33	
68 Anthracene	178	13.427	13.438	(1.008)	134340	1.30634	1.24	
71 Fluoranthene	202	14.948	14.970	(1.122)	131183	1.49632	1.42	
$ 72 Pyrene-D10	212	15.225	15.247	(0.890)	82102	1.64914	1.57	
73 Pyrene	202	15.247	15.270	(0.892)	127467	1.67659	1.60	
76 Benzo(a)anthracene	228	17.079	17.113	(0.999)	63160	1.50410	1.43	
* 77 Chrysene-D12	240	17.102	17.124	(1.000)	28985	0.80000	(a)	
78 Chrysene	228	17.146	17.179	(1.003)	72088	1.64442	1.57	

Data File: \\target_server\gg\chem\gcms-n.i\N010821.b\N1290.D
Report Date: 15-Jan-2021 16:08

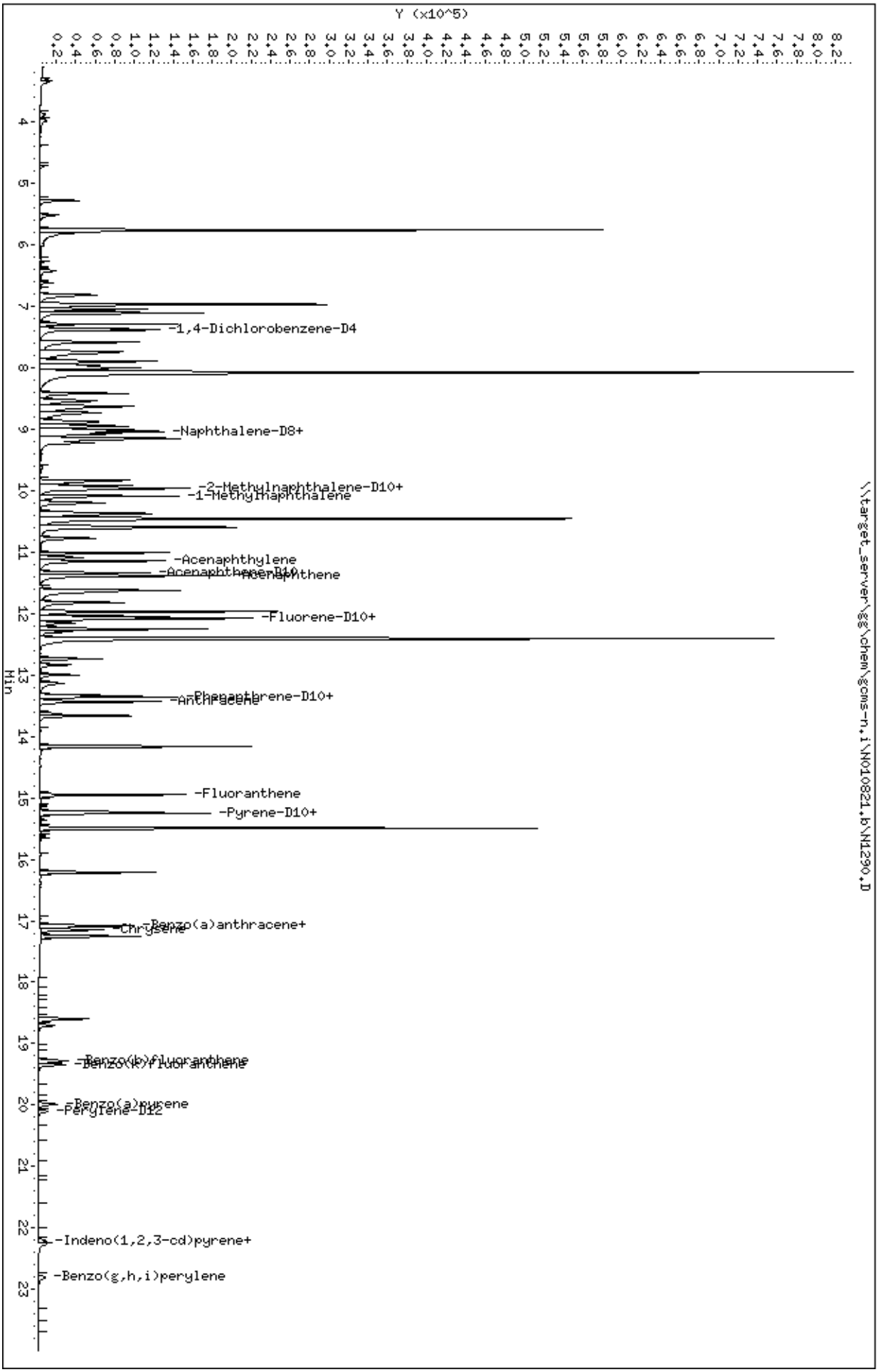
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.282	19.327	(0.959)	41603	1.35599	1.29	
82 Benzo(k)fluoranthene	252	19.338	19.383	(0.962)	50550	1.55039	1.48(H)	
83 Benzo(a)pyrene	252	19.989	20.023	(0.994)	30428	1.26904	1.21	
* 84 Perylene-D12	264	20.102	20.135	(1.000)	19709	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.212	22.257	(1.299)	25566	1.16232	1.11	
86 Dibenzo(a,h)anthracene	278	22.268	22.313	(1.108)	18349	0.98512	0.938	
87 Benzo(g,h,i)perylene	276	22.796	22.852	(1.134)	24671	1.10054	1.05	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
H - Operator selected an alternate compound hit.

Data File: \\target_server\gg\chem\gcms-n,i\N010821,b\N1290,D
Date : 08-JAN-2021 13:21
Client ID: W-01-INF-WINTER2020
Sample Info: WG292336-4,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25



Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG292336-5
MSD ID: WG292336-6
Sample ID: TN0377-7
Client ID: MW-01-WINTER2020
Project:
SDG: TN0377
MS File ID: N1321.D

Received Date:
Extract Date: 22-DEC-20
Extracted By: KE/GN
Extraction Method: SW846 3510C
Lab Prep Batch: WG292336
Report Date: 18-JAN-21
MSD File ID: N1322.D

Analysis Date: 11-JAN-21
Analyst: JCG
Analysis Method: SW846 8270D SIM
Matrix: AQ
% Solids: NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
Naphthalene	1.87	2.06	ug/L	U0.10	1.4	1.6	76.5	77.1	10	20	43-114
2-Methylnaphthalene	1.87	2.06	ug/L	U0.10	1.6	1.7	82.9	83.9	11	20	39-114
1-Methylnaphthalene	1.87	2.06	ug/L	U0.10	1.6	1.8	84.0	89.2	16	20	41-115
Acenaphthylene	1.87	2.06	ug/L	U0.10	1.2	1.3	64.7	64.5	9	20	35-121
Acenaphthene	1.87	2.06	ug/L	U0.10	1.3	1.5	71.2	71.8	11	20	48-114
Fluorene	1.87	2.06	ug/L	U0.10	1.4	1.6	74.9	76.6	12	20	50-118
Phenanthrene	1.87	2.06	ug/L	U0.10	1.4	1.8	73.8	85.4	24*	20	53-115
Anthracene	1.87	2.06	ug/L	U0.10	1.4	1.8	73.3	85.4	25*	20	53-119
Fluoranthene	1.87	2.06	ug/L	U0.10	1.5	2.0	82.4	98.0	27*	20	58-120
Pyrene	1.87	2.06	ug/L	J0.070	1.6	2.0	79.2	91.7	23*	20	53-121
Benzo(a)anthracene	1.87	2.06	ug/L	U0.10	1.4	1.9	72.8	90.2	31*	20	59-120
Chrysene	1.87	2.06	ug/L	J0.044	1.6	2.1	80.6	99.2	30*	20	57-120
Benzo(b)Fluoranthene	1.87	2.06	ug/L	U0.10	1.1	1.7	61.0	81.5	38*	20	53-126
Benzo(k)fluoranthene	1.87	2.06	ug/L	U0.10	1.1	1.8	56.7	86.8	51*	20	54-125
Benzo(a)pyrene	1.87	2.06	ug/L	UM0.10	0.91	1.5	48.7*	71.8	48*	20	53-120
Indeno(1,2,3-cd)pyrene	1.87	2.06	ug/L	UM0.10	0.73	1.4	38.9*	66.0	61*	20	48-130
Dibenzo(a,h)anthracene	1.87	2.06	ug/L	UM0.10	0.67	1.4	35.6*	67.4	70*	20	44-131
Benzo(g,h,i)perylene	1.87	2.06	ug/L	UM0.10	0.73	1.4	39.3*	67.4	62*	20	44-128
2-Methylnaphthalene-D10							103.*	103.*			43-92
Fluorene-D10							73.5	73.0			29-101
Pyrene-D10							75.2	84.8			53-166

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1321.D
Report Date: 18-Jan-2021 13:16

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1321.D
Lab Smp Id: WG292336-5 Client Smp ID: MW-01-WINTER2020MS
Inj Date : 11-JAN-2021 16:35
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292336-5,TN0377
Misc Info : WG293230,WG292336,WG293230-4,TN0377-7
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 13:52 Cal File: N1316.D
Als bottle: 12 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	1.070	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.354	7.354	(1.000)	28884	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	8.990	(1.000)	78381	0.80000	(a)	
28 Naphthalene	128	9.033	9.022	(1.004)	169312	1.52642	1.43	
$ 33 2-Methylnaphthalene-D10	152	9.919	9.900	(1.102)	111546	2.05460	1.92(R)	
34 2-Methylnaphthalene	142	9.959	9.949	(1.106)	124387	1.66321	1.55	
35 1-Methylnaphthalene	142	10.077	10.077	(1.119)	105129	1.67976	1.57	
46 Acenaphthylene	152	11.142	11.131	(0.983)	147324	1.29939	1.21	
* 48 Acenaphthene-D10	164	11.338	11.327	(1.000)	47311	0.80000	(a)	
49 Acenaphthene	153	11.371	11.371	(1.003)	104755	1.42549	1.33	
$ 56 Fluorene-D10	174	12.035	12.024	(1.062)	78742	1.46999	1.37	
57 Fluorene	166	12.068	12.068	(1.064)	111640	1.50309	1.40	
* 66 Phenanthrene-D10	188	13.323	13.311	(1.000)	72764	0.80000	(a)	
67 Phenanthrene	178	13.358	13.346	(1.003)	147611	1.48050	1.38	
68 Anthracene	178	13.427	13.415	(1.008)	149133	1.46274	1.37	
71 Fluoranthene	202	14.947	14.947	(1.122)	146661	1.64811	1.54	
$ 72 Pyrene-D10	212	15.225	15.225	(0.891)	94773	1.50499	1.41	
73 Pyrene	202	15.247	15.247	(0.892)	144817	1.65691	1.55	
76 Benzo(a)anthracene	228	17.079	17.068	(0.999)	73450	1.45493	1.36	
* 77 Chrysene-D12	240	17.090	17.090	(1.000)	32946	0.80000	(a)	
78 Chrysene	228	17.146	17.135	(1.003)	90652	1.65794	1.55	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1321.D
Report Date: 18-Jan-2021 13:16

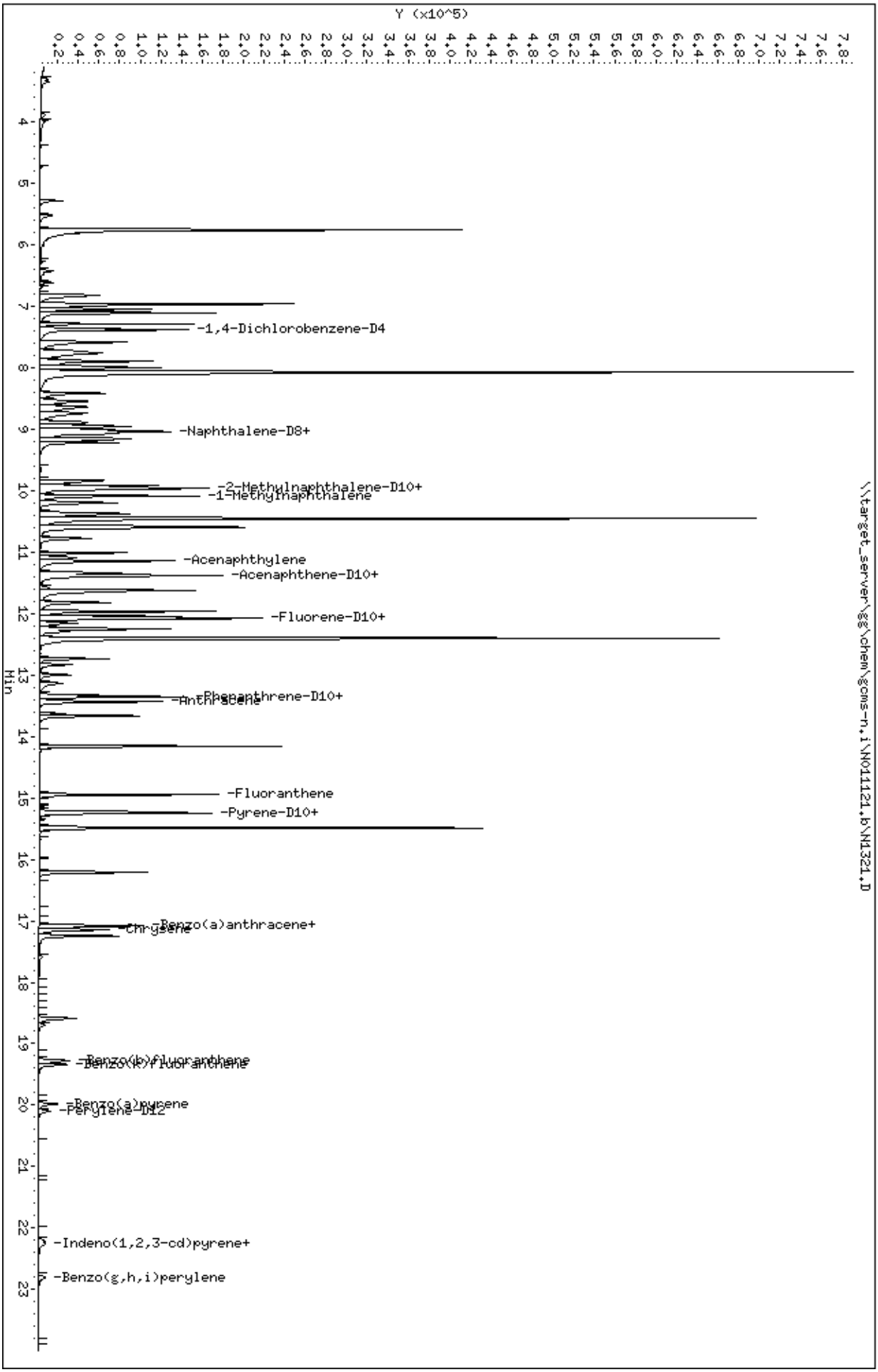
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.271	19.271	(0.959)	46401	1.21684	1.14	
82 Benzo(k)fluoranthene	252	19.338	19.327	(0.962)	57256	1.13382	1.06(H)	
83 Benzo(a)pyrene	252	19.989	19.978	(0.994)	32401	0.97459	0.911(R)	
* 84 Perylene-D12	264	20.101	20.101	(1.000)	22994	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.212	22.190	(1.300)	23904	0.77805	0.727(R)	
86 Dibenzo(a,h)anthracene	278	22.268	22.246	(1.108)	15857	0.71267	0.666(R)	
87 Benzo(g,h,i)perylene	276	22.807	22.785	(1.135)	23772	0.78550	0.734(R)	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

Data File: \\target_server\gg\chem\gcms-n,i\N011121,b\N1321.D
Date : 11-JAN-2021 16:35
Client ID: MW-01-WINTER2020HS
Sample Info: WG292336-5,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS

Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25



Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1322.D
Report Date: 18-Jan-2021 13:16

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gcms-n.i\N011121.b\N1322.D
Lab Smp Id: WG292336-6 Client Smp ID: MW-01-WINTER2020MSD
Inj Date : 11-JAN-2021 17:11
Operator : JCG Inst ID: gcms-n.i
Smp Info : WG292336-6,TN0377
Misc Info : WG293230,WG292336,WG293230-4,TN0377-7
Comment :
Method : \\target_server\gg\chem\gcms-n.i\N011121.b\NSPSIM42.m
Meth Date : 12-Jan-2021 11:15 cgomez Quant Type: ISTD
Cal Date : 11-JAN-2021 13:52 Cal File: N1316.D
Als bottle: 13 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sw8270sim+1mn.sub
Target Version: 4.12
Processing Host: V200T4

Concentration Formula: Amt * DF * Uf*(Vt/Vo*Vi)*1000 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	Correction Factor
Vt	0.00100	Final Volume (L)
Vo	0.97000	Sample Volume (L)
Vi	1.000	Volume injected (uL)
Cpnd Variable		Local Compound Variable

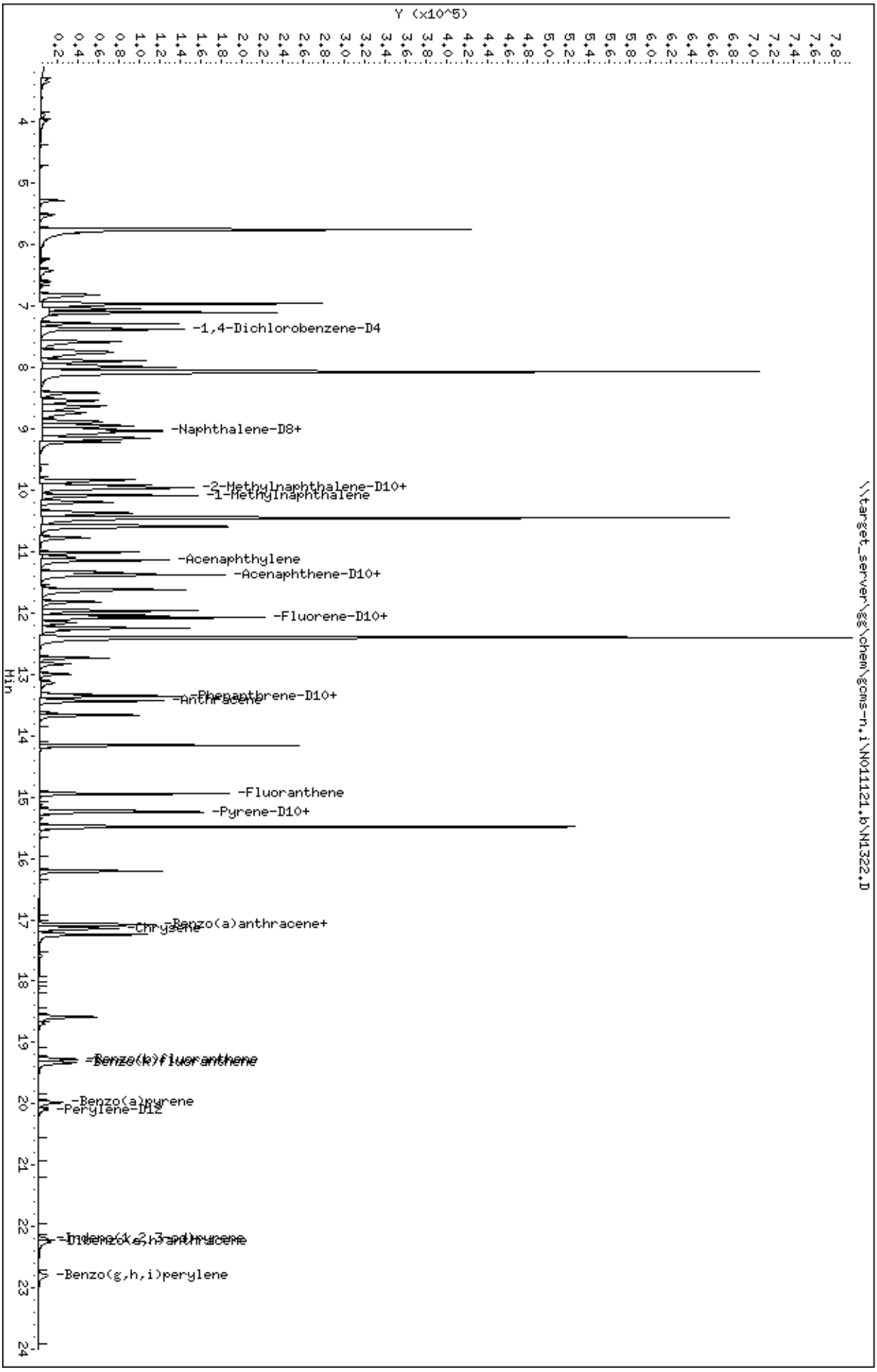
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	FINAL (ug/L)	REVIEW CODE
* 10 1,4-Dichlorobenzene-D4	152	7.355	7.354	(1.000)	29540	0.80000	(a)	
* 27 Naphthalene-D8	136	9.001	8.990	(1.000)	74497	0.80000	(a)	
28 Naphthalene	128	9.033	9.022	(1.004)	163075	1.54684	1.59	
$ 33 2-Methylnaphthalene-D10	152	9.920	9.900	(1.102)	106330	2.06064	2.12(R)	
34 2-Methylnaphthalene	142	9.959	9.949	(1.106)	119380	1.67948	1.73	
35 1-Methylnaphthalene	142	10.077	10.077	(1.119)	105926	1.78073	1.84	
46 Acenaphthylene	152	11.142	11.131	(0.983)	139636	1.28725	1.33	
* 48 Acenaphthene-D10	164	11.338	11.327	(1.000)	45265	0.80000	(a)	
49 Acenaphthene	153	11.371	11.371	(1.003)	100856	1.43447	1.48	
$ 56 Fluorene-D10	174	12.036	12.024	(1.062)	74845	1.46040	1.50	
57 Fluorene	166	12.068	12.068	(1.064)	109286	1.53790	1.58	
* 66 Phenanthrene-D10	188	13.323	13.311	(1.000)	64852	0.80000	(a)	
67 Phenanthrene	178	13.358	13.346	(1.003)	152052	1.71110	1.76	
68 Anthracene	178	13.427	13.415	(1.008)	154784	1.70339	1.76	
71 Fluoranthene	202	14.948	14.947	(1.122)	155766	1.96399	2.02	
$ 72 Pyrene-D10	212	15.225	15.225	(0.891)	98448	1.69601	1.75	
73 Pyrene	202	15.248	15.247	(0.892)	153339	1.90329	1.96	
76 Benzo(a)anthracene	228	17.069	17.068	(0.999)	83962	1.80429	1.86	
* 77 Chrysene-D12	240	17.091	17.090	(1.000)	30369	0.80000	(a)	
78 Chrysene	228	17.135	17.135	(1.003)	102161	2.02601	2.09	

Data File: \\target_server\gg\chem\gcms-n.i\N011121.b\N1322.D
Report Date: 18-Jan-2021 13:16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/ml)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
81 Benzo(b)fluoranthene	252	19.271	19.271	(0.959)	55608	1.62926	1.68	
82 Benzo(k)fluoranthene	252	19.327	19.327	(0.961)	78692	1.74101	1.79(H)	
83 Benzo(a)pyrene	252	19.978	19.978	(0.994)	42805	1.43848	1.48	
* 84 Perylene-D12	264	20.102	20.101	(1.000)	20581	0.80000	(a)	
85 Indeno(1,2,3-cd)pyrene	276	22.201	22.190	(1.299)	37404	1.32077	1.36	
86 Dibenzo(a,h)anthracene	278	22.257	22.246	(1.107)	26888	1.35012	1.39	
87 Benzo(g,h,i)perylene	276	22.796	22.785	(1.134)	36509	1.34781	1.39	

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.


Data File: \\target_server\gg\chem\gcms-n,i\N011121,b\N1322.D
Date : 11-JAN-2021 17:11
Client ID: MW-01-WINTER2020HSD
Sample Info: WG292336-6,TN0377
Volume Injected (uL): 1.0
Column phase: ZB5-MS
Instrument: gcms-n,i
Operator: JCG
Column diameter: 0.25
\\target_server\gg\chem\gcms-n,i\N011121,b\N1322.D
Y (x10^5)
Min
-1,4-Dichlorobenzene-D4
-Naphthalene-D8+
-2-Methylnaphthalene-D10+
-1-Methylnaphthalene
-Acenaphthylene
-Acenaphthene-D10+
-Fluorene-D10+
-Phenanthrene-D10+
-Anthracene
-Fluoranthene
-Pyrene-D10+
-Benzo(a)anthracene+
-Chrysene
-Benzo(k)fluoranthene
-Benzo(a)pyrene
-Perylene-D12
-Indeno(1,2,3-cd)pyrene
-Dibenzo(a,h)anthracene
-Benzo(g,h,i)perylene

Logbooks and Supporting Documents

S/S SEP

KATAHDIN ANALYTICAL SERVICES, LLC.
ORGANIC EXTRACTIONS LOG - AQUEOUS SEMI-VOLATILES

Extraction Method: (check one)	SW846 3510 (SEP) ✓	SW846 3520 (CLLE)	
Analytical Method:(check one)	SW846 8270 ✓	SW846 8270 SIM ✓	Other:
Surrogate ID: SV3000	Surrogate ID: —	Spike ID: SV2996 (SV)	Spike ID: SV2999 (SIM)
Methylene Chloride Lot #: EA342-US	pH Paper Lot # 6003003	KI Starch Paper ID: 031720	If positive, note in comments and contact the PM, the client may need to resample.
pH (1st Extraction) ≤2	H_2SO_4 Lot # RE0054	pH (2nd Extraction) ≥11	NaOH Lot # 200344
$NaSO_4$ Lot #	Filter Paper Lot #: 169573606	Boiling Stones ID: 101520	Vial Lot #: 229920322A52N
Nitrogen Bath Temperature: 36°C			Client ID vs KAS ID Verified: KE✓
Prep Start Time: 0830	Prep End Time: 1130	CLLE Start Time: —	CLLE End Date & Time: —

Date Extracted	Ext. Init.	Sample ID	Initial Vol. mL	Surr. Vol.	Spike Vol.	Fraction SV	Fraction SIM	Final Vol. mL	Date Conc.	Tray Location SV6291	Initials	Comments R557458 (SV) R557459 (SIM)
12/22/20	KE/GN	WG292 335-1 336-1	1000	1.00	NR	✓	✓	1mL	12/23/20	E4	GN	335=SV 336=SIM MB
		WG292335-2			1.00	✓				E5		SV LCS
		WG292336-2					✓			E6		SIM LCS
		-3	1060							E7		SIM MS (TN0377-2)
		-4	1050							E8		MSD
		-5	1070							E9		MS (TN0377-7)
		-6	970							E10		MSD

12/23/20

EX-007 – Revision 7– 09/22/2020

QAEX432 - 000259

0000164

Date Extracted	Ext. Init.	Sample ID	Initial Vol. mL	Surr. Vol.	Spike Vol.	Fraction SV	Fraction SIM	Final Vol. mL	Date Conc.	Tray Location SV6292	Initials	Comments
12/22/20	KE/GN	TN0328-1	1060	1.00	NR	✓	✓	1mL	12/23/20	A1	GN	
		-2	980							A2		
		-3	1060							A3		
		-4	1030							A4		
		-5	960							A5		
		-6	960							A6		
		-7	1040							A7		
		TN0377-1	1070				✓			A8		~~sample lost~~ BT 1-8-21
		-2	1050							A9		
		-3	950							A10		
		-4	1060							B1		
		-5	1040							B2		Sample lost
		-6	1030							B3		
		-7	980							B4		
		-8	1070							B5		
		-9	1000							B6		
		-10	1000							B7		
		-11	1000							B8		
		-12	1020							B9		
		-13	1030							B10		

Reviewed By _____ Date _____

EX-007 – Revision 7– 09/22/2020

QAEX432 - 000259

KATAHDIN ANALYTICAL SERVICES
GC/MS SVOA INJ LOG INSTRUMENT: 5975B - N

DATE OF DFTPP INJECTION: 010621

JOB	SAMPLE	DATAFILE	DF	VIAL #	METHOD	UL INJ	CHEMIST	COMMENTS
WG292985-1	50 ng DFTPP	N0088	1	1	DFTPP SIM	2.0	[illegible]	OK
-4	SSTD 2.0 N0106	N1239		2	NSVSIM41			✓
-2	0.2	40		3				✓
-3	0.5	41		4				✓
-5	7.0	42		5				✓
-6	10	43		6				✓
-7	15	44		7				✓
-8	IND	45		8				OK
	WG291384-2	46		9				SS1↑
	+ -1	47		10				OK
	SN9924-1	48		11				OK
	-2	49		12				IS3↑ SS1,3↑
	-3	50		13				SS4↓
	-4	51		14				SS4↓
	SN9916-1	52		15				OK
	-2	53		16				SS1↑
	-3	54		17				OK
	-4	55		18				OK
	-5	56		19				OK
	-6	57		20				OK
	-7	58		21				OK
-9	SSTD 2.0 N0106	59		22				OK use 4 mm DOC
-10		60						OK
-11		61						OK

STANDARD	CODE
DFTPP	53516
CAL. STD.	53518 53526
ICV. STD.	53525
IS MIX	53510

REVIEWED AND APPROVED BY:
DATE:

SVOA-005 – Revision 2 – 02/13/2018

Katahdin Analytical Services 3000337

KATAHDIN ANALYTICAL SERVICES
GC/MS SVOA INJ LOG INSTRUMENT: 5975B - N

DATE OF DFTPP INJECTION: 010821

JOB	SAMPLE	DATAFILE	DF	VIAL #	METHOD	UL INJ	CHEMIST	COMMENTS
WG292131-1	50 ng DFTPP	ND090	1	1	DFTPPSIM	2.0	JLK	ok
-2	SSTD 2.0 N0108	N1284		2	NSPSIM41			ok
	WG292336-2	85		3				ok
	↓ -1	86		4				ok
	TN0377-1	87		5				ok
	↓ -2	88		6				ok
	WG292336-3	89		7				SS1↑
	↓ -4	90		8				ok
	TN0377-3	91		9				SS1↑
	-4	92		10				ok
	-6	93		11				ok
	-7	94		12				ok
	-8	95		13				ok
	-9	96		14				ok
	-10	97		15				ok
	-11	98		16				ok
	-12	99		17				ok
	-13	N1300		18				ok
	TN0267-10	01		19				ok
	-11	02		20				ok
	↓ -12	03		21				ok
-3	SSTD 2.0 N0108	04		22				ok USE >SS1.
-4	↓	05						ok
-5		06		↓				ok
	WG293067-1	07		23				SS2↓ Screen
	↓ -2	08		24				
	500649-33	09		25				
	500695-28	10		26				

STANDARD	CODE
DFTPP	53516
CAL. STD.	53518 53530
ICV. STD.	–
IS MIX	53560

REVIEWED AND APPROVED BY: _____
DATE: _____

Katahdin Analytical Services 3000338

KATAHDIN ANALYTICAL SERVICES
GC/MS SVOA INJ LOG INSTRUMENT: 5975B - N

DATE OF DFTPP INJECTION: 011121

JOB	SAMPLE	DATAFILE	DF	VIAL #	METHOD	UL INJ	CHEMIST	COMMENTS
WG293230-1	50ng DFTPP	ND091	1	1	DFTPP51M	2.0	JCL	OK
-4	SSTD 2.0 N0111	N1311		2	NSP51M42			✓
-2	0.2	12		3				✓
-3	0.5	13		4				✓
-5	7.0	14		5				✓
-6	10.	15		6				✓
-7	15	16		7				✓
-8	(ND)	17		8				OK
	WG292925-2	18		9				SS2 ↓ [illegible]
	↓ -1	19		10				SS2 ↓
	TN0377-7	20		11				OK
	WG292336-5	21		12				SS1 ↑
	↓ -6	22		13				SS1 ↑
	TN0328-1	23		14				OK
	-2	24		15				OK
	-3	25		16				OK
	-4	26		17				OK
	-5	27		18				OK
	-6	28		19				OK
	-7	29		20				OK
	-1RE	30		21				OK
-9	SSTD 2.0 N0111	31		22				OK USE 14mm OOC
-10		32						OK
-11		33						OK
	TN0075-4	34		23			BF/JLP	EPH
	TN0118-1	35		24				
	SN9287-5	36		25				
	SN9288-6	37		26				

STANDARD	CODE
DFTPP	53516
CAL. STD.	53518 53530
ICV. STD.	53529
IS MIX	~~53534~~ 53532

REVIEWED AND APPROVED BY:
DATE:

SVOA-005 – Revision 2 – 02/13/2018

QAMS736 - 000231

0000010

KATAHDIN ANALYTICAL SERVICES
GC/MS SVOA INJ LOG INSTRUMENT: 5975B - N

DATE OF DFTPP INJECTION: 011321

JOB	SAMPLE	DATAFILE	DF	VIAL #	METHOD	UL INJ	CHEMIST	COMMENTS
WG293350-1	50ng DFTPP	ND093	1	1	DFTPP SIM	2.0	JLL	OK
-4	5STD 2.0 N0113	N1369		2	NSPSIM43			✓
-2	0.2	70		3				✓
-3	0.5	71		4				✓
-5	7.0	72		5				✓
-6	10	73		6				✓
-7	15	74		7				✓
-8	IND	75		8				OK
	WG292415-2	76		9				OK
	-1	77		10				OK
	TN0377-5	78		11				OK
	TN0267-5DL	79	3	12				OK
	-6DL	80	6	13				OK
	-7DL	81	8	14				OK
	-8DL	82	2	15				OK
	-16RA	83	1	16				OK
	-17	84		17				OK
	WG292415-3	85		18				OK
	-4	86		19				OK
	TN0267-18	87		20				OK
	-19	88		21				OK
-9	5STD 2.0 N0113	89		22				OK USE 91 mm OOC
-10		90						OK
-11		91						ISS
	WG293334-1,2	92,93		23,24				✓
	500145-3,4	94,95		25,26				✓

STANDARD	CODE
DFTPP	53516
CAL. STD.	53518 53530
ICV. STD.	53529
IS MIX	53532

REVIEWED AND APPROVED BY:
DATE:

SVOA-005 – Revision 2 – 02/13/2018

QAMS736 - 000231

0000012

Katahdin Analytical Services 3000340

METALS DATA

Sample Data Section

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was 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%.
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).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: TN0377 SOW No. SW846

Client Field ID	Lab Sample ID
DW-01-EFF-WINTER2020	TN0377-001
DW-01-INF-WINTER2020	TN0377-002
DW-01-INF-WINTER2020P	TN0377-002P
DW-01-INF-WINTER2020S	TN0377-002S
DW-01-MID-WINTER2020	TN0377-003
DW-02R-EFF-WINTER2020	TN0377-004
DW-02R-INF-WINTER2020	TN0377-005
DW-FD-WINTER2020	TN0377-006
GW-EB-WINTER2020	TN0377-013
MW-01-WINTER2020	TN0377-007
MW-01-WINTER2020P	TN0377-007P
MW-01-WINTER2020S	TN0377-007S
MW-02-WINTER2020	TN0377-008
MW-03-WINTER2020	TN0377-009
MW-04-WINTER2020	TN0377-010
MW-05-WINTER2020	TN0377-011
MW-FD-WINTER2020	TN0377-012

Were ICP interelement corrections applied ?	Yes
Were ICP background corrections applied ?	Yes
If yes - were raw data generated before application of background corrections ?	No

Comments:

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 in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Kayla C Name: Kayla Croteau

Date: 1/4/21 Title: Analyst

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-EFF-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	10.9			MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	214			MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.035	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	5560			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	1.6	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	13.1			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.930	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	0.92	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.31	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	0.38	J		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	13			MS	5	10	3.9	8.0

Comments:

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-INF-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.078	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	1110			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.60	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	36.4			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	2.18			MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	0.35	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U	A	CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	3.06			MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	38			MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-MID-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	3.44			MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	90.3			MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.071	J		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.051	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	2980			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.48	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	4.68			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.33	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	3.58			MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.30	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	0.37	J		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.18	J		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	13			MS	5	10	3.9	8.0

Comments:

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-02R-EFF-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.058	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	67600			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.31	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	12.8			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	1.97			MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1.0	U		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	2.33			MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	22			MS	5	10	3.9	8.0

Comments:

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-02R-INF-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.060	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.033	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	72500			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.50	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	18.6			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	2.30			MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	7.04			MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.4	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	22			MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-FD-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.061	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.046	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	72900			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.53	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	19.1			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	3.42			MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	7.89			MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	7.33			MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	55.9			MS	5	10	3.9	8.0

Comments:

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-01-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.15	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	69100		NA	MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.59	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	1.4	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.18	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1.6	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U	A	CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.25	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-02-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.043	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	89500			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	3.82	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	1.2	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.13	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1.8	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.28	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-03-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-009

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.033	J		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	66800			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.75	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	1.2	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.15	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	0.74	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.17	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-04-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-010

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.20	U		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	97800			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.75	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	1.3	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.21	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	2.3			MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.31	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-05-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-011

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.23	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.094	J		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	3.95			MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	93700			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	1.0	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	7.92			MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.949	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	697			MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.3	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	26			MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-FD-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-012

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.037	J		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	92700			MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.60	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	2.69	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.079	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1.1	J		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	0.23	J		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** GW-EB-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-013

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.50	U		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0
7440-41-7	BERYLLIUM, TOTAL	0.049	J		MS	5	1.0	0.034	0.20
7440-43-9	CADMIUM, TOTAL	0.20	U		MS	5	1.0	0.029	0.20
7440-70-2	CALCIUM, TOTAL	45	J		MS	5	100	21	80
7440-47-3	CHROMIUM, TOTAL	0.34	J		MS	5	5.0	0.22	4.0
7440-50-8	COPPER, TOTAL	3.00	J		MS	5	3.0	0.19	2.0
7439-92-1	LEAD, TOTAL	0.083	J		MS	5	1.0	0.075	0.50
7439-96-5	MANGANESE, TOTAL	1.0	U		MS	5	2.0	0.35	1.0
7439-97-6	MERCURY, TOTAL	0.10	U		CV	1	0.20	0.013	0.10
7440-02-0	NICKEL, TOTAL	1.2	U		MS	5	2.0	0.15	1.2
7782-49-2	SELENIUM, TOTAL	3.0	U		MS	5	5.0	0.19	3.0
7440-22-4	SILVER, TOTAL	0.40	U		MS	5	1.0	0.050	0.40
7440-28-0	THALLIUM, TOTAL	0.40	U		MS	5	1.0	0.060	0.40
7440-66-6	ZINC, TOTAL	8.0	U		MS	5	10	3.9	8.0

Comments:

QC Summary Section

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: ICV

File: HNL28A Dec 28, 2020 15:06

Analyte	True	Found	%R (1)
MERCURY	6.0	6.04	100.7

SAMPLE: CCV

File: HNL28A Dec 28, 2020 15:12

Analyte	True	Found	%R (1)
MERCURY	5.0	5.04	100.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: CCV

File: HNL28A Dec 28, 2020 15:35

Analyte	True	Found	%R (1)
MERCURY	5.0	5.07	101.4

SAMPLE: CCV

File: HNL28A Dec 28, 2020 16:01

Analyte	True	Found	%R (1)
MERCURY	5.0	5.13	102.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: CCV

File: HNL28A Dec 28, 2020 16:27

Analyte	True	Found	%R (1)
MERCURY	5.0	5.18	103.6

SAMPLE: CCV

File: HNL28A Dec 28, 2020 16:53

Analyte	True	Found	%R (1)
MERCURY	5.0	5.33	106.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: CCV

File: HNL28A Dec 28, 2020 16:59

Analyte	True	Found	%R (1)
MERCURY	5.0	5.17	103.4

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: ICV

File: LNL28A Dec 28, 2020 12:27

Analyte	True	Found	%R (1)
ALUMINUM	400.0	404.79	101.2
ANTIMONY	20.0	19.46	97.3
ARSENIC	20.0	20.50	102.5
BERYLLIUM	20.0	18.89	94.5
CADMIUM	20.0	20.36	101.8
CALCIUM	4000.0	4042.85	101.1
CHROMIUM	20.0	20.38	101.9
COPPER	20.0	20.62	103.1
IRON	4000.0	4070.65	101.8
LEAD	20.0	19.69	98.5
MAGNESIUM	4000.0	4024.76	100.6
MANGANESE	20.0	20.56	102.8
MOLYBDENUM	40.0	40.33	100.8
NICKEL	20.0	20.68	103.4
POTASSIUM	4000.0	4001.30	100.0
SELENIUM	20.0	20.89	104.5
SILVER	20.0	20.78	103.9
SODIUM	4000.0	4059.98	101.5
THALLIUM	20.0	20.27	101.4
ZINC	20.0	20.01	100.1

SAMPLE: CCV

File: LNL28A Dec 28, 2020 12:50

Analyte	True	Found	%R (1)
ALUMINUM	500.0	489.22	97.8
ANTIMONY	25.0	24.31	97.2
ARSENIC	25.0	24.72	98.9
BERYLLIUM	25.0	23.27	93.1
CADMIUM	25.0	25.19	100.8
CALCIUM	5000.0	5233.60	104.7
CHROMIUM	25.0	24.95	99.8
COPPER	25.0	25.07	100.3
IRON	5000.0	5227.84	104.6
LEAD	25.0	24.44	97.8
MAGNESIUM	5000.0	5022.11	100.4
MANGANESE	25.0	24.75	99.0
MOLYBDENUM	25.0	25.30	101.2
NICKEL	25.0	25.09	100.4
POTASSIUM	5000.0	4978.19	99.6
SELENIUM	25.0	26.04	104.2
SILVER	25.0	25.43	101.7
SODIUM	5000.0	5033.65	100.7
THALLIUM	25.0	24.48	97.9
ZINC	25.0	24.90	99.6

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: CCV

File: LNL28A Dec 28, 2020 13:21

Analyte	True	Found	%R (1)
ALUMINUM	500.0	489.47	97.9
ANTIMONY	25.0	23.94	95.8
ARSENIC	25.0	24.86	99.4
BERYLLIUM	25.0	23.37	93.5
CADMIUM	25.0	25.32	101.3
CALCIUM	5000.0	5003.75	100.1
CHROMIUM	25.0	24.82	99.3
COPPER	25.0	25.11	100.4
IRON	5000.0	4952.90	99.1
LEAD	25.0	24.10	96.4
MAGNESIUM	5000.0	4970.21	99.4
MANGANESE	25.0	24.64	98.6
MOLYBDENUM	25.0	25.06	100.2
NICKEL	25.0	24.75	99.0
POTASSIUM	5000.0	4927.92	98.6
SELENIUM	25.0	24.96	99.8
SILVER	25.0	25.55	102.2
SODIUM	5000.0	4968.77	99.4
THALLIUM	25.0	24.50	98.0
ZINC	25.0	24.90	99.6

SAMPLE: CCV

File: LNL28A Dec 28, 2020 13:52

Analyte	True	Found	%R (1)
ALUMINUM	500.0	476.36	95.3
ANTIMONY	25.0	23.35	93.4
ARSENIC	25.0	24.08	96.3
BERYLLIUM	25.0	22.68	90.7
CADMIUM	25.0	24.83	99.3
CALCIUM	5000.0	4981.90	99.6
CHROMIUM	25.0	24.26	97.0
COPPER	25.0	24.33	97.3
IRON	5000.0	4970.52	99.4
LEAD	25.0	23.73	94.9
MAGNESIUM	5000.0	4933.11	98.7
MANGANESE	25.0	24.07	96.3
MOLYBDENUM	25.0	24.50	98.0
NICKEL	25.0	24.17	96.7
POTASSIUM	5000.0	4879.73	97.6
SELENIUM	25.0	24.95	99.8
SILVER	25.0	24.98	99.9
SODIUM	5000.0	4940.23	98.8
THALLIUM	25.0	24.04	96.2
ZINC	25.0	24.37	97.5

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: CCV

File: LNL28A Dec 28, 2020 14:23

Analyte	True	Found	%R (1)
ALUMINUM	500.0	490.63	98.1
ANTIMONY	25.0	23.33	93.3
ARSENIC	25.0	24.28	97.1
BERYLLIUM	25.0	22.68	90.7
CADMIUM	25.0	25.38	101.5
CALCIUM	5000.0	4996.19	99.9
CHROMIUM	25.0	24.42	97.7
COPPER	25.0	24.70	98.8
IRON	5000.0	4897.82	98.0
LEAD	25.0	24.22	96.9
MAGNESIUM	5000.0	5061.99	101.2
MANGANESE	25.0	24.49	98.0
MOLYBDENUM	25.0	25.32	101.3
NICKEL	25.0	24.77	99.1
POTASSIUM	5000.0	4921.06	98.4
SELENIUM	25.0	24.88	99.5
SILVER	25.0	25.70	102.8
SODIUM	5000.0	5040.73	100.8
THALLIUM	25.0	24.35	97.4
ZINC	25.0	24.88	99.5

SAMPLE: CCV

File: LNL28A Dec 28, 2020 14:54

Analyte	True	Found	%R (1)
ALUMINUM	500.0	488.30	97.7
ANTIMONY	25.0	23.84	95.4
ARSENIC	25.0	24.54	98.2
BERYLLIUM	25.0	23.07	92.3
CADMIUM	25.0	25.45	101.8
CALCIUM	5000.0	4952.27	99.0
CHROMIUM	25.0	24.53	98.1
COPPER	25.0	24.68	98.7
IRON	5000.0	4941.18	98.8
LEAD	25.0	24.51	98.0
MAGNESIUM	5000.0	5036.53	100.7
MANGANESE	25.0	24.70	98.8
MOLYBDENUM	25.0	25.25	101.0
NICKEL	25.0	24.61	98.4
POTASSIUM	5000.0	4935.35	98.7
SELENIUM	25.0	24.51	98.0
SILVER	25.0	25.66	102.6
SODIUM	5000.0	5035.30	100.7
THALLIUM	25.0	24.78	99.1
ZINC	25.0	25.19	100.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: PQL

File: HNL28A Dec 28, 2020 15:10

Analyte	TRUE	FOUND	% R
MERCURY	0.2	0.21	105.0

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: PQL

File: LNL28A Dec 28, 2020 12:32

Analyte	TRUE	FOUND	% R
ALUMINUM	20.0	20.23	101.2
ANTIMONY	0.2	0.22	110.0
ARSENIC	1.0	0.99	99.0
BERYLLIUM	0.2	0.21	105.0
CADMIUM	0.2	0.20	100.0
CALCIUM	20.0	21.68	108.4
CHROMIUM	1.0	1.01	101.0
COPPER	0.6	0.64	106.7
IRON	20.0	22.62	113.1
LEAD	0.2	0.21	105.0
MAGNESIUM	20.0	21.05	105.3
MANGANESE	0.4	0.37	92.5
MOLYBDENUM	1.0	1.04	104.0
NICKEL	0.4	0.41	102.5
POTASSIUM	200.0	212.24	106.1
SELENIUM	1.0	1.05	105.0
SILVER	0.2	0.23	115.0
SODIUM	200.0	208.03	104.0
THALLIUM	0.2	0.21	105.0
ZINC	2.0	2.09	104.5

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: ICB

File: HNL28A Dec 28, 2020 15:08

Analyte	Result	C
MERCURY	0.016	U

SAMPLE: CCB

File: HNL28A Dec 28, 2020 15:14

Analyte	Result	C
MERCURY	0.016	U

SAMPLE: CCB

File: HNL28A Dec 28, 2020 15:38

Analyte	Result	C
MERCURY	0.016	U

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: CCB

File: HNL28A Dec 28, 2020 16:03

Analyte	Result	C
MERCURY	0.016	U

SAMPLE: CCB

File: HNL28A Dec 28, 2020 16:29

Analyte	Result	C
MERCURY	0.016	U

SAMPLE: CCB

File: HNL28A Dec 28, 2020 16:55

Analyte	Result	C
MERCURY	-0.016	U

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: CCB

File: HNL28A Dec 28, 2020 17:02

Analyte	Result	C
MERCURY	-0.024	U

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: ICB

File: LNL28A Dec 28, 2020 12:29

Analyte	Result	C
ALUMINUM	0.330	U
ANTIMONY	0.061	U
ARSENIC	0.250	U
BERYLLIUM	0.019	J
CADMIUM	0.025	U
CALCIUM	6.800	U
CHROMIUM	0.130	U
COPPER	0.087	U
IRON	6.400	U
LEAD	0.024	J
MAGNESIUM	0.676	J
MANGANESE	0.013	U
MOLYBDENUM	0.096	J
NICKEL	0.014	U
POTASSIUM	12.000	U
SELENIUM	0.160	U
SILVER	0.011	U
SODIUM	6.600	U
THALLIUM	0.039	J
ZINC	0.220	U

SAMPLE: CCB

File: LNL28A Dec 28, 2020 12:53

Analyte	Result	C
ALUMINUM	2.636	J
ANTIMONY	0.061	U
ARSENIC	0.250	U
BERYLLIUM	0.038	J
CADMIUM	0.025	U
CALCIUM	6.800	U
CHROMIUM	0.130	U
COPPER	0.087	U
IRON	6.400	U
LEAD	0.066	J
MAGNESIUM	3.289	J
MANGANESE	0.015	J
MOLYBDENUM	0.181	J
NICKEL	0.014	U
POTASSIUM	12.000	U
SELENIUM	0.160	U
SILVER	0.011	U
SODIUM	15.957	J
THALLIUM	0.061	J
ZINC	0.220	U

SAMPLE: CCB

File: LNL28A Dec 28, 2020 13:24

Analyte	Result	C
ALUMINUM	0.840	J
ANTIMONY	0.061	U
ARSENIC	0.250	U
BERYLLIUM	0.044	J
CADMIUM	0.025	U
CALCIUM	6.800	U
CHROMIUM	0.130	U
COPPER	0.087	U
IRON	6.400	U
LEAD	0.040	J
MAGNESIUM	1.485	J
MANGANESE	0.020	J
MOLYBDENUM	0.083	J
NICKEL	0.014	U
POTASSIUM	12.000	U
SELENIUM	0.160	U
SILVER	0.011	U
SODIUM	6.600	U
THALLIUM	0.058	J
ZINC	0.220	U

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: CCB
File: LNL28A Dec 28, 2020 13:55

Analyte	Result	C
ALUMINUM	0.669	J
ANTIMONY	0.061	U
ARSENIC	0.250	U
BERYLLIUM	0.010	J
CADMIUM	0.025	U
CALCIUM	6.800	U
CHROMIUM	0.130	U
COPPER	0.087	U
IRON	6.400	U
LEAD	0.006	J
MAGNESIUM	1.376	J
MANGANESE	0.013	U
MOLYBDENUM	0.067	J
NICKEL	0.014	U
POTASSIUM	12.000	U
SELENIUM	0.160	U
SILVER	0.011	U
SODIUM	6.600	U
THALLIUM	0.025	J
ZINC	0.220	U

SAMPLE: CCB
File: LNL28A Dec 28, 2020 14:26

Analyte	Result	C
ALUMINUM	0.395	J
ANTIMONY	0.061	U
ARSENIC	0.250	U
BERYLLIUM	0.012	J
CADMIUM	0.025	U
CALCIUM	6.800	U
CHROMIUM	0.130	U
COPPER	0.087	U
IRON	6.400	U
LEAD	0.005	U
MAGNESIUM	1.563	J
MANGANESE	0.013	U
MOLYBDENUM	0.069	J
NICKEL	0.014	U
POTASSIUM	12.000	U
SELENIUM	0.160	U
SILVER	0.011	U
SODIUM	6.600	U
THALLIUM	0.031	J
ZINC	0.220	U

SAMPLE: CCB
File: LNL28A Dec 28, 2020 14:57

Analyte	Result	C
ALUMINUM	0.438	J
ANTIMONY	0.061	U
ARSENIC	0.250	U
BERYLLIUM	0.026	J
CADMIUM	0.025	U
CALCIUM	6.800	U
CHROMIUM	0.130	U
COPPER	0.087	U
IRON	6.400	U
LEAD	0.014	J
MAGNESIUM	0.824	J
MANGANESE	0.052	J
MOLYBDENUM	0.068	J
NICKEL	0.014	U
POTASSIUM	12.000	U
SELENIUM	0.160	U
SILVER	0.011	U
SODIUM	6.600	U
THALLIUM	0.040	J
ZINC	0.220	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWNL22IMW3

Matrix: WATER **SDG Name:** TN0377

QC Batch ID: NL22IMW3

Concentration Units : ug/L

Analyte	RESULT	C
ANTIMONY	0.50	U
ARSENIC	4.0	U
BERYLLIUM	0.20	U
CADMIUM	0.037	J
CALCIUM	80	U
CHROMIUM	0.30	J
COPPER	0.39	J
LEAD	0.20	J
MANGANESE	1.0	U
NICKEL	1.2	U
SELENIUM	3.0	U
SILVER	0.40	U
THALLIUM	0.40	U
ZINC	8.0	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWNL28HGW1

Matrix: WATER **SDG Name:** TN0377

QC Batch ID: NL28HGW1

Concentration Units : ug/L

Analyte	RESULT	C
MERCURY	0.10	U

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Concentration Units: ug/L

SAMPLE: ICSA

File: LNL28A Dec 28, 2020 12:34

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	97103.70	97.1
ANTIMONY	0.02	0.02	
ARSENIC	0	0.08	
BERYLLIUM	0	0.00	
CADMIUM	0.37	0.40	
CALCIUM	100000.00	100869.10	100.9
CHROMIUM	0.94	0.92	
COPPER	0.26	0.24	
IRON	100000.00	98720.40	98.7
LEAD	0.13	0.05	
MAGNESIUM	100000.00	97186.17	97.2
MANGANESE	0.28	0.24	
MOLYBDENUM	2000.00	2029.37	101.4
NICKEL	0.31	0.23	
POTASSIUM	100000.00	98673.19	98.7
SELENIUM	0	0.07	
SILVER	0	0.01	
SODIUM	100000.00	98437.98	98.4
THALLIUM	0	0.01	
ZINC	0.24	0.38	

SAMPLE: ICSAB

File: LNL28A Dec 28, 2020 12:37

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	96138.00	96.1
ANTIMONY	20.00	20.09	100.0
ARSENIC	20.00	20.74	105.0
BERYLLIUM	20.00	19.77	100.0
CADMIUM	20.29	19.80	100.0
CALCIUM	100000.00	99405.30	99.4
CHROMIUM	20.22	20.89	105.0
COPPER	20.47	19.16	95.0
IRON	100000.00	97462.87	97.5
LEAD	20.13	20.48	100.0
MAGNESIUM	100000.00	96750.70	96.8
MANGANESE	20.39	20.01	100.0
MOLYBDENUM	2000.00	2058.25	102.9
NICKEL	20.21	19.53	100.0
POTASSIUM	100000.00	98396.13	98.4
SELENIUM	20.00	20.40	100.0
SILVER	20.00	18.85	95.0
SODIUM	100000.00	98491.50	98.5
THALLIUM	20.00	20.54	105.0
ZINC	20.40	19.62	100.0

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-INF-WINTER2020P

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-002P

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ANTIMONY, TOTAL	102		0.078	J	100	101.5		85	117	MS
ARSENIC, TOTAL	104		4.0	U	100	103.8		84	116	MS
BERYLLIUM, TOTAL	48.1		0.20	U	50	96.2		83	121	MS
CADMIUM, TOTAL	257		0.20	U	250	103.0		87	115	MS
CALCIUM, TOTAL	3640		1110		2500	101.0		87	118	MS
CHROMIUM, TOTAL	209		0.60	J	200	104.4		85	116	MS
COPPER, TOTAL	300		36.4		250	105.3		85	118	MS
LEAD, TOTAL	104		2.18		100	101.6		88	115	MS
MANGANESE, TOTAL	513		0.35	J	500	102.6		87	115	MS
MERCURY, TOTAL	1.07		0.10	U	1	106.8		82	119	CV
NICKEL, TOTAL	527		3.06		500	104.7		85	117	MS
SELENIUM, TOTAL	103		3.0	U	100	103.4		80	120	MS
SILVER, TOTAL	51.5		0.40	U	50	103.0		85	116	MS
THALLIUM, TOTAL	103		0.40	U	100	102.8		82	116	MS
ZINC, TOTAL	558		38		500	104.1		83	119	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-INF-WINTER2020S

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-002S

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ANTIMONY, TOTAL	98.9		0.078	J	100	98.9		85	117	MS
ARSENIC, TOTAL	102		4.0	U	100	101.9		84	116	MS
BERYLLIUM, TOTAL	47.6		0.20	U	50	95.2		83	121	MS
CADMIUM, TOTAL	250		0.20	U	250	99.8		87	115	MS
CALCIUM, TOTAL	3600		1110		2500	99.4		87	118	MS
CHROMIUM, TOTAL	202		0.60	J	200	100.7		85	116	MS
COPPER, TOTAL	295		36.4		250	103.5		85	118	MS
LEAD, TOTAL	101		2.18		100	99.1		88	115	MS
MANGANESE, TOTAL	500		0.35	J	500	99.9		87	115	MS
MERCURY, TOTAL	0.967		0.10	U	1	96.7		82	119	CV
NICKEL, TOTAL	513		3.06		500	102.0		85	117	MS
SELENIUM, TOTAL	101		3.0	U	100	101.0		80	120	MS
SILVER, TOTAL	50.2		0.40	U	50	100.5		85	116	MS
THALLIUM, TOTAL	100		0.40	U	100	100.0		82	116	MS
ZINC, TOTAL	545		38		500	101.4		83	119	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-01-WINTER2020P

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-007P

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ANTIMONY, TOTAL	99.2		0.15	J	100	99.1		85	117	MS
ARSENIC, TOTAL	101		4.0	U	100	100.8		84	116	MS
BERYLLIUM, TOTAL	48.0		0.20	U	50	95.9		83	121	MS
CADMIUM, TOTAL	254		0.20	U	250	101.5		87	115	MS
CALCIUM, TOTAL	68600		69100		2500	-20.1	N	87	118	MS
CHROMIUM, TOTAL	202		0.59	J	200	100.9		85	116	MS
COPPER, TOTAL	250		1.4	J	250	99.6		85	118	MS
LEAD, TOTAL	103		0.18	J	100	102.4		88	115	MS
MANGANESE, TOTAL	504		1.6	J	500	100.4		87	115	MS
MERCURY, TOTAL	0.950		0.10	U	1	95.0		82	119	CV
NICKEL, TOTAL	504		0.25	J	500	100.8		85	117	MS
SELENIUM, TOTAL	94.9		3.0	U	100	94.9		80	120	MS
SILVER, TOTAL	52.0		0.40	U	50	103.9		85	116	MS
THALLIUM, TOTAL	104		0.40	U	100	103.7		82	116	MS
ZINC, TOTAL	506		8.0	U	500	101.2		83	119	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-01-WINTER2020S

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-007S

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ANTIMONY, TOTAL	105		0.15	J	100	104.7		85	117	MS
ARSENIC, TOTAL	102		4.0	U	100	102.1		84	116	MS
BERYLLIUM, TOTAL	51.4		0.20	U	50	102.9		83	121	MS
CADMIUM, TOTAL	259		0.20	U	250	103.5		87	115	MS
CALCIUM, TOTAL	71900		69100		2500	112.4		87	118	MS
CHROMIUM, TOTAL	206		0.59	J	200	103.0		85	116	MS
COPPER, TOTAL	256		1.4	J	250	101.8		85	118	MS
LEAD, TOTAL	107		0.18	J	100	106.9		88	115	MS
MANGANESE, TOTAL	512		1.6	J	500	102.1		87	115	MS
MERCURY, TOTAL	1.10		0.10	U	1	109.7		82	119	CV
NICKEL, TOTAL	517		0.25	J	500	103.4		85	117	MS
SELENIUM, TOTAL	99.6		3.0	U	100	99.6		80	120	MS
SILVER, TOTAL	52.4		0.40	U	50	104.9		85	116	MS
THALLIUM, TOTAL	109		0.40	U	100	108.7		82	116	MS
ZINC, TOTAL	521		8.0	U	500	104.2		83	119	MS

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-INF-WINTER2020A

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-002A

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ANTIMONY, TOTAL	2.18		0.016	J	2	108.3		80	120	MS
ARSENIC, TOTAL	10.2		0.45	U	10	102.4		80	120	MS
BERYLLIUM, TOTAL	2.07		0.0067	U	2	103.6		80	120	MS
CADMIUM, TOTAL	2.14		0.0059	U	2	107.1		80	120	MS
CALCIUM, TOTAL	424		222		200	100.9		80	120	MS
CHROMIUM, TOTAL	10.4		0.12	J	10	102.5		80	120	MS
COPPER, TOTAL	13.7		7.27		6	106.8		80	120	MS
LEAD, TOTAL	2.52		0.436		2	104.2		80	120	MS
MANGANESE, TOTAL	3.91		0.070	J	4	96.0		80	120	MS
MERCURY, TOTAL	2.00		0.013	U	1	199.6	A	80	120	CV
NICKEL, TOTAL	4.80		0.612		4	104.7		80	120	MS
SELENIUM, TOTAL	10.4		0.037	U	10	103.7		80	120	MS
SILVER, TOTAL	2.18		0.010	U	2	108.9		80	120	MS
THALLIUM, TOTAL	2.06		0.012	U	2	103.3		80	120	MS
ZINC, TOTAL	29.3		7.5		20	109.1		80	120	MS

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-01-WINTER2020A

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-007A

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ANTIMONY, TOTAL	2.11		0.030	J	2	103.8		80	120	MS
ARSENIC, TOTAL	10.3		0.45	U	10	103.1		80	120	MS
BERYLLIUM, TOTAL	2.02		0.0067	U	2	101.1		80	120	MS
CADMIUM, TOTAL	2.22		0.0059	U	2	111.1		80	120	MS
CALCIUM, TOTAL	14200		13800		200	206.1	A	80	120	MS
CHROMIUM, TOTAL	10.4		0.12	J	10	102.8		80	120	MS
COPPER, TOTAL	6.55		0.27	J	6	104.6		80	120	MS
LEAD, TOTAL	2.13		0.035	J	2	104.6		80	120	MS
MANGANESE, TOTAL	4.15		0.33	J	4	95.4		80	120	MS
MERCURY, TOTAL	1.30		0.013	U	1	129.9	A	80	120	CV
NICKEL, TOTAL	4.17		0.051	J	4	102.9		80	120	MS
SELENIUM, TOTAL	10.2		0.037	U	10	102.5		80	120	MS
SILVER, TOTAL	2.25		0.010	U	2	112.7		80	120	MS
THALLIUM, TOTAL	2.10		0.012	U	2	105.1		80	120	MS
ZINC, TOTAL	20.6		0.78	U	20	103.0		80	120	MS

Comments:

5D

SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-INF-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-002

Concentration Units : ug/L

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ANTIMONY, TOTAL		98.9		102		2.6		MS
ARSENIC, TOTAL		102		104		1.9		MS
BERYLLIUM, TOTAL		47.6		48.1		1.0		MS
CADMIUM, TOTAL		250		257		3.1		MS
CALCIUM, TOTAL		3600		3640		1.1		MS
CHROMIUM, TOTAL		202		209		3.6		MS
COPPER, TOTAL		295		300		1.5		MS
LEAD, TOTAL		101		104		2.5		MS
MANGANESE, TOTAL		500		513		2.7		MS
MERCURY, TOTAL		0.967		1.07		9.9		CV
NICKEL, TOTAL		513		527		2.6		MS
SELENIUM, TOTAL		101		103		2.3		MS
SILVER, TOTAL		50.2		51.5		2.4		MS
THALLIUM, TOTAL		100		103		2.7		MS
ZINC, TOTAL		545		558		2.5		MS

Comments:

5D

SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-01-WINTER2020

Matrix: WATER **SDG Name:** TN0377

Percent Solids: 0.00 **Lab Sample ID:** TN0377-007

Concentration Units : ug/L

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ANTIMONY, TOTAL		105		99.2		5.5		MS
ARSENIC, TOTAL		102		101		1.3		MS
BERYLLIUM, TOTAL		51.4		48.0		7.0		MS
CADMIUM, TOTAL		259		254		2.0		MS
CALCIUM, TOTAL		71900		68600		4.7		MS
CHROMIUM, TOTAL		206		202		2.0		MS
COPPER, TOTAL		256		250		2.1		MS
LEAD, TOTAL		107		103		4.3		MS
MANGANESE, TOTAL		512		504		1.7		MS
MERCURY, TOTAL		1.10		0.950		14.4		CV
NICKEL, TOTAL		517		504		2.5		MS
SELENIUM, TOTAL		99.6		94.9		4.8		MS
SILVER, TOTAL		52.4		52.0		1.0		MS
THALLIUM, TOTAL		109		104		4.6		MS
ZINC, TOTAL		521		506		2.9		MS

Comments:

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWNL22IMW3

Matrix: WATER **SDG Name:** TN0377

QC Batch ID: NL22IMW3

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ANTIMONY	100	96.6	96.6	85	117
ARSENIC	100	102	101.6	84	116
BERYLLIUM	50.0	46.4	92.7	83	121
CADMIUM	250	254	101.4	87	115
CALCIUM	2500	2540	101.5	87	118
CHROMIUM	200	205	102.3	85	116
COPPER	250	259	103.6	85	118
LEAD	100	98.7	98.7	88	115
MANGANESE	500	507	101.4	87	115
NICKEL	500	520	104.0	85	117
SELENIUM	100	100	100.5	80	120
SILVER	50.0	51.5	103.0	85	116
THALLIUM	100	98.7	98.7	82	116
ZINC	500	507	101.4	83	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWNL28HGW1

Matrix: WATER **SDG Name:** TN0377

QC Batch ID: NL28HGW1

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	5.00	5.21	104.2	82	119

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-INF-WINTER2020L

Matrix: WATER **SDG Name:** TN0377

Lab Sample ID: TN0377-002L

Concentration Units: ug/L

Analyte	Sample Result	C	Dilution Result	C	% Difference	Q	M
ANTIMONY, TOTAL	0.016	J	0.055	U	100.0		MS
ARSENIC, TOTAL	0.45	U	2.3	U			MS
BERYLLIUM, TOTAL	0.0067	U	0.034	U			MS
CADMIUM, TOTAL	0.0059	U	0.029	U			MS
CALCIUM, TOTAL	222		224		0.9		MS
CHROMIUM, TOTAL	0.12	J	0.22	U	100.0		MS
COPPER, TOTAL	7.27		7.37		1.4		MS
LEAD, TOTAL	0.436		0.44	J	0.9		MS
MANGANESE, TOTAL	0.070	J	0.35	U	100.0		MS
MERCURY, TOTAL	0.013	U	0.065	U			CV
NICKEL, TOTAL	0.612		0.63	J	2.9		MS
SELENIUM, TOTAL	0.037	U	0.19	U			MS
SILVER, TOTAL	0.010	U	0.050	U			MS
THALLIUM, TOTAL	0.012	U	0.060	U			MS
ZINC, TOTAL	7.5		7.6	J	1.3		MS

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services **Client Field ID:** MW-01-WINTER2020L

Matrix: WATER **SDG Name:** TN0377

Lab Sample ID: TN0377-007L

Concentration Units: ug/L

Analyte	Sample Result	C	Dilution Result	C	% Difference	Q	M
ANTIMONY, TOTAL	0.030	J	0.10	J	233.3		MS
ARSENIC, TOTAL	0.45	U	2.3	U			MS
BERYLLIUM, TOTAL	0.0067	U	0.034	U			MS
CADMIUM, TOTAL	0.0059	U	0.029	U			MS
CALCIUM, TOTAL	13800		14200		2.9		MS
CHROMIUM, TOTAL	0.12	J	0.22	U	100.0		MS
COPPER, TOTAL	0.27	J	0.44	J	63.0		MS
LEAD, TOTAL	0.035	J	0.075	U	100.0		MS
MANGANESE, TOTAL	0.33	J	0.35	U	100.0		MS
MERCURY, TOTAL	0.013	U	0.065	U			CV
NICKEL, TOTAL	0.051	J	0.15	U	100.0		MS
SELENIUM, TOTAL	0.037	U	0.19	U			MS
SILVER, TOTAL	0.010	U	0.050	U			MS
THALLIUM, TOTAL	0.012	U	0.060	U			MS
ZINC, TOTAL	0.78	U	3.9	U			MS

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 01/17/2019

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
MERCURY	0.20	0.016	CV

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** L

Instrument Name: AGILENT 7800 ICP-MS **Date:** 06/11/2018

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
ALUMINUM	20	0.33	MS
ANTIMONY	0.20	0.061	MS
ARSENIC	1.0	0.25	MS
BERYLLIUM	0.20	0.0077	MS
CADMIUM	0.20	0.025	MS
CALCIUM	20	6.8	MS
CHROMIUM	1.0	0.13	MS
COPPER	0.60	0.087	MS
IRON	20	6.4	MS
LEAD	0.20	0.0049	MS
MAGNESIUM	20	0.35	MS
MANGANESE	0.40	0.013	MS
MOLYBDENUM	1.0	0.020	MS
NICKEL	0.40	0.014	MS
POTASSIUM	200	12	MS
SELENIUM	1.0	0.16	MS
SILVER	0.20	0.011	MS
SODIUM	200	6.6	MS
THALLIUM	0.20	0.0031	MS
ZINC	2.0	0.22	MS

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 06/11/2010

Analyte	LOD	Units	M	EPA Prep./Anal. Method
MERCURY	0.10	ug/L	CV	SW846 7470A / SW846 7470A

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** L

Instrument Name: AGILENT 7800 ICP-MS **Date:** 06/11/2010

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ANTIMONY	0.10	ug/L	MS	SW846 3010A / SW846 6020A
ARSENIC	0.80	ug/L	MS	SW846 3010A / SW846 6020A
BERYLLIUM	0.040	ug/L	MS	SW846 3010A / SW846 6020A
CADMIUM	0.040	ug/L	MS	SW846 3010A / SW846 6020A
CALCIUM	16	ug/L	MS	SW846 3010A / SW846 6020A
CHROMIUM	0.80	ug/L	MS	SW846 3010A / SW846 6020A
COPPER	0.40	ug/L	MS	SW846 3010A / SW846 6020A
LEAD	0.10	ug/L	MS	SW846 3010A / SW846 6020A
MANGANESE	0.20	ug/L	MS	SW846 3010A / SW846 6020A
NICKEL	0.24	ug/L	MS	SW846 3010A / SW846 6020A
SELENIUM	0.60	ug/L	MS	SW846 3010A / SW846 6020A
SILVER	0.080	ug/L	MS	SW846 3010A / SW846 6020A
THALLIUM	0.080	ug/L	MS	SW846 3010A / SW846 6020A
ZINC	1.6	ug/L	MS	SW846 3010A / SW846 6020A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** H

Instrument Name: CETAC M6100 **Date:** 02/09/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
MERCURY	0.013	ug/L	CV	SW846 7470A / SW846 7470A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** L

Instrument Name: AGILENT 7800 ICP-MS **Date:** 01/25/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ANTIMONY	0.011	ug/L	MS	SW846 3010A / SW846 6020A
ARSENIC	0.45	ug/L	MS	SW846 3010A / SW846 6020A
BERYLLIUM	0.0067	ug/L	MS	SW846 3010A / SW846 6020A
CADMIUM	0.0059	ug/L	MS	SW846 3010A / SW846 6020A
CALCIUM	4.1	ug/L	MS	SW846 3010A / SW846 6020A
CHROMIUM	0.044	ug/L	MS	SW846 3010A / SW846 6020A
COPPER	0.037	ug/L	MS	SW846 3010A / SW846 6020A
LEAD	0.015	ug/L	MS	SW846 3010A / SW846 6020A
MANGANESE	0.070	ug/L	MS	SW846 3010A / SW846 6020A
NICKEL	0.030	ug/L	MS	SW846 3010A / SW846 6020A
SELENIUM	0.037	ug/L	MS	SW846 3010A / SW846 6020A
SILVER	0.010	ug/L	MS	SW846 3010A / SW846 6020A
THALLIUM	0.012	ug/L	MS	SW846 3010A / SW846 6020A
ZINC	0.78	ug/L	MS	SW846 3010A / SW846 6020A

ICP LINEAR RANGES

Lab Name: Katahdin Analytical Services **Instrument Code:** L

Instrument Name: AGILENT 7800 ICP-MS **Date:** 12/05/2020

Concentration Units: ug/L

Analyte	Integration Time (sec)	Linear Range	M
ALUMINUM	0.01	200000	MS
ANTIMONY	0.10	1000	MS
ARSENIC	0.30	1000	MS
BERYLLIUM	0.30	100	MS
CADMIUM	0.10	1000	MS
CALCIUM	0.03	200000	MS
CHROMIUM	0.10	2000	MS
COPPER	0.10	2000	MS
IRON	0.03	100000	MS
LEAD	0.10	2000	MS
MAGNESIUM	0.05	200000	MS
MANGANESE	0.10	2000	MS
MOLYBDENUM	0.10	1000	MS
NICKEL	0.10	1000	MS
POTASSIUM	0.01	200000	MS
SELENIUM	0.30	1000	MS
SILVER	0.10	100	MS
SODIUM	0.01	200000	MS
THALLIUM	0.10	1000	MS
ZINC	0.10	2000	MS

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** NL22IMW3

Matrix: WATER **SDG Name:** TN0377

Method: MS **Prep Date:** 12/22/2020

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWNL22IMW3	LCSWNL22IMW3	0.05	0.05	
PBWNL22IMW3	PBWNL22IMW3	0.05	0.05	
DW-01-EFF-WINTER2020	TN0377-001	0.05	0.05	H
DW-01-INF-WINTER2020	TN0377-002	0.05	0.05	R
DW-01-INF-WINTER2020P	TN0377-002P	0.05	0.05	R
DW-01-INF-WINTER2020S	TN0377-002S	0.05	0.05	R
DW-01-MID-WINTER2020	TN0377-003	0.05	0.05	H
DW-02R-EFF-WINTER2020	TN0377-004	0.05	0.05	H
DW-02R-INF-WINTER2020	TN0377-005	0.05	0.05	H
DW-FD-WINTER2020	TN0377-006	0.05	0.05	H
MW-01-WINTER2020	TN0377-007	0.05	0.05	P
MW-01-WINTER2020P	TN0377-007P	0.05	0.05	P
MW-01-WINTER2020S	TN0377-007S	0.05	0.05	P
MW-02-WINTER2020	TN0377-008	0.05	0.05	F
MW-03-WINTER2020	TN0377-009	0.05	0.05	F
MW-04-WINTER2020	TN0377-010	0.05	0.05	F
MW-05-WINTER2020	TN0377-011	0.05	0.05	F
MW-FD-WINTER2020	TN0377-012	0.05	0.05	F
GW-EB-WINTER2020	TN0377-013	0.05	0.05	F

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** NL28HGW1

Matrix: WATER **SDG Name:** TN0377

Method: CV **Prep Date:** 12/28/2020

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWNL28HGW1	LCSWNL28HGW1	0.025	0.025	
PBWNL28HGW1	PBWNL28HGW1	0.025	0.025	
DW-01-EFF-WINTER2020	TN0377-001	0.025	0.025	H
DW-01-INF-WINTER2020	TN0377-002	0.025	0.025	P
DW-01-INF-WINTER2020P	TN0377-002P	0.025	0.025	P
DW-01-INF-WINTER2020S	TN0377-002S	0.025	0.025	P
DW-01-MID-WINTER2020	TN0377-003	0.025	0.025	H
DW-02R-EFF-WINTER2020	TN0377-004	0.025	0.025	H
DW-02R-INF-WINTER2020	TN0377-005	0.025	0.025	H
DW-FD-WINTER2020	TN0377-006	0.025	0.025	H
MW-01-WINTER2020	TN0377-007	0.025	0.025	Q
MW-01-WINTER2020P	TN0377-007P	0.025	0.025	Q
MW-01-WINTER2020S	TN0377-007S	0.025	0.025	Q
MW-02-WINTER2020	TN0377-008	0.025	0.025	F
MW-03-WINTER2020	TN0377-009	0.025	0.025	F
MW-04-WINTER2020	TN0377-010	0.025	0.025	F
MW-05-WINTER2020	TN0377-011	0.025	0.025	F
MW-FD-WINTER2020	TN0377-012	0.025	0.025	F
GW-EB-WINTER2020	TN0377-013	0.025	0.025	F

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Instrument ID: CETAC M6100 **File Name:** HNL28A

Date: 12/28/2020 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
Calibration Blank		1	14:53	Hg
Standard #1 (0.2 ppb		1	14:55	Hg
Standard #2 (0.5 ppb		1	14:57	Hg
Standard #3 (1.0 ppb		1	14:59	Hg
Standard #4 (5.0 ppb		1	15:01	Hg
Standard #5 (10.0 pp		1	15:03	Hg
ICV		1	15:06	HG
ICB		1	15:08	HG
PQL		1	15:10	HG
CCV		1	15:12	HG
CCB		1	15:14	HG
LCSWNL28HGW1		1	15:16	HG
ZZZZZZ		1	15:18	
ZZZZZZ		1	15:21	
PBWNL28HGW1		1	15:23	HG
ZZZZZZ		1	15:25	
ZZZZZZ		1	15:27	
TN0377-001	DW-01-EFF-WINTER2020	1	15:29	HG
TN0377-002	DW-01-INF-WINTER2020	1	15:31	HG
TN0377-002L	DW-01-INF-WINTER2020L	5	15:33	HG
CCV		1	15:35	HG
CCB		1	15:38	HG
TN0377-002A	DW-01-INF-WINTER2020A	1	15:40	HG
TN0377-002P	DW-01-INF-WINTER2020P	1	15:42	HG
TN0377-002S	DW-01-INF-WINTER2020S	1	15:44	HG
TN0377-003	DW-01-MID-WINTER2020	1	15:46	HG
TN0377-004	DW-02R-EFF-WINTER2020	1	15:48	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Instrument ID: CETAC M6100 **File Name:** HNL28A

Date: 12/28/2020 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
TN0377-006	DW-FD-WINTER2020	1	15:50	HG
TN0377-007	MW-01-WINTER2020	1	15:53	HG
TN0377-007L	MW-01-WINTER2020L	5	15:55	HG
TN0377-007A	MW-01-WINTER2020A	1	15:57	HG
TN0377-007P	MW-01-WINTER2020P	1	15:59	HG
CCV		1	16:01	HG
CCB		1	16:03	HG
TN0377-007S	MW-01-WINTER2020S	1	16:06	HG
TN0377-008	MW-02-WINTER2020	1	16:08	HG
TN0377-009	MW-03-WINTER2020	1	16:10	HG
TN0377-010	MW-04-WINTER2020	1	16:12	HG
TN0377-011	MW-05-WINTER2020	1	16:14	HG
TN0377-012	MW-FD-WINTER2020	1	16:16	HG
TN0377-013	GW-EB-WINTER2020	1	16:18	HG
ZZZZZZ		1	16:21	
ZZZZZZ		1	16:23	
ZZZZZZ		1	16:25	
CCV		1	16:27	HG
CCB		1	16:29	HG
ZZZZZZ		1	16:31	
ZZZZZZ		1	16:34	
ZZZZZZ		1	16:36	
ZZZZZZ		1	16:38	
ZZZZZZ		1	16:40	
ZZZZZZ		5	16:42	
ZZZZZZ		1	16:44	
ZZZZZZ		1	16:47	

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Instrument ID: CETAC M6100 **File Name:** HNL28A

Date: 12/28/2020 **Method:** CV

Lab Sample ID	Client ID	D.F.	Time	Elements
ZZZZZZ		1	16:49	
ZZZZZZ		1	16:51	
CCV		1	16:53	HG
CCB		1	16:55	HG
TN0377-005	DW-02R-INF-WINTER2020	1	16:57	HG
CCV		1	16:59	HG
CCB		1	17:02	HG

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Instrument ID: AGILENT 7800 ICP-MS **File Name:** LNL28A

Date: 12/28/2020 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements																			
CalBlank		1	12:20	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
CalStd		1	12:23	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
ICV		1	12:27	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
ICB		1	12:29	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
PQL		1	12:32	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
ICSA		1	12:34	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
ICSAB		1	12:37	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
ZZZZZZ		1	12:40																				
ZZZZZZ		1	12:42																				
ZZZZZZ		1	12:45																				
ZZZZZZ		1	12:48																				
CCV		1	12:50	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
CCB		1	12:53	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
ZZZZZZ		10	12:56																				
ZZZZZZ		10	12:58																				
ZZZZZZ		10	13:01																				
ZZZZZZ		5	13:03																				
ZZZZZZ		5	13:06																				
ZZZZZZ		5	13:08																				
ZZZZZZ		5	13:11																				
ZZZZZZ		5	13:14																				
PBWNL22IMW3		5	13:16		Sb	As	Be	Cd	Ca	Cr	Cu		Pb		Mn		Ni		Se	Ag		Tl	Zn
LCSWNL22IMW3		5	13:19		Sb	As	Be	Cd	Ca	Cr	Cu		Pb		Mn		Ni		Se	Ag		Tl	Zn
CCV		1	13:21	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
CCB		1	13:24	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
TN0377-001	DW-01-EFF-WINTER2020	5	13:26		Sb	As	Be	Cd	Ca	Cr	Cu		Pb		Mn		Ni		Se	Ag		Tl	Zn
TN0377-002	DW-01-INF-WINTER2020	5	13:29		Sb	As	Be	Cd	Ca	Cr	Cu		Pb		Mn		Ni		Se	Ag		Tl	Zn

FORM XIV - IN

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Instrument ID: AGILENT 7800 ICP-MS **File Name:** LNL28A

Date: 12/28/2020 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements																			
TN0377-002A	DW-01-INF-WINTER2020A	5	13:32		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-002L	DW-01-INF-WINTER2020L	25	13:34		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-002P	DW-01-INF-WINTER2020P	5	13:37		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-002S	DW-01-INF-WINTER2020S	5	13:39		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-003	DW-01-MID-WINTER2020	5	13:42		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-004	DW-02R-EFF-WINTER2020	5	13:44		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-005	DW-02R-INF-WINTER2020	5	13:47		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
ZZZZZZ		1	13:50																				
CCV		1	13:52	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
CCB		1	13:55	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
TN0377-006	DW-FD-WINTER2020	5	13:57		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-007	MW-01-WINTER2020	5	14:00		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-007A	MW-01-WINTER2020A	5	14:03		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-007L	MW-01-WINTER2020L	25	14:05		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-007P	MW-01-WINTER2020P	5	14:08		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-007S	MW-01-WINTER2020S	5	14:10		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
ZZZZZZ		1	14:13																				
TN0377-008	MW-02-WINTER2020	5	14:15		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-009	MW-03-WINTER2020	5	14:18		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-010	MW-04-WINTER2020	5	14:21		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
CCV		1	14:23	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
CCB		1	14:26	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
TN0377-011	MW-05-WINTER2020	5	14:28		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-012	MW-FD-WINTER2020	5	14:31		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
TN0377-013	GW-EB-WINTER2020	5	14:34		Sb	As	Be	Cd	Ca	Cr	Cu		Pb	Mn		Ni	Se	Ag		Tl			Zn
ZZZZZZ		1	14:36																				
ZZZZZZ		5	14:39																				

FORM XIV - IN

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** TN0377

Instrument ID: AGILENT 7800 ICP-MS **File Name:** LNL28A

Date: 12/28/2020 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements																			
ZZZZZZ		5	14:41																				
ZZZZZZ		5	14:44																				
ZZZZZZ		1	14:47																				
ZZZZZZ		5	14:49																				
ZZZZZZ		5	14:52																				
CCV		1	14:54	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn
CCB		1	14:57	Al	Sb	As	Be	Cd	Ca	Cr	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Zn

Raw Data Section

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: Cetac M6100 (H) **ANALYST**: SF **ANALYSIS DATE**: 12/28/2020

FILE NAME: HNL28A **METHOD**: **CVAA**

Analyte : Mercury

$SnCl_2$ Lot : MR2908

- ☑ 245.1
- ☑ 7470
- ☐ 7471
- ☑ DoD
- ☐ _____

STANDARDS USED:

Standard Name	Prep. Date12/28/2020	Expiration Date	Standard Conc.
Cal. Blank / ICB / CCB	12/28/2020	12/28/2020	0.00 ug/L
Standard #1 / PQL	12/28/2020	12/28/2020	0.20 ug/L
Standard #2	12/28/2020	12/28/2020	0.50 ug/L
Standard #3	12/28/2020	12/28/2020	1.00 ug/L
Standard #4 / CCV	12/28/2020	12/28/2020	5.00 ug/L
Standard #5	12/28/2020	12/28/2020	10.00 ug/L
ICV	12/28/2020	12/28/2020	6.00 ug/L

Additional Comments and Notes:

REVIEWED
EP 12/29/2020
KATAHDIN ANALYTICAL
METALS SECTION

Dilutions:

5x Diln.: 6.4 mL (pipet M26) of Cal. Blank + 1.6mL (pipet M26) of sample

Post Spike (7470/245.1): 0.005 mL MW19402 (pipet M17) + 8.0mL (pipet M26) of sample

ME-018 – Revision 1 – 01/20/2016

INSTRUMENT RUNLOG

Instrument: CETAC M6100

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
Calibration Blank	1.0000	HNL28A	12/28/2020	14:53	SF
Standard #1 (0.2 ppb)	1.0000	HNL28A	12/28/2020	14:55	SF
Standard #2 (0.5 ppb)	1.0000	HNL28A	12/28/2020	14:57	SF
Standard #3 (1.0 ppb)	1.0000	HNL28A	12/28/2020	14:59	SF
Standard #4 (5.0 ppb)	1.0000	HNL28A	12/28/2020	15:01	SF
Standard #5 (10.0 ppb)	1.0000	HNL28A	12/28/2020	15:03	SF
ICV	1.0000	HNL28A	12/28/2020	15:06	SF
ICB	1.0000	HNL28A	12/28/2020	15:08	SF
PQL	1.0000	HNL28A	12/28/2020	15:10	SF
CCV	1.0000	HNL28A	12/28/2020	15:12	SF
CCB	1.0000	HNL28A	12/28/2020	15:14	SF
LCSWNL28HGW1	1.0000	HNL28A	12/28/2020	15:16	SF
LCSWNL28HGW2	1.0000	HNL28A	12/28/2020	15:18	SF
LCSWNL28HGW3	1.0000	HNL28A	12/28/2020	15:21	SF
PBWNL28HGW1	1.0000	HNL28A	12/28/2020	15:23	SF
PBWNL28HGW2	1.0000	HNL28A	12/28/2020	15:25	SF
PBWNL28HGW3	1.0000	HNL28A	12/28/2020	15:27	SF
TN0377-001	1.0000	HNL28A	12/28/2020	15:29	SF
TN0377-002	1.0000	HNL28A	12/28/2020	15:31	SF
TN0377-002L	5.0000	HNL28A	12/28/2020	15:33	SF
CCV	1.0000	HNL28A	12/28/2020	15:35	SF
CCB	1.0000	HNL28A	12/28/2020	15:38	SF
TN0377-002A	1.0000	HNL28A	12/28/2020	15:40	SF
TN0377-002P	1.0000	HNL28A	12/28/2020	15:42	SF
TN0377-002S	1.0000	HNL28A	12/28/2020	15:44	SF
TN0377-003	1.0000	HNL28A	12/28/2020	15:46	SF
TN0377-004	1.0000	HNL28A	12/28/2020	15:48	SF
TN0377-006	1.0000	HNL28A	12/28/2020	15:50	SF
TN0377-007	1.0000	HNL28A	12/28/2020	15:53	SF
TN0377-007L	5.0000	HNL28A	12/28/2020	15:55	SF
TN0377-007A	1.0000	HNL28A	12/28/2020	15:57	SF
TN0377-007P	1.0000	HNL28A	12/28/2020	15:59	SF
CCV	1.0000	HNL28A	12/28/2020	16:01	SF
CCB	1.0000	HNL28A	12/28/2020	16:03	SF
TN0377-007S	1.0000	HNL28A	12/28/2020	16:06	SF
TN0377-008	1.0000	HNL28A	12/28/2020	16:08	SF
TN0377-009	1.0000	HNL28A	12/28/2020	16:10	SF
TN0377-010	1.0000	HNL28A	12/28/2020	16:12	SF
TN0377-011	1.0000	HNL28A	12/28/2020	16:14	SF
TN0377-012	1.0000	HNL28A	12/28/2020	16:16	SF
TN0377-013	1.0000	HNL28A	12/28/2020	16:18	SF
TN0415-001	1.0000	HNL28A	12/28/2020	16:21	SF
TN0415-002	1.0000	HNL28A	12/28/2020	16:23	SF
TN0415-003	1.0000	HNL28A	12/28/2020	16:25	SF

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
CCV	1.0000	HNL28A	12/28/2020	16:27	SF
CCB	1.0000	HNL28A	12/28/2020	16:29	SF
TN0415-004	1.0000	HNL28A	12/28/2020	16:31	SF
TN0415-005	1.0000	HNL28A	12/28/2020	16:34	SF
TN0415-006	1.0000	HNL28A	12/28/2020	16:36	SF
TN0415-007	1.0000	HNL28A	12/28/2020	16:38	SF
TN0446-001	1.0000	HNL28A	12/28/2020	16:40	SF
TN0446-001L	5.0000	HNL28A	12/28/2020	16:42	SF
TN0446-001A	1.0000	HNL28A	12/28/2020	16:44	SF
TN0446-001P	1.0000	HNL28A	12/28/2020	16:47	SF
TN0446-001S	1.0000	HNL28A	12/28/2020	16:49	SF
TN0447-001	1.0000	HNL28A	12/28/2020	16:51	SF
CCV	1.0000	HNL28A	12/28/2020	16:53	SF
CCB	1.0000	HNL28A	12/28/2020	16:55	SF
TN0377-005	1.0000	HNL28A	12/28/2020	16:57	SF
CCV	1.0000	HNL28A	12/28/2020	16:59	SF
CCB	1.0000	HNL28A	12/28/2020	17:02	SF

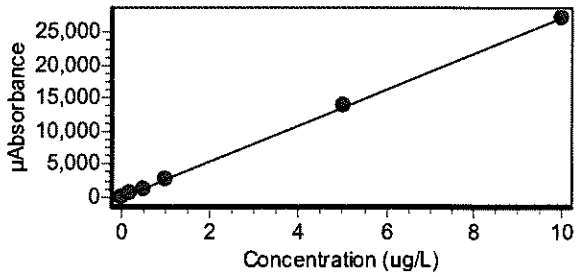
Report Generated By CETAC QuickTrace
Analyst: metals
Worksheet file: C:\Program Files\QuickTrace\Worksheets\HNL28A.wsz
Date Started: 12/28/2020 1:24:31 PM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags
Calibration Blank					STD	12/28/20 02:53:20 pm	0.000	20	96.31	
Replicates	23.0	24.2	-6.8	38.2						
Standard #1 (0.2 ppb)					STD	12/28/20 02:55:26 pm	0.200	528	5.27	
Replicates	500.6	526.5	566.4	518.2						
Standard #2 (0.5 ppb)					STD	12/28/20 02:57:34 pm	0.500	1281	2.07	
Replicates	1266.8	1296.5	1308.9	1251.2						
Standard #3 (1.0 ppb)					STD	12/28/20 02:59:41 pm	1.000	2682	4.71	
Replicates	2768.9	2779.2	2674.0	2506.4						
Standard #4 (5.0 ppb)					STD	12/28/20 03:01:50 pm	5.000	13739	2.98	
Replicates	14082.6	13938.8	13780.1	13152.9						
Standard #5 (10.0 ppb)					STD	12/28/20 03:03:59 pm	10.000	26979	3.29	
Replicates	27682.8	27496.3	27023.9	25714.6						

Calibration

Equation: A = 4.038 + 2706.846C
R2: 0.99990
SEE: 118.3639
Flags:



ICV					ICV	12/28/20 03:06:08 pm	6.044	16364	2.53	
Replicates	16673.7	16602.1	16413.6	15764.6						
% Recovery	100.73									
ICB					ICB	12/28/20 03:08:15 pm	0.013	40	71.38	
Replicates	17.4	76.8	47.4	17.6						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags
PQL					CRDL	12/28/20 03:10:21 pm	0.211	574	5.71	
Replicates	617.3	581.7	547.7	549.5						
% Recovery	105.29									
CCV					CCV	12/28/20 03:12:30 pm	5.041	13648	2.25	
Replicates	13777.2	13849.7	13775.7	13191.2						
% Recovery	100.81									
CCB					CCB	12/28/20 03:14:37 pm	-0.003	-4	536.09	
Replicates	17.3	-4.1	4.4	-33.8						
LCSWNL28HGW1					LCS	12/28/20 03:16:44 pm	5.206	14096	3.50	
Replicates	14487.7	14338.0	14179.0	13380.0						
% Recovery	104.12									
LCSWNL28HGW2					LCS	12/28/20 03:18:52 pm	5.336	14449	3.60	
Replicates	14847.0	14761.2	14483.9	13703.0						
% Recovery	106.73									
LCSWNL28HGW3					LCS	12/28/20 03:21:00 pm	5.332	14438	3.38	
Replicates	14793.0	14719.4	14510.3	13728.8						
% Recovery	106.65									
PBWNL28HGW1					PBK	12/28/20 03:23:08 pm	-0.005	-10	336.35	
Replicates	-38.1	-37.1	1.0	33.4						
PBWNL28HGW2					PBK	12/28/20 03:25:17 pm	0.008	25	123.38	
Replicates	-11.1	26.3	20.3	63.2						
PBWNL28HGW3					PBK	12/28/20 03:27:25 pm	0.010	31	65.48	
Replicates	51.9	37.9	31.2	3.4						
TN0377-001					UNK	12/28/20 03:29:33 pm	0.007	23	171.85	
Replicates	5.2	32.8	-19.1	73.9						
TN0377-002					UNK	12/28/20 03:31:41 pm	-0.001	0	134.38	
Replicates	22.0	-0.4	-57.3	36.1						
TN0377-002L					UNK	12/28/20 03:33:50 pm	-0.010	-1	853.87	
Replicates	-11.4	-0.3	-21.8	28.8						

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Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags
CCV					CCV	12/28/20 03:35:58 pm	5.065	13714	1.95	
Replicates	13927.1	13834.7	13768.7	13324.9						
% Recovery	101.30									
CCB					CCB	12/28/20 03:38:06 pm	0.003	13	231.77	
Replicates	27.7	40.0	-30.9	16.6						
TN0377-002A					UNK	12/28/20 03:40:15 pm	1.996	5407	2.84	
Replicates	5510.0	5510.8	5420.0	5185.7						
TN0377-002P					UNK	12/28/20 03:42:23 pm	1.068	2895	2.95	
Replicates	2974.0	2936.4	2890.7	2777.4						
TN0377-002S					UNK	12/28/20 03:44:32 pm	0.967	2623	2.46	
Replicates	2666.0	2626.8	2667.9	2530.3						
TN0377-003					UNK	12/28/20 03:46:41 pm	0.000	3	942.19	
Replicates	23.2	-34.1	24.4	-1.8						
TN0377-004					UNK	12/28/20 03:48:50 pm	0.008	26	80.05	
Replicates	23.8	48.0	34.0	-1.5						
TN0377-006					UNK	12/28/20 03:50:59 pm	0.008	27	86.25	
Replicates	35.3	-7.3	35.2	44.2						
TN0377-007					UNK	12/28/20 03:53:08 pm	-0.013	-30	61.96	
Replicates	-7.9	-25.9	-52.5	-33.0						
TN0377-007L					UNK	12/28/20 03:55:16 pm	0.027	19	158.75	
Replicates	-22.8	33.2	18.9	46.0						
TN0377-007A					UNK	12/28/20 03:57:26 pm	1.299	3521	2.58	
Replicates	3548.2	3602.1	3543.1	3390.6						
TN0377-007P					UNK	12/28/20 03:59:35 pm	0.950	2575	2.71	
Replicates	2630.9	2609.2	2585.4	2473.9						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags
CCV					CCV	12/28/20 04:01:44 pm	5.125	13877	3.25	
Replicates	14267.9	14116.7	13876.0	13245.9						
% Recovery	102.50									
CCB					CCB	12/28/20 04:03:51 pm	-0.001	2	380.58	
Replicates	6.1	4.3	-7.2	3.0						
TN0377-007S					UNK	12/28/20 04:06:00 pm	1.097	2973	2.36	
Replicates	3019.6	3037.4	2951.1	2883.7						
TN0377-008					UNK	12/28/20 04:08:09 pm	-0.002	-3	680.11	
Replicates	-27.7	0.9	16.3	-0.2						
TN0377-009					UNK	12/28/20 04:10:18 pm	0.000	5	500.72	
Replicates	2.5	-1.8	-18.5	36.2						
TN0377-010					UNK	12/28/20 04:12:28 pm	0.000	5	251.79	
Replicates	4.2	9.0	19.8	-12.0						
TN0377-011					UNK	12/28/20 04:14:38 pm	0.007	23	60.19	
Replicates	32.3	27.3	2.5	29.1						
TN0377-012					UNK	12/28/20 04:16:48 pm	-0.014	-33	104.27	
Replicates	-23.9	-25.7	-81.7	-0.7						
TN0377-013					UNK	12/28/20 04:18:57 pm	-0.003	-3	276.10	
Replicates	2.7	-13.4	-4.5	3.8						
TN0415-001					UNK	12/28/20 04:21:06 pm	0.101	276	8.20	
Replicates	254.1	305.4	263.4	282.4						
TN0415-002					UNK	12/28/20 04:23:16 pm	0.079	217	4.21	
Replicates	205.2	226.9	220.8	216.9						
TN0415-003					UNK	12/28/20 04:25:26 pm	0.012	38	83.22	
Replicates	22.9	24.5	18.6	84.3						

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Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags
CCV					CCV	12/28/20 04:27:34 pm	5.178	14020	1.83	
Replicates	14147.3	14171.6	14125.4	13637.4						
% Recovery	103.56									
CCB					CCB	12/28/20 04:29:41 pm	0.013	39	85.97	
Replicates	88.3	13.2	26.9	27.7						
TN0415-004					UNK	12/28/20 04:31:51 pm	0.177	482	6.24	
Replicates	497.0	499.0	495.3	437.0						
TN0415-005					UNK	12/28/20 04:34:01 pm	0.001	8	519.70	
Replicates	-3.4	-35.4	9.1	60.4						
TN0415-006					UNK	12/28/20 04:36:10 pm	0.079	217	15.97	
Replicates	173.0	256.5	226.9	212.5						
TN0415-007					UNK	12/28/20 04:38:21 pm	0.014	42	27.05	
Replicates	51.0	51.5	38.0	27.8						
TN0446-001					UNK	12/28/20 04:40:31 pm	-0.004	-7	486.78	
Replicates	29.4	-0.8	-2.4	-55.1						
TN0446-001L					UNK	12/28/20 04:42:42 pm	-0.054	-25	57.46	
Replicates	-20.9	-46.3	-14.1	-19.1						
TN0446-001A					UNK	12/28/20 04:44:51 pm	1.209	3278	2.92	
Replicates	3349.0	3352.5	3259.8	3149.1						
TN0446-001P					UNK	12/28/20 04:47:02 pm	1.096	2970	2.30	
Replicates	3018.8	2963.9	3020.9	2875.3						
TN0446-001S					UNK	12/28/20 04:49:12 pm	1.108	3003	2.74	
Replicates	3035.1	3099.1	2969.6	2908.2						
TN0447-001					UNK	12/28/20 04:51:23 pm	0.012	38	57.51	
Replicates	34.1	23.5	69.0	23.5						

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Flags
CCV					CCV	12/28/20 04:53:32 pm	5.327	14423	1.96	
	Replicates	14611.4	14589.3	14482.3	14008.3					
	% Recovery	106.54								
CCB					CCB	12/28/20 04:55:38 pm	-0.016	-40	103.30	
	Replicates	-15.3	-3.7	-45.6	-97.4					
TN0377-005					UNK	12/28/20 04:57:49 pm	0.005	18	145.86	
	Replicates	30.9	42.4	-17.8	16.1					
CCV					CCV	12/28/20 04:59:57 pm	5.173	14008	2.67	
	Replicates	14286.0	14230.8	14045.5	13468.1					
	% Recovery	103.47								
CCB					CCB	12/28/20 05:02:04 pm	-0.024	-62	27.39	
	Replicates	-52.4	-74.7	-78.2	-43.2					

Katahdin Analytical Services 4000072

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: L (Agilent 7800) **ANALYST**: KC **ANALYSIS DATE**: 12/28/2020

METHOD: **ICP-MS**
- ☑ 200.8
- ☑ 6020
- ☑ DOD

REVIEWED
EP 12/29/2020
KATAHDIN ANALYTICAL
METALS SECTION

FILE NAME: LNL28A

The pHs of all samples that were tested by direct analysis in this analytical run were checked just prior to analysis and confirmed
to be <2. The time of preservation of these samples was checked in the "Measured Turbidity and Preservation of Incoming Samples" logbook to verify that they had been preserved at least 16 hours prior to analysis. These verifications were performed by
_____ (initials) on _____ (date).

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
Cal. Blk/ICB/CCB	MW19916	12/22/20	12/22/21	0 ug/L
Standard 1	MW19899	12/17/20	01/28/20	Varies by Element
ICV	MW19917	12/22/20	02/10/20	Varies by Element
PQL	MW19862	12/07/20	02/28/20	Varies by Element
LRS1	MW19930	12/24/20	02/28/21	Varies by Element
LRS2	MW19932	12/24/20	02/28/21	Varies by Element
ICSA	MW19912	12/22/20	12/29/20	Varies by Element
ICSAB	MW19913	12/22/20	12/29/20	Varies by Element
CCV	MW19928	12/24/20	01/28/21	Varies by Element
Internal Standard (ISTD)	MW19823	11/24/20	02/24/21	0.4 mg/L (Li,Sc,Ge/Y,Tb,Bi)

Additional Comments and Notes:

LRS2 failed Ca.

CCV (17:29, 18:31, 19:02) failed Be.

For high failing ICB/ICSA/CCBs/PQLs, reported samples less than ½ PQL or >10x detected concentrations of failed analytes.

For low failing CCBs/PQLs, reported samples greater than 10x absolute value of failures, or greater than 10x LOQ, whichever is greater, or < ½ LOD.

Dilutions: Some samples were diluted based on history or due to interfering element concentrations.

Dilution preparations are as follows:

5x, 25x, 50x diln.: 2.0 mL of sample, 5x dilute sample, or 10x dilute sample (pipet M25) + 8.0 mL of MW19528 (pipet M22)

10x or 20x diln.: 1.0 mL or 0.5 mL of sample (pipet M25) + 9.0mL or 9.5 mL of MW19528 (pipet M22)

INSTRUMENT RUNLOG

Instrument: AGILENT 7800

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
CalBlank	1	LNL28A	12/28/2020	12:20	KC
CalStd	1	LNL28A	12/28/2020	12:23	KC
ICV	1	LNL28A	12/28/2020	12:27	KC
ICB	1	LNL28A	12/28/2020	12:29	KC
PQL	1	LNL28A	12/28/2020	12:32	KC
ICSA	1	LNL28A	12/28/2020	12:34	KC
ICSAB	1	LNL28A	12/28/2020	12:37	KC
LRS1	1	LNL28A	12/28/2020	12:40	KC
LRS2	1	LNL28A	12/28/2020	12:42	KC
RINSE	1	LNL28A	12/28/2020	12:45	KC
RINSE	1	LNL28A	12/28/2020	12:48	KC
CCV	1	LNL28A	12/28/2020	12:50	KC
CCB	1	LNL28A	12/28/2020	12:53	KC
SN9858-020R	10	LNL28A	12/28/2020	12:56	KC
SN9911-002R	10	LNL28A	12/28/2020	12:58	KC
SN9911-006R	10	LNL28A	12/28/2020	13:01	KC
FAKE-LCS-001	5	LNL28A	12/28/2020	13:03	KC
FAKE-LCS-002	5	LNL28A	12/28/2020	13:06	KC
FAKE-LCS-003	5	LNL28A	12/28/2020	13:08	KC
FAKE-LCS-004	5	LNL28A	12/28/2020	13:11	KC
PBSNL18IMS2	5	LNL28A	12/28/2020	13:14	KC
PBWNL22IMW3	5	LNL28A	12/28/2020	13:16	KC
LCSWNL22IMW3	5	LNL28A	12/28/2020	13:19	KC
CCV	1	LNL28A	12/28/2020	13:21	KC
CCB	1	LNL28A	12/28/2020	13:24	KC
TN0377-001	5	LNL28A	12/28/2020	13:26	KC
TN0377-002	5	LNL28A	12/28/2020	13:29	KC
TN0377-002A	5	LNL28A	12/28/2020	13:32	KC
TN0377-002L	25	LNL28A	12/28/2020	13:34	KC
TN0377-002P	5	LNL28A	12/28/2020	13:37	KC
TN0377-002S	5	LNL28A	12/28/2020	13:39	KC
TN0377-003	5	LNL28A	12/28/2020	13:42	KC
TN0377-004	5	LNL28A	12/28/2020	13:44	KC
TN0377-005	5	LNL28A	12/28/2020	13:47	KC
RINSE	1	LNL28A	12/28/2020	13:50	KC
CCV	1	LNL28A	12/28/2020	13:52	KC
CCB	1	LNL28A	12/28/2020	13:55	KC
TN0377-006	5	LNL28A	12/28/2020	13:57	KC
TN0377-007	5	LNL28A	12/28/2020	14:00	KC
TN0377-007A	5	LNL28A	12/28/2020	14:03	KC
TN0377-007L	25	LNL28A	12/28/2020	14:05	KC
TN0377-007P	5	LNL28A	12/28/2020	14:08	KC
TN0377-007S	5	LNL28A	12/28/2020	14:10	KC
RINSE	1	LNL28A	12/28/2020	14:13	KC

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
TN0377-008	5	LNL28A	12/28/2020	14:15	KC
TN0377-009	5	LNL28A	12/28/2020	14:18	KC
TN0377-010	5	LNL28A	12/28/2020	14:21	KC
CCV	1	LNL28A	12/28/2020	14:23	KC
CCB	1	LNL28A	12/28/2020	14:26	KC
TN0377-011	5	LNL28A	12/28/2020	14:28	KC
TN0377-012	5	LNL28A	12/28/2020	14:31	KC
TN0377-013	5	LNL28A	12/28/2020	14:34	KC
RINSE	1	LNL28A	12/28/2020	14:36	KC
PBSNL24IMS1	5	LNL28A	12/28/2020	14:39	KC
LCSONL24IMS1	5	LNL28A	12/28/2020	14:41	KC
TN0414-001	5	LNL28A	12/28/2020	14:44	KC
RINSE	1	LNL28A	12/28/2020	14:47	KC
PBWNL24IMW1	5	LNL28A	12/28/2020	14:49	KC
LCSWNL24IMW1	5	LNL28A	12/28/2020	14:52	KC
CCV	1	LNL28A	12/28/2020	14:54	KC
CCB	1	LNL28A	12/28/2020	14:57	KC
TN0373-015	5	LNL28A	12/28/2020	14:59	KC
TN0373-016	5	LNL28A	12/28/2020	15:02	KC
RINSE	1	LNL28A	12/28/2020	15:05	KC
RINSE	1	LNL28A	12/28/2020	15:07	KC
PBWNL24IMW1	5	LNL28A	12/28/2020	15:10	KC
LCSWNL24IMW1	5	LNL28A	12/28/2020	15:12	KC
PBWNL18IMW2	5	LNL28A	12/28/2020	15:15	KC
LCSWNL18IMW2	5	LNL28A	12/28/2020	15:17	KC
TN0267-044	5	LNL28A	12/28/2020	15:20	KC
TN0267-044A	5	LNL28A	12/28/2020	15:23	KC
CCV	1	LNL28A	12/28/2020	15:25	KC
CCB	1	LNL28A	12/28/2020	15:28	KC
TN0267-044L	25	LNL28A	12/28/2020	15:30	KC
TN0267-044P	5	LNL28A	12/28/2020	15:33	KC
TN0267-044S	5	LNL28A	12/28/2020	15:36	KC
TN0267-045	5	LNL28A	12/28/2020	15:38	KC
RINSE	1	LNL28A	12/28/2020	15:41	KC
PBWNL18IMW2	5	LNL28A	12/28/2020	15:43	KC
TN0289-001	5	LNL28A	12/28/2020	15:46	KC
TN0289-002	5	LNL28A	12/28/2020	15:48	KC
TN0289-003	5	LNL28A	12/28/2020	15:51	KC
TN0289-004	5	LNL28A	12/28/2020	15:54	KC
CCV	1	LNL28A	12/28/2020	15:56	KC
CCB	1	LNL28A	12/28/2020	15:59	KC
TN0289-005	5	LNL28A	12/28/2020	16:01	KC
TN0289-006	5	LNL28A	12/28/2020	16:04	KC
TN0289-007	5	LNL28A	12/28/2020	16:06	KC
TN0289-009	5	LNL28A	12/28/2020	16:09	KC
RINSE	1	LNL28A	12/28/2020	16:12	KC
TN0289-010	5	LNL28A	12/28/2020	16:14	KC

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
TN0289-011	5	LNL28A	12/28/2020	16:17	KC
TN0289-012	5	LNL28A	12/28/2020	16:19	KC
TN0289-013	5	LNL28A	12/28/2020	16:22	KC
RINSE	1	LNL28A	12/28/2020	16:25	KC
CCV	1	LNL28A	12/28/2020	16:27	KC
CCB	1	LNL28A	12/28/2020	16:30	KC
TN0289-014	5	LNL28A	12/28/2020	16:32	KC
TN0289-015	5	LNL28A	12/28/2020	16:35	KC
TN0289-005	10	LNL28A	12/28/2020	16:37	KC
TN0289-013	10	LNL28A	12/28/2020	16:40	KC
TN0322-027	5	LNL28A	12/28/2020	16:43	KC
TN0322-028	5	LNL28A	12/28/2020	16:45	KC
TN0289-005	50	LNL28A	12/28/2020	16:48	KC
TN0289-013	50	LNL28A	12/28/2020	16:50	KC
RINSE	1	LNL28A	12/28/2020	16:53	KC
RINSE	1	LNL28A	12/28/2020	16:56	KC
CCV	1	LNL28A	12/28/2020	16:58	KC
CCB	1	LNL28A	12/28/2020	17:01	KC
PBWNL22IMW4	5	LNL28A	12/28/2020	17:03	KC
LCSWNL22IMW4	5	LNL28A	12/28/2020	17:06	KC
TN0328-001	5	LNL28A	12/28/2020	17:08	KC
TN0328-002	5	LNL28A	12/28/2020	17:11	KC
TN0328-003	5	LNL28A	12/28/2020	17:14	KC
TN0328-004	5	LNL28A	12/28/2020	17:16	KC
TN0328-005	5	LNL28A	12/28/2020	17:19	KC
TN0328-006	5	LNL28A	12/28/2020	17:21	KC
RINSE	1	LNL28A	12/28/2020	17:24	KC
TN0328-007	5	LNL28A	12/28/2020	17:27	KC
CCV	1	LNL28A	12/28/2020	17:29	KC
CCB	1	LNL28A	12/28/2020	17:32	KC
TN0328-007A	5	LNL28A	12/28/2020	17:34	KC
TN0328-007L	25	LNL28A	12/28/2020	17:37	KC
TN0328-007P	5	LNL28A	12/28/2020	17:39	KC
TN0328-007S	5	LNL28A	12/28/2020	17:42	KC
RINSE	1	LNL28A	12/28/2020	17:45	KC
RINSE	1	LNL28A	12/28/2020	17:47	KC
RINSE	1	LNL28A	12/28/2020	17:50	KC
RINSE	1	LNL28A	12/28/2020	17:52	KC
RINSE	1	LNL28A	12/28/2020	17:55	KC
RINSE	1	LNL28A	12/28/2020	17:57	KC
CCV	1	LNL28A	12/28/2020	18:00	KC
CCB	1	LNL28A	12/28/2020	18:03	KC
PBWNL22IMW4	5	LNL28A	12/28/2020	18:05	KC
LCSWNL22IMW4	5	LNL28A	12/28/2020	18:08	KC
TN0328-001	5	LNL28A	12/28/2020	18:10	KC
TN0328-002	5	LNL28A	12/28/2020	18:13	KC
RINSE	1	LNL28A	12/28/2020	18:15	KC

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
TN0328-003	5	LNL28A	12/28/2020	18:18	KC
TN0328-004	5	LNL28A	12/28/2020	18:21	KC
TN0328-005	25	LNL28A	12/28/2020	18:23	KC
TN0328-006	25	LNL28A	12/28/2020	18:26	KC
RINSE	1	LNL28A	12/28/2020	18:28	KC
CCV	1	LNL28A	12/28/2020	18:31	KC
CCB	1	LNL28A	12/28/2020	18:34	KC
TN0328-007	5	LNL28A	12/28/2020	18:36	KC
TN0328-007A	5	LNL28A	12/28/2020	18:39	KC
TN0328-007L	25	LNL28A	12/28/2020	18:41	KC
TN0328-007P	5	LNL28A	12/28/2020	18:44	KC
TN0328-007S	5	LNL28A	12/28/2020	18:46	KC
RINSE	1	LNL28A	12/28/2020	18:49	KC
TN0328-009	5	LNL28A	12/28/2020	18:52	KC
TN0328-010	5	LNL28A	12/28/2020	18:54	KC
TN0328-011	5	LNL28A	12/28/2020	18:57	KC
RINSE	1	LNL28A	12/28/2020	18:59	KC
CCV	1	LNL28A	12/28/2020	19:02	KC
CCB	1	LNL28A	12/28/2020	19:04	KC
TN0328-012	5	LNL28A	12/28/2020	19:07	KC
TN0328-013	5	LNL28A	12/28/2020	19:10	KC
TN0328-014	5	LNL28A	12/28/2020	19:12	KC
TN0328-015	5	LNL28A	12/28/2020	19:15	KC
RINSE	1	LNL28A	12/28/2020	19:17	KC
RINSE	1	LNL28A	12/28/2020	19:20	KC
PBWNL23IMW1	1	LNL28A	12/28/2020	19:23	KC
LCSWNL23IMW1	1	LNL28A	12/28/2020	19:25	KC
TN0394-001	1	LNL28A	12/28/2020	19:28	KC
TN0394-002	1	LNL28A	12/28/2020	19:30	KC
CCV	1	LNL28A	12/28/2020	19:33	KC
CCB	1	LNL28A	12/28/2020	19:36	KC
TN0394-002A	1	LNL28A	12/28/2020	19:38	KC
TN0394-002L	5	LNL28A	12/28/2020	19:41	KC
TN0394-002P	1	LNL28A	12/28/2020	19:44	KC
TN0394-002S	1	LNL28A	12/28/2020	19:46	KC
TN0394-003	1	LNL28A	12/28/2020	19:49	KC
TN0394-004	1	LNL28A	12/28/2020	19:51	KC
RINSE	1	LNL28A	12/28/2020	19:54	KC
PBWNL24IMW2	5	LNL28A	12/28/2020	19:57	KC
LCSWNL24IMW2	5	LNL28A	12/28/2020	19:59	KC
TN0335-001	5	LNL28A	12/28/2020	20:02	KC
CCV	1	LNL28A	12/28/2020	20:05	KC
CCB	1	LNL28A	12/28/2020	20:08	KC
TN0335-002	5	LNL28A	12/28/2020	20:10	KC
TN0335-003	5	LNL28A	12/28/2020	20:13	KC
RINSE	1	LNL28A	12/28/2020	20:15	KC
TN0335-004	5	LNL28A	12/28/2020	20:18	KC

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
TN0335-005	5	LNL28A	12/28/2020	20:21	KC
TN0335-006	5	LNL28A	12/28/2020	20:23	KC
RINSE	1	LNL28A	12/28/2020	20:26	KC
TN0335-007	5	LNL28A	12/28/2020	20:29	KC
TN0335-008	5	LNL28A	12/28/2020	20:31	KC
TN0335-009	5	LNL28A	12/28/2020	20:34	KC
CCV	1	LNL28A	12/28/2020	20:37	KC
CCB	1	LNL28A	12/28/2020	20:39	KC
TN0335-011	5	LNL28A	12/28/2020	20:42	KC
TN0335-012	5	LNL28A	12/28/2020	20:45	KC
RINSE	1	LNL28A	12/28/2020	20:47	KC
TN0335-013	5	LNL28A	12/28/2020	20:50	KC
TN0335-013A	5	LNL28A	12/28/2020	20:53	KC
TN0335-013L	25	LNL28A	12/28/2020	20:55	KC
TN0335-013P	5	LNL28A	12/28/2020	20:58	KC
TN0335-013S	5	LNL28A	12/28/2020	21:01	KC
TN0335-014	5	LNL28A	12/28/2020	21:03	KC
RINSE	1	LNL28A	12/28/2020	21:06	KC
CCV	1	LNL28A	12/28/2020	21:09	KC
CCB	1	LNL28A	12/28/2020	21:11	KC
TN0335-015	5	LNL28A	12/28/2020	21:14	KC
TN0335-016	5	LNL28A	12/28/2020	21:17	KC
TN0335-017	5	LNL28A	12/28/2020	21:19	KC
TN0335-018	5	LNL28A	12/28/2020	21:22	KC
TN0335-019	5	LNL28A	12/28/2020	21:25	KC
RINSE	1	LNL28A	12/28/2020	21:27	KC
RINSE	1	LNL28A	12/28/2020	21:30	KC
RINSE	1	LNL28A	12/28/2020	21:33	KC
CCV	1	LNL28A	12/28/2020	21:35	KC
CCB	1	LNL28A	12/28/2020	21:38	KC
PQL	1	LNL28A	12/28/2020	21:41	KC
RINSE	1	LNL28A	12/28/2020	21:43	KC
RINSE	1	LNL28A	12/28/2020	21:46	KC

Katahdin Analytical Services 4000078

US EPA Tune Check Report

Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq. Date-Time	12/28/2020 11:46:02
Report Comment	---
Instrument Name	G8421A SG18503526

[No Gas]

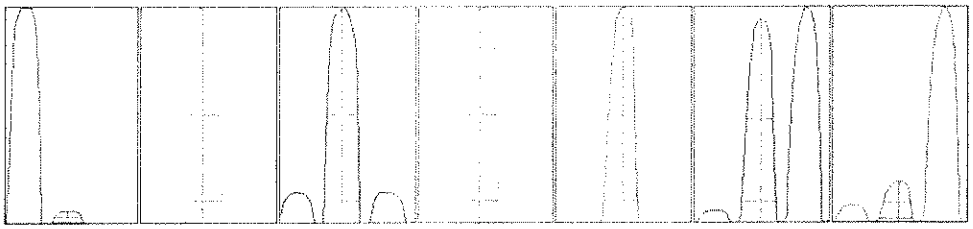
Sensitivity

Mass	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
7	11584	115842.04	0.250	5.000	
9	5728	57277.64	0.362	5.000	
24	178818	1788180.59	0.246	5.000	
59	33690	336899.07	0.162	5.000	
115	427459	4274593.88	0.492	5.000	
205	29029	290294.45	0.815	5.000	
208	62587	625867.70	0.670	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	11556	11617	11552	11600	11596
9	5698	5750	5743	5719	5730
24	178084	179148	178844	179173	178841
59	33620	33746	33738	33695	33651
115	424211	429035	427641	429523	426887
205	28622	29029	29158	29201	29137
208	61870	62562	62891	62810	62800

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	19784.82	6.95	6.90 - 7.10	
9	9491.52	8.90	8.90 - 9.10	
24	269957.81	23.90	23.90 - 24.10	
59	53657.23	58.90	58.90 - 59.10	
115	743561.16	115.00	114.90 - 115.10	
205	50171.15	205.00	204.90 - 205.10	
208	107480.34	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.60	0.719	0.900	
9	0.63	0.756	0.900	
24	0.69	0.779	0.900	
59	0.65	0.770	0.900	
115	0.59	0.750	0.900	
205	0.60	0.760	0.900	
208	0.60	0.731	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	247
Y Axis	Linear

US EPA Tune Check Report

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.01 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	6.9 V	Deflect	12.4 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-85 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.5 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	121	Axis Gain	0.9986	QP Bias	-2.5 V
Mass Offset	125	Axis Offset	0.01		

Hardware Settings

Torch

Torch H	-0.4 mm	Torch V	1.0 mm

EM

Discriminator	3.3 mV	Analog HV	2576 V	Pulse HV	1265 V

[H2]

Sensitivity

Mass	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
59	2613	26128.30	1.016	5.000	
89	254772	2547716.13	0.828	5.000	
205	25467	254668.90	0.503	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	2580	2599	2614	2620	2651
89	251163	254840	255340	256350	256166
205	25383	25544	25286	25593	25529

Integration Time [sec] 0.1

US EPA Tune Check Report

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.01 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	6.9 V	Deflect	1.6 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-85 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.5 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	121	Axis Gain	0.9986	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	0.01		

Hardware Settings

Torch

Torch H	-0.4 mm	Torch V	1.0 mm

EM

Discriminator	3.3 mV	Analog HV	2576 V	Pulse HV	1265 V

[He]

Sensitivity

Mass	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
59	7432	74320.38	1.407	5.000	
89	58395	583951.31	2.086	5.000	
205	14420	144200.98	0.758	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	7282	7400	7417	7517	7544
89	56511	57949	58677	59358	59482
205	14245	14388	14461	14518	14489

Integration Time [sec] 0.1

US EPA Tune Check Report

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.01 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	6.9 V	Deflect	1.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-85 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	4.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	121	Axis Gain	0.9986	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	0.01		

Hardware Settings

Torch

Torch H	-0.4 mm	Torch V	1.0 mm

EM

Discriminator	3.3 mV	Analog HV	2576 V	Pulse HV	1265 V

Calibration Blank Report

Sample Name	CalBlank
File Name	006CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:20:22
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	CPS	RSD
9	Be	6	No Gas	8.89	21.6
11	B	6	No Gas	636.70	7.2
23	Na	45	He	9420.30	4.5
24	Mg	45	He	75.56	27.0
27	Al	45	He	50.00	6.7
28	Si	45	H2	667.43	4.8
39	K	45	He	17461.25	1.8
40	Ca	45	H2	3755.08	0.7
51	V	89	He	394.47	9.0
52	Cr	89	He	711.23	2.5
55	Mn	89	He	114.65	11.6
56	Fe	89	H2	37287.78	1.6
59	Co	89	He	15.56	99.0
60	Ni	89	He	37.78	22.2
63	Cu	89	He	266.68	13.5
66	Zn	89	He	82.22	8.4
75	As	89	He	19.33	36.7
78	Se	89	H2	1.50	33.3
88	Sr	89	He	26.67	69.6
95	Mo	89	He	20.00	0.0
107	Ag	89	He	46.67	18.9
118	Sn	159	He	253.35	9.2
121	Sb	159	No Gas	150.17	13.3
137	Ba	159	No Gas	103.45	39.1
182	W	159	No Gas	116.80	13.1
205	Tl	209	No Gas	240.27	19.1
208	Pb	209	No Gas	2966.81	2.0
232	Th	209	No Gas	290.33	13.8
238	U	209	No Gas	3.34	173.2

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	6947791.61	2.1
Sc	45	No Gas	11828674.09	2.9
Sc	45	H2	1511145.30	1.4
Sc	45	He	392815.69	0.3
Ge	72	No Gas	2346521.52	1.9
Ge	72	H2	505748.89	0.7
Ge	72	He	240647.81	0.5
Y	89	H2	8216492.56	1.2
Y	89	He	2023870.27	0.2
Tb	159	No Gas	21789053.29	2.9
Tb	159	He	8552940.43	0.7
Bi	209	No Gas	10957550.08	2.4

Calibration Standard Report

Sample Name	CalStd
File Name	007CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:23:49
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	CPS	RSD
9	Be	6	No Gas	346605.26	2.2
11	B	6	No Gas	227508.96	2.3
23	Na	45	He	6400909.23	0.6
24	Mg	45	He	3510409.39	1.0
27	Al	45	He	132314.84	1.1
28	Si	45	H2	230759.52	1.9
39	K	45	He	2921780.04	0.6
40	Ca	45	H2	19513799.29	1.3
51	V	89	He	221159.15	0.8
52	Cr	89	He	283847.48	0.8
55	Mn	89	He	130572.65	0.7
56	Fe	89	H2	68080742.51	1.4
59	Co	89	He	449268.45	0.9
60	Ni	89	He	124631.89	0.5
63	Cu	89	He	337016.74	0.9
66	Zn	89	He	44312.44	0.5
75	As	89	He	31299.11	1.5
78	Se	89	H2	14254.13	1.1
88	Sr	89	He	160546.43	0.9
95	Mo	89	He	175457.10	0.3
107	Ag	89	He	569759.97	0.4
111	Cd	89	He	72882.55	0.7
118	Sn	159	He	146770.74	0.8
121	Sb	159	No Gas	981964.28	1.4
137	Ba	159	No Gas	381573.47	3.0
182	W	159	No Gas	858132.86	3.6
205	Tl	209	No Gas	1662291.87	3.1
208	Pb	209	No Gas	2338315.37	2.6
232	Th	209	No Gas	2311090.80	3.8
238	U	209	No Gas	2257955.30	3.5

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6640953.53	0.9	6947791.61	95.58	29.5	120.4	
Sc	45	No Gas	11219714.74	0.4	11828674.09	94.85	29.5	120.4	
Sc	45	H2	1479457.75	2.1	1511145.3	97.9	29.5	120.4	
Sc	45	He	378709.46	1.3	392815.69	96.41	29.5	120.4	
Ge	72	No Gas	2251147.01	0.4	2346521.52	95.94	29.5	120.4	
Ge	72	H2	483688.82	1.9	505748.89	95.64	29.5	120.4	
Ge	72	He	233691.72	0.6	240647.81	97.11	29.5	120.4	
Y	89	H2	8054856.86	1.7	8216492.56	98.03	29.5	120.4	
Y	89	He	1962426.32	1.2	2023870.27	96.96	29.5	120.4	
Tb	159	No Gas	20942200.52	0.8	21789053.29	96.11	29.5	120.4	
Tb	159	He	8392279.18	1.5	8552940.43	98.12	29.5	120.4	
Bi	209	No Gas	10467442.91	0.4	10957550.08	95.53	29.5	120.4	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	008_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:27:04
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	18.886	ppb	8.0	135686.20	20	94.43	89.6	110.4	
11	B	6	No Gas	19.316	ppb	7.3	91480.75	20	96.58	89.6	110.4	
23	Na	45	He	4059.980	ppb	1.2	2599247.23	4000	101.5	89.6	110.4	
24	Mg	45	He	4024.757	ppb	1.4	1410259.35	4000	100.62	89.6	110.4	
27	Al	45	He	404.789	ppb	0.4	53494.09	400	101.2	89.6	110.4	
28	Si	45	H2	437.911	ppb	0.5	99956.70	400	109.48	89.6	110.4	
39	K	45	He	4001.301	ppb	0.8	1177020.12	4000	100.03	89.6	110.4	
40	Ca	45	H2	4042.852	ppb	1.1	7777905.79	4000	101.07	89.6	110.4	
51	V	89	He	20.294	ppb	0.5	89582.63	20	101.47	89.6	110.4	
52	Cr	89	He	20.380	ppb	0.4	115573.21	20	101.9	89.6	110.4	
55	Mn	89	He	20.564	ppb	1.1	53521.73	20	102.82	89.6	110.4	
56	Fe	89	H2	4070.653	ppb	0.2	27336764.34	4000	101.77	89.6	110.4	
59	Co	89	He	20.691	ppb	0.3	185079.30	20	103.45	89.6	110.4	
60	Ni	89	He	20.680	ppb	0.9	51328.32	20	103.4	89.6	110.4	
63	Cu	89	He	20.619	ppb	0.3	138500.93	20	103.1	89.6	110.4	
66	Zn	89	He	20.010	ppb	2.8	17699.58	20	100.05	89.6	110.4	
75	As	89	He	20.500	ppb	0.4	12785.93	20	102.5	89.6	110.4	
78	Se	89	H2	20.885	ppb	0.2	5869.14	20	104.43	89.6	110.4	
88	Sr	89	He	19.654	ppb	0.5	62837.62	20	98.27	89.6	110.4	
95	Mo	89	He	40.328	ppb	0.3	140873.87	40	100.82	89.6	110.4	
107	Ag	89	He	20.777	ppb	0.9	235696.92	20	103.88	89.6	110.4	
111	Cd	89	He	20.363	ppb	0.7	29545.96	20	101.81	89.6	110.4	
118	Sn	159	He	19.958	ppb	0.2	58992.10	20	99.79	89.6	110.4	
121	Sb	159	No Gas	19.462	ppb	7.3	390671.82	20	97.31	89.6	110.4	
137	Ba	159	No Gas	19.551	ppb	7.6	152514.84	20	97.76	89.6	110.4	
182	W	159	No Gas	19.237	ppb	6.8	337466.96	20	96.18	89.6	110.4	
205	Tl	209	No Gas	20.271	ppb	7.2	699267.19	20	101.35	89.6	110.4	
208	Pb	209	No Gas	19.689	ppb	8.1	956857.18	20	98.44	89.6	110.4	
232	Th	209	No Gas	19.433	ppb	7.0	931996.75	20	97.16	89.6	110.4	
238	U	209	No Gas	19.320	ppb	8.3	904921.52	20	96.6	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6890583.31	2.4	6947791.61	99.18	29.5	120.4	
Sc	45	No Gas	11332619.93	2.1	11828674.09	95.81	29.5	120.4	
Sc	45	H2	1457861.78	1.0	1511145.3	96.47	29.5	120.4	
Sc	45	He	377954.42	0.9	392815.69	96.22	29.5	120.4	
Ge	72	No Gas	2282286.50	2.1	2346521.52	97.26	29.5	120.4	
Ge	72	H2	485358.88	1.7	505748.89	95.97	29.5	120.4	
Ge	72	He	232126.33	0.3	240647.81	96.46	29.5	120.4	
Y	89	H2	7938360.27	0.8	8216492.56	96.61	29.5	120.4	
Y	89	He	1953211.59	0.5	2023870.27	96.51	29.5	120.4	
Tb	159	No Gas	21422522.74	2.1	21789053.29	98.32	29.5	120.4	
Tb	159	He	8427692.79	0.5	8552940.43	98.54	29.5	120.4	
Bi	209	No Gas	10873378.52	2.8	10957550.08	99.23	29.5	120.4	

Initial Calibration Blank (ICB) Report

Sample Name	ICB
File Name	009_ICB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:29:40
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.019	ppb	39.7	150.01	0.2	
11	B	6	No Gas	0.305	ppb	3.8	2078.00	4	
23	Na	45	He	1.583	ppb	31.3	10338.54	200	
24	Mg	45	He	0.676	ppb	2.3	317.81	20	
27	Al	45	He	0.037	ppb	335.3	54.45	20	
28	Si	45	H2	-0.130	ppb	N/A	630.72	100	
39	K	45	He	4.259	ppb	22.6	18508.72	200	
40	Ca	45	H2	0.673	ppb	15.1	5042.20	20	
51	V	89	He	-0.012	ppb	N/A	335.57	1	
52	Cr	89	He	0.009	ppb	135.1	751.22	1	
55	Mn	89	He	0.001	ppb	242.6	115.98	0.4	
56	Fe	89	H2	1.020	ppb	10.9	44258.69	20	
59	Co	89	He	0.003	ppb	57.4	46.67	0.2	
60	Ni	89	He	-0.001	ppb	N/A	35.55	0.4	
63	Cu	89	He	0.014	ppb	5.4	357.79	0.6	
66	Zn	89	He	0.004	ppb	357.0	84.45	2	
75	As	89	He	0.004	ppb	17.1	21.67	1	
78	Se	89	H2	0.025	ppb	13.2	8.83	1	
88	Sr	89	He	0.004	ppb	89.7	37.78	1	
95	Mo	89	He	0.096	ppb	27.5	361.13	1	
107	Ag	89	He	0.006	ppb	19.5	116.67	0.2	
111	Cd	89	He	0.002	ppb	24.8	2.59	0.2	
118	Sn	159	He	0.063	ppb	6.6	441.14	1	
121	Sb	159	No Gas	0.025	ppb	11.3	640.73	0.2	
137	Ba	159	No Gas	0.015	ppb	17.6	213.57	0.4	
182	W	159	No Gas	0.066	ppb	2.1	1261.49	1	
205	Tl	209	No Gas	0.039	ppb	20.0	1581.89	0.2	
208	Pb	209	No Gas	0.024	ppb	50.6	4091.54	0.2	
232	Th	209	No Gas	0.062	ppb	8.5	3270.75	1	
238	U	209	No Gas	0.024	ppb	48.6	1114.64	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6924986.67	2.0	6947791.61	99.67	29.5	120.4	
Sc	45	No Gas	11297377.81	1.0	11828674.09	95.51	29.5	120.4	
Sc	45	H2	1495230.50	1.2	1511145.3	98.95	29.5	120.4	
Sc	45	He	387934.45	1.5	392815.69	98.76	29.5	120.4	
Ge	72	No Gas	2287316.40	1.8	2346521.52	97.48	29.5	120.4	
Ge	72	H2	499318.30	0.6	505748.89	98.73	29.5	120.4	
Ge	72	He	237941.67	1.1	240647.81	98.88	29.5	120.4	
Y	89	H2	8196402.57	1.0	8216492.56	99.76	29.5	120.4	
Y	89	He	1996051.01	0.8	2023870.27	98.63	29.5	120.4	
Tb	159	No Gas	21297394.96	0.9	21789053.29	97.74	29.5	120.4	
Tb	159	He	8574651.12	0.4	8552940.43	100.25	29.5	120.4	
Bi	209	No Gas	10833051.00	1.7	10957550.08	98.86	29.5	120.4	

Low Level Initial Calibration Verification (LLICV) Report

Sample Name	PQL
File Name	010LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:32:11
Sample Type	LLICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
9	Be	6	No Gas	0.212	ppb	3.4	1553.47	0.2	106	79.5	120.4	
11	B	6	No Gas	3.881	ppb	8.0	19131.03	4	97.02	79.5	120.4	
23	Na	45	He	208.026	ppb	0.8	145216.67	200	104.01	79.5	120.4	
24	Mg	45	He	21.051	ppb	1.5	7629.31	20	105.25	79.5	120.4	
27	Al	45	He	20.230	ppb	5.1	2784.81	20	101.15	79.5	120.4	
28	Si	45	H2	99.727	ppb	3.6	23969.88	100	99.73	79.5	120.4	
39	K	45	He	212.239	ppb	0.5	80235.71	200	106.12	79.5	120.4	
40	Ca	45	H2	21.679	ppb	1.6	46693.46	20	108.4	79.5	120.4	
51	V	89	He	1.055	ppb	5.0	5116.68	1	105.5	79.5	120.4	
52	Cr	89	He	1.012	ppb	4.3	6520.33	1	101.2	79.5	120.4	
55	Mn	89	He	0.367	ppb	5.9	1085.19	0.4	91.75	79.5	120.4	
56	Fe	89	H2	22.624	ppb	1.1	193940.34	20	113.12	79.5	120.4	
59	Co	89	He	0.206	ppb	4.9	1895.82	0.2	103	79.5	120.4	
60	Ni	89	He	0.412	ppb	3.6	1078.98	0.4	103	79.5	120.4	
63	Cu	89	He	0.643	ppb	4.5	4660.96	0.6	107.17	79.5	120.4	
66	Zn	89	He	2.091	ppb	1.4	1959.10	2	104.55	79.5	120.4	
75	As	89	He	0.990	ppb	1.8	647.76	1	99	79.5	120.4	
78	Se	89	H2	1.054	ppb	6.4	307.32	1	105.4	79.5	120.4	
88	Sr	89	He	1.002	ppb	1.7	3292.75	1	100.2	79.5	120.4	
95	Mo	89	He	1.036	ppb	1.1	3709.53	1	103.6	79.5	120.4	
107	Ag	89	He	0.232	ppb	3.4	2734.83	0.2	116	79.5	120.4	
111	Cd	89	He	0.199	ppb	7.9	294.08	0.2	99.5	79.5	120.4	
118	Sn	159	He	1.043	ppb	5.4	3360.54	1	104.3	79.5	120.4	
121	Sb	159	No Gas	0.219	ppb	7.8	4559.18	0.2	109.5	79.5	120.4	
137	Ba	159	No Gas	0.407	ppb	3.4	3294.08	0.4	101.75	79.5	120.4	
182	W	159	No Gas	1.019	ppb	9.7	18086.22	1	101.9	79.5	120.4	
205	Tl	209	No Gas	0.210	ppb	2.9	7523.99	0.2	105	79.5	120.4	
208	Pb	209	No Gas	0.214	ppb	7.4	13394.55	0.2	107	79.5	120.4	
232	Th	209	No Gas	0.193	ppb	7.7	9594.46	0.2	96.5	79.5	120.4	
238	U	209	No Gas	0.205	ppb	13.9	9651.30	0.2	102.5	79.5	120.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6981730.02	2.7	6947791.61	100.49	29.5	120.4	
Sc	45	No Gas	11563857.30	2.2	11828674.09	97.76	29.5	120.4	
Sc	45	H2	1502398.56	0.4	1511145.3	99.42	29.5	120.4	
Sc	45	He	387088.03	0.3	392815.69	98.54	29.5	120.4	
Ge	72	No Gas	2320932.70	2.7	2346521.52	98.91	29.5	120.4	
Ge	72	H2	503570.41	0.5	505748.89	99.57	29.5	120.4	
Ge	72	He	237479.86	0.4	240647.81	98.68	29.5	120.4	
Y	89	H2	8199566.36	0.8	8216492.56	99.79	29.5	120.4	
Y	89	He	1992590.27	0.5	2023870.27	98.45	29.5	120.4	
Tb	159	No Gas	21530124.40	1.2	21789053.29	98.81	29.5	120.4	
Tb	159	He	8535016.19	0.3	8552940.43	99.79	29.5	120.4	
Bi	209	No Gas	10947637.25	2.0	10957550.08	99.91	29.5	120.4	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	011ICSA.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:34:50
Sample Type	ICSA
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Be	9	6	No Gas	0.001	ppb	91.8	15.55	0.2	-50	50	
B	11	6	No Gas	0.453	ppb	6.7	2482.52	4	-50	100	
Na	23	45	He	98437.981	ppb	3.4	59954466.52	100000	80	120	
Mg	24	45	He	97186.167	ppb	3.6	32503420.63	100000	80	120	
Al	27	45	He	97103.704	ppb	3.7	12236719.26	100000	80	120	
Si	28	45	H2	3.155	ppb	2.0	1298.17	100	-50	50	
K	39	45	He	98673.193	ppb	3.8	27323856.34	100000	80	120	
Ca	40	45	H2	100869.099	ppb	1.7	185241726.13	100000	80	120	
V	51	89	He	-0.008	ppb	N/A	331.13	1	-50	100	
Cr	52	89	He	0.915	ppb	3.4	5606.10	0.4404	-100	100	
Mn	55	89	He	0.243	ppb	9.7	711.22	0.0826	100	100	
Fe	56	89	H2	98720.404	ppb	0.8	638126036.89	100000	80	120	
Co	59	89	He	0.192	ppb	8.8	1664.66	0.09288	-50	100	
Ni	60	89	He	0.228	ppb	6.0	576.70	0.114	100	100	
Cu	63	89	He	0.240	ppb	2.3	1791.30	-0.043	100	100	
Zn	66	89	He	0.383	ppb	1.9	400.02	-0.7632	100	100	
As	75	89	He	0.078	ppb	5.0	64.68	1	-50	100	
Se	78	89	H2	0.075	ppb	23.0	21.83	1	-50	100	
Sr	88	89	He	0.898	ppb	6.3	2778.17	0.0578	100	100	
Mo	95	89	He	2029.366	ppb	4.0	6800164.27	2000	80	120	
Ag	107	89	He	0.013	ppb	12.3	185.57	0.2	-50	50	
Cd	111	89	He	0.401	ppb	6.2	558.54	0.268	100	100	
Sn	118	159	He	0.148	ppb	9.4	648.93	-0.24	100	100	
Sb	121	159	No Gas	0.023	ppb	23.6	577.32	-0.0814	100	100	
Ba	137	159	No Gas	0.051	ppb	14.8	473.88	-0.0794	100	100	
W	182	159	No Gas	0.142	ppb	7.5	2469.66	0.32	-100	100	
Tl	205	209	No Gas	0.006	ppb	14.4	410.47	0.2	-50	50	
Pb	208	209	No Gas	0.047	ppb	12.9	4712.31	0.03	100	100	
Th	232	209	No Gas	0.072	ppb	3.2	3370.95	0.2	-50	50	
U	238	209	No Gas	0.003	ppb	30.8	116.80	0.2	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6187631.63	1.3	6947791.61	89.06	29.5	120.4	
Sc	45	No Gas	10552542.28	3.4	11828674.09	89.21	29.5	120.4	
Sc	45	H2	1392264.42	0.8	1511145.3	92.13	29.5	120.4	
Sc	45	He	360944.57	2.4	392815.69	91.89	29.5	120.4	
Ge	72	No Gas	2143101.10	1.8	2346521.52	91.33	29.5	120.4	
Ge	72	H2	449779.37	1.1	505748.89	88.93	29.5	120.4	
Ge	72	He	221738.76	1.2	240647.81	92.14	29.5	120.4	
Y	89	H2	7650605.28	0.9	8216492.56	93.11	29.5	120.4	
Y	89	He	1875268.90	2.7	2023870.27	92.66	29.5	120.4	
Tb	159	No Gas	20236965.53	4.0	21789053.29	92.88	29.5	120.4	
Tb	159	He	7965985.30	3.3	8552940.43	93.14	29.5	120.4	
Bi	209	No Gas	9776477.49	3.1	10957550.08	89.22	29.5	120.4	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	012ICSB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:37:32
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
9	Be	6	No Gas	19.773	ppb	3.6	126823.14	20	79.5	120.4	
11	B	6	No Gas	20.091	ppb	3.5	84910.57	20	79.5	120.4	
23	Na	45	He	98491.499	ppb	3.8	61453888.39	100000	79.5	120.4	
24	Mg	45	He	96750.703	ppb	4.2	33146230.06	100000	79.5	120.4	
27	Al	45	He	96138.001	ppb	4.4	12409483.56	100000	79.5	120.4	
28	Si	45	H2	466.511	ppb	2.6	106171.48	500	79.5	120.4	
39	K	45	He	98396.130	ppb	3.4	27918269.58	100000	79.5	120.4	
40	Ca	45	H2	99405.300	ppb	3.4	190629141.60	100000	79.5	120.4	
51	V	89	He	20.368	ppb	4.8	87526.61	20	79.5	120.4	
52	Cr	89	He	20.893	ppb	4.3	115341.64	20	79.5	120.4	
55	Mn	89	He	20.010	ppb	4.4	50706.04	20	79.5	120.4	
56	Fe	89	H2	97462.868	ppb	4.0	654473150.10	100000	79.5	120.4	
59	Co	89	He	19.961	ppb	3.8	173867.46	20	79.5	120.4	
60	Ni	89	He	19.528	ppb	5.4	47182.65	20	79.5	120.4	
63	Cu	89	He	19.162	ppb	4.0	125349.26	20	79.5	120.4	
66	Zn	89	He	19.619	ppb	3.6	16900.73	20	79.5	120.4	
75	As	89	He	20.738	ppb	4.8	12591.06	20	79.5	120.4	
78	Se	89	H2	20.402	ppb	3.8	5740.75	20	79.5	120.4	
88	Sr	89	He	20.581	ppb	2.6	64100.27	20	79.5	120.4	
95	Mo	89	He	2058.253	ppb	4.9	6998041.42	2000	79.5	120.4	
107	Ag	89	He	18.847	ppb	4.5	208153.47	20	79.5	120.4	
111	Cd	89	He	19.804	ppb	5.1	27971.50	20	79.5	120.4	
118	Sn	159	He	20.190	ppb	3.5	56778.10	20	79.5	120.4	
121	Sb	159	No Gas	20.092	ppb	1.9	380674.69	20	79.5	120.4	
137	Ba	159	No Gas	19.987	ppb	2.5	147150.86	20	79.5	120.4	
182	W	159	No Gas	19.871	ppb	1.8	328938.72	20	79.5	120.4	
205	Tl	209	No Gas	20.535	ppb	1.8	636432.10	20	79.5	120.4	
208	Pb	209	No Gas	20.478	ppb	1.7	894184.35	20	79.5	120.4	
232	Th	209	No Gas	21.563	ppb	3.2	929325.09	20	79.5	120.4	
238	U	209	No Gas	21.092	ppb	2.4	887834.55	20	79.5	120.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6141861.02	1.9	6947791.61	88.4	29.5	120.4	
Sc	45	No Gas	10617493.37	3.4	11828674.09	89.76	29.5	120.4	
Sc	45	H2	1454873.50	3.2	1511145.3	96.28	29.5	120.4	
Sc	45	He	369956.96	4.1	392815.69	94.18	29.5	120.4	
Ge	72	No Gas	2142928.37	2.2	2346521.52	91.32	29.5	120.4	
Ge	72	H2	464870.89	1.8	505748.89	91.92	29.5	120.4	
Ge	72	He	227627.78	3.1	240647.81	94.59	29.5	120.4	
Y	89	H2	7954469.50	3.3	8216492.56	96.81	29.5	120.4	
Y	89	He	1904029.45	4.3	2023870.27	94.08	29.5	120.4	
Tb	159	No Gas	20194567.89	3.1	21789053.29	92.68	29.5	120.4	
Tb	159	He	8024752.38	3.3	8552940.43	93.82	29.5	120.4	
Bi	209	No Gas	9754657.75	2.4	10957550.08	89.02	29.5	120.4	

Linear Range Sample (LRS) Report

Sample Name	LRS1
File Name	013_LRS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:40:18
Sample Type	LRS
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
9	Be	6	No Gas	95.057	ppb	7.0	648021.60	100	95.06	89.5	110.4	
11	B	6	No Gas	461.508	ppb	6.9	2060249.20	500	92.3	89.5	110.4	
51	V	89	He	982.095	ppb	0.7	3934516.33	1000	98.21	89.5	110.4	
52	Cr	89	He	1963.768	ppb	0.7	10089871.77	2000	98.19	89.5	110.4	
55	Mn	89	He	1912.813	ppb	0.3	4528036.53	2000	95.64	89.5	110.4	
59	Co	89	He	996.965	ppb	0.5	8126821.68	1000	99.7	89.5	110.4	
60	Ni	89	He	996.215	ppb	0.6	2252022.71	1000	99.62	89.5	110.4	
63	Cu	89	He	2002.668	ppb	1.0	12237013.29	2000	100.13	89.5	110.4	
66	Zn	89	He	1937.601	ppb	0.5	1555019.33	2000	96.88	89.5	110.4	
75	As	89	He	995.876	ppb	0.5	565283.00	1000	99.59	89.5	110.4	
78	Se	89	H2	997.531	ppb	0.4	264831.57	1000	99.75	89.5	110.4	
88	Sr	89	He	1906.332	ppb	0.5	5552591.30	2000	95.32	89.5	110.4	
95	Mo	89	He	1026.728	ppb	0.5	3268242.80	1000	102.67	89.5	110.4	
107	Ag	89	He	110.105	ppb	0.5	1138196.50	100	110.1	89.5	110.4	
111	Cd	89	He	1027.616	ppb	0.5	1358939.16	1000	102.76	89.5	110.4	
118	Sn	159	He	965.930	ppb	0.4	2711151.49	1000	96.59	89.5	110.4	
121	Sb	159	No Gas	944.943	ppb	6.7	19565920.65	1000	94.49	89.5	110.4	
137	Ba	159	No Gas	1891.605	ppb	7.1	15216221.41	2000	94.58	89.5	110.4	
182	W	159	No Gas	932.245	ppb	6.9	16867770.09	1000	93.22	89.5	110.4	
205	Tl	209	No Gas	995.202	ppb	5.4	36194977.87	1000	99.52	89.5	110.4	
208	Pb	209	No Gas	1892.530	ppb	7.3	96693355.99	2000	94.63	89.5	110.4	
232	Th	209	No Gas	952.499	ppb	7.9	48145306.11	1000	95.25	89.5	110.4	
238	U	209	No Gas	930.375	ppb	8.5	45946103.65	1000	93.04	89.5	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6539356.00	2.8	6947791.61	94.12	29.5	120.4	
Sc	45	No Gas	11127872.69	3.3	11828674.09	94.08	29.5	120.4	
Ge	72	No Gas	2268929.68	3.4	2346521.52	96.69	29.5	120.4	
Tb	159	No Gas	22103782.17	2.1	21789053.29	101.44	29.5	120.4	
Bi	209	No Gas	11462861.62	2.5	10957550.08	104.61	29.5	120.4	
Sc	45	H2	1312396.97	1.2	1511145.3	86.85	29.5	120.4	
Ge	72	H2	432652.76	1.1	505748.89	85.55	29.5	120.4	
Y	89	H2	7501425.75	0.8	8216492.56	91.3	29.5	120.4	
Sc	45	He	333618.03	1.2	392815.69	84.93	29.5	120.4	
Ge	72	He	212119.96	0.7	240647.81	88.15	29.5	120.4	
Y	89	He	1780146.35	0.8	2023870.27	87.96	29.5	120.4	
Tb	159	He	8036053.98	0.9	8552940.43	93.96	29.5	120.4	

Sample Report

Sample Name	LRS2
File Name	014SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:42:50
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.111	ppb	54.0	708.94	100	
11	B	6	No Gas	5.781	ppb	9.4	24456.00	1000	
23	Na	45	He	194973.976	ppb	0.4	133302769.74	200000	
24	Mg	45	He	190450.314	ppb	0.8	71503414.49	200000	
27	Al	45	He	194419.886	ppb	0.6	27504826.81	200000	
28	Si	45	H2	8854.643	ppb	1.1	2089000.93	10000	
39	K	45	He	198897.356	ppb	0.4	61819392.63	200000	
40	Ca	45	H2	201664.453	ppb	1.0	403254998.44	200000	>LDR
51	V	89	He	0.203	ppb	10.8	1342.34	1000	
52	Cr	89	He	0.686	ppb	4.5	4802.62	2000	
55	Mn	89	He	1.397	ppb	1.1	3943.18	2000	
56	Fe	89	H2	98583.464	ppb	0.4	672409712.69	100000	
59	Co	89	He	0.977	ppb	3.9	9232.69	1000	
60	Ni	89	He	0.881	ppb	2.5	2343.61	1000	
63	Cu	89	He	0.968	ppb	4.5	7117.61	2000	
66	Zn	89	He	2.217	ppb	6.5	2143.59	2000	
75	As	89	He	0.339	ppb	7.9	242.36	1000	
78	Se	89	H2	0.524	ppb	4.9	151.32	1000	
88	Sr	89	He	1.971	ppb	1.1	6671.87	2000	
95	Mo	89	He	1.919	ppb	1.4	7093.22	1000	
107	Ag	89	He	0.080	ppb	6.2	1003.41	100	
111	Cd	89	He	0.159	ppb	13.4	242.23	1000	
118	Sn	159	He	2.003	ppb	8.1	5978.20	1000	
121	Sb	159	No Gas	1.125	ppb	37.6	22292.28	1000	
137	Ba	159	No Gas	2.085	ppb	36.2	16038.84	2000	
182	W	159	No Gas	3.061	ppb	14.8	52540.94	1000	
205	Tl	209	No Gas	0.592	ppb	27.9	18562.23	1000	
208	Pb	209	No Gas	2.159	ppb	34.2	96814.26	2000	
232	Th	209	No Gas	3.598	ppb	35.2	155557.35	1000	
238	U	209	No Gas	1.463	ppb	50.0	61912.81	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6045792.82	1.5	6947791.61	87.02	29.5	120.4	
Sc	45	No Gas	10917593.46	1.1	11828674.09	92.3	29.5	120.4	
Sc	45	H2	1515861.33	1.7	1511145.3	100.31	29.5	120.4	
Sc	45	He	405009.97	2.5	392815.69	103.1	29.5	120.4	
Ge	72	No Gas	2164252.01	1.6	2346521.52	92.23	29.5	120.4	
Ge	72	H2	472601.13	2.3	505748.89	93.45	29.5	120.4	
Ge	72	He	242755.86	1.8	240647.81	100.88	29.5	120.4	
Y	89	H2	8073288.63	2.0	8216492.56	98.26	29.5	120.4	
Y	89	He	2060333.74	1.7	2023870.27	101.8	29.5	120.4	
Tb	159	No Gas	20842899.83	2.9	21789053.29	95.66	29.5	120.4	
Tb	159	He	8195100.22	0.6	8552940.43	95.82	29.5	120.4	
Bi	209	No Gas	9708362.29	3.1	10957550.08	88.6	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	015SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:45:42
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.003	ppb	84.6	31.11	100	
11	B	6	No Gas	0.966	ppb	1.9	5427.88	1000	
23	Na	45	He	57.775	ppb	5.0	47759.09	200000	
24	Mg	45	He	16.263	ppb	13.5	6003.94	200000	
27	Al	45	He	15.601	ppb	9.1	2192.48	200000	
28	Si	45	H2	0.291	ppb	129.3	750.86	10000	
39	K	45	He	35.443	ppb	11.2	28158.50	200000	
40	Ca	45	H2	19.586	ppb	12.1	43633.10	200000	
51	V	89	He	0.079	ppb	15.5	763.38	1000	
52	Cr	89	He	0.028	ppb	15.4	881.20	2000	
55	Mn	89	He	0.027	ppb	28.7	188.63	2000	
56	Fe	89	H2	14.511	ppb	11.1	141858.26	100000	
59	Co	89	He	0.014	ppb	42.7	148.90	1000	
60	Ni	89	He	0.019	ppb	37.0	86.67	1000	
63	Cu	89	He	0.072	ppb	6.0	775.61	2000	
66	Zn	89	He	0.064	ppb	22.6	142.23	2000	
75	As	89	He	0.043	ppb	46.8	47.67	1000	
78	Se	89	H2	0.068	ppb	26.1	21.83	1000	
88	Sr	89	He	0.030	ppb	15.2	126.67	2000	
95	Mo	89	He	0.375	ppb	9.9	1391.24	1000	
107	Ag	89	He	0.006	ppb	9.7	116.67	100	
111	Cd	89	He	0.018	ppb	9.8	27.04	1000	
118	Sn	159	He	0.361	ppb	12.3	1342.34	1000	
121	Sb	159	No Gas	0.046	ppb	6.9	1104.61	1000	
137	Ba	159	No Gas	0.041	ppb	6.8	433.83	2000	
182	W	159	No Gas	0.203	ppb	15.8	3798.18	1000	
205	Tl	209	No Gas	0.055	ppb	6.3	2202.65	1000	
208	Pb	209	No Gas	0.117	ppb	2.1	8801.05	2000	
232	Th	209	No Gas	0.030	ppb	2.6	1752.07	1000	
238	U	209	No Gas	0.024	ppb	12.0	1144.68	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	7215895.85	3.1	6947791.61	103.86	29.5	120.4	
Sc	45	No Gas	12067551.50	3.0	11828674.09	102.02	29.5	120.4	
Sc	45	H2	1542321.62	1.4	1511145.3	102.06	29.5	120.4	
Sc	45	He	392979.74	0.6	392815.69	100.04	29.5	120.4	
Ge	72	No Gas	2426399.75	2.7	2346521.52	103.4	29.5	120.4	
Ge	72	H2	510153.12	1.0	505748.89	100.87	29.5	120.4	
Ge	72	He	243899.93	0.3	240647.81	101.35	29.5	120.4	
Y	89	H2	8445762.13	0.2	8216492.56	102.79	29.5	120.4	
Y	89	He	2043085.40	0.5	2023870.27	100.95	29.5	120.4	
Tb	159	No Gas	22167018.28	2.6	21789053.29	101.73	29.5	120.4	
Tb	159	He	8614731.82	0.3	8552940.43	100.72	29.5	120.4	
Bi	209	No Gas	11105433.58	2.8	10957550.08	101.35	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	016SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:48:16
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.002	ppb	17.9	26.67	100	
11	B	6	No Gas	0.664	ppb	4.1	3811.74	1000	
23	Na	45	He	36.915	ppb	2.7	33095.04	200000	
24	Mg	45	He	12.321	ppb	4.2	4454.34	200000	
27	Al	45	He	11.862	ppb	6.9	1637.94	200000	
28	Si	45	H2	-0.330	ppb	N/A	577.33	10000	
39	K	45	He	20.831	ppb	1.7	23175.04	200000	
40	Ca	45	H2	4.347	ppb	3.2	12158.99	200000	
51	V	89	He	0.106	ppb	7.4	863.39	1000	
52	Cr	89	He	0.065	ppb	8.6	1073.85	2000	
55	Mn	89	He	0.065	ppb	23.4	284.62	2000	
56	Fe	89	H2	3.273	ppb	7.5	59833.91	100000	
59	Co	89	He	0.036	ppb	32.6	340.03	1000	
60	Ni	89	He	0.037	ppb	18.0	132.23	1000	
63	Cu	89	He	0.101	ppb	15.9	957.85	2000	
66	Zn	89	He	0.105	ppb	34.2	175.56	2000	
75	As	89	He	0.055	ppb	34.4	54.34	1000	
78	Se	89	H2	0.037	ppb	17.7	12.17	1000	
88	Sr	89	He	0.059	ppb	16.5	218.90	2000	
95	Mo	89	He	0.325	ppb	9.5	1182.31	1000	
107	Ag	89	He	0.009	ppb	9.4	147.78	100	
111	Cd	89	He	0.040	ppb	11.0	60.00	1000	
118	Sn	159	He	0.232	ppb	15.8	943.41	1000	
121	Sb	159	No Gas	0.025	ppb	17.7	670.76	1000	
137	Ba	159	No Gas	0.025	ppb	27.3	303.67	2000	
182	W	159	No Gas	0.095	ppb	8.2	1832.18	1000	
205	Tl	209	No Gas	0.036	ppb	13.2	1535.14	1000	
208	Pb	209	No Gas	0.069	ppb	5.2	6464.59	2000	
232	Th	209	No Gas	0.019	ppb	20.7	1234.79	1000	
238	U	209	No Gas	0.014	ppb	3.0	660.76	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6993101.08	2.8	6947791.61	100.65	29.5	120.4	
Sc	45	No Gas	11698217.28	2.3	11828674.09	98.9	29.5	120.4	
Sc	45	H2	1479366.32	0.3	1511145.3	97.9	29.5	120.4	
Sc	45	He	383490.74	0.1	392815.69	97.63	29.5	120.4	
Ge	72	No Gas	2362164.24	2.4	2346521.52	100.67	29.5	120.4	
Ge	72	H2	493127.99	0.5	505748.89	97.5	29.5	120.4	
Ge	72	He	237745.15	0.4	240647.81	98.79	29.5	120.4	
Y	89	H2	8193418.13	0.4	8216492.56	99.72	29.5	120.4	
Y	89	He	1996957.23	0.6	2023870.27	98.67	29.5	120.4	
Tb	159	No Gas	22078898.28	2.1	21789053.29	101.33	29.5	120.4	
Tb	159	He	8528948.55	0.5	8552940.43	99.72	29.5	120.4	
Bi	209	No Gas	11148940.84	2.3	10957550.08	101.75	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	017_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:50:51
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	23.268	ppb	4.2	163324.96	25	93.07	89.8	110.2	
11	B	6	No Gas	23.531	ppb	4.5	108743.14	25	94.12	89.8	110.2	
23	Na	45	He	5033.650	ppb	4.8	3166877.78	5000	100.67	89.8	110.2	
24	Mg	45	He	5022.112	ppb	5.3	1730168.41	5000	100.44	89.8	110.2	
27	Al	45	He	489.215	ppb	6.4	63528.62	500	97.84	89.8	110.2	
28	Si	45	H2	498.672	ppb	6.2	109216.78	500	99.73	89.8	110.2	
39	K	45	He	4978.187	ppb	4.6	1436039.66	5000	99.56	89.8	110.2	
40	Ca	45	H2	5233.596	ppb	6.6	9665318.19	5000	104.67	89.8	110.2	
51	V	89	He	25.059	ppb	5.2	109767.22	25	100.24	89.8	110.2	
52	Cr	89	He	24.949	ppb	5.1	140362.02	25	99.8	89.8	110.2	
55	Mn	89	He	24.750	ppb	4.7	63957.64	25	99	89.8	110.2	
56	Fe	89	H2	5227.843	ppb	6.2	34099398.61	5000	104.56	89.8	110.2	
59	Co	89	He	25.147	ppb	4.9	223406.37	25	100.59	89.8	110.2	
60	Ni	89	He	25.085	ppb	5.1	61829.62	25	100.34	89.8	110.2	
63	Cu	89	He	25.069	ppb	5.8	167138.92	25	100.28	89.8	110.2	
66	Zn	89	He	24.899	ppb	5.2	21852.17	25	99.6	89.8	110.2	
75	As	89	He	24.716	ppb	5.6	15303.73	25	98.86	89.8	110.2	
78	Se	89	H2	26.037	ppb	5.8	7109.83	25	104.15	89.8	110.2	
88	Sr	89	He	24.188	ppb	4.8	76800.49	25	96.75	89.8	110.2	
95	Mo	89	He	25.300	ppb	4.8	87784.94	25	101.2	89.8	110.2	
107	Ag	89	He	25.432	ppb	5.7	286472.62	25	101.73	89.8	110.2	
111	Cd	89	He	25.189	ppb	4.3	36306.40	25	100.76	89.8	110.2	
118	Sn	159	He	24.619	ppb	5.1	72571.55	25	98.48	89.8	110.2	
121	Sb	159	No Gas	24.307	ppb	2.7	492894.86	25	97.23	89.8	110.2	
137	Ba	159	No Gas	23.983	ppb	3.0	189001.09	25	95.93	89.8	110.2	
182	W	159	No Gas	23.588	ppb	2.7	417842.60	25	94.35	89.8	110.2	
205	Tl	209	No Gas	24.477	ppb	3.1	851150.55	25	97.91	89.8	110.2	
208	Pb	209	No Gas	24.443	ppb	3.7	1197146.65	25	97.77	89.8	110.2	
232	Th	209	No Gas	23.555	ppb	3.4	1138790.21	25	94.22	89.8	110.2	
238	U	209	No Gas	23.477	ppb	3.5	1108715.52	25	93.91	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6723358.49	1.5	6947791.61	96.77	29.5	120.4	
Sc	45	No Gas	11270876.11	2.5	11828674.09	95.28	29.5	120.4	
Sc	45	H2	1403732.11	6.6	1511145.3	92.89	29.5	120.4	
Sc	45	He	372240.29	5.0	392815.69	94.76	29.5	120.4	
Ge	72	No Gas	2279897.58	1.5	2346521.52	97.16	29.5	120.4	
Ge	72	H2	462993.11	6.5	505748.89	91.55	29.5	120.4	
Ge	72	He	232841.03	2.9	240647.81	96.76	29.5	120.4	
Y	89	H2	7732890.74	6.4	8216492.56	94.11	29.5	120.4	
Y	89	He	1942733.53	4.5	2023870.27	95.99	29.5	120.4	
Tb	159	No Gas	21610552.18	2.7	21789053.29	99.18	29.5	120.4	
Tb	159	He	8422737.03	4.0	8552940.43	98.48	29.5	120.4	
Bi	209	No Gas	10944816.72	2.3	10957550.08	99.88	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	018_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:53:25
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.038	ppb	68.1	283.35	0.2	
11	B	6	No Gas	0.514	ppb	2.9	3047.10	4	
23	Na	45	He	15.957	ppb	6.3	19377.88	200	
24	Mg	45	He	3.289	ppb	14.6	1233.48	20	
27	Al	45	He	2.636	ppb	10.3	398.91	20	
28	Si	45	H2	-0.274	ppb	N/A	587.33	100	
39	K	45	He	9.805	ppb	24.3	19778.14	200	
40	Ca	45	H2	4.708	ppb	6.8	12798.43	20	
51	V	89	He	0.026	ppb	10.5	505.58	1	
52	Cr	89	He	0.008	ppb	50.3	749.22	1	
55	Mn	89	He	0.015	ppb	68.1	151.31	0.4	
56	Fe	89	H2	4.264	ppb	2.9	66873.12	20	
59	Co	89	He	0.010	ppb	32.4	106.68	0.2	
60	Ni	89	He	0.013	ppb	43.2	68.89	0.4	
63	Cu	89	He	0.030	ppb	5.7	468.91	0.6	
66	Zn	89	He	0.025	ppb	100.5	103.34	2	
75	As	89	He	0.015	ppb	24.1	28.33	1	
78	Se	89	H2	0.045	ppb	17.0	14.50	1	
88	Sr	89	He	0.014	ppb	16.5	71.12	1	
95	Mo	89	He	0.181	ppb	17.9	665.60	1	
107	Ag	89	He	0.007	ppb	10.8	125.56	0.2	
111	Cd	89	He	0.012	ppb	19.3	17.41	0.2	
118	Sn	159	He	0.137	ppb	28.2	658.94	1	
121	Sb	159	No Gas	0.056	ppb	34.2	1318.21	0.2	
137	Ba	159	No Gas	0.040	ppb	8.4	427.15	0.4	
182	W	159	No Gas	0.131	ppb	6.8	2503.05	1	
205	Tl	209	No Gas	0.061	ppb	28.5	2429.63	0.2	
208	Pb	209	No Gas	0.066	ppb	13.2	6344.39	0.2	
232	Th	209	No Gas	0.181	ppb	12.1	9257.23	1	
238	U	209	No Gas	0.057	ppb	54.9	2803.54	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6878574.69	2.5	6947791.61	99	29.5	120.4	
Sc	45	No Gas	11535916.45	2.1	11828674.09	97.53	29.5	120.4	
Sc	45	H2	1471528.79	1.0	1511145.3	97.38	29.5	120.4	
Sc	45	He	380593.63	0.5	392815.69	96.89	29.5	120.4	
Ge	72	No Gas	2328138.86	2.0	2346521.52	99.22	29.5	120.4	
Ge	72	H2	491522.23	0.9	505748.89	97.19	29.5	120.4	
Ge	72	He	237056.76	0.4	240647.81	98.51	29.5	120.4	
Y	89	H2	8213826.97	0.8	8216492.56	99.97	29.5	120.4	
Y	89	He	1993418.37	0.8	2023870.27	98.5	29.5	120.4	
Tb	159	No Gas	22252531.61	2.5	21789053.29	102.13	29.5	120.4	
Tb	159	He	8520190.29	0.5	8552940.43	99.62	29.5	120.4	
Bi	209	No Gas	11206920.80	2.2	10957550.08	102.28	29.5	120.4	

Sample Report

Sample Name	SN9858-020R
File Name	019SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:56:01
Sample Type	Sample
Total Dilution	10.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	8.902	ppb	9.3	6496.15	100	
11	B	6	No Gas	6.669	ppb	5.1	3823.97	1000	
23	Na	45	He	1504.699	ppb	2.9	107810.69	200000	
24	Mg	45	He	12612.951	ppb	1.1	453636.10	200000	
27	Al	45	He	42477.032	ppb	1.0	575606.52	200000	
28	Si	45	H2	2241.407	ppb	7.4	53039.12	10000	
39	K	45	He	14751.364	ppb	0.7	456238.54	200000	
40	Ca	45	H2	11873.998	ppb	0.5	2356194.97	200000	
51	V	89	He	57.600	ppb	0.3	29605.25	1000	
52	Cr	89	He	61.929	ppb	0.3	41009.67	2000	
55	Mn	89	He	1773.846	ppb	0.3	530894.32	2000	
56	Fe	89	H2	107893.623	ppb	0.7	84288971.00	100000	
59	Co	89	He	22.195	ppb	1.8	22886.82	1000	
60	Ni	89	He	34.367	ppb	2.8	9861.57	1000	
63	Cu	89	He	67.449	ppb	0.2	52392.57	2000	
66	Zn	89	He	505.772	ppb	1.1	51397.88	2000	
75	As	89	He	16.865	ppb	3.2	1231.53	1000	
78	Se	89	H2	0.815	ppb	9.1	28.33	1000	
88	Sr	89	He	31.743	ppb	0.4	11716.46	2000	
95	Mo	89	He	13.764	ppb	0.5	5560.21	1000	
107	Ag	89	He	0.311	ppb	16.9	457.81	100	
111	Cd	89	He	0.822	ppb	18.6	137.41	1000	
118	Sn	159	He	18.532	ppb	3.0	5810.36	1000	
121	Sb	159	No Gas	0.436	ppb	16.7	1051.22	1000	
137	Ba	159	No Gas	185.144	ppb	6.6	148568.00	2000	
182	W	159	No Gas	3.691	ppb	6.7	6776.10	1000	
205	Tl	209	No Gas	1.529	ppb	9.7	5737.75	1000	
208	Pb	209	No Gas	70.827	ppb	7.4	360115.49	2000	
232	Th	209	No Gas	84.256	ppb	9.3	420453.47	1000	
238	U	209	No Gas	17.711	ppb	8.7	86308.42	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6987834.98	1.7	6947791.61	100.58	29.5	120.4	
Sc	45	No Gas	11555679.33	0.9	11828674.09	97.69	29.5	120.4	
Sc	45	H2	1502041.91	0.5	1511145.3	99.4	29.5	120.4	
Sc	45	He	387903.92	1.2	392815.69	98.75	29.5	120.4	
Ge	72	No Gas	2337260.75	1.7	2346521.52	99.61	29.5	120.4	
Ge	72	H2	486321.55	1.5	505748.89	96.16	29.5	120.4	
Ge	72	He	238449.89	0.7	240647.81	99.09	29.5	120.4	
Y	89	H2	9242130.03	0.7	8216492.56	112.48	29.5	120.4	
Y	89	He	2250126.37	0.4	2023870.27	111.18	29.5	120.4	
Tb	159	No Gas	22030084.40	1.8	21789053.29	101.11	29.5	120.4	
Tb	159	He	8585621.47	0.7	8552940.43	100.38	29.5	120.4	
Bi	209	No Gas	11309689.71	2.3	10957550.08	103.21	29.5	120.4	

Sample Report

Sample Name	SN9911-002R
File Name	020SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 12:58:32
Sample Type	Sample
Total Dilution	10.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	10.731	ppb	7.3	8025.85	100	
11	B	6	No Gas	5.756	ppb	8.8	3471.65	1000	
23	Na	45	He	845.620	ppb	1.3	64883.02	200000	
24	Mg	45	He	16068.682	ppb	1.8	579816.03	200000	
27	Al	45	He	49055.363	ppb	1.6	666923.55	200000	
28	Si	45	H2	1896.196	ppb	3.9	45022.14	10000	
39	K	45	He	19840.864	ppb	2.1	609667.00	200000	
40	Ca	45	H2	11657.031	ppb	0.5	2315312.55	200000	
51	V	89	He	54.974	ppb	0.8	28848.21	1000	
52	Cr	89	He	34.722	ppb	0.9	23812.50	2000	
55	Mn	89	He	1842.367	ppb	0.7	562549.32	2000	
56	Fe	89	H2	119181.084	ppb	0.5	94647451.62	100000	
59	Co	89	He	21.849	ppb	1.4	22985.02	1000	
60	Ni	89	He	34.199	ppb	1.7	10012.83	1000	
63	Cu	89	He	45.632	ppb	0.9	36261.42	2000	
66	Zn	89	He	607.733	ppb	1.0	62990.92	2000	
75	As	89	He	16.060	ppb	1.1	1197.52	1000	
78	Se	89	H2	0.640	ppb	20.5	23.00	1000	
88	Sr	89	He	35.007	ppb	1.7	13180.19	2000	
95	Mo	89	He	10.087	ppb	4.8	4163.00	1000	
107	Ag	89	He	0.305	ppb	4.2	460.03	100	
111	Cd	89	He	0.728	ppb	1.7	124.08	1000	
118	Sn	159	He	21.899	ppb	3.9	6836.44	1000	
121	Sb	159	No Gas	0.393	ppb	17.8	977.81	1000	
137	Ba	159	No Gas	236.946	ppb	6.4	193033.98	2000	
182	W	159	No Gas	2.560	ppb	4.2	4809.64	1000	
205	Tl	209	No Gas	1.690	ppb	5.5	6318.66	1000	
208	Pb	209	No Gas	73.456	ppb	7.2	373632.11	2000	
232	Th	209	No Gas	91.823	ppb	6.6	458669.69	1000	
238	U	209	No Gas	17.284	ppb	6.1	84311.20	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	7164643.40	2.3	6947791.61	103.12	29.5	120.4	
Sc	45	No Gas	11876632.98	2.2	11828674.09	100.41	29.5	120.4	
Sc	45	H2	1503413.43	0.8	1511145.3	99.49	29.5	120.4	
Sc	45	He	389133.24	0.5	392815.69	99.06	29.5	120.4	
Ge	72	No Gas	2367651.71	2.4	2346521.52	100.9	29.5	120.4	
Ge	72	H2	486223.67	0.6	505748.89	96.14	29.5	120.4	
Ge	72	He	240100.49	1.0	240647.81	99.77	29.5	120.4	
Y	89	H2	9395935.19	0.6	8216492.56	114.35	29.5	120.4	
Y	89	He	2295574.62	0.8	2023870.27	113.42	29.5	120.4	
Tb	159	No Gas	22369348.00	1.9	21789053.29	102.66	29.5	120.4	
Tb	159	He	8605685.91	0.5	8552940.43	100.62	29.5	120.4	
Bi	209	No Gas	11316160.24	2.1	10957550.08	103.27	29.5	120.4	

Sample Report

Sample Name	SN9911-006R
File Name	021SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:01:10
Sample Type	Sample
Total Dilution	10.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	16.002	ppb	6.6	11877.48	100	
11	B	6	No Gas	13.864	ppb	5.5	7384.35	1000	
23	Na	45	He	1400.648	ppb	5.6	102476.01	200000	
24	Mg	45	He	25386.559	ppb	3.5	926508.45	200000	
27	Al	45	He	78331.074	ppb	4.0	1077040.19	200000	
28	Si	45	H2	2286.186	ppb	2.0	54050.59	10000	
39	K	45	He	23942.265	ppb	2.8	740636.33	200000	
40	Ca	45	H2	33833.865	ppb	1.6	6702864.69	200000	
51	V	89	He	109.797	ppb	3.9	57912.41	1000	
52	Cr	89	He	94.079	ppb	2.6	63976.03	2000	
55	Mn	89	He	3061.714	ppb	4.4	946821.36	2000	
56	Fe	89	H2	177644.827	ppb	1.0	141266554.91	100000	
59	Co	89	He	53.742	ppb	2.3	57262.30	1000	
60	Ni	89	He	166.935	ppb	3.8	49342.23	1000	
63	Cu	89	He	292.702	ppb	3.1	233983.94	2000	
66	Zn	89	He	990.100	ppb	3.5	103901.55	2000	
75	As	89	He	38.522	ppb	3.3	2878.95	1000	
78	Se	89	H2	1.259	ppb	6.0	43.67	1000	
88	Sr	89	He	100.746	ppb	3.5	38366.70	2000	
95	Mo	89	He	12.866	ppb	3.3	5374.58	1000	
107	Ag	89	He	0.639	ppb	17.5	916.73	100	
111	Cd	89	He	1.468	ppb	6.6	253.71	1000	
118	Sn	159	He	59.813	ppb	3.5	18475.43	1000	
121	Sb	159	No Gas	1.975	ppb	10.5	4235.39	1000	
137	Ba	159	No Gas	328.300	ppb	5.7	263874.62	2000	
182	W	159	No Gas	3.098	ppb	11.6	5714.40	1000	
205	Tl	209	No Gas	2.105	ppb	1.3	7727.72	1000	
208	Pb	209	No Gas	221.061	ppb	5.9	1106238.37	2000	
232	Th	209	No Gas	114.081	ppb	7.1	563561.87	1000	
238	U	209	No Gas	22.940	ppb	4.8	110696.10	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	7110916.34	1.9	6947791.61	102.35	29.5	120.4	
Sc	45	No Gas	11766145.32	1.9	11828674.09	99.47	29.5	120.4	
Sc	45	H2	1501284.28	1.0	1511145.3	99.35	29.5	120.4	
Sc	45	He	393901.04	3.0	392815.69	100.28	29.5	120.4	
Ge	72	No Gas	2356555.07	1.9	2346521.52	100.43	29.5	120.4	
Ge	72	H2	483684.37	0.9	505748.89	95.64	29.5	120.4	
Ge	72	He	240494.59	1.7	240647.81	99.94	29.5	120.4	
Y	89	H2	9410304.35	0.8	8216492.56	114.53	29.5	120.4	
Y	89	He	2327108.49	2.8	2023870.27	114.98	29.5	120.4	
Tb	159	No Gas	22064215.23	1.1	21789053.29	101.26	29.5	120.4	
Tb	159	He	8725157.58	2.6	8552940.43	102.01	29.5	120.4	
Bi	209	No Gas	11190725.12	1.7	10957550.08	102.13	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	FAKE-LCS-001
File Name	022LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:03:45
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	46.319	ppb	4.4	70383.01	50	18.53	79.5	120.4	
B	11	6	No Gas	453.850	ppb	4.8	452068.79	500	18.15	79.5	120.4	
Na	23	45	He	7678.127	ppb	2.1	997488.40	7500	20.47	79.5	120.4	
Mg	24	45	He	5151.528	ppb	2.8	364215.73	5000	20.61	79.5	120.4	
Al	27	45	He	2029.608	ppb	3.1	54102.08	2000	20.3	79.5	120.4	
Si	28	45	H2	964.397	ppb	3.3	45419.08	1000	19.29	0	200	
K	39	45	He	9821.185	ppb	2.8	591423.06	10000	19.64	79.5	120.4	
Ca	40	45	H2	2504.822	ppb	4.3	989035.39	2500	20.04	79.5	120.4	
V	51	89	He	513.318	ppb	3.7	456830.03	500	20.53	79.5	120.4	
Cr	52	89	He	207.334	ppb	4.1	237123.97	200	20.73	79.5	120.4	
Mn	55	89	He	513.279	ppb	3.8	269798.95	500	20.53	79.5	120.4	
Fe	56	89	H2	1054.053	ppb	4.4	1504475.95	1000	21.08	79.5	120.4	
Co	59	89	He	517.857	ppb	3.2	937153.12	500	20.71	79.5	120.4	
Ni	60	89	He	522.028	ppb	3.0	262015.40	500	20.88	79.5	120.4	
Cu	63	89	He	260.024	ppb	3.5	352950.59	250	20.8	79.5	120.4	
Zn	66	89	He	511.508	ppb	4.4	91184.32	500	20.46	79.5	120.4	
As	75	89	He	101.993	ppb	4.5	12867.35	100	20.4	79.5	120.4	
Se	78	89	H2	100.295	ppb	4.0	5849.63	100	20.06	79.5	120.4	
Sr	88	89	He	492.567	ppb	3.4	318506.23	500	19.7	79.5	120.4	
Mo	95	89	He	103.417	ppb	4.6	73076.82	100	20.68	79.5	120.4	
Ag	107	89	He	51.880	ppb	3.9	119079.50	50	20.75	79.5	120.4	
Cd	111	89	He	255.591	ppb	3.7	75024.53	250	20.45	79.5	120.4	
Sn	118	159	He	497.673	ppb	3.4	296672.46	500	19.91	79.5	120.4	
Sb	121	159	No Gas	97.568	ppb	2.7	406436.28	100	19.51	79.5	120.4	
Ba	137	159	No Gas	1905.030	ppb	3.0	3082063.78	2000	19.05	79.5	120.4	
W	182	159	No Gas	93.268	ppb	2.3	339490.85	100	18.65	79.5	120.4	
Tl	205	209	No Gas	100.020	ppb	2.9	720067.55	100	20	79.5	120.4	
[Pb]	206	209	No Gas	96.361	ppb	3.7	250480.70	100	19.27	79.5	120.4	
[Pb]	207	209	No Gas	96.879	ppb	3.9	217281.17	100	19.38	79.5	120.4	
Pb	208	209	No Gas	97.926	ppb	3.8	993472.19	100	19.58	79.5	120.4	
Th	232	209	No Gas	95.646	ppb	2.8	957334.31	100	19.13	79.5	120.4	
U	238	209	No Gas	93.902	ppb	2.7	918019.05	100	18.78	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	7277149.03	1.2	6947791.61	104.74	29.5	120.4	
Sc	45	No Gas	11792225.35	2.4	11828674.09	99.69	29.5	120.4	
Sc	45	H2	1492965.22	4.3	1511145.3	98.8	29.5	120.4	
Sc	45	He	381405.90	2.7	392815.69	97.1	29.5	120.4	
Ge	72	No Gas	2362055.12	1.0	2346521.52	100.66	29.5	120.4	
Ge	72	H2	487751.16	3.7	505748.89	96.44	29.5	120.4	
Ge	72	He	235854.83	1.5	240647.81	98.01	29.5	120.4	
Y	89	H2	8246868.04	4.2	8216492.56	100.37	29.5	120.4	
Y	89	He	1977220.53	3.2	2023870.27	97.7	29.5	120.4	
Tb	159	No Gas	22195465.50	2.7	21789053.29	101.87	29.5	120.4	
Tb	159	He	8532742.23	2.9	8552940.43	99.76	29.5	120.4	
Bi	209	No Gas	11328083.52	1.6	10957550.08	103.38	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	FAKE-LCS-002
File Name	023LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:06:25
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	49.634	ppb	1.1	70316.73	50	19.85	79.5	120.4	
B	11	6	No Gas	484.614	ppb	1.0	450034.05	500	19.38	79.5	120.4	
Na	23	45	He	7808.290	ppb	5.6	973802.25	7500	20.82	79.5	120.4	
Mg	24	45	He	5260.167	ppb	5.4	357134.44	5000	21.04	79.5	120.4	
Al	27	45	He	2072.769	ppb	6.2	53048.21	2000	20.73	79.5	120.4	
Si	28	45	H2	953.915	ppb	3.4	43608.22	1000	19.08	0	200	
K	39	45	He	9919.136	ppb	4.5	573646.86	10000	19.84	79.5	120.4	
Ca	40	45	H2	2484.608	ppb	4.9	952109.51	2500	19.88	79.5	120.4	
V	51	89	He	520.525	ppb	5.7	448301.49	500	20.82	79.5	120.4	
Cr	52	89	He	209.691	ppb	5.2	232143.60	200	20.97	79.5	120.4	
Mn	55	89	He	519.733	ppb	5.3	264427.29	500	20.79	79.5	120.4	
Fe	56	89	H2	1026.109	ppb	5.0	1415795.09	1000	20.52	79.5	120.4	
Co	59	89	He	532.729	ppb	5.7	932855.12	500	21.31	79.5	120.4	
Ni	60	89	He	532.341	ppb	5.5	258557.95	500	21.29	79.5	120.4	
Cu	63	89	He	263.229	ppb	5.6	345778.71	250	21.06	79.5	120.4	
Zn	66	89	He	519.340	ppb	5.1	89625.46	500	20.77	79.5	120.4	
As	75	89	He	103.199	ppb	5.3	12604.07	100	20.64	79.5	120.4	
Se	78	89	H2	100.620	ppb	5.9	5667.23	100	20.12	79.5	120.4	
Sr	88	89	He	500.262	ppb	4.0	313205.55	500	20.01	79.5	120.4	
Mo	95	89	He	105.119	ppb	5.3	71908.33	100	21.02	79.5	120.4	
Ag	107	89	He	52.892	ppb	5.8	117489.59	50	21.16	79.5	120.4	
Cd	111	89	He	262.430	ppb	5.5	74555.07	250	20.99	79.5	120.4	
Sn	118	159	He	501.872	ppb	4.6	293444.00	500	20.07	79.5	120.4	
Sb	121	159	No Gas	104.847	ppb	3.9	409304.31	100	20.97	79.5	120.4	
Ba	137	159	No Gas	2046.788	ppb	3.0	3104517.43	2000	20.47	79.5	120.4	
W	182	159	No Gas	102.234	ppb	3.9	348730.25	100	20.45	79.5	120.4	
Tl	205	209	No Gas	107.350	ppb	2.8	728990.87	100	21.47	79.5	120.4	
[Pb]	206	209	No Gas	103.737	ppb	2.9	254248.83	100	20.75	79.5	120.4	
[Pb]	207	209	No Gas	104.261	ppb	1.5	220569.57	100	20.85	79.5	120.4	
Pb	208	209	No Gas	105.507	ppb	2.5	1009370.65	100	21.1	79.5	120.4	
Th	232	209	No Gas	104.485	ppb	3.2	986179.06	100	20.9	79.5	120.4	
U	238	209	No Gas	100.615	ppb	2.6	928022.68	100	20.12	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6786930.13	4.1	6947791.61	97.68	29.5	120.4	
Sc	45	No Gas	10745030.90	5.7	11828674.09	90.84	29.5	120.4	
Sc	45	H2	1448772.13	3.6	1511145.3	95.87	29.5	120.4	
Sc	45	He	366744.28	5.0	392815.69	93.36	29.5	120.4	
Ge	72	No Gas	2202122.90	3.8	2346521.52	93.85	29.5	120.4	
Ge	72	H2	469054.36	3.1	505748.89	92.74	29.5	120.4	
Ge	72	He	227759.98	3.0	240647.81	94.64	29.5	120.4	
Y	89	H2	7967949.23	4.1	8216492.56	96.98	29.5	120.4	
Y	89	He	1915656.31	5.1	2023870.27	94.65	29.5	120.4	
Tb	159	No Gas	20841324.83	6.1	21789053.29	95.65	29.5	120.4	
Tb	159	He	8375685.85	4.7	8552940.43	97.93	29.5	120.4	
Bi	209	No Gas	10696029.71	4.7	10957550.08	97.61	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	FAKE-LCS-003
File Name	024LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:08:55
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	47.257	ppb	7.1	68921.28	50	18.9	79.5	120.4	
B	11	6	No Gas	459.106	ppb	7.0	438919.90	500	18.36	79.5	120.4	
Na	23	45	He	7708.735	ppb	4.0	971912.91	7500	20.56	79.5	120.4	
Mg	24	45	He	5115.307	ppb	4.5	350995.87	5000	20.46	79.5	120.4	
Al	27	45	He	2000.198	ppb	5.2	51744.48	2000	20	79.5	120.4	
Si	28	45	H2	957.736	ppb	1.6	43005.59	1000	19.15	0	200	
K	39	45	He	9809.424	ppb	3.7	573435.17	10000	19.62	79.5	120.4	
Ca	40	45	H2	2527.247	ppb	0.6	951716.98	2500	20.22	79.5	120.4	
V	51	89	He	512.712	ppb	4.5	445896.26	500	20.51	79.5	120.4	
Cr	52	89	He	207.221	ppb	4.8	231599.10	200	20.72	79.5	120.4	
Mn	55	89	He	512.857	ppb	5.1	263406.03	500	20.51	79.5	120.4	
Fe	56	89	H2	1026.288	ppb	0.6	1409674.37	1000	20.53	79.5	120.4	
Co	59	89	He	521.539	ppb	3.8	922323.82	500	20.86	79.5	120.4	
Ni	60	89	He	524.951	ppb	4.4	257445.85	500	21	79.5	120.4	
Cu	63	89	He	259.987	ppb	5.2	344785.57	250	20.8	79.5	120.4	
Zn	66	89	He	513.722	ppb	3.7	89520.14	500	20.55	79.5	120.4	
As	75	89	He	102.747	ppb	4.5	12668.80	100	20.55	79.5	120.4	
Se	78	89	H2	100.966	ppb	0.4	5663.06	100	20.19	79.5	120.4	
Sr	88	89	He	494.238	ppb	5.0	312239.34	500	19.77	79.5	120.4	
Mo	95	89	He	103.046	ppb	3.9	71179.11	100	20.61	79.5	120.4	
Ag	107	89	He	52.660	ppb	4.0	118132.01	50	21.06	79.5	120.4	
Cd	111	89	He	259.104	ppb	5.1	74312.63	250	20.73	79.5	120.4	
Sn	118	159	He	495.395	ppb	5.1	292289.83	500	19.82	79.5	120.4	
Sb	121	159	No Gas	98.055	ppb	7.8	402607.29	100	19.61	79.5	120.4	
Ba	137	159	No Gas	1913.554	ppb	8.1	3051309.38	2000	19.14	79.5	120.4	
W	182	159	No Gas	95.767	ppb	7.3	343636.12	100	19.15	79.5	120.4	
Tl	205	209	No Gas	101.806	ppb	7.8	727829.86	100	20.36	79.5	120.4	
[Pb]	206	209	No Gas	98.048	ppb	8.5	253025.51	100	19.61	79.5	120.4	
[Pb]	207	209	No Gas	98.341	ppb	7.5	219005.61	100	19.67	79.5	120.4	
Pb	208	209	No Gas	99.364	ppb	7.6	1000945.77	100	19.87	79.5	120.4	
Th	232	209	No Gas	96.190	ppb	6.1	956385.39	100	19.24	79.5	120.4	
U	238	209	No Gas	96.061	ppb	6.7	932835.80	100	19.21	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6993184.81	2.6	6947791.61	100.65	29.5	120.4	
Sc	45	No Gas	11353867.11	2.5	11828674.09	95.99	29.5	120.4	
Sc	45	H2	1422230.83	1.1	1511145.3	94.12	29.5	120.4	
Sc	45	He	370334.45	3.2	392815.69	94.28	29.5	120.4	
Ge	72	No Gas	2302488.89	2.4	2346521.52	98.12	29.5	120.4	
Ge	72	H2	467181.14	1.1	505748.89	92.37	29.5	120.4	
Ge	72	He	230090.10	2.4	240647.81	95.61	29.5	120.4	
Y	89	H2	7922054.95	0.7	8216492.56	96.42	29.5	120.4	
Y	89	He	1932732.30	3.7	2023870.27	95.5	29.5	120.4	
Tb	159	No Gas	21917566.90	2.7	21789053.29	100.59	29.5	120.4	
Tb	159	He	8449775.92	3.6	8552940.43	98.79	29.5	120.4	
Bi	209	No Gas	11269270.23	2.9	10957550.08	102.84	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	FAKE-LCS-004
File Name	025LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:11:34
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	46.290	ppb	8.3	67118.55	50	18.52	79.5	120.4	
B	11	6	No Gas	458.182	ppb	8.2	435464.18	500	18.33	79.5	120.4	
Na	23	45	He	7587.554	ppb	0.7	963722.74	7500	20.23	79.5	120.4	
Mg	24	45	He	5060.786	ppb	0.4	349835.53	5000	20.24	79.5	120.4	
Al	27	45	He	1988.379	ppb	0.9	51827.14	2000	19.88	79.5	120.4	
Si	28	45	H2	963.742	ppb	1.9	43434.13	1000	19.27	0	200	
K	39	45	He	9718.059	ppb	0.4	572349.47	10000	19.44	79.5	120.4	
Ca	40	45	H2	2528.630	ppb	0.4	955761.87	2500	20.23	79.5	120.4	
V	51	89	He	507.064	ppb	1.3	443970.62	500	20.28	79.5	120.4	
Cr	52	89	He	205.735	ppb	1.2	231518.16	200	20.57	79.5	120.4	
Mn	55	89	He	506.267	ppb	0.8	261831.47	500	20.25	79.5	120.4	
Fe	56	89	H2	1030.299	ppb	0.4	1419748.92	1000	20.61	79.5	120.4	
Co	59	89	He	517.297	ppb	0.8	920965.02	500	20.69	79.5	120.4	
Ni	60	89	He	520.083	ppb	1.5	256777.33	500	20.8	79.5	120.4	
Cu	63	89	He	257.967	ppb	1.2	344493.13	250	20.64	79.5	120.4	
Zn	66	89	He	507.975	ppb	1.6	89100.68	500	20.32	79.5	120.4	
As	75	89	He	101.469	ppb	1.2	12598.07	100	20.29	79.5	120.4	
Se	78	89	H2	101.602	ppb	0.4	5717.58	100	20.32	79.5	120.4	
Sr	88	89	He	488.500	ppb	0.4	310773.67	500	19.54	79.5	120.4	
Mo	95	89	He	102.434	ppb	2.1	71223.60	100	20.49	79.5	120.4	
Ag	107	89	He	51.759	ppb	1.0	116889.45	50	20.7	79.5	120.4	
Cd	111	89	He	256.241	ppb	0.8	74004.48	250	20.5	79.5	120.4	
Sn	118	159	He	488.647	ppb	0.3	290631.91	500	19.55	79.5	120.4	
Sb	121	159	No Gas	97.376	ppb	8.4	400652.17	100	19.48	79.5	120.4	
Ba	137	159	No Gas	1888.592	ppb	7.8	3018245.46	2000	18.89	79.5	120.4	
W	182	159	No Gas	94.612	ppb	8.2	340178.74	100	18.92	79.5	120.4	
Tl	205	209	No Gas	100.401	ppb	6.8	716388.94	100	20.08	79.5	120.4	
[Pb]	206	209	No Gas	96.471	ppb	7.2	248495.03	100	19.29	79.5	120.4	
[Pb]	207	209	No Gas	97.612	ppb	8.1	216922.16	100	19.52	79.5	120.4	
Pb	208	209	No Gas	98.178	ppb	7.8	986960.04	100	19.64	79.5	120.4	
Th	232	209	No Gas	95.775	ppb	6.9	950065.92	100	19.16	79.5	120.4	
U	238	209	No Gas	96.754	ppb	7.4	937516.86	100	19.35	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6953708.05	2.6	6947791.61	100.09	29.5	120.4	
Sc	45	No Gas	11308786.09	1.9	11828674.09	95.6	29.5	120.4	
Sc	45	H2	1427484.80	0.1	1511145.3	94.46	29.5	120.4	
Sc	45	He	372737.38	1.2	392815.69	94.89	29.5	120.4	
Ge	72	No Gas	2303828.28	2.6	2346521.52	98.18	29.5	120.4	
Ge	72	H2	465801.25	0.4	505748.89	92.1	29.5	120.4	
Ge	72	He	230575.58	0.9	240647.81	95.81	29.5	120.4	
Y	89	H2	7948172.68	0.2	8216492.56	96.73	29.5	120.4	
Y	89	He	1943935.01	1.4	2023870.27	96.05	29.5	120.4	
Tb	159	No Gas	21957383.00	2.1	21789053.29	100.77	29.5	120.4	
Tb	159	He	8507661.26	0.5	8552940.43	99.47	29.5	120.4	
Bi	209	No Gas	11240053.41	1.9	10957550.08	102.58	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBSNL18IMS2
File Name	026_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:14:05
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.100	ppb	84.2	151.12	0.5	
B	11	6	No Gas	7.545	ppb	8.8	7586.71	10	
Na	23	45	He	20.373	ppb	11.7	11661.01	500	
Mg	24	45	He	11.775	ppb	2.0	897.88	50	
Al	27	45	He	11.311	ppb	2.8	346.68	50	
Si	28	45	H2	13.078	ppb	15.7	1221.40	250	
K	39	45	He	39.666	ppb	29.9	19095.90	500	
Ca	40	45	H2	17.443	ppb	4.5	10200.66	50	
V	51	89	He	0.004	ppb	1516.9	387.80	2.5	
Cr	52	89	He	1.002	ppb	4.1	1829.13	2.5	
Mn	55	89	He	0.346	ppb	1.5	292.62	1	
Fe	56	89	H2	8.427	ppb	11.6	48280.69	50	
Co	59	89	He	0.078	ppb	23.2	155.57	0.5	
Ni	60	89	He	0.333	ppb	17.6	203.34	1	
Cu	63	89	He	0.765	ppb	3.1	1292.33	1.5	
Zn	66	89	He	1.275	ppb	21.1	305.57	5	
As	75	89	He	0.028	ppb	15.8	22.33	2.5	
Se	78	89	H2	0.160	ppb	44.2	10.67	2.5	
Sr	88	89	He	0.091	ppb	31.8	84.45	2.5	
Mo	95	89	He	0.417	ppb	14.2	312.24	2.5	
Ag	107	89	He	0.014	ppb	68.8	77.78	0.5	
Cd	111	89	He	0.035	ppb	25.8	10.37	0.5	
Sn	118	159	He	35.185	ppb	3.1	21230.62	2.5	PB 6020 Fails DoD□ PB 6020 Fails Non-DoD
Sb	121	159	No Gas	0.269	ppb	38.3	1264.82	0.5	
Ba	137	159	No Gas	3.154	ppb	60.5	5197.17	1	PB 6020 Fails DoD□ PB 6020 Fails Non-DoD
W	182	159	No Gas	0.472	ppb	14.2	1822.19	2.5	
Tl	205	209	No Gas	0.201	ppb	38.1	1665.32	0.5	
Pb	208	209	No Gas	0.214	ppb	43.9	5122.82	0.5	
Th	232	209	No Gas	1.855	ppb	21.9	18501.60	2.5	
U	238	209	No Gas	0.294	ppb	63.6	2843.64	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6750120.66	2.1	6947791.61	97.15	29.5	120.4	
Sc	45	No Gas	11231372.64	2.4	11828674.09	94.95	29.5	120.4	
Sc	45	H2	1439426.91	0.7	1511145.3	95.25	29.5	120.4	
Sc	45	He	377937.28	1.7	392815.69	96.21	29.5	120.4	
Ge	72	No Gas	2287878.55	2.4	2346521.52	97.5	29.5	120.4	
Ge	72	H2	485599.21	0.4	505748.89	96.02	29.5	120.4	
Ge	72	He	231675.50	2.9	240647.81	96.27	29.5	120.4	
Y	89	H2	8098862.64	1.1	8216492.56	98.57	29.5	120.4	
Y	89	He	1967598.49	1.8	2023870.27	97.22	29.5	120.4	
Tb	159	No Gas	21991162.45	2.1	21789053.29	100.93	29.5	120.4	
Tb	159	He	8538639.04	2.1	8552940.43	99.83	29.5	120.4	
Bi	209	No Gas	11078072.58	2.7	10957550.08	101.1	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBWNL22IMW3
File Name	027_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:16:43
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.010	ppb	37.7	23.34	0.5	
B	11	6	No Gas	3.777	ppb	3.3	4145.18	10	
Na	23	45	He	28.230	ppb	6.0	12612.75	500	
Mg	24	45	He	20.033	ppb	13.1	1469.07	50	
Al	27	45	He	62.194	ppb	3.3	1682.38	50	PB 6020 Fails DoD
Si	28	45	H2	6.285	ppb	50.1	917.73	250	
K	39	45	He	24.065	ppb	42.5	18108.32	500	
Ca	40	45	H2	14.555	ppb	6.0	9113.25	50	
V	51	89	He	0.489	ppb	15.6	814.50	2.5	
Cr	52	89	He	0.296	ppb	10.3	1023.85	2.5	
Mn	55	89	He	0.159	ppb	14.6	193.97	1	
Fe	56	89	H2	4.476	ppb	7.4	42849.79	50	
Co	59	89	He	0.055	ppb	24.5	113.34	0.5	
Ni	60	89	He	0.069	ppb	30.3	71.12	1	
Cu	63	89	He	0.394	ppb	13.5	787.83	1.5	
Zn	66	89	He	0.349	ppb	43.8	141.12	5	
As	75	89	He	0.050	ppb	80.5	25.00	2.5	
Se	78	89	H2	0.091	ppb	38.9	6.67	2.5	
Sr	88	89	He	0.048	ppb	94.5	56.67	2.5	
Mo	95	89	He	0.247	ppb	11.7	192.23	2.5	
Ag	107	89	He	0.022	ppb	67.3	94.45	0.5	
Cd	111	89	He	0.037	ppb	16.8	10.74	0.5	
Sn	118	159	He	0.915	ppb	2.4	801.16	2.5	
Sb	121	159	No Gas	0.049	ppb	30.4	353.73	0.5	
Ba	137	159	No Gas	0.185	ppb	12.9	400.46	1	
W	182	159	No Gas	0.090	ppb	21.7	440.50	2.5	
Tl	205	209	No Gas	0.042	ppb	36.1	547.29	0.5	
Pb	208	209	No Gas	0.197	ppb	3.8	5019.36	0.5	
Th	232	209	No Gas	0.277	ppb	4.4	3043.79	2.5	
U	238	209	No Gas	0.024	ppb	31.0	233.60	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6820660.21	2.1	6947791.61	98.17	29.5	120.4	
Sc	45	No Gas	11326111.86	1.9	11828674.09	95.75	29.5	120.4	
Sc	45	H2	1441021.09	0.5	1511145.3	95.36	29.5	120.4	
Sc	45	He	376282.15	1.8	392815.69	95.79	29.5	120.4	
Ge	72	No Gas	2300639.33	2.2	2346521.52	98.04	29.5	120.4	
Ge	72	H2	473684.37	0.4	505748.89	93.66	29.5	120.4	
Ge	72	He	231080.30	1.3	240647.81	96.02	29.5	120.4	
Y	89	H2	8093496.13	0.6	8216492.56	98.5	29.5	120.4	
Y	89	He	1960579.50	1.4	2023870.27	96.87	29.5	120.4	
Tb	159	No Gas	21991488.84	2.0	21789053.29	100.93	29.5	120.4	
Tb	159	He	8567426.47	1.2	8552940.43	100.17	29.5	120.4	
Bi	209	No Gas	11239268.77	1.7	10957550.08	102.57	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	LCSWNL22IMW3
File Name	028LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:19:14
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	46.352	ppb	8.9	67204.46	50	18.54	79.5	120.4	
B	11	6	No Gas	456.532	ppb	8.1	433967.22	500	18.26	79.5	120.4	
Na	23	45	He	7670.095	ppb	2.0	968316.96	7500	20.45	79.5	120.4	
Mg	24	45	He	5110.576	ppb	0.9	351199.30	5000	20.44	79.5	120.4	
Al	27	45	He	2011.367	ppb	1.1	52115.81	2000	20.11	79.5	120.4	
Si	28	45	H2	945.610	ppb	2.1	42691.36	1000	18.91	0	200	
K	39	45	He	10304.418	ppb	1.0	602319.53	10000	20.61	79.5	120.4	
Ca	40	45	H2	2537.911	ppb	1.1	960690.38	2500	20.3	79.5	120.4	
V	51	89	He	507.650	ppb	0.3	443134.07	500	20.31	79.5	120.4	
Cr	52	89	He	204.671	ppb	0.5	229624.20	200	20.47	79.5	120.4	
Mn	55	89	He	507.081	ppb	0.7	261453.52	500	20.28	79.5	120.4	
Fe	56	89	H2	1029.704	ppb	0.4	1414050.29	1000	20.59	79.5	120.4	
Co	59	89	He	520.228	ppb	0.5	923290.34	500	20.81	79.5	120.4	
Ni	60	89	He	519.797	ppb	0.8	255858.46	500	20.79	79.5	120.4	
Cu	63	89	He	258.896	ppb	0.9	344668.51	250	20.71	79.5	120.4	
Zn	66	89	He	506.847	ppb	0.9	88638.13	500	20.27	79.5	120.4	
As	75	89	He	101.634	ppb	0.7	12578.38	100	20.33	79.5	120.4	
Se	78	89	H2	100.488	ppb	0.4	5635.39	100	20.1	79.5	120.4	
Sr	88	89	He	491.835	ppb	0.8	311928.69	500	19.67	79.5	120.4	
Mo	95	89	He	102.124	ppb	0.4	70793.68	100	20.42	79.5	120.4	
Ag	107	89	He	51.507	ppb	0.8	115960.83	50	20.6	79.5	120.4	
Cd	111	89	He	253.616	ppb	0.5	73021.87	250	20.29	79.5	120.4	
Sn	118	159	He	487.299	ppb	0.2	289202.93	500	19.49	79.5	120.4	
Sb	121	159	No Gas	96.580	ppb	8.1	399460.47	100	19.32	79.5	120.4	
Ba	137	159	No Gas	1896.105	ppb	7.6	3046087.59	2000	18.96	79.5	120.4	
W	182	159	No Gas	94.091	ppb	8.6	340033.76	100	18.82	79.5	120.4	
Tl	205	209	No Gas	98.744	ppb	7.8	703953.57	100	19.75	79.5	120.4	
[Pb]	206	209	No Gas	96.854	ppb	7.8	249280.02	100	19.37	79.5	120.4	
[Pb]	207	209	No Gas	98.332	ppb	8.0	218356.38	100	19.67	79.5	120.4	
Pb	208	209	No Gas	98.736	ppb	7.7	991826.04	100	19.75	79.5	120.4	
Th	232	209	No Gas	94.742	ppb	7.6	939110.79	100	18.95	79.5	120.4	
U	238	209	No Gas	95.922	ppb	7.6	928703.50	100	19.18	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6956174.00	3.0	6947791.61	100.12	29.5	120.4	
Sc	45	No Gas	11298855.44	2.4	11828674.09	95.52	29.5	120.4	
Sc	45	H2	1429690.40	1.1	1511145.3	94.61	29.5	120.4	
Sc	45	He	370560.05	1.2	392815.69	94.33	29.5	120.4	
Ge	72	No Gas	2290437.15	2.5	2346521.52	97.61	29.5	120.4	
Ge	72	H2	467722.92	0.7	505748.89	92.48	29.5	120.4	
Ge	72	He	230014.08	0.3	240647.81	95.58	29.5	120.4	
Y	89	H2	7920619.82	0.7	8216492.56	96.4	29.5	120.4	
Y	89	He	1937822.89	0.7	2023870.27	95.75	29.5	120.4	
Tb	159	No Gas	22078745.50	2.7	21789053.29	101.33	29.5	120.4	
Tb	159	He	8489186.33	0.9	8552940.43	99.25	29.5	120.4	
Bi	209	No Gas	11236456.06	2.7	10957550.08	102.55	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	029_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:21:49
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	23.367	ppb	5.7	162849.59	25	93.47	89.8	110.2	
11	B	6	No Gas	24.183	ppb	5.3	110936.69	25	96.73	89.8	110.2	
23	Na	45	He	4968.772	ppb	0.9	3104065.23	5000	99.38	89.8	110.2	
24	Mg	45	He	4970.214	ppb	0.7	1700492.53	5000	99.4	89.8	110.2	
27	Al	45	He	489.470	ppb	1.1	63149.12	500	97.89	89.8	110.2	
28	Si	45	H2	482.310	ppb	3.6	108339.28	500	96.46	89.8	110.2	
39	K	45	He	4927.916	ppb	0.7	1411614.80	5000	98.56	89.8	110.2	
40	Ca	45	H2	5003.754	ppb	3.7	9476839.17	5000	100.08	89.8	110.2	
51	V	89	He	24.666	ppb	1.8	107503.24	25	98.66	89.8	110.2	
52	Cr	89	He	24.818	ppb	0.6	138929.76	25	99.27	89.8	110.2	
55	Mn	89	He	24.640	ppb	1.3	63346.25	25	98.56	89.8	110.2	
56	Fe	89	H2	4952.899	ppb	3.2	33471622.11	5000	99.06	89.8	110.2	
59	Co	89	He	25.187	ppb	0.7	222621.72	25	100.75	89.8	110.2	
60	Ni	89	He	24.755	ppb	0.6	60710.06	25	99.02	89.8	110.2	
63	Cu	89	He	25.113	ppb	1.7	166623.26	25	100.45	89.8	110.2	
66	Zn	89	He	24.902	ppb	1.0	21745.33	25	99.61	89.8	110.2	
75	As	89	He	24.859	ppb	1.3	15317.09	25	99.44	89.8	110.2	
78	Se	89	H2	24.962	ppb	3.8	7059.97	25	99.85	89.8	110.2	
88	Sr	89	He	24.237	ppb	0.8	76564.66	25	96.95	89.8	110.2	
95	Mo	89	He	25.064	ppb	1.0	86519.00	25	100.26	89.8	110.2	
107	Ag	89	He	25.548	ppb	0.5	286378.61	25	102.19	89.8	110.2	
111	Cd	89	He	25.325	ppb	1.2	36310.79	25	101.3	89.8	110.2	
118	Sn	159	He	24.453	ppb	1.3	72257.65	25	97.81	89.8	110.2	
121	Sb	159	No Gas	23.943	ppb	3.7	492183.71	25	95.77	89.8	110.2	
137	Ba	159	No Gas	24.019	ppb	1.8	191831.01	25	96.08	89.8	110.2	
182	W	159	No Gas	23.472	ppb	4.4	421637.10	25	93.89	89.8	110.2	
205	Tl	209	No Gas	24.502	ppb	4.7	860361.59	25	98.01	89.8	110.2	
208	Pb	209	No Gas	24.098	ppb	4.4	1191712.34	25	96.39	89.8	110.2	
232	Th	209	No Gas	23.633	ppb	5.4	1153760.91	25	94.53	89.8	110.2	
238	U	209	No Gas	23.435	ppb	5.2	1117635.27	25	93.74	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6677046.39	0.8	6947791.61	96.1	29.5	120.4	
Sc	45	No Gas	11224013.41	1.7	11828674.09	94.89	29.5	120.4	
Sc	45	H2	1436712.66	3.9	1511145.3	95.07	29.5	120.4	
Sc	45	He	369028.05	0.8	392815.69	93.94	29.5	120.4	
Ge	72	No Gas	2298179.76	0.6	2346521.52	97.94	29.5	120.4	
Ge	72	H2	476776.04	1.6	505748.89	94.27	29.5	120.4	
Ge	72	He	230232.92	0.8	240647.81	95.67	29.5	120.4	
Y	89	H2	7995361.85	2.9	8216492.56	97.31	29.5	120.4	
Y	89	He	1930107.04	0.8	2023870.27	95.37	29.5	120.4	
Tb	159	No Gas	21909287.17	1.4	21789053.29	100.55	29.5	120.4	
Tb	159	He	8431661.61	0.6	8552940.43	98.58	29.5	120.4	
Bi	209	No Gas	11053341.39	0.5	10957550.08	100.87	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	030_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:24:21
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.044	ppb	71.0	311.13	0.2	
11	B	6	No Gas	0.683	ppb	9.9	3680.60	4	
23	Na	45	He	3.904	ppb	20.2	11363.79	200	
24	Mg	45	He	1.485	ppb	21.1	584.50	20	
27	Al	45	He	0.840	ppb	22.2	156.67	20	
28	Si	45	H2	-0.606	ppb	N/A	497.22	100	
39	K	45	He	5.490	ppb	38.0	18078.35	200	
40	Ca	45	H2	1.302	ppb	15.9	6021.50	20	
51	V	89	He	0.007	ppb	237.9	406.69	1	
52	Cr	89	He	0.018	ppb	73.4	779.22	1	
55	Mn	89	He	0.020	ppb	61.9	160.64	0.4	
56	Fe	89	H2	1.923	ppb	14.1	49261.63	20	
59	Co	89	He	0.013	ppb	72.4	128.90	0.2	
60	Ni	89	He	0.011	ppb	146.2	62.22	0.4	
63	Cu	89	He	0.021	ppb	44.7	392.24	0.6	
66	Zn	89	He	0.013	ppb	95.4	90.01	2	
75	As	89	He	0.013	ppb	72.6	26.33	1	
78	Se	89	H2	0.027	ppb	29.7	9.17	1	
88	Sr	89	He	0.017	ppb	91.4	80.00	1	
95	Mo	89	He	0.083	ppb	19.4	306.68	1	
107	Ag	89	He	0.008	ppb	53.4	130.01	0.2	
111	Cd	89	He	0.010	ppb	60.2	14.44	0.2	
118	Sn	159	He	0.107	ppb	30.5	565.59	1	
121	Sb	159	No Gas	0.056	ppb	50.7	1264.81	0.2	
137	Ba	159	No Gas	0.057	ppb	55.0	543.95	0.4	
182	W	159	No Gas	0.116	ppb	28.8	2149.26	1	
205	Tl	209	No Gas	0.058	ppb	53.9	2212.72	0.2	
208	Pb	209	No Gas	0.040	ppb	62.3	4842.49	0.2	
232	Th	209	No Gas	0.241	ppb	24.9	11792.20	1	
238	U	209	No Gas	0.068	ppb	85.0	3124.09	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6602082.58	3.2	6947791.61	95.02	29.5	120.4	
Sc	45	No Gas	11068074.98	4.9	11828674.09	93.57	29.5	120.4	
Sc	45	H2	1434292.84	2.5	1511145.3	94.91	29.5	120.4	
Sc	45	He	371656.95	2.3	392815.69	94.61	29.5	120.4	
Ge	72	No Gas	2255962.81	3.3	2346521.52	96.14	29.5	120.4	
Ge	72	H2	483186.58	1.8	505748.89	95.54	29.5	120.4	
Ge	72	He	230419.76	1.4	240647.81	95.75	29.5	120.4	
Y	89	H2	7997826.24	2.1	8216492.56	97.34	29.5	120.4	
Y	89	He	1932307.30	2.0	2023870.27	95.48	29.5	120.4	
Tb	159	No Gas	21486550.38	5.2	21789053.29	98.61	29.5	120.4	
Tb	159	He	8425247.58	1.1	8552940.43	98.51	29.5	120.4	
Bi	209	No Gas	10868062.37	4.3	10957550.08	99.18	29.5	120.4	

Sample Report

Sample Name	TN0377-001
File Name	031SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:26:56
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.029	ppb	21.2	48.89	100	
11	B	6	No Gas	28.594	ppb	7.3	26722.09	1000	
23	Na	45	He	122900.874	ppb	0.3	15287358.70	200000	
24	Mg	45	He	109.985	ppb	1.8	7580.29	200000	
27	Al	45	He	548.801	ppb	2.5	14165.37	200000	
28	Si	45	H2	3235.143	ppb	2.8	144551.55	10000	
39	K	45	He	1017.042	ppb	1.8	73827.79	200000	
40	Ca	45	H2	5563.274	ppb	2.3	2101632.64	200000	
51	V	89	He	72.741	ppb	0.8	63516.24	1000	
52	Cr	89	He	1.632	ppb	2.3	2495.11	2000	
55	Mn	89	He	0.918	ppb	3.9	579.91	2000	
56	Fe	89	H2	30.077	ppb	16.3	76634.51	100000	
59	Co	89	He	0.053	ppb	16.8	108.90	1000	
60	Ni	89	He	0.314	ppb	17.7	190.01	1000	
63	Cu	89	He	13.114	ppb	1.8	17618.31	2000	
66	Zn	89	He	12.854	ppb	4.8	2313.61	2000	
75	As	89	He	213.780	ppb	1.3	26311.99	1000	
78	Se	89	H2	0.376	ppb	8.9	22.67	1000	
88	Sr	89	He	153.888	ppb	1.0	97149.23	2000	
95	Mo	89	He	28.164	ppb	1.0	19444.41	1000	
107	Ag	89	He	0.016	ppb	18.7	81.12	100	
111	Cd	89	He	0.035	ppb	40.3	10.00	1000	
118	Sn	159	He	1.504	ppb	9.8	1128.98	1000	
121	Sb	159	No Gas	10.908	ppb	6.8	44469.42	1000	
137	Ba	159	No Gas	11.410	ppb	5.9	18115.92	2000	
182	W	159	No Gas	14.134	ppb	3.3	50314.24	1000	
205	Tl	209	No Gas	0.035	ppb	45.3	490.56	1000	
208	Pb	209	No Gas	0.930	ppb	10.4	12296.24	2000	
232	Th	209	No Gas	0.545	ppb	5.4	5677.69	1000	
238	U	209	No Gas	0.767	ppb	9.6	7393.83	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6687556.44	2.0	6947791.61	96.25	29.5	120.4	
Sc	45	No Gas	11171852.92	0.8	11828674.09	94.45	29.5	120.4	
Sc	45	H2	1430024.94	2.8	1511145.3	94.63	29.5	120.4	
Sc	45	He	368218.05	0.3	392815.69	93.74	29.5	120.4	
Ge	72	No Gas	2282868.83	1.7	2346521.52	97.29	29.5	120.4	
Ge	72	H2	471460.07	2.5	505748.89	93.22	29.5	120.4	
Ge	72	He	229723.06	0.4	240647.81	95.46	29.5	120.4	
Y	89	H2	7973800.76	2.5	8216492.56	97.05	29.5	120.4	
Y	89	He	1928662.77	0.7	2023870.27	95.3	29.5	120.4	
Tb	159	No Gas	21676828.57	1.2	21789053.29	99.48	29.5	120.4	
Tb	159	He	8386290.01	0.3	8552940.43	98.05	29.5	120.4	
Bi	209	No Gas	11175451.62	0.8	10957550.08	101.99	29.5	120.4	

Sample Report

Sample Name	TN0377-002
File Name	032SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:29:27
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.004	ppb	176.7	14.44	100	
11	B	6	No Gas	11.485	ppb	5.3	11222.51	1000	
23	Na	45	He	120774.742	ppb	2.6	15372471.51	200000	
24	Mg	45	He	97.135	ppb	2.0	6859.88	200000	
27	Al	45	He	15.467	ppb	15.9	454.47	200000	
28	Si	45	H2	2716.425	ppb	3.0	118934.61	10000	
39	K	45	He	123.319	ppb	4.6	23882.53	200000	
40	Ca	45	H2	1112.910	ppb	2.7	414476.87	200000	
51	V	89	He	0.655	ppb	4.1	958.96	1000	
52	Cr	89	He	0.598	ppb	5.5	1363.82	2000	
55	Mn	89	He	0.351	ppb	20.4	293.29	2000	
56	Fe	89	H2	8.412	ppb	6.1	46592.55	100000	
59	Co	89	He	0.061	ppb	32.7	124.45	1000	
60	Ni	89	He	3.059	ppb	3.6	1557.93	1000	
63	Cu	89	He	36.357	ppb	3.6	49127.36	2000	
66	Zn	89	He	37.532	ppb	3.8	6705.18	2000	
75	As	89	He	0.251	ppb	17.2	50.01	1000	
78	Se	89	H2	0.155	ppb	8.1	10.00	1000	
88	Sr	89	He	6.822	ppb	4.0	4396.42	2000	
95	Mo	89	He	0.288	ppb	16.1	221.12	1000	
107	Ag	89	He	0.012	ppb	57.0	72.23	100	
111	Cd	89	He	0.029	ppb	17.0	8.52	1000	
118	Sn	159	He	1.399	ppb	11.8	1082.31	1000	
121	Sb	159	No Gas	0.078	ppb	34.9	470.53	1000	
137	Ba	159	No Gas	0.717	ppb	4.2	1241.46	2000	
182	W	159	No Gas	0.093	ppb	14.0	447.18	1000	
205	Tl	209	No Gas	0.008	ppb	137.5	303.68	1000	
208	Pb	209	No Gas	2.178	ppb	6.4	24673.55	2000	
232	Th	209	No Gas	0.156	ppb	4.3	1828.86	1000	
238	U	209	No Gas	0.145	ppb	4.6	1401.66	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6756958.13	0.9	6947791.61	97.25	29.5	120.4	
Sc	45	No Gas	11246660.01	0.5	11828674.09	95.08	29.5	120.4	
Sc	45	H2	1400592.65	2.7	1511145.3	92.68	29.5	120.4	
Sc	45	He	376918.31	2.1	392815.69	95.95	29.5	120.4	
Ge	72	No Gas	2303446.02	1.4	2346521.52	98.16	29.5	120.4	
Ge	72	H2	466447.30	1.5	505748.89	92.23	29.5	120.4	
Ge	72	He	232897.39	1.2	240647.81	96.78	29.5	120.4	
Y	89	H2	7819834.09	2.6	8216492.56	95.17	29.5	120.4	
Y	89	He	1958754.43	1.9	2023870.27	96.78	29.5	120.4	
Tb	159	No Gas	21777956.62	0.4	21789053.29	99.95	29.5	120.4	
Tb	159	He	8510525.22	2.5	8552940.43	99.5	29.5	120.4	
Bi	209	No Gas	11143897.78	0.6	10957550.08	101.7	29.5	120.4	

Sample Report

Sample Name	TN0377-002A
File Name	033SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:32:02
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	10.359	ppb	7.5	14893.72	100	
11	B	6	No Gas	204.655	ppb	6.8	193140.66	1000	
23	Na	45	He	129461.436	ppb	0.2	16836682.97	200000	
24	Mg	45	He	1117.401	ppb	1.2	79841.21	200000	
27	Al	45	He	1025.174	ppb	0.5	27624.08	200000	
28	Si	45	H2	7283.597	ppb	1.1	333792.13	10000	
39	K	45	He	10540.403	ppb	0.5	639764.37	200000	
40	Ca	45	H2	2118.687	ppb	1.0	825303.44	200000	
51	V	89	He	51.949	ppb	0.6	47134.19	1000	
52	Cr	89	He	51.831	ppb	0.2	60517.60	2000	
55	Mn	89	He	19.555	ppb	1.5	10510.68	2000	
56	Fe	89	H2	1037.041	ppb	0.4	1454889.59	100000	
59	Co	89	He	10.752	ppb	1.4	19701.98	1000	
60	Ni	89	He	23.993	ppb	2.4	12220.16	1000	
63	Cu	89	He	68.375	ppb	1.2	94109.79	2000	
66	Zn	89	He	146.598	ppb	1.6	26507.14	2000	
75	As	89	He	51.226	ppb	1.0	6550.26	1000	
78	Se	89	H2	51.849	ppb	1.2	2971.69	1000	
88	Sr	89	He	56.661	ppb	0.1	37096.42	2000	
95	Mo	89	He	52.523	ppb	1.1	37573.64	1000	
107	Ag	89	He	10.891	ppb	1.0	25334.40	100	
111	Cd	89	He	10.714	ppb	1.1	3182.63	1000	
118	Sn	159	He	51.790	ppb	1.9	31378.48	1000	
121	Sb	159	No Gas	10.912	ppb	4.7	45420.83	1000	
137	Ba	159	No Gas	20.619	ppb	8.6	33319.47	2000	
182	W	159	No Gas	48.585	ppb	7.6	176175.01	1000	
205	Tl	209	No Gas	10.323	ppb	7.1	73761.73	1000	
208	Pb	209	No Gas	12.600	ppb	6.2	129151.79	2000	
232	Th	209	No Gas	10.458	ppb	7.8	103832.99	1000	
238	U	209	No Gas	10.462	ppb	7.8	101207.69	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6890522.47	2.5	6947791.61	99.18	29.5	120.4	
Sc	45	No Gas	11555997.26	2.2	11828674.09	97.69	29.5	120.4	
Sc	45	H2	1470036.54	1.2	1511145.3	97.28	29.5	120.4	
Sc	45	He	384993.28	0.1	392815.69	98.01	29.5	120.4	
Ge	72	No Gas	2340821.44	2.6	2346521.52	99.76	29.5	120.4	
Ge	72	H2	482937.49	1.4	505748.89	95.49	29.5	120.4	
Ge	72	He	238644.29	0.3	240647.81	99.17	29.5	120.4	
Y	89	H2	8093537.00	1.3	8216492.56	98.5	29.5	120.4	
Y	89	He	1999240.72	0.0	2023870.27	98.78	29.5	120.4	
Tb	159	No Gas	22134942.17	2.0	21789053.29	101.59	29.5	120.4	
Tb	159	He	8604323.62	0.6	8552940.43	100.6	29.5	120.4	
Bi	209	No Gas	11227043.84	2.7	10957550.08	102.46	29.5	120.4	

Sample Report

Sample Name	TN0377-002L
File Name	034SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:34:34
Sample Type	Sample
Total Dilution	25.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.159	ppb	25.3	54.45	100	
11	B	6	No Gas	23.429	ppb	4.1	5041.07	1000	
23	Na	45	He	120395.100	ppb	1.2	3184879.30	200000	
24	Mg	45	He	107.734	ppb	4.9	1635.78	200000	
27	Al	45	He	24.273	ppb	21.7	182.23	200000	
28	Si	45	H2	2716.706	ppb	0.8	25494.31	10000	
39	K	45	He	144.909	ppb	36.3	19099.21	200000	
40	Ca	45	H2	1119.103	ppb	1.6	90417.96	200000	
51	V	89	He	1.170	ppb	31.2	607.81	1000	
52	Cr	89	He	0.304	ppb	62.6	782.55	2000	
55	Mn	89	He	0.174	ppb	78.2	133.31	2000	
56	Fe	89	H2	9.855	ppb	28.1	39864.57	100000	
59	Co	89	He	0.072	ppb	39.7	42.23	1000	
60	Ni	89	He	3.142	ppb	9.6	361.13	1000	
63	Cu	89	He	36.868	ppb	2.7	10517.65	2000	
66	Zn	89	He	38.022	ppb	7.2	1470.13	2000	
75	As	89	He	0.412	ppb	8.1	30.00	1000	
78	Se	89	H2	0.546	ppb	14.0	7.83	1000	
88	Sr	89	He	6.852	ppb	9.0	934.51	2000	
95	Mo	89	He	1.053	ppb	21.2	172.23	1000	
107	Ag	89	He	0.040	ppb	41.0	65.56	100	
111	Cd	89	He	0.086	ppb	66.6	5.18	1000	
118	Sn	159	He	1.561	ppb	5.1	446.69	1000	
121	Sb	159	No Gas	0.176	ppb	17.4	300.34	1000	
137	Ba	159	No Gas	0.807	ppb	9.3	367.08	2000	
182	W	159	No Gas	0.889	ppb	21.4	767.55	1000	
205	Tl	209	No Gas	0.106	ppb	45.2	400.47	1000	
208	Pb	209	No Gas	2.177	ppb	9.9	7439.16	2000	
232	Th	209	No Gas	0.469	ppb	2.6	1234.78	1000	
238	U	209	No Gas	0.240	ppb	10.2	470.54	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6882985.50	2.3	6947791.61	99.07	29.5	120.4	
Sc	45	No Gas	11655464.12	2.0	11828674.09	98.54	29.5	120.4	
Sc	45	H2	1469868.65	2.5	1511145.3	97.27	29.5	120.4	
Sc	45	He	390641.04	0.8	392815.69	99.45	29.5	120.4	
Ge	72	No Gas	2354979.25	1.9	2346521.52	100.36	29.5	120.4	
Ge	72	H2	497721.55	1.1	505748.89	98.41	29.5	120.4	
Ge	72	He	241219.74	0.8	240647.81	100.24	29.5	120.4	
Y	89	H2	8181462.01	2.1	8216492.56	99.57	29.5	120.4	
Y	89	He	2025231.57	1.2	2023870.27	100.07	29.5	120.4	
Tb	159	No Gas	22228844.39	2.2	21789053.29	102.02	29.5	120.4	
Tb	159	He	8687537.16	1.1	8552940.43	101.57	29.5	120.4	
Bi	209	No Gas	11287133.19	1.4	10957550.08	103.01	29.5	120.4	

Sample Report

Sample Name	TN0377-002P
File Name	035SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:37:11
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	48.089	ppb	6.3	71159.97	100	
11	B	6	No Gas	476.221	ppb	5.4	461962.82	1000	
23	Na	45	He	129712.030	ppb	0.7	16853948.36	200000	
24	Mg	45	He	5227.994	ppb	0.7	372942.67	200000	
27	Al	45	He	2035.151	ppb	0.7	54742.24	200000	
28	Si	45	H2	3665.996	ppb	0.7	170495.13	10000	
39	K	45	He	10575.472	ppb	0.3	641261.57	200000	
40	Ca	45	H2	3636.219	ppb	1.0	1431949.58	200000	
51	V	89	He	520.727	ppb	0.3	467365.91	1000	
52	Cr	89	He	209.443	ppb	0.4	241586.83	2000	
55	Mn	89	He	513.357	ppb	0.6	272143.26	2000	
56	Fe	89	H2	1048.475	ppb	0.1	1493756.34	100000	
59	Co	89	He	519.263	ppb	1.2	947585.75	1000	
60	Ni	89	He	526.701	ppb	0.3	266572.23	1000	
63	Cu	89	He	299.557	ppb	0.6	410016.98	2000	
66	Zn	89	He	558.549	ppb	0.8	100424.66	2000	
75	As	89	He	103.831	ppb	1.1	13212.03	1000	
78	Se	89	H2	103.384	ppb	1.5	6017.52	1000	
88	Sr	89	He	507.669	ppb	0.1	331039.65	2000	
95	Mo	89	He	104.299	ppb	0.2	74341.46	1000	
107	Ag	89	He	51.485	ppb	0.5	119184.42	100	
111	Cd	89	He	257.485	ppb	0.2	76224.73	1000	
118	Sn	159	He	506.198	ppb	0.5	303400.18	1000	
121	Sb	159	No Gas	101.601	ppb	5.2	419110.99	1000	
137	Ba	159	No Gas	1982.652	ppb	5.2	3176468.31	2000	
182	W	159	No Gas	98.444	ppb	5.6	354843.26	1000	
205	Tl	209	No Gas	102.785	ppb	5.2	724349.24	1000	
208	Pb	209	No Gas	103.777	ppb	5.3	1030315.94	2000	
232	Th	209	No Gas	98.306	ppb	5.6	963128.53	1000	
238	U	209	No Gas	99.514	ppb	4.6	952497.96	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	7093241.69	2.3	6947791.61	102.09	29.5	120.4	
Sc	45	No Gas	11638834.46	2.5	11828674.09	98.4	29.5	120.4	
Sc	45	H2	1489144.60	2.2	1511145.3	98.54	29.5	120.4	
Sc	45	He	384649.12	0.3	392815.69	97.92	29.5	120.4	
Ge	72	No Gas	2363465.26	2.8	2346521.52	100.72	29.5	120.4	
Ge	72	H2	489346.42	1.3	505748.89	96.76	29.5	120.4	
Ge	72	He	237884.59	0.4	240647.81	98.85	29.5	120.4	
Y	89	H2	8221189.96	1.3	8216492.56	100.06	29.5	120.4	
Y	89	He	1992473.46	0.4	2023870.27	98.45	29.5	120.4	
Tb	159	No Gas	22002129.95	1.8	21789053.29	100.98	29.5	120.4	
Tb	159	He	8573826.88	0.7	8552940.43	100.24	29.5	120.4	
Bi	209	No Gas	11099502.44	2.1	10957550.08	101.3	29.5	120.4	

Sample Report

Sample Name	TN0377-002S
File Name	036SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:39:42
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	47.588	ppb	6.4	69433.77	100	
11	B	6	No Gas	469.380	ppb	5.7	448937.71	1000	
23	Na	45	He	128288.378	ppb	0.3	16394796.09	200000	
24	Mg	45	He	5119.430	ppb	0.3	359190.99	200000	
27	Al	45	He	1999.942	ppb	0.5	52909.74	200000	
28	Si	45	H2	3675.586	ppb	1.8	168678.84	10000	
39	K	45	He	10344.662	ppb	0.5	617318.39	200000	
40	Ca	45	H2	3595.990	ppb	0.9	1397550.88	200000	
51	V	89	He	507.787	ppb	0.2	453871.51	1000	
52	Cr	89	He	201.943	ppb	0.4	231999.31	2000	
55	Mn	89	He	499.899	ppb	0.2	263919.07	2000	
56	Fe	89	H2	1033.198	ppb	0.6	1462022.45	100000	
59	Co	89	He	513.533	ppb	0.8	933221.79	1000	
60	Ni	89	He	513.127	ppb	0.3	258628.72	1000	
63	Cu	89	He	295.171	ppb	0.3	402352.78	2000	
66	Zn	89	He	544.900	ppb	0.9	97564.83	2000	
75	As	89	He	101.873	ppb	1.2	12910.06	1000	
78	Se	89	H2	100.994	ppb	0.4	5836.63	1000	
88	Sr	89	He	495.171	ppb	0.2	321558.14	2000	
95	Mo	89	He	102.207	ppb	0.1	72549.35	1000	
107	Ag	89	He	50.248	ppb	1.0	115840.09	100	
111	Cd	89	He	249.510	ppb	0.5	73557.59	1000	
118	Sn	159	He	497.850	ppb	0.7	296809.06	1000	
121	Sb	159	No Gas	98.946	ppb	6.2	408909.49	1000	
137	Ba	159	No Gas	1930.397	ppb	6.6	3098243.86	2000	
182	W	159	No Gas	95.967	ppb	7.3	346516.20	1000	
205	Tl	209	No Gas	100.045	ppb	6.0	707149.53	1000	
208	Pb	209	No Gas	101.244	ppb	6.3	1008202.26	2000	
232	Th	209	No Gas	98.367	ppb	5.3	966765.81	1000	
238	U	209	No Gas	98.097	ppb	6.1	941621.42	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6992690.67	1.7	6947791.61	100.65	29.5	120.4	
Sc	45	No Gas	11467205.76	2.3	11828674.09	96.94	29.5	120.4	
Sc	45	H2	1469461.44	0.9	1511145.3	97.24	29.5	120.4	
Sc	45	He	378317.53	0.4	392815.69	96.31	29.5	120.4	
Ge	72	No Gas	2339578.95	2.2	2346521.52	99.7	29.5	120.4	
Ge	72	H2	484608.77	0.5	505748.89	95.82	29.5	120.4	
Ge	72	He	235735.06	0.4	240647.81	97.96	29.5	120.4	
Y	89	H2	8162525.99	0.3	8216492.56	99.34	29.5	120.4	
Y	89	He	1984238.04	0.5	2023870.27	98.04	29.5	120.4	
Tb	159	No Gas	22047843.56	2.1	21789053.29	101.19	29.5	120.4	
Tb	159	He	8528079.53	0.5	8552940.43	99.71	29.5	120.4	
Bi	209	No Gas	11134161.48	2.1	10957550.08	101.61	29.5	120.4	

Sample Report

Sample Name	TN0377-003
File Name	037SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:42:17
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.071	ppb	63.2	106.67	100	
11	B	6	No Gas	41.834	ppb	1.4	38451.98	1000	
23	Na	45	He	119558.030	ppb	2.7	15490110.61	200000	
24	Mg	45	He	118.958	ppb	6.0	8532.03	200000	
27	Al	45	He	302.720	ppb	6.8	8154.95	200000	
28	Si	45	H2	2927.860	ppb	3.5	135528.12	10000	
39	K	45	He	507.183	ppb	3.6	46898.84	200000	
40	Ca	45	H2	2984.827	ppb	3.4	1169506.02	200000	
51	V	89	He	45.001	ppb	2.1	40904.71	1000	
52	Cr	89	He	0.485	ppb	6.8	1262.50	2000	
55	Mn	89	He	3.576	ppb	1.9	2015.78	2000	
56	Fe	89	H2	42.135	ppb	5.8	95444.05	100000	
59	Co	89	He	0.109	ppb	40.5	213.35	1000	
60	Ni	89	He	0.296	ppb	16.9	187.78	1000	
63	Cu	89	He	4.677	ppb	4.1	6685.16	2000	
66	Zn	89	He	13.346	ppb	2.8	2488.09	2000	
75	As	89	He	90.322	ppb	1.6	11541.72	1000	
78	Se	89	H2	0.371	ppb	25.2	23.00	1000	
88	Sr	89	He	77.358	ppb	2.4	50662.15	2000	
95	Mo	89	He	18.619	ppb	3.3	13338.11	1000	
107	Ag	89	He	0.016	ppb	69.7	82.23	100	
111	Cd	89	He	0.051	ppb	35.8	15.18	1000	
118	Sn	159	He	1.544	ppb	15.3	1182.32	1000	
121	Sb	159	No Gas	3.439	ppb	1.2	14006.28	1000	
137	Ba	159	No Gas	9.996	ppb	6.2	15740.31	2000	
182	W	159	No Gas	9.989	ppb	4.3	35294.58	1000	
205	Tl	209	No Gas	0.181	ppb	45.8	1495.10	1000	
208	Pb	209	No Gas	0.326	ppb	19.8	6130.83	2000	
232	Th	209	No Gas	2.453	ppb	26.4	23921.08	1000	
238	U	209	No Gas	0.687	ppb	11.0	6472.23	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6619074.26	0.6	6947791.61	95.27	29.5	120.4	
Sc	45	No Gas	11138831.88	1.2	11828674.09	94.17	29.5	120.4	
Sc	45	H2	1481882.60	3.9	1511145.3	98.06	29.5	120.4	
Sc	45	He	383693.39	2.5	392815.69	97.68	29.5	120.4	
Ge	72	No Gas	2274272.71	0.7	2346521.52	96.92	29.5	120.4	
Ge	72	H2	489026.75	2.1	505748.89	96.69	29.5	120.4	
Ge	72	He	238355.28	1.5	240647.81	99.05	29.5	120.4	
Y	89	H2	8194896.49	4.0	8216492.56	99.74	29.5	120.4	
Y	89	He	2000863.93	2.0	2023870.27	98.86	29.5	120.4	
Tb	159	No Gas	21485454.68	1.4	21789053.29	98.61	29.5	120.4	
Tb	159	He	8608987.03	1.8	8552940.43	100.66	29.5	120.4	
Bi	209	No Gas	10919325.82	1.0	10957550.08	99.65	29.5	120.4	

Sample Report

Sample Name	TN0377-004
File Name	038SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:44:48
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.011	ppb	92.4	23.33	100	
11	B	6	No Gas	18.583	ppb	8.4	17590.14	1000	
23	Na	45	He	17200.034	ppb	0.0	2131775.40	200000	
24	Mg	45	He	20457.901	ppb	0.3	1386896.82	200000	
27	Al	45	He	11.489	ppb	4.7	340.02	200000	
28	Si	45	H2	3399.785	ppb	0.9	151053.96	10000	
39	K	45	He	806.873	ppb	1.0	61511.99	200000	
40	Ca	45	H2	67566.140	ppb	0.8	25349747.95	200000	
51	V	89	He	0.451	ppb	11.3	764.49	1000	
52	Cr	89	He	0.314	ppb	10.4	1023.19	2000	
55	Mn	89	He	0.088	ppb	41.5	153.97	2000	
56	Fe	89	H2	3.999	ppb	9.9	41514.28	100000	
59	Co	89	He	0.088	ppb	9.6	168.90	1000	
60	Ni	89	He	2.331	ppb	8.6	1173.43	1000	
63	Cu	89	He	12.813	ppb	0.9	17159.96	2000	
66	Zn	89	He	21.703	ppb	2.9	3839.56	2000	
75	As	89	He	0.139	ppb	13.3	35.33	1000	
78	Se	89	H2	0.119	ppb	43.9	8.17	1000	
88	Sr	89	He	1048.496	ppb	1.0	659502.55	2000	
95	Mo	89	He	0.212	ppb	11.2	164.45	1000	
107	Ag	89	He	0.007	ppb	114.2	58.89	100	
111	Cd	89	He	0.025	ppb	40.4	7.04	1000	
118	Sn	159	He	0.560	ppb	5.5	580.04	1000	
121	Sb	159	No Gas	0.058	ppb	15.5	393.77	1000	
137	Ba	159	No Gas	47.719	ppb	8.4	77412.45	2000	
182	W	159	No Gas	0.108	ppb	24.5	513.92	1000	
205	Tl	209	No Gas	0.017	ppb	55.3	363.75	1000	
208	Pb	209	No Gas	1.969	ppb	9.1	22686.72	2000	
232	Th	209	No Gas	0.253	ppb	2.0	2796.82	1000	
238	U	209	No Gas	0.078	ppb	4.6	760.87	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6694935.95	2.9	6947791.61	96.36	29.5	120.4	
Sc	45	No Gas	11222441.94	2.5	11828674.09	94.87	29.5	120.4	
Sc	45	H2	1422038.32	0.5	1511145.3	94.1	29.5	120.4	
Sc	45	He	365592.70	0.5	392815.69	93.07	29.5	120.4	
Ge	72	No Gas	2286088.59	2.3	2346521.52	97.42	29.5	120.4	
Ge	72	H2	470793.22	0.5	505748.89	93.09	29.5	120.4	
Ge	72	He	228600.63	0.6	240647.81	94.99	29.5	120.4	
Y	89	H2	7962422.87	0.2	8216492.56	96.91	29.5	120.4	
Y	89	He	1921996.36	0.6	2023870.27	94.97	29.5	120.4	
Tb	159	No Gas	22265865.78	2.5	21789053.29	102.19	29.5	120.4	
Tb	159	He	8442102.03	0.4	8552940.43	98.7	29.5	120.4	
Bi	209	No Gas	11200352.56	2.3	10957550.08	102.22	29.5	120.4	

Sample Report

Sample Name	TN0377-005
File Name	039SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:47:27
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.006	ppb	74.8	16.66	100	
11	B	6	No Gas	22.719	ppb	0.5	20868.94	1000	
23	Na	45	He	17522.118	ppb	2.8	2139385.35	200000	
24	Mg	45	He	17095.764	ppb	3.6	1141689.65	200000	
27	Al	45	He	11.523	ppb	15.7	335.57	200000	
28	Si	45	H2	3475.559	ppb	0.7	151120.87	10000	
39	K	45	He	956.757	ppb	3.1	68890.35	200000	
40	Ca	45	H2	72492.114	ppb	1.5	26619886.82	200000	
51	V	89	He	0.460	ppb	16.6	758.94	1000	
52	Cr	89	He	0.501	ppb	3.9	1210.50	2000	
55	Mn	89	He	7.038	ppb	3.3	3643.16	2000	
56	Fe	89	H2	275.049	ppb	1.5	398099.24	100000	
59	Co	89	He	0.097	ppb	7.6	182.24	1000	
60	Ni	89	He	1.415	ppb	1.5	714.49	1000	
63	Cu	89	He	18.606	ppb	3.3	24377.55	2000	
66	Zn	89	He	22.500	ppb	5.2	3908.46	2000	
75	As	89	He	0.154	ppb	62.7	36.67	1000	
78	Se	89	H2	0.125	ppb	41.9	8.33	1000	
88	Sr	89	He	818.382	ppb	4.1	505873.55	2000	
95	Mo	89	He	0.132	ppb	8.6	107.78	1000	
107	Ag	89	He	0.012	ppb	57.1	68.89	100	
111	Cd	89	He	0.033	ppb	44.1	9.26	1000	
118	Sn	159	He	0.724	ppb	13.4	674.49	1000	
121	Sb	159	No Gas	0.060	ppb	3.3	393.78	1000	
137	Ba	159	No Gas	54.052	ppb	2.2	85604.27	2000	
182	W	159	No Gas	0.036	ppb	45.1	246.94	1000	
205	Tl	209	No Gas	0.002	ppb	180.9	253.62	1000	
208	Pb	209	No Gas	2.301	ppb	5.9	25625.52	2000	
232	Th	209	No Gas	0.135	ppb	9.2	1608.57	1000	
238	U	209	No Gas	0.236	ppb	9.2	2256.09	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6528628.55	2.5	6947791.61	93.97	29.5	120.4	
Sc	45	No Gas	10823348.59	4.6	11828674.09	91.5	29.5	120.4	
Sc	45	H2	1391851.78	0.5	1511145.3	92.11	29.5	120.4	
Sc	45	He	360324.11	2.1	392815.69	91.73	29.5	120.4	
Ge	72	No Gas	2235406.84	2.8	2346521.52	95.26	29.5	120.4	
Ge	72	H2	460138.91	0.5	505748.89	90.98	29.5	120.4	
Ge	72	He	224363.64	1.5	240647.81	93.23	29.5	120.4	
Y	89	H2	7804482.17	1.1	8216492.56	94.99	29.5	120.4	
Y	89	He	1889862.00	2.0	2023870.27	93.38	29.5	120.4	
Tb	159	No Gas	21713559.40	4.9	21789053.29	99.65	29.5	120.4	
Tb	159	He	8420393.83	2.5	8552940.43	98.45	29.5	120.4	
Bi	209	No Gas	11026773.88	3.3	10957550.08	100.63	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	040SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:50:00
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	226.6	10.00	100	
11	B	6	No Gas	0.265	ppb	5.5	1824.62	1000	
23	Na	45	He	4.305	ppb	8.9	11347.11	200000	
24	Mg	45	He	0.572	ppb	20.6	262.24	200000	
27	Al	45	He	0.327	ppb	54.5	87.78	200000	
28	Si	45	H2	-0.712	ppb	N/A	477.21	10000	
39	K	45	He	2.998	ppb	63.7	16977.56	200000	
40	Ca	45	H2	1.831	ppb	19.7	7065.37	200000	
51	V	89	He	0.028	ppb	51.6	495.58	1000	
52	Cr	89	He	0.005	ppb	22.5	699.89	2000	
55	Mn	89	He	-0.005	ppb	N/A	95.98	2000	
56	Fe	89	H2	0.026	ppb	299.6	36739.11	100000	
59	Co	89	He	0.001	ppb	185.2	22.23	1000	
60	Ni	89	He	0.003	ppb	86.2	42.22	1000	
63	Cu	89	He	0.024	ppb	25.3	413.36	2000	
66	Zn	89	He	0.018	ppb	6.7	93.34	2000	
75	As	89	He	0.001	ppb	540.1	19.00	1000	
78	Se	89	H2	0.002	ppb	97.0	2.00	1000	
88	Sr	89	He	0.011	ppb	18.2	60.01	2000	
95	Mo	89	He	0.015	ppb	41.3	68.89	1000	
107	Ag	89	He	0.002	ppb	72.2	63.34	100	
111	Cd	89	He	0.001	ppb	115.4	1.48	1000	
118	Sn	159	He	0.019	ppb	100.5	306.68	1000	
121	Sb	159	No Gas	0.003	ppb	51.7	213.57	1000	
137	Ba	159	No Gas	0.023	ppb	66.8	293.67	2000	
182	W	159	No Gas	0.000	ppb	N/A	113.46	1000	
205	Tl	209	No Gas	0.000	ppb	5035.6	246.95	1000	
208	Pb	209	No Gas	-0.004	ppb	N/A	2819.97	2000	
232	Th	209	No Gas	0.005	ppb	12.3	533.94	1000	
238	U	209	No Gas	0.001	ppb	23.0	63.41	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6696389.17	1.9	6947791.61	96.38	29.5	120.4	
Sc	45	No Gas	11071375.67	1.7	11828674.09	93.6	29.5	120.4	
Sc	45	H2	1442609.39	1.3	1511145.3	95.46	29.5	120.4	
Sc	45	He	363168.97	1.3	392815.69	92.45	29.5	120.4	
Ge	72	No Gas	2269636.77	2.4	2346521.52	96.72	29.5	120.4	
Ge	72	H2	480193.66	1.2	505748.89	94.95	29.5	120.4	
Ge	72	He	227461.74	0.9	240647.81	94.52	29.5	120.4	
Y	89	H2	8056293.61	0.9	8216492.56	98.05	29.5	120.4	
Y	89	He	1920313.26	1.1	2023870.27	94.88	29.5	120.4	
Tb	159	No Gas	22000521.62	1.7	21789053.29	100.97	29.5	120.4	
Tb	159	He	8454247.79	1.1	8552940.43	98.85	29.5	120.4	
Bi	209	No Gas	11202807.31	2.3	10957550.08	102.24	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	041_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:52:39
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	22.677	ppb	5.8	156875.08	25	90.71	89.8	110.2	
11	B	6	No Gas	22.901	ppb	5.4	104313.47	25	91.6	89.8	110.2	
23	Na	45	He	4940.229	ppb	1.2	3075300.32	5000	98.8	89.8	110.2	
24	Mg	45	He	4933.106	ppb	0.9	1681769.56	5000	98.66	89.8	110.2	
27	Al	45	He	476.364	ppb	1.2	61236.18	500	95.27	89.8	110.2	
28	Si	45	H2	472.444	ppb	2.1	103901.95	500	94.49	89.8	110.2	
39	K	45	He	4879.726	ppb	1.2	1392926.12	5000	97.59	89.8	110.2	
40	Ca	45	H2	4981.896	ppb	2.3	9237242.57	5000	99.64	89.8	110.2	
51	V	89	He	24.182	ppb	1.0	106202.10	25	96.73	89.8	110.2	
52	Cr	89	He	24.259	ppb	1.4	136826.33	25	97.04	89.8	110.2	
55	Mn	89	He	24.068	ppb	1.9	62349.42	25	96.27	89.8	110.2	
56	Fe	89	H2	4970.524	ppb	2.6	32877091.77	5000	99.41	89.8	110.2	
59	Co	89	He	24.261	ppb	1.3	216042.38	25	97.04	89.8	110.2	
60	Ni	89	He	24.171	ppb	1.2	59722.53	25	96.68	89.8	110.2	
63	Cu	89	He	24.326	ppb	1.1	162625.89	25	97.3	89.8	110.2	
66	Zn	89	He	24.374	ppb	0.4	21449.32	25	97.5	89.8	110.2	
75	As	89	He	24.083	ppb	1.1	14951.32	25	96.33	89.8	110.2	
78	Se	89	H2	24.952	ppb	2.7	6908.07	25	99.81	89.8	110.2	
88	Sr	89	He	23.603	ppb	1.2	75128.06	25	94.41	89.8	110.2	
95	Mo	89	He	24.504	ppb	2.2	85221.05	25	98.02	89.8	110.2	
107	Ag	89	He	24.976	ppb	2.1	282034.32	25	99.9	89.8	110.2	
111	Cd	89	He	24.828	ppb	1.4	35864.80	25	99.31	89.8	110.2	
118	Sn	159	He	23.577	ppb	0.2	70688.10	25	94.31	89.8	110.2	
121	Sb	159	No Gas	23.354	ppb	5.4	483387.23	25	93.42	89.8	110.2	
137	Ba	159	No Gas	23.218	ppb	4.2	186738.99	25	92.87	89.8	110.2	
182	W	159	No Gas	22.944	ppb	4.0	414956.22	25	91.78	89.8	110.2	
205	Tl	209	No Gas	24.040	ppb	4.3	851686.98	25	96.16	89.8	110.2	
208	Pb	209	No Gas	23.728	ppb	3.5	1183925.46	25	94.91	89.8	110.2	
232	Th	209	No Gas	22.631	ppb	5.3	1114832.15	25	90.52	89.8	110.2	
238	U	209	No Gas	23.314	ppb	4.3	1121785.81	25	93.26	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6627619.26	0.5	6947791.61	95.39	29.5	120.4	
Sc	45	No Gas	11058108.76	1.5	11828674.09	93.49	29.5	120.4	
Sc	45	H2	1405563.07	1.7	1511145.3	93.01	29.5	120.4	
Sc	45	He	367733.75	1.5	392815.69	93.61	29.5	120.4	
Ge	72	No Gas	2246661.09	0.8	2346521.52	95.74	29.5	120.4	
Ge	72	H2	463603.33	1.2	505748.89	91.67	29.5	120.4	
Ge	72	He	228931.38	1.0	240647.81	95.13	29.5	120.4	
Y	89	H2	7823045.95	1.7	8216492.56	95.21	29.5	120.4	
Y	89	He	1944776.74	1.8	2023870.27	96.09	29.5	120.4	
Tb	159	No Gas	22061661.06	1.1	21789053.29	101.25	29.5	120.4	
Tb	159	He	8554013.34	0.8	8552940.43	100.01	29.5	120.4	
Bi	209	No Gas	11149809.73	1.6	10957550.08	101.75	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	042_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:55:14
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.010	ppb	24.7	74.45	0.2	
11	B	6	No Gas	0.321	ppb	4.2	2019.11	4	
23	Na	45	He	6.481	ppb	4.4	12783.30	200	
24	Mg	45	He	1.376	ppb	5.2	537.83	20	
27	Al	45	He	0.669	ppb	18.3	132.23	20	
28	Si	45	H2	-0.959	ppb	N/A	433.82	100	
39	K	45	He	3.650	ppb	61.3	17289.45	200	
40	Ca	45	H2	0.682	ppb	32.1	5017.75	20	
51	V	89	He	-0.025	ppb	N/A	266.68	1	
52	Cr	89	He	-0.006	ppb	N/A	642.57	1	
55	Mn	89	He	0.007	ppb	17.1	128.65	0.4	
56	Fe	89	H2	0.732	ppb	23.0	42849.26	20	
59	Co	89	He	0.006	ppb	27.3	71.12	0.2	
60	Ni	89	He	0.005	ppb	83.0	47.78	0.4	
63	Cu	89	He	0.018	ppb	20.7	375.57	0.6	
66	Zn	89	He	0.003	ppb	285.2	81.12	2	
75	As	89	He	0.002	ppb	360.1	19.67	1	
78	Se	89	H2	0.024	ppb	5.9	8.50	1	
88	Sr	89	He	0.007	ppb	57.7	47.78	1	
95	Mo	89	He	0.067	ppb	9.1	250.01	1	
107	Ag	89	He	0.006	ppb	15.1	111.11	0.2	
111	Cd	89	He	0.007	ppb	6.9	9.63	0.2	
118	Sn	159	He	0.060	ppb	10.1	426.69	1	
121	Sb	159	No Gas	0.024	ppb	11.9	610.70	0.2	
137	Ba	159	No Gas	0.025	ppb	39.8	293.67	0.4	
182	W	159	No Gas	0.056	ppb	9.1	1081.25	1	
205	Tl	209	No Gas	0.025	ppb	3.1	1101.27	0.2	
208	Pb	209	No Gas	0.006	ppb	137.4	3203.75	0.2	
232	Th	209	No Gas	0.088	ppb	7.8	4455.82	1	
238	U	209	No Gas	0.013	ppb	4.5	607.36	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6486090.13	2.1	6947791.61	93.35	29.5	120.4	
Sc	45	No Gas	10576670.05	2.4	11828674.09	89.42	29.5	120.4	
Sc	45	H2	1482506.14	1.3	1511145.3	98.1	29.5	120.4	
Sc	45	He	366091.81	2.3	392815.69	93.2	29.5	120.4	
Ge	72	No Gas	2186096.85	2.0	2346521.52	93.16	29.5	120.4	
Ge	72	H2	489617.02	1.3	505748.89	96.81	29.5	120.4	
Ge	72	He	229224.22	1.6	240647.81	95.25	29.5	120.4	
Y	89	H2	8311311.33	1.3	8216492.56	101.15	29.5	120.4	
Y	89	He	1932578.95	2.4	2023870.27	95.49	29.5	120.4	
Tb	159	No Gas	21075296.21	2.5	21789053.29	96.72	29.5	120.4	
Tb	159	He	8429840.84	1.6	8552940.43	98.56	29.5	120.4	
Bi	209	No Gas	10739064.10	1.8	10957550.08	98.01	29.5	120.4	

Sample Report

Sample Name	TN0377-006
File Name	043SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 13:57:52
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.007	ppb	79.8	17.78	100	
11	B	6	No Gas	22.369	ppb	3.2	20611.96	1000	
23	Na	45	He	17888.843	ppb	3.3	2148912.35	200000	
24	Mg	45	He	17054.246	ppb	3.8	1120633.91	200000	
27	Al	45	He	11.771	ppb	20.9	335.58	200000	
28	Si	45	H2	3507.394	ppb	11.4	149775.84	10000	
39	K	45	He	962.113	ppb	3.6	68078.74	200000	
40	Ca	45	H2	72919.152	ppb	10.7	26310750.44	200000	
51	V	89	He	0.458	ppb	3.5	745.61	1000	
52	Cr	89	He	0.529	ppb	13.3	1220.50	2000	
55	Mn	89	He	7.891	ppb	4.2	4004.53	2000	
56	Fe	89	H2	324.087	ppb	11.3	453003.35	100000	
59	Co	89	He	0.185	ppb	16.7	328.92	1000	
60	Ni	89	He	7.326	ppb	4.1	3491.67	1000	
63	Cu	89	He	19.125	ppb	5.2	24634.65	2000	
66	Zn	89	He	55.913	ppb	3.2	9443.54	2000	
75	As	89	He	0.111	ppb	28.0	31.00	1000	
78	Se	89	H2	0.105	ppb	24.1	7.17	1000	
88	Sr	89	He	811.200	ppb	3.7	493246.18	2000	
95	Mo	89	He	0.227	ppb	27.8	168.90	1000	
107	Ag	89	He	0.024	ppb	72.9	94.45	100	
111	Cd	89	He	0.046	ppb	24.3	12.59	1000	
118	Sn	159	He	0.877	ppb	29.7	753.40	1000	
121	Sb	159	No Gas	0.061	ppb	16.0	397.12	1000	
137	Ba	159	No Gas	52.034	ppb	3.4	81889.85	2000	
182	W	159	No Gas	0.051	ppb	44.4	297.00	1000	
205	Tl	209	No Gas	0.022	ppb	54.8	393.78	1000	
208	Pb	209	No Gas	3.421	ppb	2.8	36498.08	2000	
232	Th	209	No Gas	0.505	ppb	1.4	5190.28	1000	
238	U	209	No Gas	0.238	ppb	7.1	2259.42	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6545222.96	1.4	6947791.61	94.21	29.5	120.4	
Sc	45	No Gas	10771761.59	2.8	11828674.09	91.06	29.5	120.4	
Sc	45	H2	1377560.81	10.2	1511145.3	91.16	29.5	120.4	
Sc	45	He	354628.39	3.0	392815.69	90.28	29.5	120.4	
Ge	72	No Gas	2200178.95	1.9	2346521.52	93.76	29.5	120.4	
Ge	72	H2	453904.81	6.4	505748.89	89.75	29.5	120.4	
Ge	72	He	220652.63	1.7	240647.81	91.69	29.5	120.4	
Y	89	H2	7692265.95	9.9	8216492.56	93.62	29.5	120.4	
Y	89	He	1859300.81	2.9	2023870.27	91.87	29.5	120.4	
Tb	159	No Gas	21573752.46	2.7	21789053.29	99.01	29.5	120.4	
Tb	159	He	8312597.45	2.9	8552940.43	97.19	29.5	120.4	
Bi	209	No Gas	10982746.94	2.0	10957550.08	100.23	29.5	120.4	

Sample Report

Sample Name	TN0377-007
File Name	044SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:00:25
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.006	ppb	71.9	15.56	100	
11	B	6	No Gas	8.875	ppb	1.8	8387.15	1000	
23	Na	45	He	4733.998	ppb	5.1	574898.32	200000	
24	Mg	45	He	9953.947	ppb	4.7	654191.07	200000	
27	Al	45	He	34.418	ppb	6.0	897.84	200000	
28	Si	45	H2	2823.186	ppb	2.3	123824.29	10000	
39	K	45	He	681.609	ppb	7.9	52806.39	200000	
40	Ca	45	H2	69107.348	ppb	2.0	25574582.67	200000	
51	V	89	He	0.432	ppb	17.6	726.72	1000	
52	Cr	89	He	0.594	ppb	7.4	1299.16	2000	
55	Mn	89	He	1.657	ppb	6.4	929.86	2000	
56	Fe	89	H2	47.903	ppb	1.2	99681.26	100000	
59	Co	89	He	0.046	ppb	28.8	93.34	1000	
60	Ni	89	He	0.254	ppb	20.5	155.56	1000	
63	Cu	89	He	1.358	ppb	6.6	1987.99	2000	
66	Zn	89	He	1.924	ppb	8.7	400.02	2000	
75	As	89	He	0.345	ppb	7.4	59.01	1000	
78	Se	89	H2	0.088	ppb	22.3	6.33	1000	
88	Sr	89	He	556.919	ppb	5.0	340554.07	2000	
95	Mo	89	He	0.194	ppb	18.4	148.90	1000	
107	Ag	89	He	0.011	ppb	85.7	65.56	100	
111	Cd	89	He	0.016	ppb	49.2	4.44	1000	
118	Sn	159	He	0.504	ppb	17.8	542.26	1000	
121	Sb	159	No Gas	0.152	ppb	11.8	747.52	1000	
137	Ba	159	No Gas	42.536	ppb	3.5	65530.68	2000	
182	W	159	No Gas	0.038	ppb	49.8	243.61	1000	
205	Tl	209	No Gas	0.009	ppb	96.6	300.34	1000	
208	Pb	209	No Gas	0.176	ppb	12.8	4625.53	2000	
232	Th	209	No Gas	0.185	ppb	7.1	2055.83	1000	
238	U	209	No Gas	0.215	ppb	7.2	2009.08	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6429691.60	2.7	6947791.61	92.54	29.5	120.4	
Sc	45	No Gas	10380971.44	4.2	11828674.09	87.76	29.5	120.4	
Sc	45	H2	1403025.84	2.3	1511145.3	92.85	29.5	120.4	
Sc	45	He	354912.29	4.5	392815.69	90.35	29.5	120.4	
Ge	72	No Gas	2137842.95	2.3	2346521.52	91.11	29.5	120.4	
Ge	72	H2	456960.84	1.8	505748.89	90.35	29.5	120.4	
Ge	72	He	220460.75	2.6	240647.81	91.61	29.5	120.4	
Y	89	H2	7891053.23	2.0	8216492.56	96.04	29.5	120.4	
Y	89	He	1871015.75	4.0	2023870.27	92.45	29.5	120.4	
Tb	159	No Gas	21123633.71	4.0	21789053.29	96.95	29.5	120.4	
Tb	159	He	8390062.58	4.2	8552940.43	98.1	29.5	120.4	
Bi	209	No Gas	10820852.35	3.1	10957550.08	98.75	29.5	120.4	

Sample Report

Sample Name	TN0377-007A
File Name	045SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:03:04
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	10.103	ppb	9.1	13775.88	100	
11	B	6	No Gas	200.889	ppb	6.9	179867.36	1000	
23	Na	45	He	15126.507	ppb	0.3	1786522.97	200000	
24	Mg	45	He	10902.220	ppb	0.4	703918.57	200000	
27	Al	45	He	1022.974	ppb	2.7	24930.13	200000	
28	Si	45	H2	7551.655	ppb	0.9	316796.29	10000	
39	K	45	He	11042.706	ppb	0.5	605424.67	200000	
40	Ca	45	H2	71061.275	ppb	0.7	25230684.07	200000	
51	V	89	He	51.052	ppb	0.7	42518.43	1000	
52	Cr	89	He	51.974	ppb	0.7	55693.36	2000	
55	Mn	89	He	20.730	ppb	1.8	10220.55	2000	
56	Fe	89	H2	1063.402	ppb	0.6	1396639.51	100000	
59	Co	89	He	10.794	ppb	0.7	18153.02	1000	
60	Ni	89	He	20.835	ppb	3.1	9743.72	1000	
63	Cu	89	He	32.730	ppb	1.1	41471.33	2000	
66	Zn	89	He	103.022	ppb	1.4	17117.74	2000	
75	As	89	He	51.548	ppb	0.8	6049.64	1000	
78	Se	89	H2	51.255	ppb	0.8	2751.98	1000	
88	Sr	89	He	598.555	ppb	0.7	359447.12	2000	
95	Mo	89	He	52.882	ppb	0.5	34720.51	1000	
107	Ag	89	He	11.266	ppb	0.7	24049.80	100	
111	Cd	89	He	11.108	ppb	1.7	3028.52	1000	
118	Sn	159	He	50.364	ppb	1.3	29284.87	1000	
121	Sb	159	No Gas	10.531	ppb	6.2	43361.71	1000	
137	Ba	159	No Gas	59.111	ppb	7.0	94326.03	2000	
182	W	159	No Gas	49.079	ppb	7.4	176060.63	1000	
205	Tl	209	No Gas	10.505	ppb	7.1	74685.97	1000	
208	Pb	209	No Gas	10.629	ppb	7.6	108858.69	2000	
232	Th	209	No Gas	10.483	ppb	7.1	103576.75	1000	
238	U	209	No Gas	10.644	ppb	8.3	102464.91	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6536830.92	2.4	6947791.61	94.09	29.5	120.4	
Sc	45	No Gas	10703762.13	2.2	11828674.09	90.49	29.5	120.4	
Sc	45	H2	1345726.68	0.7	1511145.3	89.05	29.5	120.4	
Sc	45	He	348188.03	1.1	392815.69	88.64	29.5	120.4	
Ge	72	No Gas	2194810.12	2.8	2346521.52	93.53	29.5	120.4	
Ge	72	H2	445335.21	0.2	505748.89	88.05	29.5	120.4	
Ge	72	He	217117.87	0.6	240647.81	90.22	29.5	120.4	
Y	89	H2	7581493.78	0.6	8216492.56	92.27	29.5	120.4	
Y	89	He	1834914.37	0.8	2023870.27	90.66	29.5	120.4	
Tb	159	No Gas	21896531.89	1.9	21789053.29	100.49	29.5	120.4	
Tb	159	He	8254842.72	0.5	8552940.43	96.51	29.5	120.4	
Bi	209	No Gas	11166875.44	1.8	10957550.08	101.91	29.5	120.4	

Sample Report

Sample Name	TN0377-007L
File Name	046SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:05:37
Sample Type	Sample
Total Dilution	25.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.146	ppb	4.6	47.78	100	
11	B	6	No Gas	19.544	ppb	4.2	4050.71	1000	
23	Na	45	He	4805.826	ppb	4.8	123254.25	200000	
24	Mg	45	He	10048.506	ppb	3.8	131879.97	200000	
27	Al	45	He	44.778	ppb	21.3	265.57	200000	
28	Si	45	H2	2858.100	ppb	7.7	24966.26	10000	
39	K	45	He	741.906	ppb	11.0	23777.41	200000	
40	Ca	45	H2	70760.181	ppb	6.2	5118958.12	200000	
51	V	89	He	0.599	ppb	45.1	465.58	1000	
52	Cr	89	He	0.311	ppb	39.6	723.89	2000	
55	Mn	89	He	1.704	ppb	5.4	275.29	2000	
56	Fe	89	H2	47.165	ppb	7.3	47459.59	100000	
59	Co	89	He	0.036	ppb	49.7	26.67	1000	
60	Ni	89	He	0.229	ppb	24.5	56.67	1000	
63	Cu	89	He	2.203	ppb	4.2	812.27	2000	
66	Zn	89	He	2.238	ppb	21.2	151.12	2000	
75	As	89	He	0.426	ppb	22.9	28.00	1000	
78	Se	89	H2	0.380	ppb	61.5	5.50	1000	
88	Sr	89	He	559.170	ppb	3.5	68422.15	2000	
95	Mo	89	He	0.618	ppb	18.7	101.11	1000	
107	Ag	89	He	0.027	ppb	246.4	54.45	100	
111	Cd	89	He	0.047	ppb	50.8	2.59	1000	
118	Sn	159	He	0.729	ppb	13.4	331.13	1000	
121	Sb	159	No Gas	0.510	ppb	15.7	557.30	1000	
137	Ba	159	No Gas	46.006	ppb	3.4	14467.29	2000	
182	W	159	No Gas	0.741	ppb	24.8	634.06	1000	
205	Tl	209	No Gas	0.217	ppb	24.0	540.61	1000	
208	Pb	209	No Gas	0.355	ppb	47.2	3647.64	2000	
232	Th	209	No Gas	0.561	ppb	18.8	1368.28	1000	
238	U	209	No Gas	0.542	ppb	9.5	1024.53	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6474839.46	2.2	6947791.61	93.19	29.5	120.4	
Sc	45	No Gas	10547024.57	2.8	11828674.09	89.16	29.5	120.4	
Sc	45	H2	1372498.13	4.0	1511145.3	90.83	29.5	120.4	
Sc	45	He	354027.72	3.4	392815.69	90.13	29.5	120.4	
Ge	72	No Gas	2178874.50	2.3	2346521.52	92.86	29.5	120.4	
Ge	72	H2	462816.51	2.0	505748.89	91.51	29.5	120.4	
Ge	72	He	220776.12	2.0	240647.81	91.74	29.5	120.4	
Y	89	H2	7744020.26	4.6	8216492.56	94.25	29.5	120.4	
Y	89	He	1870401.97	3.4	2023870.27	92.42	29.5	120.4	
Tb	159	No Gas	21443203.99	3.3	21789053.29	98.41	29.5	120.4	
Tb	159	He	8324858.14	3.6	8552940.43	97.33	29.5	120.4	
Bi	209	No Gas	10932170.95	3.2	10957550.08	99.77	29.5	120.4	

Sample Report

Sample Name	TN0377-007P
File Name	047SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:08:14
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	47.959	ppb	3.3	65399.43	100	
11	B	6	No Gas	478.239	ppb	3.4	427464.83	1000	
23	Na	45	He	12359.660	ppb	1.7	1476075.58	200000	
24	Mg	45	He	14907.498	ppb	2.0	972228.23	200000	
27	Al	45	He	2026.518	ppb	1.5	49844.37	200000	
28	Si	45	H2	3617.656	ppb	0.9	161402.35	10000	
39	K	45	He	10891.560	ppb	1.6	603424.68	200000	
40	Ca	45	H2	68597.869	ppb	0.9	25851260.72	200000	
51	V	89	He	500.440	ppb	2.3	418530.96	1000	
52	Cr	89	He	202.481	ppb	2.7	217636.94	2000	
55	Mn	89	He	503.500	ppb	1.8	248733.91	2000	
56	Fe	89	H2	1000.529	ppb	2.0	1387372.30	100000	
59	Co	89	He	505.572	ppb	2.3	859666.22	1000	
60	Ni	89	He	504.384	ppb	2.6	237856.81	1000	
63	Cu	89	He	250.475	ppb	2.8	319470.09	2000	
66	Zn	89	He	505.988	ppb	1.7	84785.24	2000	
75	As	89	He	100.760	ppb	1.6	11949.10	1000	
78	Se	89	H2	94.908	ppb	1.3	5370.79	1000	
88	Sr	89	He	1031.157	ppb	1.9	626550.45	2000	
95	Mo	89	He	103.627	ppb	2.8	68818.11	1000	
107	Ag	89	He	51.952	ppb	1.8	112073.12	100	
111	Cd	89	He	253.847	ppb	2.4	70020.56	1000	
118	Sn	159	He	476.932	ppb	1.7	277755.81	1000	
121	Sb	159	No Gas	99.218	ppb	2.4	395307.59	1000	
137	Ba	159	No Gas	1977.211	ppb	2.8	3059779.52	2000	
182	W	159	No Gas	100.806	ppb	3.1	350993.53	1000	
205	Tl	209	No Gas	103.740	ppb	2.5	716755.74	1000	
208	Pb	209	No Gas	102.609	ppb	2.8	998862.69	2000	
232	Th	209	No Gas	99.254	ppb	2.4	953408.88	1000	
238	U	209	No Gas	102.021	ppb	2.3	957284.25	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6529154.24	1.3	6947791.61	93.97	29.5	120.4	
Sc	45	No Gas	10353678.31	1.5	11828674.09	87.53	29.5	120.4	
Sc	45	H2	1428414.47	0.8	1511145.3	94.53	29.5	120.4	
Sc	45	He	351779.71	1.8	392815.69	89.55	29.5	120.4	
Ge	72	No Gas	2133417.09	0.9	2346521.52	90.92	29.5	120.4	
Ge	72	H2	464653.23	1.1	505748.89	91.87	29.5	120.4	
Ge	72	He	217547.98	2.0	240647.81	90.4	29.5	120.4	
Y	89	H2	7992919.41	1.1	8216492.56	97.28	29.5	120.4	
Y	89	He	1857298.27	2.6	2023870.27	91.77	29.5	120.4	
Tb	159	No Gas	21234670.52	2.0	21789053.29	97.46	29.5	120.4	
Tb	159	He	8331746.68	1.6	8552940.43	97.41	29.5	120.4	
Bi	209	No Gas	10872902.62	1.5	10957550.08	99.23	29.5	120.4	

Sample Report

Sample Name	TN0377-007S
File Name	048SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:10:46
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	51.449	ppb	1.1	71161.74	100	
11	B	6	No Gas	491.840	ppb	0.5	445915.57	1000	
23	Na	45	He	12540.828	ppb	0.6	1486336.22	200000	
24	Mg	45	He	15192.732	ppb	0.4	983427.89	200000	
27	Al	45	He	2060.694	ppb	1.4	50303.87	200000	
28	Si	45	H2	3793.285	ppb	5.6	163494.15	10000	
39	K	45	He	11100.774	ppb	0.5	610098.86	200000	
40	Ca	45	H2	71910.583	ppb	5.4	26185812.39	200000	
51	V	89	He	511.290	ppb	0.2	423445.05	1000	
52	Cr	89	He	206.550	ppb	0.3	219853.60	2000	
55	Mn	89	He	512.089	ppb	0.4	250501.58	2000	
56	Fe	89	H2	1043.537	ppb	5.9	1404911.33	100000	
59	Co	89	He	518.347	ppb	0.6	872812.23	1000	
60	Ni	89	He	517.201	ppb	0.4	241542.70	1000	
63	Cu	89	He	255.834	ppb	0.1	323156.64	2000	
66	Zn	89	He	520.906	ppb	0.8	86425.41	2000	
75	As	89	He	102.053	ppb	0.7	11983.12	1000	
78	Se	89	H2	99.591	ppb	6.2	5476.67	1000	
88	Sr	89	He	1044.136	ppb	0.6	628235.76	2000	
95	Mo	89	He	103.887	ppb	0.3	68326.64	1000	
107	Ag	89	He	52.456	ppb	0.6	112050.35	100	
111	Cd	89	He	258.852	ppb	0.7	70708.89	1000	
118	Sn	159	He	482.420	ppb	0.8	278668.55	1000	
121	Sb	159	No Gas	104.814	ppb	1.3	419707.64	1000	
137	Ba	159	No Gas	2086.921	ppb	1.9	3245353.05	2000	
182	W	159	No Gas	105.390	ppb	2.3	368706.01	1000	
205	Tl	209	No Gas	108.672	ppb	1.5	755120.19	1000	
208	Pb	209	No Gas	107.104	ppb	1.6	1048432.97	2000	
232	Th	209	No Gas	106.800	ppb	1.8	1031710.21	1000	
238	U	209	No Gas	106.124	ppb	1.9	1001461.22	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6624977.56	1.4	6947791.61	95.35	29.5	120.4	
Sc	45	No Gas	10439162.23	2.6	11828674.09	88.25	29.5	120.4	
Sc	45	H2	1382393.79	4.4	1511145.3	91.48	29.5	120.4	
Sc	45	He	349078.38	0.6	392815.69	88.87	29.5	120.4	
Ge	72	No Gas	2159449.37	1.4	2346521.52	92.03	29.5	120.4	
Ge	72	H2	450012.34	3.3	505748.89	88.98	29.5	120.4	
Ge	72	He	216709.47	0.5	240647.81	90.05	29.5	120.4	
Y	89	H2	7781848.24	4.7	8216492.56	94.71	29.5	120.4	
Y	89	He	1838538.93	0.3	2023870.27	90.84	29.5	120.4	
Tb	159	No Gas	21349984.13	2.3	21789053.29	97.98	29.5	120.4	
Tb	159	He	8262668.14	0.1	8552940.43	96.61	29.5	120.4	
Bi	209	No Gas	10938879.74	1.7	10957550.08	99.83	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	049SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:13:24
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.011	ppb	35.8	81.11	100	
11	B	6	No Gas	1.054	ppb	6.8	5328.94	1000	
23	Na	45	He	2.846	ppb	27.8	10288.39	200000	
24	Mg	45	He	0.691	ppb	24.8	297.80	200000	
27	Al	45	He	0.233	ppb	46.5	74.45	200000	
28	Si	45	H2	-0.546	ppb	N/A	490.55	10000	
39	K	45	He	4.260	ppb	57.5	17037.50	200000	
40	Ca	45	H2	2.718	ppb	15.1	8348.32	200000	
51	V	89	He	0.010	ppb	111.4	411.13	1000	
52	Cr	89	He	-0.004	ppb	N/A	641.90	2000	
55	Mn	89	He	0.009	ppb	85.7	129.98	2000	
56	Fe	89	H2	-0.064	ppb	N/A	34835.13	100000	
59	Co	89	He	0.013	ppb	22.9	124.46	1000	
60	Ni	89	He	0.009	ppb	41.0	56.67	1000	
63	Cu	89	He	0.041	ppb	20.1	513.36	2000	
66	Zn	89	He	0.021	ppb	64.1	94.45	2000	
75	As	89	He	-0.002	ppb	N/A	16.67	1000	
78	Se	89	H2	0.017	ppb	47.1	6.00	1000	
88	Sr	89	He	0.029	ppb	10.7	113.34	2000	
95	Mo	89	He	0.043	ppb	12.9	164.45	1000	
107	Ag	89	He	0.002	ppb	162.7	63.33	100	
111	Cd	89	He	0.009	ppb	28.1	12.59	1000	
118	Sn	159	He	0.084	ppb	40.0	495.58	1000	
121	Sb	159	No Gas	0.026	ppb	30.7	670.77	1000	
137	Ba	159	No Gas	0.286	ppb	51.7	2349.53	2000	
182	W	159	No Gas	0.051	ppb	17.4	1014.51	1000	
205	Tl	209	No Gas	0.031	ppb	44.9	1328.21	1000	
208	Pb	209	No Gas	0.013	ppb	66.0	3624.27	2000	
232	Th	209	No Gas	0.148	ppb	11.6	7540.81	1000	
238	U	209	No Gas	0.030	ppb	67.3	1421.71	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6561897.39	1.1	6947791.61	94.45	29.5	120.4	
Sc	45	No Gas	10603060.71	0.9	11828674.09	89.64	29.5	120.4	
Sc	45	H2	1375318.03	0.4	1511145.3	91.01	29.5	120.4	
Sc	45	He	357198.27	1.7	392815.69	90.93	29.5	120.4	
Ge	72	No Gas	2176994.16	0.6	2346521.52	92.78	29.5	120.4	
Ge	72	H2	462132.52	0.9	505748.89	91.38	29.5	120.4	
Ge	72	He	221481.55	1.4	240647.81	92.04	29.5	120.4	
Y	89	H2	7769314.77	0.5	8216492.56	94.56	29.5	120.4	
Y	89	He	1890260.42	2.3	2023870.27	93.4	29.5	120.4	
Tb	159	No Gas	21525902.73	1.1	21789053.29	98.79	29.5	120.4	
Tb	159	He	8415621.06	1.4	8552940.43	98.39	29.5	120.4	
Bi	209	No Gas	11045602.30	1.2	10957550.08	100.8	29.5	120.4	

Sample Report

Sample Name	TN0377-008
File Name	050SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:15:55
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.016	ppb	23.8	28.89	100	
11	B	6	No Gas	17.427	ppb	2.9	15835.77	1000	
23	Na	45	He	21975.324	ppb	3.4	2555320.15	200000	
24	Mg	45	He	12268.343	ppb	3.9	780956.36	200000	
27	Al	45	He	48.131	ppb	3.0	1199.04	200000	
28	Si	45	H2	3241.291	ppb	1.8	137949.74	10000	
39	K	45	He	1585.662	ppb	4.2	98790.53	200000	
40	Ca	45	H2	89508.843	ppb	2.2	32161436.19	200000	
51	V	89	He	0.510	ppb	18.1	770.05	1000	
52	Cr	89	He	3.817	ppb	137.6	4664.15	2000	
55	Mn	89	He	1.755	ppb	16.3	947.87	2000	
56	Fe	89	H2	57.685	ppb	1.4	109740.57	100000	
59	Co	89	He	0.126	ppb	8.2	224.46	1000	
60	Ni	89	He	0.282	ppb	15.0	163.34	1000	
63	Cu	89	He	1.237	ppb	9.5	1779.07	2000	
66	Zn	89	He	1.447	ppb	14.5	311.13	2000	
75	As	89	He	0.149	ppb	58.5	34.67	1000	
78	Se	89	H2	0.119	ppb	40.6	7.83	1000	
88	Sr	89	He	787.705	ppb	4.2	467686.29	2000	
95	Mo	89	He	0.152	ppb	3.4	116.67	1000	
107	Ag	89	He	0.017	ppb	87.9	77.78	100	
111	Cd	89	He	0.043	ppb	25.4	11.48	1000	
118	Sn	159	He	0.695	ppb	14.0	643.37	1000	
121	Sb	159	No Gas	0.050	ppb	38.2	343.72	1000	
137	Ba	159	No Gas	76.624	ppb	3.5	118257.96	2000	
182	W	159	No Gas	0.045	ppb	32.5	273.65	1000	
205	Tl	209	No Gas	0.016	ppb	63.8	343.72	1000	
208	Pb	209	No Gas	0.134	ppb	9.7	4231.68	2000	
232	Th	209	No Gas	0.816	ppb	14.9	8071.63	1000	
238	U	209	No Gas	0.222	ppb	5.4	2089.22	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6407437.79	4.2	6947791.61	92.22	29.5	120.4	
Sc	45	No Gas	10340071.06	6.7	11828674.09	87.42	29.5	120.4	
Sc	45	H2	1362215.72	1.7	1511145.3	90.14	29.5	120.4	
Sc	45	He	343519.69	2.7	392815.69	87.45	29.5	120.4	
Ge	72	No Gas	2130662.49	4.7	2346521.52	90.8	29.5	120.4	
Ge	72	H2	445866.37	1.2	505748.89	88.16	29.5	120.4	
Ge	72	He	214540.19	1.6	240647.81	89.15	29.5	120.4	
Y	89	H2	7683027.55	2.0	8216492.56	93.51	29.5	120.4	
Y	89	He	1815695.42	2.8	2023870.27	89.71	29.5	120.4	
Tb	159	No Gas	21197072.74	6.5	21789053.29	97.28	29.5	120.4	
Tb	159	He	8226614.88	2.9	8552940.43	96.18	29.5	120.4	
Bi	209	No Gas	10858600.20	5.3	10957550.08	99.1	29.5	120.4	

Sample Report

Sample Name	TN0377-009
File Name	051SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:18:30
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.011	ppb	82.7	22.22	100	
11	B	6	No Gas	11.841	ppb	2.3	10805.52	1000	
23	Na	45	He	5911.610	ppb	5.2	691148.08	200000	
24	Mg	45	He	6503.435	ppb	5.6	412639.98	200000	
27	Al	45	He	32.848	ppb	8.7	830.06	200000	
28	Si	45	H2	3036.122	ppb	3.5	128077.01	10000	
39	K	45	He	850.188	ppb	6.5	59855.72	200000	
40	Ca	45	H2	66801.085	ppb	4.2	23779081.87	200000	
51	V	89	He	0.461	ppb	16.9	728.94	1000	
52	Cr	89	He	0.746	ppb	7.8	1417.82	2000	
55	Mn	89	He	0.736	ppb	13.4	456.59	2000	
56	Fe	89	H2	25.313	ppb	4.4	67563.70	100000	
59	Co	89	He	0.092	ppb	32.1	166.68	1000	
60	Ni	89	He	0.170	ppb	15.4	112.22	1000	
63	Cu	89	He	1.248	ppb	3.3	1792.41	2000	
66	Zn	89	He	1.182	ppb	24.5	265.57	2000	
75	As	89	He	0.168	ppb	34.5	36.67	1000	
78	Se	89	H2	0.063	ppb	33.2	4.83	1000	
88	Sr	89	He	461.269	ppb	5.4	273481.94	2000	
95	Mo	89	He	0.112	ppb	25.5	90.00	1000	
107	Ag	89	He	0.023	ppb	48.8	88.89	100	
111	Cd	89	He	0.033	ppb	22.8	8.89	1000	
118	Sn	159	He	0.485	ppb	13.1	518.92	1000	
121	Sb	159	No Gas	0.052	ppb	15.3	347.06	1000	
137	Ba	159	No Gas	35.008	ppb	1.7	53199.08	2000	
182	W	159	No Gas	0.035	ppb	61.8	233.60	1000	
205	Tl	209	No Gas	0.009	ppb	90.3	293.66	1000	
208	Pb	209	No Gas	0.151	ppb	6.3	4361.84	2000	
232	Th	209	No Gas	0.249	ppb	2.4	2643.24	1000	
238	U	209	No Gas	0.145	ppb	2.7	1344.93	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6319046.84	1.7	6947791.61	90.95	29.5	120.4	
Sc	45	No Gas	10086004.50	3.0	11828674.09	85.27	29.5	120.4	
Sc	45	H2	1351074.20	5.0	1511145.3	89.41	29.5	120.4	
Sc	45	He	342754.61	4.9	392815.69	87.26	29.5	120.4	
Ge	72	No Gas	2090747.58	1.5	2346521.52	89.1	29.5	120.4	
Ge	72	H2	445708.50	4.1	505748.89	88.13	29.5	120.4	
Ge	72	He	213730.40	3.4	240647.81	88.81	29.5	120.4	
Y	89	H2	7669676.02	4.9	8216492.56	93.34	29.5	120.4	
Y	89	He	1814911.15	5.1	2023870.27	89.68	29.5	120.4	
Tb	159	No Gas	20812824.13	3.0	21789053.29	95.52	29.5	120.4	
Tb	159	He	8192195.71	4.9	8552940.43	95.78	29.5	120.4	
Bi	209	No Gas	10746681.10	2.7	10957550.08	98.08	29.5	120.4	

Sample Report

Sample Name	TN0377-010
File Name	052SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:21:02
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.015	ppb	36.1	28.89	100	
11	B	6	No Gas	13.920	ppb	1.7	12842.78	1000	
23	Na	45	He	10541.319	ppb	1.2	1208997.19	200000	
24	Mg	45	He	9137.072	ppb	1.9	571699.17	200000	
27	Al	45	He	64.403	ppb	6.7	1560.16	200000	
28	Si	45	H2	3049.232	ppb	2.5	124205.05	10000	
39	K	45	He	1618.345	ppb	1.8	98786.74	200000	
40	Ca	45	H2	97773.812	ppb	2.2	33614699.78	200000	
51	V	89	He	0.580	ppb	19.1	811.17	1000	
52	Cr	89	He	0.753	ppb	3.7	1399.15	2000	
55	Mn	89	He	2.293	ppb	3.5	1187.17	2000	
56	Fe	89	H2	70.110	ppb	3.0	121580.00	100000	
59	Co	89	He	0.126	ppb	14.7	220.02	1000	
60	Ni	89	He	0.308	ppb	8.1	172.23	1000	
63	Cu	89	He	1.325	ppb	8.2	1852.42	2000	
66	Zn	89	He	1.510	ppb	7.9	314.46	2000	
75	As	89	He	0.173	ppb	7.4	36.67	1000	
78	Se	89	H2	0.098	ppb	38.4	6.50	1000	
88	Sr	89	He	703.188	ppb	1.7	409613.78	2000	
95	Mo	89	He	0.119	ppb	4.4	93.34	1000	
107	Ag	89	He	0.009	ppb	96.4	60.00	100	
111	Cd	89	He	0.011	ppb	56.1	2.96	1000	
118	Sn	159	He	0.528	ppb	3.3	536.70	1000	
121	Sb	159	No Gas	0.048	ppb	37.2	343.72	1000	
137	Ba	159	No Gas	63.028	ppb	2.8	98867.06	2000	
182	W	159	No Gas	0.033	ppb	85.1	230.26	1000	
205	Tl	209	No Gas	0.004	ppb	224.8	273.65	1000	
208	Pb	209	No Gas	0.208	ppb	9.8	5036.05	2000	
232	Th	209	No Gas	0.153	ppb	5.0	1782.13	1000	
238	U	209	No Gas	0.168	ppb	13.7	1601.90	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6441436.99	3.0	6947791.61	92.71	29.5	120.4	
Sc	45	No Gas	10312130.31	4.4	11828674.09	87.18	29.5	120.4	
Sc	45	H2	1303314.44	1.3	1511145.3	86.25	29.5	120.4	
Sc	45	He	337485.15	2.0	392815.69	85.91	29.5	120.4	
Ge	72	No Gas	2133104.98	3.0	2346521.52	90.9	29.5	120.4	
Ge	72	H2	435782.01	1.4	505748.89	86.17	29.5	120.4	
Ge	72	He	211291.74	0.9	240647.81	87.8	29.5	120.4	
Y	89	H2	7420535.43	0.5	8216492.56	90.31	29.5	120.4	
Y	89	He	1780360.49	2.2	2023870.27	87.97	29.5	120.4	
Tb	159	No Gas	21511579.82	4.1	21789053.29	98.73	29.5	120.4	
Tb	159	He	8068361.68	1.5	8552940.43	94.33	29.5	120.4	
Bi	209	No Gas	11042723.06	4.0	10957550.08	100.78	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	053_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:23:41
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	22.679	ppb	5.8	153185.75	25	90.72	89.8	110.2	
11	B	6	No Gas	22.773	ppb	5.8	101284.42	25	91.09	89.8	110.2	
23	Na	45	He	5040.729	ppb	0.4	2912898.21	5000	100.81	89.8	110.2	
24	Mg	45	He	5061.989	ppb	0.4	1602084.74	5000	101.24	89.8	110.2	
27	Al	45	He	490.631	ppb	1.3	58549.47	500	98.13	89.8	110.2	
28	Si	45	H2	478.380	ppb	3.5	99415.43	500	95.68	89.8	110.2	
39	K	45	He	4921.058	ppb	0.6	1303943.85	5000	98.42	89.8	110.2	
40	Ca	45	H2	4996.188	ppb	5.1	8752251.60	5000	99.92	89.8	110.2	
51	V	89	He	24.184	ppb	0.4	99156.32	25	96.74	89.8	110.2	
52	Cr	89	He	24.418	ppb	0.5	128585.07	25	97.67	89.8	110.2	
55	Mn	89	He	24.489	ppb	0.7	59222.61	25	97.96	89.8	110.2	
56	Fe	89	H2	4897.822	ppb	4.8	31013065.10	5000	97.96	89.8	110.2	
59	Co	89	He	24.453	ppb	0.6	203295.68	25	97.81	89.8	110.2	
60	Ni	89	He	24.769	ppb	0.6	57138.35	25	99.08	89.8	110.2	
63	Cu	89	He	24.702	ppb	0.9	154170.02	25	98.81	89.8	110.2	
66	Zn	89	He	24.877	ppb	1.5	20433.39	25	99.51	89.8	110.2	
75	As	89	He	24.278	ppb	0.6	14071.29	25	97.11	89.8	110.2	
78	Se	89	H2	24.883	ppb	4.8	6594.59	25	99.53	89.8	110.2	
88	Sr	89	He	24.177	ppb	0.9	71840.79	25	96.71	89.8	110.2	
95	Mo	89	He	25.323	ppb	1.2	82228.50	25	101.29	89.8	110.2	
107	Ag	89	He	25.695	ppb	0.4	270924.96	25	102.78	89.8	110.2	
111	Cd	89	He	25.383	ppb	0.5	34233.60	25	101.53	89.8	110.2	
118	Sn	159	He	23.765	ppb	0.7	68173.84	25	95.06	89.8	110.2	
121	Sb	159	No Gas	23.328	ppb	4.4	472363.98	25	93.31	89.8	110.2	
137	Ba	159	No Gas	23.306	ppb	3.9	183391.69	25	93.22	89.8	110.2	
182	W	159	No Gas	23.319	ppb	5.8	412626.48	25	93.28	89.8	110.2	
205	Tl	209	No Gas	24.347	ppb	4.9	854517.96	25	97.39	89.8	110.2	
208	Pb	209	No Gas	24.215	ppb	4.7	1196916.79	25	96.86	89.8	110.2	
232	Th	209	No Gas	22.898	ppb	6.8	1117465.41	25	91.59	89.8	110.2	
238	U	209	No Gas	23.614	ppb	5.5	1125664.52	25	94.46	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6471621.44	0.5	6947791.61	93.15	29.5	120.4	
Sc	45	No Gas	10450769.15	0.9	11828674.09	88.35	29.5	120.4	
Sc	45	H2	1328825.46	2.7	1511145.3	87.93	29.5	120.4	
Sc	45	He	341367.23	0.7	392815.69	86.9	29.5	120.4	
Ge	72	No Gas	2135719.68	0.1	2346521.52	91.02	29.5	120.4	
Ge	72	H2	440653.81	0.9	505748.89	87.13	29.5	120.4	
Ge	72	He	214119.02	0.2	240647.81	88.98	29.5	120.4	
Y	89	H2	7494060.36	3.1	8216492.56	91.21	29.5	120.4	
Y	89	He	1815443.22	0.4	2023870.27	89.7	29.5	120.4	
Tb	159	No Gas	21585586.07	0.6	21789053.29	99.07	29.5	120.4	
Tb	159	He	8184558.90	0.6	8552940.43	95.69	29.5	120.4	
Bi	209	No Gas	11046519.78	0.8	10957550.08	100.81	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	054_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:26:15
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.012	ppb	22.5	91.11	0.2	
11	B	6	No Gas	0.347	ppb	7.2	2170.24	4	
23	Na	45	He	5.232	ppb	22.3	11293.77	200	
24	Mg	45	He	1.563	ppb	43.3	564.50	20	
27	Al	45	He	0.395	ppb	62.3	91.11	20	
28	Si	45	H2	-0.469	ppb	N/A	510.58	100	
39	K	45	He	6.856	ppb	25.1	17107.59	200	
40	Ca	45	H2	3.828	ppb	8.4	10401.99	20	
51	V	89	He	-0.027	ppb	N/A	247.79	1	
52	Cr	89	He	-0.010	ppb	N/A	591.24	1	
55	Mn	89	He	0.007	ppb	93.8	119.98	0.4	
56	Fe	89	H2	0.980	ppb	24.3	41631.76	20	
59	Co	89	He	0.004	ppb	32.9	48.89	0.2	
60	Ni	89	He	0.005	ppb	39.4	45.56	0.4	
63	Cu	89	He	0.036	ppb	32.9	464.47	0.6	
66	Zn	89	He	-0.010	ppb	N/A	66.67	2	
75	As	89	He	0.005	ppb	240.9	20.67	1	
78	Se	89	H2	0.029	ppb	17.1	9.33	1	
88	Sr	89	He	0.029	ppb	12.0	111.11	1	
95	Mo	89	He	0.069	ppb	17.2	243.34	1	
107	Ag	89	He	0.004	ppb	22.6	88.89	0.2	
111	Cd	89	He	0.004	ppb	66.5	5.18	0.2	
118	Sn	159	He	0.064	ppb	30.8	424.47	1	
121	Sb	159	No Gas	0.027	ppb	14.5	697.46	0.2	
137	Ba	159	No Gas	0.037	ppb	18.9	393.78	0.4	
182	W	159	No Gas	0.077	ppb	4.0	1498.43	1	
205	Tl	209	No Gas	0.031	ppb	19.5	1338.23	0.2	
208	Pb	209	No Gas	0.002	ppb	114.1	3140.34	0.2	
232	Th	209	No Gas	0.124	ppb	14.1	6405.52	1	
238	U	209	No Gas	0.019	ppb	23.3	914.39	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6598789.86	1.7	6947791.61	94.98	29.5	120.4	
Sc	45	No Gas	10550140.08	1.9	11828674.09	89.19	29.5	120.4	
Sc	45	H2	1382668.60	3.9	1511145.3	91.5	29.5	120.4	
Sc	45	He	344306.00	2.8	392815.69	87.65	29.5	120.4	
Ge	72	No Gas	2176232.51	1.8	2346521.52	92.74	29.5	120.4	
Ge	72	H2	462749.62	2.1	505748.89	91.5	29.5	120.4	
Ge	72	He	217830.92	1.5	240647.81	90.52	29.5	120.4	
Y	89	H2	7765495.07	4.2	8216492.56	94.51	29.5	120.4	
Y	89	He	1833998.50	3.1	2023870.27	90.62	29.5	120.4	
Tb	159	No Gas	21758626.62	1.3	21789053.29	99.86	29.5	120.4	
Tb	159	He	8207824.39	3.3	8552940.43	95.96	29.5	120.4	
Bi	209	No Gas	11163417.09	1.8	10957550.08	101.88	29.5	120.4	

Sample Report

Sample Name	TN0377-011
File Name	055SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:28:53
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.094	ppb	17.1	134.45	100	
11	B	6	No Gas	15.265	ppb	5.4	13931.63	1000	
23	Na	45	He	7507.253	ppb	3.7	870460.87	200000	
24	Mg	45	He	10163.006	ppb	4.0	641131.32	200000	
27	Al	45	He	250.485	ppb	3.8	5997.03	200000	
28	Si	45	H2	3800.696	ppb	4.1	160113.88	10000	
39	K	45	He	759.411	ppb	5.0	54766.16	200000	
40	Ca	45	H2	93677.584	ppb	3.8	33342186.72	200000	
51	V	89	He	1.332	ppb	6.4	1417.90	1000	
52	Cr	89	He	1.007	ppb	2.9	1665.80	2000	
55	Mn	89	He	697.304	ppb	4.4	331027.40	2000	
56	Fe	89	H2	1353.045	ppb	3.3	1773954.06	100000	
59	Co	89	He	1.989	ppb	6.0	3267.30	1000	
60	Ni	89	He	1.313	ppb	8.4	627.82	1000	
63	Cu	89	He	7.925	ppb	4.5	9943.87	2000	
66	Zn	89	He	26.560	ppb	8.6	4341.94	2000	
75	As	89	He	1.204	ppb	14.5	153.69	1000	
78	Se	89	H2	0.138	ppb	1.9	8.83	1000	
88	Sr	89	He	671.252	ppb	4.0	392041.99	2000	
95	Mo	89	He	0.306	ppb	19.6	212.23	1000	
107	Ag	89	He	0.020	ppb	61.7	82.23	100	
111	Cd	89	He	3.949	ppb	1.7	1047.83	1000	
118	Sn	159	He	0.779	ppb	4.8	684.49	1000	
121	Sb	159	No Gas	0.231	ppb	8.8	1061.22	1000	
137	Ba	159	No Gas	63.693	ppb	5.6	98036.74	2000	
182	W	159	No Gas	0.076	ppb	32.0	377.09	1000	
205	Tl	209	No Gas	0.033	ppb	28.7	470.54	1000	
208	Pb	209	No Gas	0.949	ppb	11.0	12255.97	2000	
232	Th	209	No Gas	0.760	ppb	2.0	7654.34	1000	
238	U	209	No Gas	0.351	ppb	11.4	3324.18	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6397897.83	0.7	6947791.61	92.09	29.5	120.4	
Sc	45	No Gas	10230931.30	0.1	11828674.09	86.49	29.5	120.4	
Sc	45	H2	1350446.91	4.0	1511145.3	89.37	29.5	120.4	
Sc	45	He	340532.12	3.9	392815.69	86.69	29.5	120.4	
Ge	72	No Gas	2103128.63	0.8	2346521.52	89.63	29.5	120.4	
Ge	72	H2	438363.48	3.0	505748.89	86.68	29.5	120.4	
Ge	72	He	210227.24	2.7	240647.81	87.36	29.5	120.4	
Y	89	H2	7613889.92	3.4	8216492.56	92.67	29.5	120.4	
Y	89	He	1786501.83	3.9	2023870.27	88.27	29.5	120.4	
Tb	159	No Gas	21109228.16	0.6	21789053.29	96.88	29.5	120.4	
Tb	159	He	8144714.81	3.9	8552940.43	95.23	29.5	120.4	
Bi	209	No Gas	10972808.15	0.9	10957550.08	100.14	29.5	120.4	

Sample Report

Sample Name	TN0377-012
File Name	056SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:31:27
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.037	ppb	42.6	58.89	100	
11	B	6	No Gas	14.698	ppb	7.0	13704.71	1000	
23	Na	45	He	22339.571	ppb	0.6	2557173.51	200000	
24	Mg	45	He	12445.484	ppb	0.5	779994.20	200000	
27	Al	45	He	39.390	ppb	14.3	973.50	200000	
28	Si	45	H2	3306.236	ppb	1.5	136213.65	10000	
39	K	45	He	1615.223	ppb	0.8	98787.13	200000	
40	Ca	45	H2	92665.506	ppb	0.6	32232788.69	200000	
51	V	89	He	1.087	ppb	3.8	1225.65	1000	
52	Cr	89	He	0.596	ppb	6.6	1245.83	2000	
55	Mn	89	He	1.060	ppb	5.0	606.57	2000	
56	Fe	89	H2	35.049	ppb	2.5	78018.35	100000	
59	Co	89	He	0.069	ppb	27.4	126.68	1000	
60	Ni	89	He	0.232	ppb	33.4	138.89	1000	
63	Cu	89	He	2.689	ppb	2.2	3541.70	2000	
66	Zn	89	He	2.426	ppb	1.9	464.47	2000	
75	As	89	He	0.200	ppb	17.7	40.00	1000	
78	Se	89	H2	0.170	ppb	19.2	10.33	1000	
88	Sr	89	He	795.528	ppb	0.4	466320.75	2000	
95	Mo	89	He	0.101	ppb	38.5	82.22	1000	
107	Ag	89	He	0.013	ppb	43.8	68.89	100	
111	Cd	89	He	0.015	ppb	15.7	4.07	1000	
118	Sn	159	He	0.500	ppb	12.3	525.59	1000	
121	Sb	159	No Gas	0.038	ppb	15.2	303.67	1000	
137	Ba	159	No Gas	72.623	ppb	8.5	115044.32	2000	
182	W	159	No Gas	0.014	ppb	102.7	166.86	1000	
205	Tl	209	No Gas	0.016	ppb	35.9	357.07	1000	
208	Pb	209	No Gas	0.079	ppb	40.1	3797.83	2000	
232	Th	209	No Gas	0.198	ppb	8.6	2249.42	1000	
238	U	209	No Gas	0.219	ppb	5.1	2105.88	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6531654.55	2.7	6947791.61	94.01	29.5	120.4	
Sc	45	No Gas	10419987.23	1.8	11828674.09	88.09	29.5	120.4	
Sc	45	H2	1318371.80	1.1	1511145.3	87.24	29.5	120.4	
Sc	45	He	337976.84	0.4	392815.69	86.04	29.5	120.4	
Ge	72	No Gas	2143807.64	1.7	2346521.52	91.36	29.5	120.4	
Ge	72	H2	434195.97	0.6	505748.89	85.85	29.5	120.4	
Ge	72	He	210392.32	0.9	240647.81	87.43	29.5	120.4	
Y	89	H2	7458620.49	1.1	8216492.56	90.78	29.5	120.4	
Y	89	He	1791144.80	0.9	2023870.27	88.5	29.5	120.4	
Tb	159	No Gas	21750488.01	2.6	21789053.29	99.82	29.5	120.4	
Tb	159	He	8146906.41	0.3	8552940.43	95.25	29.5	120.4	
Bi	209	No Gas	11140568.72	2.8	10957550.08	101.67	29.5	120.4	

Sample Report

Sample Name	TN0377-013
File Name	057SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:34:02
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.049	ppb	15.4	74.45	100	
11	B	6	No Gas	1.676	ppb	9.2	2060.22	1000	
23	Na	45	He	59.064	ppb	11.3	14563.65	200000	
24	Mg	45	He	23.682	ppb	4.0	1520.19	200000	
27	Al	45	He	8.353	ppb	7.7	235.57	200000	
28	Si	45	H2	12.544	ppb	30.4	1131.30	10000	
39	K	45	He	45.397	ppb	22.2	17052.50	200000	
40	Ca	45	H2	45.442	ppb	5.3	19689.87	200000	
51	V	89	He	1.339	ppb	14.9	1406.79	1000	
52	Cr	89	He	0.337	ppb	16.9	963.86	2000	
55	Mn	89	He	0.211	ppb	34.1	198.63	2000	
56	Fe	89	H2	1.702	ppb	66.1	37087.21	100000	
59	Co	89	He	0.025	ppb	45.4	53.34	1000	
60	Ni	89	He	0.092	ppb	36.7	74.45	1000	
63	Cu	89	He	2.999	ppb	3.9	3869.57	2000	
66	Zn	89	He	3.263	ppb	13.2	593.37	2000	
75	As	89	He	0.102	ppb	14.4	28.33	1000	
78	Se	89	H2	0.100	ppb	19.9	6.83	1000	
88	Sr	89	He	0.311	ppb	21.9	202.23	2000	
95	Mo	89	He	0.077	ppb	49.6	65.56	1000	
107	Ag	89	He	0.014	ppb	42.2	70.00	100	
111	Cd	89	He	0.020	ppb	42.4	5.18	1000	
118	Sn	159	He	0.480	ppb	12.7	506.70	1000	
121	Sb	159	No Gas	0.029	ppb	41.9	263.63	1000	
137	Ba	159	No Gas	0.437	ppb	4.4	780.90	2000	
182	W	159	No Gas	0.010	ppb	219.0	150.17	1000	
205	Tl	209	No Gas	0.004	ppb	23.9	273.65	1000	
208	Pb	209	No Gas	0.083	ppb	23.1	3847.91	2000	
232	Th	209	No Gas	0.104	ppb	26.9	1318.22	1000	
238	U	209	No Gas	0.022	ppb	13.1	216.92	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6423265.59	0.7	6947791.61	92.45	29.5	120.4	
Sc	45	No Gas	10220395.87	2.8	11828674.09	86.4	29.5	120.4	
Sc	45	H2	1360941.47	1.2	1511145.3	90.06	29.5	120.4	
Sc	45	He	331792.42	3.2	392815.69	84.47	29.5	120.4	
Ge	72	No Gas	2106651.94	1.4	2346521.52	89.78	29.5	120.4	
Ge	72	H2	443290.68	1.0	505748.89	87.65	29.5	120.4	
Ge	72	He	208660.24	2.3	240647.81	86.71	29.5	120.4	
Y	89	H2	7687395.98	1.2	8216492.56	93.56	29.5	120.4	
Y	89	He	1767632.33	3.7	2023870.27	87.34	29.5	120.4	
Tb	159	No Gas	21365176.90	2.7	21789053.29	98.05	29.5	120.4	
Tb	159	He	8024232.24	3.5	8552940.43	93.82	29.5	120.4	
Bi	209	No Gas	11164277.53	2.3	10957550.08	101.89	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	058SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:36:37
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.001	ppb	277.9	13.33	100	
11	B	6	No Gas	0.099	ppb	8.2	1008.96	1000	
23	Na	45	He	2.904	ppb	7.8	9931.04	200000	
24	Mg	45	He	0.630	ppb	16.3	266.69	200000	
27	Al	45	He	0.282	ppb	37.5	77.78	200000	
28	Si	45	H2	-0.504	ppb	N/A	477.20	10000	
39	K	45	He	5.442	ppb	28.1	16717.40	200000	
40	Ca	45	H2	4.630	ppb	17.2	11239.30	200000	
51	V	89	He	-0.014	ppb	N/A	296.68	1000	
52	Cr	89	He	-0.008	ppb	N/A	599.91	2000	
55	Mn	89	He	0.002	ppb	205.1	107.31	2000	
56	Fe	89	H2	0.055	ppb	84.3	34119.87	100000	
59	Co	89	He	0.004	ppb	43.7	46.67	1000	
60	Ni	89	He	-0.005	ppb	N/A	23.33	1000	
63	Cu	89	He	0.040	ppb	18.2	490.03	2000	
66	Zn	89	He	0.023	ppb	47.3	93.34	2000	
75	As	89	He	-0.003	ppb	N/A	16.00	1000	
78	Se	89	H2	0.002	ppb	141.1	1.83	1000	
88	Sr	89	He	0.030	ppb	47.7	113.34	2000	
95	Mo	89	He	0.010	ppb	35.0	51.11	1000	
107	Ag	89	He	0.002	ppb	34.9	62.22	100	
111	Cd	89	He	0.001	ppb	34.5	1.85	1000	
118	Sn	159	He	0.008	ppb	242.1	267.79	1000	
121	Sb	159	No Gas	0.000	ppb	164.3	150.17	1000	
137	Ba	159	No Gas	0.014	ppb	11.2	206.90	2000	
182	W	159	No Gas	0.000	ppb	N/A	103.45	1000	
205	Tl	209	No Gas	-0.002	ppb	N/A	183.54	1000	
208	Pb	209	No Gas	-0.010	ppb	N/A	2432.83	2000	
232	Th	209	No Gas	0.004	ppb	8.2	463.86	1000	
238	U	209	No Gas	0.002	ppb	18.9	83.43	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6327715.67	0.1	6947791.61	91.08	29.5	120.4	
Sc	45	No Gas	10025137.70	0.4	11828674.09	84.75	29.5	120.4	
Sc	45	H2	1315761.51	7.1	1511145.3	87.07	29.5	120.4	
Sc	45	He	343852.00	1.6	392815.69	87.54	29.5	120.4	
Ge	72	No Gas	2077542.31	0.2	2346521.52	88.54	29.5	120.4	
Ge	72	H2	443059.03	3.9	505748.89	87.6	29.5	120.4	
Ge	72	He	214091.15	1.3	240647.81	88.96	29.5	120.4	
Y	89	H2	7439692.40	7.3	8216492.56	90.55	29.5	120.4	
Y	89	He	1828697.75	2.2	2023870.27	90.36	29.5	120.4	
Tb	159	No Gas	20786085.11	0.7	21789053.29	95.4	29.5	120.4	
Tb	159	He	8235173.70	2.1	8552940.43	96.28	29.5	120.4	
Bi	209	No Gas	10726851.58	0.1	10957550.08	97.89	29.5	120.4	

Katahdin Analytical Services 4000143

Prep Blank (PB) Report

Sample Name	PBSNL24IMS1
File Name	059_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:39:11
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.001	ppb	172.4	10.00	0.5	
B	11	6	No Gas	1.629	ppb	3.5	1997.99	10	
Na	23	45	He	37.637	ppb	18.5	12078.55	500	
Mg	24	45	He	18.132	ppb	10.8	1171.24	50	
Al	27	45	He	12.861	ppb	8.0	337.80	50	
Si	28	45	H2	8.507	ppb	33.5	941.08	250	
K	39	45	He	57.369	ppb	34.2	17532.96	500	
Ca	40	45	H2	39.498	ppb	2.3	17197.63	50	
V	51	89	He	0.454	ppb	19.9	701.16	2.5	
Cr	52	89	He	0.800	ppb	7.1	1427.15	2.5	
Mn	55	89	He	0.550	ppb	8.3	355.27	1	
Fe	56	89	H2	14.121	ppb	3.4	52255.39	50	
Co	59	89	He	0.018	ppb	40.4	42.23	0.5	
Ni	60	89	He	1.125	ppb	15.2	532.25	1	PB 6020 Fails DoD
Cu	63	89	He	1.012	ppb	5.7	1446.80	1.5	
Zn	66	89	He	4.519	ppb	7.8	784.50	5	
As	75	89	He	0.110	ppb	14.0	29.00	2.5	
Se	78	89	H2	0.040	ppb	94.9	3.50	2.5	
Sr	88	89	He	0.132	ppb	54.9	100.00	2.5	
Mo	95	89	He	0.065	ppb	54.9	57.78	2.5	
Ag	107	89	He	0.008	ppb	112.1	56.67	0.5	
Cd	111	89	He	0.007	ppb	70.3	1.85	0.5	
Sn	118	159	He	29.742	ppb	5.9	16793.25	2.5	PB 6020 Fails DoD□ PB 6020 Fails Non-DoD
Sb	121	159	No Gas	0.029	ppb	27.9	260.29	0.5	
Ba	137	159	No Gas	0.124	ppb	43.6	290.33	1	
W	182	159	No Gas	0.027	ppb	9.2	206.90	2.5	
Tl	205	209	No Gas	0.008	ppb	144.8	293.67	0.5	
Pb	208	209	No Gas	0.274	ppb	4.4	5653.55	0.5	
Th	232	209	No Gas	0.085	ppb	11.0	1111.31	2.5	
U	238	209	No Gas	0.006	ppb	30.4	60.07	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6356677.18	1.9	6947791.61	91.49	29.5	120.4	
Sc	45	No Gas	10030942.26	3.6	11828674.09	84.8	29.5	120.4	
Sc	45	H2	1332656.49	0.4	1511145.3	88.19	29.5	120.4	
Sc	45	He	329769.12	4.5	392815.69	83.95	29.5	120.4	
Ge	72	No Gas	2066198.68	2.4	2346521.52	88.05	29.5	120.4	
Ge	72	H2	434239.62	0.5	505748.89	85.86	29.5	120.4	
Ge	72	He	206259.97	2.8	240647.81	85.71	29.5	120.4	
Y	89	H2	7547218.46	0.6	8216492.56	91.85	29.5	120.4	
Y	89	He	1753324.83	3.9	2023870.27	86.63	29.5	120.4	
Tb	159	No Gas	20990493.44	3.6	21789053.29	96.34	29.5	120.4	
Tb	159	He	7982279.26	4.2	8552940.43	93.33	29.5	120.4	
Bi	209	No Gas	10965765.48	2.8	10957550.08	100.07	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	LCSONL24IMS1
File Name	060LCSO.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:41:46
Sample Type	LCSO
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	49.179	ppb	2.0	65766.68	50	19.67	79.5	120.4	
B	11	6	No Gas	477.247	ppb	0.7	418374.91	500	19.09	79.5	120.4	
Na	23	45	He	7819.401	ppb	2.4	877921.72	7500	20.85	79.5	120.4	
Mg	24	45	He	5251.109	ppb	1.9	320964.68	5000	21	79.5	120.4	
Al	27	45	He	2063.982	ppb	1.9	47567.77	2000	20.64	79.5	120.4	
Si	28	45	H2	928.324	ppb	4.2	37825.51	1000	18.57	79.5	120.4	
K	39	45	He	10202.974	ppb	2.1	530607.43	10000	20.41	79.5	120.4	
Ca	40	45	H2	2596.559	ppb	1.8	886900.65	2500	20.77	79.5	120.4	
V	51	89	He	494.774	ppb	2.2	389473.97	500	19.79	79.5	120.4	
Cr	52	89	He	204.259	ppb	2.0	206651.16	200	20.43	79.5	120.4	
Mn	55	89	He	505.260	ppb	2.2	234908.56	500	20.21	79.5	120.4	
Fe	56	89	H2	1003.333	ppb	0.8	1275341.86	1000	20.07	79.5	120.4	
Co	59	89	He	516.083	ppb	2.0	825953.02	500	20.64	79.5	120.4	
Ni	60	89	He	517.189	ppb	1.6	229579.99	500	20.69	79.5	120.4	
Cu	63	89	He	258.433	ppb	2.3	310253.54	250	20.67	79.5	120.4	
Zn	66	89	He	508.160	ppb	3.0	80133.66	500	20.33	79.5	120.4	
As	75	89	He	99.487	ppb	2.4	11103.29	100	19.9	79.5	120.4	
Se	78	89	H2	97.581	ppb	1.4	5061.86	100	19.52	79.5	120.4	
Sr	88	89	He	482.588	ppb	2.0	275986.96	500	19.3	79.5	120.4	
Mo	95	89	He	103.231	ppb	2.4	64529.60	100	20.65	79.5	120.4	
Ag	107	89	He	53.273	ppb	1.5	108159.36	50	21.31	79.5	120.4	
Cd	111	89	He	257.283	ppb	1.9	66799.07	250	20.58	79.5	120.4	
Sn	118	159	He	503.931	ppb	2.6	280928.62	500	20.16	79.5	120.4	
Sb	121	159	No Gas	100.939	ppb	0.2	394894.77	100	20.19	79.5	120.4	
Ba	137	159	No Gas	1998.501	ppb	0.8	3036301.11	2000	19.98	79.5	120.4	
W	182	159	No Gas	104.525	ppb	2.0	357227.54	100	20.9	79.5	120.4	
Tl	205	209	No Gas	104.513	ppb	1.2	725711.61	100	20.9	79.5	120.4	
[Pb]	206	209	No Gas	102.094	ppb	0.4	255931.82	100	20.42	79.5	120.4	
[Pb]	207	209	No Gas	103.063	ppb	1.0	222898.52	100	20.61	79.5	120.4	
Pb	208	209	No Gas	104.131	ppb	0.8	1018771.75	100	20.83	79.5	120.4	
Th	232	209	No Gas	103.497	ppb	1.3	999102.52	100	20.7	79.5	120.4	
U	238	209	No Gas	103.839	ppb	1.2	979210.28	100	20.77	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6405679.67	2.0	6947791.61	92.2	29.5	120.4	
Sc	45	No Gas	9877018.23	2.4	11828674.09	83.5	29.5	120.4	
Sc	45	H2	1290252.20	1.1	1511145.3	85.38	29.5	120.4	
Sc	45	He	329648.90	1.7	392815.69	83.92	29.5	120.4	
Ge	72	No Gas	2036069.83	2.5	2346521.52	86.77	29.5	120.4	
Ge	72	H2	419966.75	0.7	505748.89	83.04	29.5	120.4	
Ge	72	He	205216.67	0.9	240647.81	85.28	29.5	120.4	
Y	89	H2	7326879.43	0.7	8216492.56	89.17	29.5	120.4	
Y	89	He	1747722.00	1.2	2023870.27	86.36	29.5	120.4	
Tb	159	No Gas	20854875.52	2.4	21789053.29	95.71	29.5	120.4	
Tb	159	He	7976508.01	1.6	8552940.43	93.26	29.5	120.4	
Bi	209	No Gas	10931205.61	2.4	10957550.08	99.76	29.5	120.4	

Sample Report

Sample Name	TN0414-001
File Name	061SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:44:21
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	5.443	ppb	11.0	7013.06	100	
11	B	6	No Gas	701.912	ppb	7.9	592239.99	1000	
23	Na	45	He	14568.689	ppb	1.0	1664563.42	200000	
24	Mg	45	He	83304.843	ppb	0.6	5202126.90	200000	
27	Al	45	He	193949.724	ppb	0.5	4563581.74	200000	
28	Si	45	H2	2394.156	ppb	0.9	97151.01	10000	
39	K	45	He	166600.018	ppb	0.5	8624048.73	200000	
40	Ca	45	H2	589173.694	ppb	0.3	201512159.22	200000	
51	V	89	He	346.767	ppb	1.2	282332.26	1000	
52	Cr	89	He	349.205	ppb	0.7	364830.36	2000	
55	Mn	89	He	35170.871	ppb	0.5	16900007.44	2000	>LDR
56	Fe	89	H2	150303.678	ppb	1.0	187642931.32	100000	
59	Co	89	He	68.346	ppb	0.6	113105.49	1000	
60	Ni	89	He	235.271	ppb	0.7	107993.90	1000	
63	Cu	89	He	317.264	ppb	0.9	393756.08	2000	
66	Zn	89	He	4644.285	ppb	0.5	756637.54	2000	
75	As	89	He	84.089	ppb	0.4	9706.44	1000	
78	Se	89	H2	1.912	ppb	5.5	101.33	1000	
88	Sr	89	He	2598.263	ppb	0.5	1536233.17	2000	
95	Mo	89	He	12.924	ppb	2.9	8369.53	1000	
107	Ag	89	He	1.770	ppb	2.1	3756.22	100	
111	Cd	89	He	26.364	ppb	0.9	7077.47	1000	
118	Sn	159	He	48.059	ppb	0.9	26839.75	1000	
121	Sb	159	No Gas	1.175	ppb	6.1	4826.26	1000	
137	Ba	159	No Gas	7115.438	ppb	7.7	11001265.46	2000	
182	W	159	No Gas	7.503	ppb	8.8	26205.89	1000	
205	Tl	209	No Gas	5.422	ppb	5.4	37138.77	1000	
208	Pb	209	No Gas	111.447	ppb	7.4	1068505.77	2000	
232	Th	209	No Gas	19.709	ppb	8.9	186682.08	1000	
238	U	209	No Gas	4.429	ppb	6.7	40949.57	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6176492.37	2.7	6947791.61	88.9	29.5	120.4	
Sc	45	No Gas	10318435.78	1.6	11828674.09	87.23	29.5	120.4	
Sc	45	H2	1296463.42	1.6	1511145.3	85.79	29.5	120.4	
Sc	45	He	336795.61	1.5	392815.69	85.74	29.5	120.4	
Ge	72	No Gas	2049906.96	2.9	2346521.52	87.36	29.5	120.4	
Ge	72	H2	408305.24	1.0	505748.89	80.73	29.5	120.4	
Ge	72	He	202766.48	1.1	240647.81	84.26	29.5	120.4	
Y	89	H2	7387102.36	1.2	8216492.56	89.91	29.5	120.4	
Y	89	He	1806762.32	1.0	2023870.27	89.27	29.5	120.4	
Tb	159	No Gas	21240671.21	1.9	21789053.29	97.48	29.5	120.4	
Tb	159	He	7925428.15	0.0	8552940.43	92.66	29.5	120.4	
Bi	209	No Gas	10726743.55	2.6	10957550.08	97.89	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	062SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:47:02
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.002	ppb	17.0	18.89	100	
11	B	6	No Gas	1.346	ppb	10.4	6489.46	1000	
23	Na	45	He	2.930	ppb	20.2	9854.40	200000	
24	Mg	45	He	2.170	ppb	21.3	751.19	200000	
27	Al	45	He	4.355	ppb	13.4	562.25	200000	
28	Si	45	H2	-0.554	ppb	N/A	487.21	10000	
39	K	45	He	11.828	ppb	0.4	18236.77	200000	
40	Ca	45	H2	14.693	ppb	6.6	29966.04	200000	
51	V	89	He	-0.031	ppb	N/A	227.79	1000	
52	Cr	89	He	-0.001	ppb	N/A	629.90	2000	
55	Mn	89	He	0.754	ppb	6.4	1916.45	2000	
56	Fe	89	H2	4.879	ppb	7.8	66799.53	100000	
59	Co	89	He	0.009	ppb	39.4	91.12	1000	
60	Ni	89	He	0.011	ppb	59.8	60.00	1000	
63	Cu	89	He	0.069	ppb	8.9	664.49	2000	
66	Zn	89	He	0.135	ppb	34.0	183.34	2000	
75	As	89	He	-0.004	ppb	N/A	15.00	1000	
78	Se	89	H2	0.006	ppb	93.7	3.00	1000	
88	Sr	89	He	0.066	ppb	20.6	220.01	2000	
95	Mo	89	He	0.015	ppb	40.4	67.78	1000	
107	Ag	89	He	0.003	ppb	72.2	73.34	100	
111	Cd	89	He	0.002	ppb	1.1	2.22	1000	
118	Sn	159	He	0.043	ppb	24.0	362.24	1000	
121	Sb	159	No Gas	0.002	ppb	90.0	186.88	1000	
137	Ba	159	No Gas	0.975	ppb	59.6	7751.61	2000	
182	W	159	No Gas	0.004	ppb	65.2	193.55	1000	
205	Tl	209	No Gas	0.001	ppb	246.8	263.63	1000	
208	Pb	209	No Gas	0.008	ppb	104.3	3383.98	2000	
232	Th	209	No Gas	0.025	ppb	11.8	1528.47	1000	
238	U	209	No Gas	0.002	ppb	26.3	83.43	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6408345.15	1.9	6947791.61	92.24	29.5	120.4	
Sc	45	No Gas	10357509.33	1.0	11828674.09	87.56	29.5	120.4	
Sc	45	H2	1370781.19	0.6	1511145.3	90.71	29.5	120.4	
Sc	45	He	340714.70	1.1	392815.69	86.74	29.5	120.4	
Ge	72	No Gas	2132320.63	1.6	2346521.52	90.87	29.5	120.4	
Ge	72	H2	456088.51	0.8	505748.89	90.18	29.5	120.4	
Ge	72	He	213766.57	1.0	240647.81	88.83	29.5	120.4	
Y	89	H2	7714140.80	0.6	8216492.56	93.89	29.5	120.4	
Y	89	He	1807552.06	1.1	2023870.27	89.31	29.5	120.4	
Tb	159	No Gas	21437654.40	1.4	21789053.29	98.39	29.5	120.4	
Tb	159	He	8129515.16	1.8	8552940.43	95.05	29.5	120.4	
Bi	209	No Gas	11081751.78	1.2	10957550.08	101.13	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBWNL24IMW1
File Name	063_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:49:38
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.015	ppb	21.4	27.78	0.5	
B	11	6	No Gas	3.466	ppb	7.8	3484.99	10	
Na	23	45	He	36.044	ppb	8.0	12138.62	500	
Mg	24	45	He	22.271	ppb	2.5	1451.30	50	
Al	27	45	He	21.551	ppb	3.8	548.92	50	
Si	28	45	H2	10.685	ppb	35.1	1004.49	250	
K	39	45	He	46.354	ppb	40.9	17302.76	500	
Ca	40	45	H2	103.811	ppb	7.7	38808.14	50	PB 6020 Fails DoD□ PB 6020 Fails Non-DoD
V	51	89	He	0.169	ppb	30.5	480.02	2.5	
Cr	52	89	He	0.472	ppb	13.0	1104.52	2.5	
Mn	55	89	He	2.438	ppb	11.1	1247.17	1	PB 6020 Fails DoD□ PB 6020 Fails Non-DoD
Fe	56	89	H2	24.063	ppb	7.3	63414.26	50	
Co	59	89	He	0.053	ppb	36.8	100.01	0.5	
Ni	60	89	He	0.174	ppb	43.8	111.12	1	
Cu	63	89	He	0.918	ppb	8.1	1350.12	1.5	
Zn	66	89	He	1.739	ppb	19.0	348.91	5	
As	75	89	He	0.047	ppb	75.6	22.33	2.5	
Se	78	89	H2	0.029	ppb	21.2	2.83	2.5	
Sr	88	89	He	0.335	ppb	22.5	218.90	2.5	
Mo	95	89	He	0.159	ppb	25.0	117.78	2.5	
Ag	107	89	He	0.014	ppb	86.7	68.89	0.5	
Cd	111	89	He	0.051	ppb	20.7	13.33	0.5	
Sn	118	159	He	0.422	ppb	29.1	473.36	2.5	
Sb	121	159	No Gas	0.039	ppb	18.7	290.33	0.5	
Ba	137	159	No Gas	2.338	ppb	7.7	3564.47	1	PB 6020 Fails DoD□ PB 6020 Fails Non-DoD
W	182	159	No Gas	0.035	ppb	63.6	226.92	2.5	
Tl	205	209	No Gas	0.014	ppb	110.7	327.04	0.5	
Pb	208	209	No Gas	0.125	ppb	17.6	4051.47	0.5	
Th	232	209	No Gas	0.173	ppb	11.7	1898.98	2.5	
U	238	209	No Gas	0.013	ppb	31.6	120.14	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6173430.40	3.9	6947791.61	88.85	29.5	120.4	
Sc	45	No Gas	9766139.75	6.3	11828674.09	82.56	29.5	120.4	
Sc	45	H2	1298869.47	1.4	1511145.3	85.95	29.5	120.4	
Sc	45	He	335990.72	3.8	392815.69	85.53	29.5	120.4	
Ge	72	No Gas	2036091.55	4.3	2346521.52	86.77	29.5	120.4	
Ge	72	H2	432079.28	1.8	505748.89	85.43	29.5	120.4	
Ge	72	He	209039.62	2.5	240647.81	86.87	29.5	120.4	
Y	89	H2	7368630.92	1.1	8216492.56	89.68	29.5	120.4	
Y	89	He	1773351.80	4.0	2023870.27	87.62	29.5	120.4	
Tb	159	No Gas	20399529.98	6.3	21789053.29	93.62	29.5	120.4	
Tb	159	He	8039613.98	3.5	8552940.43	94	29.5	120.4	
Bi	209	No Gas	10601875.88	4.9	10957550.08	96.75	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	LCSWNL24IMW1
File Name	064LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:52:11
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	50.111	ppb	3.8	68674.53	50	20.04	79.5	120.4	
B	11	6	No Gas	476.188	ppb	4.3	427728.64	500	19.05	79.5	120.4	
Na	23	45	He	8070.402	ppb	6.8	927157.68	7500	21.52	79.5	120.4	
Mg	24	45	He	5401.302	ppb	7.1	337843.16	5000	21.61	79.5	120.4	
Al	27	45	He	2371.101	ppb	7.4	55907.82	2000	23.71	79.5	120.4	DoD
Si	28	45	H2	987.636	ppb	2.3	40954.10	1000	19.75	0	200	
K	39	45	He	10644.822	ppb	6.6	565984.63	10000	21.29	79.5	120.4	
Ca	40	45	H2	2639.567	ppb	1.9	918262.62	2500	21.12	79.5	120.4	
V	51	89	He	518.293	ppb	6.5	416943.32	500	20.73	79.5	120.4	
Cr	52	89	He	211.704	ppb	6.9	218841.17	200	21.17	79.5	120.4	
Mn	55	89	He	528.809	ppb	6.9	251226.31	500	21.15	79.5	120.4	
Fe	56	89	H2	1065.828	ppb	2.3	1363059.85	1000	21.32	79.5	120.4	
Co	59	89	He	535.654	ppb	7.1	875957.42	500	21.43	79.5	120.4	
Ni	60	89	He	535.156	ppb	6.7	242744.96	500	21.41	79.5	120.4	
Cu	63	89	He	267.532	ppb	7.0	328174.52	250	21.4	79.5	120.4	
Zn	66	89	He	552.135	ppb	7.0	88963.35	500	22.09	79.5	120.4	
As	75	89	He	104.045	ppb	7.5	11862.68	100	20.81	79.5	120.4	
Se	78	89	H2	103.871	ppb	2.9	5429.15	100	20.77	79.5	120.4	
Sr	88	89	He	502.297	ppb	7.4	293485.21	500	20.09	79.5	120.4	
Mo	95	89	He	107.671	ppb	6.6	68782.49	100	21.53	79.5	120.4	
Ag	107	89	He	55.025	ppb	6.5	114169.36	50	22.01	79.5	120.4	
Cd	111	89	He	267.297	ppb	6.5	70923.82	250	21.38	79.5	120.4	
Sn	118	159	He	494.777	ppb	8.1	279794.79	500	19.79	79.5	120.4	
Sb	121	159	No Gas	103.515	ppb	3.0	412454.87	100	20.7	79.5	120.4	
Ba	137	159	No Gas	2033.938	ppb	2.6	3147641.18	2000	20.34	79.5	120.4	
W	182	159	No Gas	104.240	ppb	3.2	362932.24	100	20.85	79.5	120.4	
Tl	205	209	No Gas	106.183	ppb	3.1	743935.14	100	21.24	79.5	120.4	
[Pb]	206	209	No Gas	103.800	ppb	3.0	262514.67	100	20.76	79.5	120.4	
[Pb]	207	209	No Gas	104.790	ppb	3.3	228644.72	100	20.96	79.5	120.4	
Pb	208	209	No Gas	106.076	ppb	2.9	1046985.39	100	21.22	79.5	120.4	
Th	232	209	No Gas	105.215	ppb	3.1	1024819.42	100	21.04	79.5	120.4	
U	238	209	No Gas	104.488	ppb	3.2	994168.88	100	20.9	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6567105.00	2.3	6947791.61	94.52	29.5	120.4	
Sc	45	No Gas	10196650.56	1.7	11828674.09	86.2	29.5	120.4	
Sc	45	H2	1314214.55	1.7	1511145.3	86.97	29.5	120.4	
Sc	45	He	338113.17	5.3	392815.69	86.07	29.5	120.4	
Ge	72	No Gas	2111310.12	1.8	2346521.52	89.98	29.5	120.4	
Ge	72	H2	430182.01	1.4	505748.89	85.06	29.5	120.4	
Ge	72	He	210707.63	2.8	240647.81	87.56	29.5	120.4	
Y	89	H2	7384403.42	1.8	8216492.56	89.87	29.5	120.4	
Y	89	He	1789908.27	5.2	2023870.27	88.44	29.5	120.4	
Tb	159	No Gas	21243993.02	1.0	21789053.29	97.5	29.5	120.4	
Tb	159	He	8114585.92	5.9	8552940.43	94.87	29.5	120.4	
Bi	209	No Gas	11030247.05	1.4	10957550.08	100.66	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	065_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:54:47
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	23.075	ppb	5.7	155973.53	25	92.3	89.8	110.2	
11	B	6	No Gas	23.804	ppb	5.4	105915.57	25	95.22	89.8	110.2	
23	Na	45	He	5035.304	ppb	0.4	2955788.26	5000	100.71	89.8	110.2	
24	Mg	45	He	5036.530	ppb	0.3	1619229.49	5000	100.73	89.8	110.2	
27	Al	45	He	488.302	ppb	1.5	59194.51	500	97.66	89.8	110.2	
28	Si	45	H2	472.555	ppb	0.4	99331.09	500	94.51	89.8	110.2	
39	K	45	He	4935.346	ppb	0.4	1328353.91	5000	98.71	89.8	110.2	
40	Ca	45	H2	4952.270	ppb	0.7	8776311.88	5000	99.05	89.8	110.2	
51	V	89	He	24.388	ppb	0.9	100651.94	25	97.55	89.8	110.2	
52	Cr	89	He	24.526	ppb	0.7	130000.15	25	98.1	89.8	110.2	
55	Mn	89	He	24.697	ppb	0.3	60120.26	25	98.79	89.8	110.2	
56	Fe	89	H2	4941.182	ppb	1.1	31472981.04	5000	98.82	89.8	110.2	
59	Co	89	He	24.552	ppb	1.2	205474.67	25	98.21	89.8	110.2	
60	Ni	89	He	24.608	ppb	0.9	57141.05	25	98.43	89.8	110.2	
63	Cu	89	He	24.678	ppb	0.1	155049.14	25	98.71	89.8	110.2	
66	Zn	89	He	25.193	ppb	0.6	20830.61	25	100.77	89.8	110.2	
75	As	89	He	24.539	ppb	0.9	14316.57	25	98.16	89.8	110.2	
78	Se	89	H2	24.510	ppb	0.3	6534.57	25	98.04	89.8	110.2	
88	Sr	89	He	24.106	ppb	0.8	72108.36	25	96.42	89.8	110.2	
95	Mo	89	He	25.253	ppb	0.5	82543.52	25	101.01	89.8	110.2	
107	Ag	89	He	25.662	ppb	0.7	272373.51	25	102.65	89.8	110.2	
111	Cd	89	He	25.448	ppb	0.8	34549.95	25	101.79	89.8	110.2	
118	Sn	159	He	23.977	ppb	0.4	68712.47	25	95.91	89.8	110.2	
121	Sb	159	No Gas	23.836	ppb	5.1	474830.56	25	95.34	89.8	110.2	
137	Ba	159	No Gas	24.017	ppb	4.6	185922.28	25	96.07	89.8	110.2	
182	W	159	No Gas	23.885	ppb	4.8	415777.49	25	95.54	89.8	110.2	
205	Tl	209	No Gas	24.776	ppb	5.3	856669.75	25	99.1	89.8	110.2	
208	Pb	209	No Gas	24.513	ppb	4.9	1193629.45	25	98.05	89.8	110.2	
232	Th	209	No Gas	24.185	ppb	5.0	1162604.79	25	96.74	89.8	110.2	
238	U	209	No Gas	23.932	ppb	5.7	1123846.52	25	95.73	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6476261.71	0.8	6947791.61	93.21	29.5	120.4	
Sc	45	No Gas	10417750.51	0.6	11828674.09	88.07	29.5	120.4	
Sc	45	H2	1343120.59	1.0	1511145.3	88.88	29.5	120.4	
Sc	45	He	346756.82	0.5	392815.69	88.27	29.5	120.4	
Ge	72	No Gas	2139705.07	1.0	2346521.52	91.19	29.5	120.4	
Ge	72	H2	444105.10	0.9	505748.89	87.81	29.5	120.4	
Ge	72	He	217303.91	0.5	240647.81	90.3	29.5	120.4	
Y	89	H2	7531687.31	1.1	8216492.56	91.67	29.5	120.4	
Y	89	He	1827495.25	0.7	2023870.27	90.3	29.5	120.4	
Tb	159	No Gas	21237104.96	0.3	21789053.29	97.47	29.5	120.4	
Tb	159	He	8176485.44	0.2	8552940.43	95.6	29.5	120.4	
Bi	209	No Gas	10885279.48	0.0	10957550.08	99.34	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	066_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:57:18
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.026	ppb	61.1	187.79	0.2	
11	B	6	No Gas	0.624	ppb	6.1	3382.73	4	
23	Na	45	He	1.717	ppb	42.0	9390.18	200	
24	Mg	45	He	0.824	ppb	37.2	333.36	20	
27	Al	45	He	0.438	ppb	41.0	97.78	20	
28	Si	45	H2	-0.335	ppb	N/A	533.94	100	
39	K	45	He	7.214	ppb	15.1	17467.72	200	
40	Ca	45	H2	1.034	ppb	29.8	5275.66	20	
51	V	89	He	-0.029	ppb	N/A	240.01	1	
52	Cr	89	He	-0.008	ppb	N/A	605.91	1	
55	Mn	89	He	0.052	ppb	65.4	231.30	0.4	
56	Fe	89	H2	0.932	ppb	15.6	41320.29	20	
59	Co	89	He	0.007	ppb	106.0	68.89	0.2	
60	Ni	89	He	0.005	ppb	95.6	45.56	0.4	
63	Cu	89	He	0.032	ppb	20.8	445.58	0.6	
66	Zn	89	He	0.006	ppb	289.6	80.00	2	
75	As	89	He	-0.006	ppb	N/A	14.00	1	
78	Se	89	H2	0.015	ppb	60.6	5.50	1	
88	Sr	89	He	0.006	ppb	83.9	41.12	1	
95	Mo	89	He	0.068	ppb	24.2	243.34	1	
107	Ag	89	He	0.004	ppb	18.8	88.89	0.2	
111	Cd	89	He	0.002	ppb	65.9	3.33	0.2	
118	Sn	159	He	0.079	ppb	12.3	471.14	1	
121	Sb	159	No Gas	0.038	ppb	31.8	907.71	0.2	
137	Ba	159	No Gas	0.035	ppb	23.2	373.76	0.4	
182	W	159	No Gas	0.101	ppb	11.5	1878.91	1	
205	Tl	209	No Gas	0.040	ppb	48.9	1621.95	0.2	
208	Pb	209	No Gas	0.014	ppb	65.1	3637.63	0.2	
232	Th	209	No Gas	0.118	ppb	8.5	5968.16	1	
238	U	209	No Gas	0.040	ppb	44.8	1872.28	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6529579.40	1.4	6947791.61	93.98	29.5	120.4	
Sc	45	No Gas	10414249.51	0.6	11828674.09	88.04	29.5	120.4	
Sc	45	H2	1371056.01	0.6	1511145.3	90.73	29.5	120.4	
Sc	45	He	349477.45	1.5	392815.69	88.97	29.5	120.4	
Ge	72	No Gas	2135859.58	0.9	2346521.52	91.02	29.5	120.4	
Ge	72	H2	462789.30	0.6	505748.89	91.51	29.5	120.4	
Ge	72	He	219236.52	1.2	240647.81	91.1	29.5	120.4	
Y	89	H2	7759068.22	0.5	8216492.56	94.43	29.5	120.4	
Y	89	He	1846680.82	2.2	2023870.27	91.25	29.5	120.4	
Tb	159	No Gas	21223023.16	0.9	21789053.29	97.4	29.5	120.4	
Tb	159	He	8227095.85	1.8	8552940.43	96.19	29.5	120.4	
Bi	209	No Gas	10879034.69	1.0	10957550.08	99.28	29.5	120.4	

Sample Report

Sample Name	TN0373-015
File Name	067SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 14:59:57
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.009	ppb	28.6	20.00	100	
11	B	6	No Gas	2.666	ppb	3.7	2961.51	1000	
23	Na	45	He	25.696	ppb	0.4	11203.44	200000	
24	Mg	45	He	23.905	ppb	4.2	1586.88	200000	
27	Al	45	He	16.068	ppb	12.0	428.91	200000	
28	Si	45	H2	9.683	ppb	27.1	991.15	10000	
39	K	45	He	38.766	ppb	25.0	17286.04	200000	
40	Ca	45	H2	19.628	ppb	1.3	10229.59	200000	
51	V	89	He	0.116	ppb	104.0	452.25	1000	
52	Cr	89	He	0.259	ppb	5.2	914.53	2000	
55	Mn	89	He	0.962	ppb	23.8	571.24	2000	
56	Fe	89	H2	4.430	ppb	14.2	39844.77	100000	
59	Co	89	He	0.039	ppb	56.4	80.00	1000	
60	Ni	89	He	0.116	ppb	21.7	87.78	1000	
63	Cu	89	He	0.649	ppb	4.0	1053.41	2000	
66	Zn	89	He	0.960	ppb	13.1	232.23	2000	
75	As	89	He	0.011	ppb	120.7	18.67	1000	
78	Se	89	H2	0.062	ppb	32.1	4.67	1000	
88	Sr	89	He	0.142	ppb	53.9	108.89	2000	
95	Mo	89	He	0.152	ppb	40.2	117.78	1000	
107	Ag	89	He	0.010	ppb	25.1	63.34	100	
111	Cd	89	He	0.050	ppb	46.0	13.71	1000	
118	Sn	159	He	0.522	ppb	12.3	541.14	1000	
121	Sb	159	No Gas	0.027	ppb	23.7	250.28	1000	
137	Ba	159	No Gas	0.161	ppb	24.6	347.06	2000	
182	W	159	No Gas	0.074	ppb	23.4	367.08	1000	
205	Tl	209	No Gas	0.015	ppb	64.2	343.72	1000	
208	Pb	209	No Gas	0.080	ppb	36.6	3724.39	2000	
232	Th	209	No Gas	0.473	ppb	5.5	4829.70	1000	
238	U	209	No Gas	0.011	ppb	24.0	110.12	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6493179.72	0.2	6947791.61	93.46	29.5	120.4	
Sc	45	No Gas	10211391.34	1.3	11828674.09	86.33	29.5	120.4	
Sc	45	H2	1334959.39	1.2	1511145.3	88.34	29.5	120.4	
Sc	45	He	343041.92	0.9	392815.69	87.33	29.5	120.4	
Ge	72	No Gas	2100047.27	0.6	2346521.52	89.5	29.5	120.4	
Ge	72	H2	435301.58	1.2	505748.89	86.07	29.5	120.4	
Ge	72	He	212886.50	0.8	240647.81	88.46	29.5	120.4	
Y	89	H2	7537413.08	1.0	8216492.56	91.74	29.5	120.4	
Y	89	He	1825294.68	1.4	2023870.27	90.19	29.5	120.4	
Tb	159	No Gas	21053110.94	1.6	21789053.29	96.62	29.5	120.4	
Tb	159	He	8194883.84	0.7	8552940.43	95.81	29.5	120.4	
Bi	209	No Gas	10882752.99	1.0	10957550.08	99.32	29.5	120.4	

Sample Report

Sample Name	TN0373-016
File Name	068SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:02:28
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.012	ppb	60.3	24.44	100	
11	B	6	No Gas	1.979	ppb	3.9	2372.50	1000	
23	Na	45	He	24.997	ppb	26.6	10876.17	200000	
24	Mg	45	He	22.026	ppb	4.6	1435.73	200000	
27	Al	45	He	13.397	ppb	8.5	357.79	200000	
28	Si	45	H2	12.678	ppb	30.2	1107.94	10000	
39	K	45	He	49.624	ppb	19.6	17479.58	200000	
40	Ca	45	H2	32.655	ppb	4.2	14730.35	200000	
51	V	89	He	0.196	ppb	41.4	504.47	1000	
52	Cr	89	He	0.245	ppb	15.0	879.87	2000	
55	Mn	89	He	0.697	ppb	10.6	431.26	2000	
56	Fe	89	H2	5.210	ppb	9.3	40868.47	100000	
59	Co	89	He	0.052	ppb	22.3	97.79	1000	
60	Ni	89	He	0.130	ppb	41.6	92.22	1000	
63	Cu	89	He	0.599	ppb	13.9	967.85	2000	
66	Zn	89	He	1.100	ppb	17.4	248.90	2000	
75	As	89	He	0.026	ppb	83.9	20.00	1000	
78	Se	89	H2	0.062	ppb	6.1	4.67	1000	
88	Sr	89	He	0.129	ppb	14.0	98.89	2000	
95	Mo	89	He	0.084	ppb	20.4	71.12	1000	
107	Ag	89	He	0.019	ppb	41.5	81.11	100	
111	Cd	89	He	0.038	ppb	31.8	10.00	1000	
118	Sn	159	He	0.640	ppb	9.5	600.04	1000	
121	Sb	159	No Gas	0.038	ppb	52.8	300.34	1000	
137	Ba	159	No Gas	0.382	ppb	9.9	700.80	2000	
182	W	159	No Gas	0.037	ppb	14.2	246.95	1000	
205	Tl	209	No Gas	0.009	ppb	107.7	310.35	1000	
208	Pb	209	No Gas	0.078	ppb	31.2	3777.78	2000	
232	Th	209	No Gas	0.191	ppb	6.2	2169.31	1000	
238	U	209	No Gas	0.019	ppb	39.2	183.54	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6550178.65	1.2	6947791.61	94.28	29.5	120.4	
Sc	45	No Gas	10423752.13	2.5	11828674.09	88.12	29.5	120.4	
Sc	45	H2	1327815.99	2.6	1511145.3	87.87	29.5	120.4	
Sc	45	He	335978.70	3.9	392815.69	85.53	29.5	120.4	
Ge	72	No Gas	2118493.11	1.5	2346521.52	90.28	29.5	120.4	
Ge	72	H2	438306.19	1.8	505748.89	86.66	29.5	120.4	
Ge	72	He	208813.25	2.9	240647.81	86.77	29.5	120.4	
Y	89	H2	7543734.56	2.6	8216492.56	91.81	29.5	120.4	
Y	89	He	1786464.66	4.0	2023870.27	88.27	29.5	120.4	
Tb	159	No Gas	21514577.46	2.7	21789053.29	98.74	29.5	120.4	
Tb	159	He	8071656.34	3.9	8552940.43	94.37	29.5	120.4	
Bi	209	No Gas	11111757.93	1.9	10957550.08	101.41	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	069SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:05:05
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.001	ppb	61.3	15.55	100	
11	B	6	No Gas	0.188	ppb	11.3	1439.01	1000	
23	Na	45	He	0.716	ppb	73.0	8655.53	200000	
24	Mg	45	He	0.115	ppb	104.8	102.23	200000	
27	Al	45	He	0.127	ppb	92.8	58.89	200000	
28	Si	45	H2	-0.583	ppb	N/A	473.87	10000	
39	K	45	He	6.923	ppb	18.5	17090.91	200000	
40	Ca	45	H2	0.522	ppb	28.5	4287.47	200000	
51	V	89	He	-0.032	ppb	N/A	223.34	1000	
52	Cr	89	He	-0.009	ppb	N/A	591.91	2000	
55	Mn	89	He	0.008	ppb	62.0	123.31	2000	
56	Fe	89	H2	-0.044	ppb	N/A	34326.68	100000	
59	Co	89	He	0.000	ppb	N/A	13.33	1000	
60	Ni	89	He	0.001	ppb	666.6	35.56	1000	
63	Cu	89	He	0.025	ppb	27.8	400.02	2000	
66	Zn	89	He	0.058	ppb	39.9	121.12	2000	
75	As	89	He	-0.012	ppb	N/A	10.33	1000	
78	Se	89	H2	0.003	ppb	38.9	2.17	1000	
88	Sr	89	He	0.002	ppb	281.9	28.89	2000	
95	Mo	89	He	0.011	ppb	19.3	54.45	1000	
107	Ag	89	He	0.002	ppb	110.7	66.67	100	
111	Cd	89	He	0.001	ppb	40.7	1.48	1000	
118	Sn	159	He	0.019	ppb	81.3	294.46	1000	
121	Sb	159	No Gas	0.003	ppb	156.3	200.22	1000	
137	Ba	159	No Gas	0.041	ppb	24.5	420.47	2000	
182	W	159	No Gas	0.003	ppb	130.2	160.18	1000	
205	Tl	209	No Gas	-0.001	ppb	N/A	190.22	1000	
208	Pb	209	No Gas	-0.012	ppb	N/A	2396.10	2000	
232	Th	209	No Gas	0.005	ppb	27.7	553.97	1000	
238	U	209	No Gas	0.002	ppb	41.5	106.79	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6545708.03	4.4	6947791.61	94.21	29.5	120.4	
Sc	45	No Gas	10459930.60	6.9	11828674.09	88.43	29.5	120.4	
Sc	45	H2	1350427.69	0.7	1511145.3	89.36	29.5	120.4	
Sc	45	He	343535.84	2.3	392815.69	87.45	29.5	120.4	
Ge	72	No Gas	2133027.17	4.4	2346521.52	90.9	29.5	120.4	
Ge	72	H2	453807.28	0.7	505748.89	89.73	29.5	120.4	
Ge	72	He	215006.85	0.9	240647.81	89.35	29.5	120.4	
Y	89	H2	7626700.55	0.7	8216492.56	92.82	29.5	120.4	
Y	89	He	1822851.66	2.4	2023870.27	90.07	29.5	120.4	
Tb	159	No Gas	21388748.57	6.8	21789053.29	98.16	29.5	120.4	
Tb	159	He	8147974.12	2.7	8552940.43	95.27	29.5	120.4	
Bi	209	No Gas	10996636.67	5.6	10957550.08	100.36	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	070SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:07:36
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.001	ppb	251.2	12.22	100	
11	B	6	No Gas	0.143	ppb	11.6	1241.21	1000	
23	Na	45	He	1.197	ppb	26.7	8936.02	200000	
24	Mg	45	He	0.246	ppb	55.3	144.46	200000	
27	Al	45	He	0.172	ppb	59.9	64.45	200000	
28	Si	45	H2	-0.704	ppb	N/A	447.17	10000	
39	K	45	He	5.695	ppb	34.9	16775.71	200000	
40	Ca	45	H2	0.443	ppb	17.1	4124.08	200000	
51	V	89	He	-0.031	ppb	N/A	226.68	1000	
52	Cr	89	He	-0.009	ppb	N/A	595.24	2000	
55	Mn	89	He	0.010	ppb	12.6	128.65	2000	
56	Fe	89	H2	-0.126	ppb	N/A	33397.02	100000	
59	Co	89	He	0.001	ppb	73.9	24.45	1000	
60	Ni	89	He	0.001	ppb	441.7	36.67	1000	
63	Cu	89	He	0.023	ppb	35.5	383.35	2000	
66	Zn	89	He	0.011	ppb	194.0	83.34	2000	
75	As	89	He	-0.012	ppb	N/A	10.33	1000	
78	Se	89	H2	-0.001	ppb	N/A	1.17	1000	
88	Sr	89	He	-0.002	ppb	N/A	18.89	2000	
95	Mo	89	He	0.006	ppb	100.9	38.89	1000	
107	Ag	89	He	0.001	ppb	150.3	52.22	100	
111	Cd	89	He	0.001	ppb	91.1	1.85	1000	
118	Sn	159	He	0.019	ppb	71.7	297.79	1000	
121	Sb	159	No Gas	0.001	ppb	93.3	173.53	1000	
137	Ba	159	No Gas	0.010	ppb	68.8	176.87	2000	
182	W	159	No Gas	-0.002	ppb	N/A	86.76	1000	
205	Tl	209	No Gas	-0.002	ppb	N/A	180.21	1000	
208	Pb	209	No Gas	-0.015	ppb	N/A	2232.58	2000	
232	Th	209	No Gas	0.006	ppb	42.8	604.02	1000	
238	U	209	No Gas	0.000	ppb	10043.9	3.34	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6567063.55	2.1	6947791.61	94.52	29.5	120.4	
Sc	45	No Gas	10389554.39	2.5	11828674.09	87.83	29.5	120.4	
Sc	45	H2	1343196.60	1.2	1511145.3	88.89	29.5	120.4	
Sc	45	He	343644.82	0.8	392815.69	87.48	29.5	120.4	
Ge	72	No Gas	2133664.03	1.9	2346521.52	90.93	29.5	120.4	
Ge	72	H2	447628.94	1.4	505748.89	88.51	29.5	120.4	
Ge	72	He	214748.51	1.0	240647.81	89.24	29.5	120.4	
Y	89	H2	7534652.72	1.1	8216492.56	91.7	29.5	120.4	
Y	89	He	1824609.77	1.3	2023870.27	90.15	29.5	120.4	
Tb	159	No Gas	21272523.02	2.2	21789053.29	97.63	29.5	120.4	
Tb	159	He	8185297.59	0.4	8552940.43	95.7	29.5	120.4	
Bi	209	No Gas	10987524.22	2.0	10957550.08	100.27	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBWNL24IMW1
File Name	071_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:10:15
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.019	ppb	20.4	34.44	0.5	
B	11	6	No Gas	1.142	ppb	5.2	1613.48	10	
Na	23	45	He	25.370	ppb	11.4	11103.23	500	
Mg	24	45	He	16.716	ppb	13.3	1124.58	50	
Al	27	45	He	12.583	ppb	13.9	343.35	50	
Si	28	45	H2	10.844	ppb	9.3	1021.18	250	
K	39	45	He	30.173	ppb	24.1	16744.04	500	
Ca	40	45	H2	61.190	ppb	2.3	24415.07	50	PB 6020 Fails DoD
V	51	89	He	0.158	ppb	21.8	480.03	2.5	
Cr	52	89	He	0.412	ppb	11.7	1063.18	2.5	
Mn	55	89	He	0.451	ppb	30.8	317.95	1	
Fe	56	89	H2	12.417	ppb	0.5	49057.06	50	
Co	59	89	He	0.043	ppb	39.7	84.45	0.5	
Ni	60	89	He	0.155	ppb	25.0	104.45	1	
Cu	63	89	He	0.596	ppb	3.0	976.74	1.5	
Zn	66	89	He	1.510	ppb	6.2	318.91	5	
As	75	89	He	0.058	ppb	117.9	24.00	2.5	
Se	78	89	H2	0.035	ppb	42.5	3.17	2.5	
Sr	88	89	He	0.142	ppb	11.8	107.78	2.5	
Mo	95	89	He	0.150	ppb	15.6	114.45	2.5	
Ag	107	89	He	0.018	ppb	54.9	80.00	0.5	
Cd	111	89	He	0.039	ppb	13.6	10.37	0.5	
Sn	118	159	He	0.375	ppb	13.1	455.58	2.5	
Sb	121	159	No Gas	0.037	ppb	51.5	297.00	0.5	
Ba	137	159	No Gas	1.656	ppb	10.2	2683.25	1	PB 6020 Fails DoD
W	182	159	No Gas	-0.003	ppb	N/A	103.45	2.5	
Tl	205	209	No Gas	0.010	ppb	65.0	313.69	0.5	
Pb	208	209	No Gas	0.072	ppb	39.6	3727.73	0.5	
Th	232	209	No Gas	0.083	ppb	21.1	1111.29	2.5	
U	238	209	No Gas	0.007	ppb	45.8	66.74	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6512623.75	1.2	6947791.61	93.74	29.5	120.4	
Sc	45	No Gas	10304348.15	0.2	11828674.09	87.11	29.5	120.4	
Sc	45	H2	1310735.18	0.3	1511145.3	86.74	29.5	120.4	
Sc	45	He	341224.73	1.6	392815.69	86.87	29.5	120.4	
Ge	72	No Gas	2108631.73	1.2	2346521.52	89.86	29.5	120.4	
Ge	72	H2	427743.14	0.9	505748.89	84.58	29.5	120.4	
Ge	72	He	210666.26	0.5	240647.81	87.54	29.5	120.4	
Y	89	H2	7392308.61	0.3	8216492.56	89.97	29.5	120.4	
Y	89	He	1804956.67	1.4	2023870.27	89.18	29.5	120.4	
Tb	159	No Gas	21396857.18	0.6	21789053.29	98.2	29.5	120.4	
Tb	159	He	8168774.74	1.5	8552940.43	95.51	29.5	120.4	
Bi	209	No Gas	11119913.58	0.2	10957550.08	101.48	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	LCSWNL24IMW1
File Name	072LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:12:46
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	47.170	ppb	7.7	64976.62	50	18.87	79.5	120.4	
B	11	6	No Gas	460.403	ppb	6.6	415779.62	500	18.42	79.5	120.4	
Na	23	45	He	8008.038	ppb	0.9	924764.05	7500	21.35	79.5	120.4	
Mg	24	45	He	5358.994	ppb	0.8	336960.63	5000	21.44	79.5	120.4	
Al	27	45	He	2339.908	ppb	0.2	55473.98	2000	23.4	79.5	120.4	
Si	28	45	H2	1021.307	ppb	2.0	41388.53	1000	20.43	0	200	
K	39	45	He	10558.180	ppb	0.5	564342.21	10000	21.12	79.5	120.4	
Ca	40	45	H2	2680.622	ppb	2.4	911243.66	2500	21.44	79.5	120.4	
V	51	89	He	513.292	ppb	0.7	415515.22	500	20.53	79.5	120.4	
Cr	52	89	He	208.525	ppb	0.5	216955.55	200	20.85	79.5	120.4	
Mn	55	89	He	519.708	ppb	0.6	248493.65	500	20.79	79.5	120.4	
Fe	56	89	H2	1074.033	ppb	2.5	1356177.76	1000	21.48	79.5	120.4	
Co	59	89	He	529.897	ppb	0.5	872162.91	500	21.2	79.5	120.4	
Ni	60	89	He	527.411	ppb	0.6	240765.31	500	21.1	79.5	120.4	
Cu	63	89	He	262.535	ppb	0.8	324133.51	250	21	79.5	120.4	
Zn	66	89	He	544.190	ppb	0.1	88253.25	500	21.77	79.5	120.4	
As	75	89	He	102.280	ppb	1.6	11739.89	100	20.46	79.5	120.4	
Se	78	89	H2	105.507	ppb	3.0	5445.99	100	21.1	79.5	120.4	
Sr	88	89	He	498.306	ppb	0.1	293082.55	500	19.93	79.5	120.4	
Mo	95	89	He	105.216	ppb	0.6	67641.19	100	21.04	79.5	120.4	
Ag	107	89	He	54.075	ppb	0.3	112906.30	50	21.63	79.5	120.4	
Cd	111	89	He	263.066	ppb	0.5	70241.67	250	21.05	79.5	120.4	
Sn	118	159	He	487.726	ppb	0.5	277267.28	500	19.51	79.5	120.4	
Sb	121	159	No Gas	97.762	ppb	6.6	391659.12	100	19.55	79.5	120.4	
Ba	137	159	No Gas	1934.931	ppb	7.0	3010431.94	2000	19.35	79.5	120.4	
W	182	159	No Gas	97.348	ppb	7.4	340748.30	100	19.47	79.5	120.4	
Tl	205	209	No Gas	101.808	ppb	6.5	716805.19	100	20.36	79.5	120.4	
[Pb]	206	209	No Gas	99.220	ppb	6.3	252203.51	100	19.84	79.5	120.4	
[Pb]	207	209	No Gas	99.833	ppb	6.2	218942.89	100	19.97	79.5	120.4	
Pb	208	209	No Gas	101.341	ppb	6.2	1005353.20	100	20.27	79.5	120.4	
Th	232	209	No Gas	97.092	ppb	6.8	950354.93	100	19.42	79.5	120.4	
U	238	209	No Gas	99.410	ppb	6.2	950574.25	100	19.88	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6604425.08	2.2	6947791.61	95.06	29.5	120.4	
Sc	45	No Gas	10296978.49	2.4	11828674.09	87.05	29.5	120.4	
Sc	45	H2	1284499.14	2.0	1511145.3	85	29.5	120.4	
Sc	45	He	339060.22	1.2	392815.69	86.32	29.5	120.4	
Ge	72	No Gas	2115163.24	2.2	2346521.52	90.14	29.5	120.4	
Ge	72	H2	424406.66	2.1	505748.89	83.92	29.5	120.4	
Ge	72	He	209699.78	0.6	240647.81	87.14	29.5	120.4	
Y	89	H2	7292942.84	1.9	8216492.56	88.76	29.5	120.4	
Y	89	He	1797148.24	0.9	2023870.27	88.8	29.5	120.4	
Tb	159	No Gas	21377469.68	2.4	21789053.29	98.11	29.5	120.4	
Tb	159	He	8131646.06	0.9	8552940.43	95.07	29.5	120.4	
Bi	209	No Gas	11091468.58	2.1	10957550.08	101.22	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBWNL18IMW2
File Name	073_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:15:22
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.036	ppb	32.5	56.67	0.5	
B	11	6	No Gas	4.853	ppb	4.8	4925.44	10	
Na	23	45	He	17.282	ppb	21.6	9984.59	500	
Mg	24	45	He	12.394	ppb	7.0	833.41	50	
Al	27	45	He	13.340	ppb	9.7	354.46	50	
Si	28	45	H2	16.811	ppb	18.9	1328.21	250	
K	39	45	He	36.142	ppb	12.0	16735.62	500	
Ca	40	45	H2	19.632	ppb	10.7	10542.06	50	
V	51	89	He	0.212	ppb	37.4	514.47	2.5	
Cr	52	89	He	0.242	ppb	18.3	870.54	2.5	
Mn	55	89	He	0.759	ppb	7.1	457.92	1	
Fe	56	89	H2	4.142	ppb	36.5	40778.77	50	
Co	59	89	He	0.074	ppb	8.6	133.34	0.5	
Ni	60	89	He	0.124	ppb	20.2	88.89	1	
Cu	63	89	He	0.529	ppb	12.1	877.84	1.5	
Zn	66	89	He	2.950	ppb	1.1	543.36	5	
As	75	89	He	0.066	ppb	72.8	24.33	2.5	
Se	78	89	H2	0.102	ppb	17.3	7.00	2.5	
Sr	88	89	He	0.113	ppb	15.7	88.89	2.5	
Mo	95	89	He	0.183	ppb	11.5	133.34	2.5	
Ag	107	89	He	0.019	ppb	29.0	80.01	0.5	
Cd	111	89	He	0.041	ppb	31.1	10.74	0.5	
Sn	118	159	He	1.225	ppb	7.7	928.96	2.5	
Sb	121	159	No Gas	0.147	ppb	13.7	740.85	0.5	
Ba	137	159	No Gas	1.206	ppb	5.6	1989.04	1	PB 6020 Fails DoD
W	182	159	No Gas	0.269	ppb	11.7	1061.23	2.5	
Tl	205	209	No Gas	0.095	ppb	27.7	927.73	0.5	
Pb	208	209	No Gas	0.094	ppb	13.1	3981.38	0.5	
Th	232	209	No Gas	1.184	ppb	7.3	12035.87	2.5	
U	238	209	No Gas	0.082	ppb	14.9	800.93	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6519223.21	2.8	6947791.61	93.83	29.5	120.4	
Sc	45	No Gas	10340990.31	2.3	11828674.09	87.42	29.5	120.4	
Sc	45	H2	1380836.00	8.2	1511145.3	91.38	29.5	120.4	
Sc	45	He	334759.35	1.0	392815.69	85.22	29.5	120.4	
Ge	72	No Gas	2116741.02	2.4	2346521.52	90.21	29.5	120.4	
Ge	72	H2	448032.72	5.0	505748.89	88.59	29.5	120.4	
Ge	72	He	208155.52	0.7	240647.81	86.5	29.5	120.4	
Y	89	H2	7804589.94	7.7	8216492.56	94.99	29.5	120.4	
Y	89	He	1772411.55	1.1	2023870.27	87.58	29.5	120.4	
Tb	159	No Gas	21468969.40	2.8	21789053.29	98.53	29.5	120.4	
Tb	159	He	8069691.61	1.6	8552940.43	94.35	29.5	120.4	
Bi	209	No Gas	11223819.67	1.9	10957550.08	102.43	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	LCSWNL18IMW2
File Name	074LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:17:53
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	45.747	ppb	4.9	62496.94	50	18.3	79.5	120.4	
B	11	6	No Gas	454.455	ppb	3.8	406965.28	500	18.18	79.5	120.4	
Na	23	45	He	7877.083	ppb	4.9	894561.91	7500	21.01	79.5	120.4	
Mg	24	45	He	5258.367	ppb	5.4	325049.57	5000	21.03	79.5	120.4	
Al	27	45	He	2059.480	ppb	5.1	48008.22	2000	20.59	79.5	120.4	
Si	28	45	H2	1019.201	ppb	13.6	40167.76	1000	20.38	0	200	
K	39	45	He	10408.889	ppb	4.0	547406.11	10000	20.82	79.5	120.4	
Ca	40	45	H2	2658.991	ppb	12.4	879958.70	2500	21.27	79.5	120.4	
V	51	89	He	498.914	ppb	4.8	398944.58	500	19.96	79.5	120.4	
Cr	52	89	He	203.360	ppb	5.1	208982.14	200	20.34	79.5	120.4	
Mn	55	89	He	504.670	ppb	4.0	238409.01	500	20.19	79.5	120.4	
Fe	56	89	H2	1064.459	ppb	13.2	1303554.99	1000	21.29	79.5	120.4	
Co	59	89	He	513.133	ppb	4.9	834223.11	500	20.53	79.5	120.4	
Ni	60	89	He	510.401	ppb	4.5	230162.47	500	20.42	79.5	120.4	
Cu	63	89	He	255.361	ppb	4.3	311476.58	250	20.43	79.5	120.4	
Zn	66	89	He	506.035	ppb	4.8	81066.68	500	20.24	79.5	120.4	
As	75	89	He	100.288	ppb	4.8	11369.88	100	20.06	79.5	120.4	
Se	78	89	H2	104.525	ppb	12.5	5233.24	100	20.9	79.5	120.4	
Sr	88	89	He	491.268	ppb	4.5	285424.40	500	19.65	79.5	120.4	
Mo	95	89	He	104.450	ppb	6.1	66304.93	100	20.89	79.5	120.4	
Ag	107	89	He	52.372	ppb	4.3	108029.25	50	20.95	79.5	120.4	
Cd	111	89	He	257.940	ppb	4.7	68030.56	250	20.64	79.5	120.4	
Sn	118	159	He	479.026	ppb	4.1	270551.80	500	19.16	79.5	120.4	
Sb	121	159	No Gas	95.036	ppb	2.6	378825.70	100	19.01	79.5	120.4	
Ba	137	159	No Gas	1872.435	ppb	2.8	2898882.11	2000	18.72	79.5	120.4	
W	182	159	No Gas	96.730	ppb	3.1	336967.55	100	19.35	79.5	120.4	
Tl	205	209	No Gas	100.916	ppb	3.4	702621.74	100	20.18	79.5	120.4	
[Pb]	206	209	No Gas	98.555	ppb	3.7	247713.57	100	19.71	79.5	120.4	
[Pb]	207	209	No Gas	99.886	ppb	3.8	216614.13	100	19.98	79.5	120.4	
Pb	208	209	No Gas	99.853	ppb	3.4	979564.52	100	19.97	79.5	120.4	
Th	232	209	No Gas	97.105	ppb	2.7	939898.49	100	19.42	79.5	120.4	
U	238	209	No Gas	98.083	ppb	4.5	927370.18	100	19.62	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6541974.45	0.4	6947791.61	94.16	29.5	120.4	
Sc	45	No Gas	10209103.02	1.9	11828674.09	86.31	29.5	120.4	
Sc	45	H2	1260693.38	10.2	1511145.3	83.43	29.5	120.4	
Sc	45	He	333866.78	4.6	392815.69	84.99	29.5	120.4	
Ge	72	No Gas	2080590.36	0.8	2346521.52	88.67	29.5	120.4	
Ge	72	H2	420256.29	6.5	505748.89	83.1	29.5	120.4	
Ge	72	He	208265.93	2.6	240647.81	86.54	29.5	120.4	
Y	89	H2	7131090.94	10.1	8216492.56	86.79	29.5	120.4	
Y	89	He	1777525.04	4.3	2023870.27	87.83	29.5	120.4	
Tb	159	No Gas	21245832.88	1.8	21789053.29	97.51	29.5	120.4	
Tb	159	He	8088009.53	4.2	8552940.43	94.56	29.5	120.4	
Bi	209	No Gas	10957078.57	1.1	10957550.08	100	29.5	120.4	

Sample Report

Sample Name	TN0267-044
File Name	075SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:20:33
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.039	ppb	69.4	60.00	100	
11	B	6	No Gas	5.726	ppb	14.9	5542.36	1000	
23	Na	45	He	26.278	ppb	9.0	11053.29	200000	
24	Mg	45	He	9.758	ppb	5.5	673.39	200000	
27	Al	45	He	17.989	ppb	6.7	465.58	200000	
28	Si	45	H2	14.896	ppb	32.4	1181.36	10000	
39	K	45	He	31.795	ppb	14.2	16597.22	200000	
40	Ca	45	H2	14.887	ppb	8.2	8388.34	200000	
51	V	89	He	0.273	ppb	18.6	565.59	1000	
52	Cr	89	He	0.238	ppb	3.1	869.87	2000	
55	Mn	89	He	0.228	ppb	21.9	208.63	2000	
56	Fe	89	H2	1.645	ppb	62.6	35812.64	100000	
59	Co	89	He	0.067	ppb	7.8	122.23	1000	
60	Ni	89	He	0.113	ppb	25.8	84.45	1000	
63	Cu	89	He	1.518	ppb	5.5	2089.13	2000	
66	Zn	89	He	1.439	ppb	11.7	303.35	2000	
75	As	89	He	0.041	ppb	7.3	21.67	1000	
78	Se	89	H2	0.089	ppb	23.2	6.00	1000	
88	Sr	89	He	0.103	ppb	32.9	83.34	2000	
95	Mo	89	He	0.182	ppb	31.3	133.34	1000	
107	Ag	89	He	0.013	ppb	15.8	67.78	100	
111	Cd	89	He	0.045	ppb	52.6	11.85	1000	
118	Sn	159	He	0.974	ppb	3.5	791.17	1000	
121	Sb	159	No Gas	0.146	ppb	29.2	710.82	1000	
137	Ba	159	No Gas	1.470	ppb	46.7	2309.47	2000	
182	W	159	No Gas	0.287	ppb	12.7	1087.93	1000	
205	Tl	209	No Gas	0.127	ppb	52.4	1101.29	1000	
208	Pb	209	No Gas	0.153	ppb	31.7	4398.58	2000	
232	Th	209	No Gas	2.260	ppb	25.0	21790.91	1000	
238	U	209	No Gas	0.142	ppb	49.6	1318.24	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6346491.11	1.9	6947791.61	91.35	29.5	120.4	
Sc	45	No Gas	10011872.56	2.8	11828674.09	84.64	29.5	120.4	
Sc	45	H2	1309486.84	3.1	1511145.3	86.66	29.5	120.4	
Sc	45	He	336459.44	0.7	392815.69	85.65	29.5	120.4	
Ge	72	No Gas	2064907.26	1.4	2346521.52	88	29.5	120.4	
Ge	72	H2	434403.29	1.5	505748.89	85.89	29.5	120.4	
Ge	72	He	209017.42	0.4	240647.81	86.86	29.5	120.4	
Y	89	H2	7438967.04	3.3	8216492.56	90.54	29.5	120.4	
Y	89	He	1779809.52	1.1	2023870.27	87.94	29.5	120.4	
Tb	159	No Gas	20776467.74	2.5	21789053.29	95.35	29.5	120.4	
Tb	159	He	8098610.02	1.0	8552940.43	94.69	29.5	120.4	
Bi	209	No Gas	10798431.80	1.4	10957550.08	98.55	29.5	120.4	

Sample Report

Sample Name	TN0267-044A
File Name	076SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:23:07
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	10.245	ppb	2.8	13460.02	100	
11	B	6	No Gas	197.551	ppb	3.7	170412.21	1000	
23	Na	45	He	10576.992	ppb	1.8	1197057.60	200000	
24	Mg	45	He	1053.529	ppb	0.7	65119.98	200000	
27	Al	45	He	1040.865	ppb	0.4	24262.44	200000	
28	Si	45	H2	4777.426	ppb	1.3	193212.58	10000	
39	K	45	He	10410.234	ppb	0.6	546752.91	200000	
40	Ca	45	H2	1056.058	ppb	0.8	364277.02	200000	
51	V	89	He	50.743	ppb	0.8	40701.98	1000	
52	Cr	89	He	51.188	ppb	0.8	52832.49	2000	
55	Mn	89	He	18.992	ppb	1.4	9025.93	2000	
56	Fe	89	H2	1016.040	ppb	0.7	1297727.16	100000	
59	Co	89	He	10.617	ppb	2.1	17196.39	1000	
60	Ni	89	He	21.193	ppb	1.6	9544.69	1000	
63	Cu	89	He	33.192	ppb	1.2	40498.39	2000	
66	Zn	89	He	115.689	ppb	0.2	18503.96	2000	
75	As	89	He	50.108	ppb	0.6	5663.44	1000	
78	Se	89	H2	49.780	ppb	0.7	2596.29	1000	
88	Sr	89	He	50.223	ppb	3.0	29063.81	2000	
95	Mo	89	He	52.244	ppb	0.5	33034.05	1000	
107	Ag	89	He	11.395	ppb	0.4	23425.35	100	
111	Cd	89	He	11.212	ppb	1.6	2943.69	1000	
118	Sn	159	He	49.485	ppb	0.6	28250.38	1000	
121	Sb	159	No Gas	10.757	ppb	4.7	41520.43	1000	
137	Ba	159	No Gas	21.121	ppb	4.5	31686.69	2000	
182	W	159	No Gas	50.680	ppb	3.3	170526.56	1000	
205	Tl	209	No Gas	10.796	ppb	3.6	74634.02	1000	
208	Pb	209	No Gas	10.896	ppb	2.3	108439.11	2000	
232	Th	209	No Gas	11.266	ppb	3.0	108215.26	1000	
238	U	209	No Gas	10.628	ppb	3.1	99523.75	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6290483.13	2.2	6947791.61	90.54	29.5	120.4	
Sc	45	No Gas	9815632.37	3.5	11828674.09	82.98	29.5	120.4	
Sc	45	H2	1296018.63	0.3	1511145.3	85.76	29.5	120.4	
Sc	45	He	333039.62	1.5	392815.69	84.78	29.5	120.4	
Ge	72	No Gas	2034792.56	2.7	2346521.52	86.72	29.5	120.4	
Ge	72	H2	428131.13	0.8	505748.89	84.65	29.5	120.4	
Ge	72	He	207836.16	0.9	240647.81	86.37	29.5	120.4	
Y	89	H2	7364472.54	0.3	8216492.56	89.63	29.5	120.4	
Y	89	He	1767058.13	0.6	2023870.27	87.31	29.5	120.4	
Tb	159	No Gas	20520583.17	3.8	21789053.29	94.18	29.5	120.4	
Tb	159	He	8103524.39	0.8	8552940.43	94.75	29.5	120.4	
Bi	209	No Gas	10851034.71	3.2	10957550.08	99.03	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	077_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:25:42
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	23.466	ppb	3.2	156865.31	25	93.86	89.8	110.2	
11	B	6	No Gas	23.392	ppb	4.6	102933.14	25	93.57	89.8	110.2	
23	Na	45	He	5073.841	ppb	0.8	2916170.23	5000	101.48	89.8	110.2	
24	Mg	45	He	5080.460	ppb	0.6	1599256.54	5000	101.61	89.8	110.2	
27	Al	45	He	495.977	ppb	1.5	58868.50	500	99.2	89.8	110.2	
28	Si	45	H2	469.036	ppb	0.9	99909.10	500	93.81	89.8	110.2	
39	K	45	He	4950.391	ppb	1.3	1304574.81	5000	99.01	89.8	110.2	
40	Ca	45	H2	4906.602	ppb	1.1	8811619.04	5000	98.13	89.8	110.2	
51	V	89	He	24.241	ppb	1.9	99072.23	25	96.96	89.8	110.2	
52	Cr	89	He	24.451	ppb	0.9	128348.91	25	97.8	89.8	110.2	
55	Mn	89	He	24.420	ppb	1.6	58869.86	25	97.68	89.8	110.2	
56	Fe	89	H2	4793.281	ppb	0.7	31240442.68	5000	95.87	89.8	110.2	
59	Co	89	He	24.479	ppb	1.5	202876.93	25	97.92	89.8	110.2	
60	Ni	89	He	24.625	ppb	1.0	56626.55	25	98.5	89.8	110.2	
63	Cu	89	He	24.491	ppb	0.9	152377.21	25	97.96	89.8	110.2	
66	Zn	89	He	24.523	ppb	2.9	20080.62	25	98.09	89.8	110.2	
75	As	89	He	24.116	ppb	0.6	13933.49	25	96.46	89.8	110.2	
78	Se	89	H2	24.219	ppb	0.9	6606.43	25	96.88	89.8	110.2	
88	Sr	89	He	24.185	ppb	1.6	71637.26	25	96.74	89.8	110.2	
95	Mo	89	He	25.231	ppb	0.7	81668.43	25	100.92	89.8	110.2	
107	Ag	89	He	25.448	ppb	0.5	267471.92	25	101.79	89.8	110.2	
111	Cd	89	He	25.551	ppb	0.5	34351.63	25	102.2	89.8	110.2	
118	Sn	159	He	23.724	ppb	3.2	67501.96	25	94.9	89.8	110.2	
121	Sb	159	No Gas	24.068	ppb	4.4	477792.30	25	96.27	89.8	110.2	
137	Ba	159	No Gas	23.938	ppb	3.1	184697.01	25	95.75	89.8	110.2	
182	W	159	No Gas	24.170	ppb	4.0	419284.72	25	96.68	89.8	110.2	
205	Tl	209	No Gas	25.216	ppb	3.6	867581.06	25	100.86	89.8	110.2	
208	Pb	209	No Gas	24.826	ppb	3.3	1202908.62	25	99.3	89.8	110.2	
232	Th	209	No Gas	24.291	ppb	4.5	1161869.63	25	97.16	89.8	110.2	
238	U	209	No Gas	24.647	ppb	3.3	1151779.59	25	98.59	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6405219.89	1.3	6947791.61	92.19	29.5	120.4	
Sc	45	No Gas	10263926.59	1.3	11828674.09	86.77	29.5	120.4	
Sc	45	H2	1361027.93	0.3	1511145.3	90.07	29.5	120.4	
Sc	45	He	339523.86	0.3	392815.69	86.43	29.5	120.4	
Ge	72	No Gas	2106165.57	1.1	2346521.52	89.76	29.5	120.4	
Ge	72	H2	453594.68	0.5	505748.89	89.69	29.5	120.4	
Ge	72	He	212792.05	0.1	240647.81	88.42	29.5	120.4	
Y	89	H2	7706060.01	0.4	8216492.56	93.79	29.5	120.4	
Y	89	He	1809741.97	0.3	2023870.27	89.42	29.5	120.4	
Tb	159	No Gas	21174779.82	1.5	21789053.29	97.18	29.5	120.4	
Tb	159	He	8119492.38	0.9	8552940.43	94.93	29.5	120.4	
Bi	209	No Gas	10836299.56	1.8	10957550.08	98.89	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	078_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:28:17
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.038	ppb	71.9	261.12	0.2	
11	B	6	No Gas	0.426	ppb	3.8	2476.97	4	
23	Na	45	He	1.315	ppb	61.3	9076.29	200	
24	Mg	45	He	0.613	ppb	37.0	262.24	20	
27	Al	45	He	0.186	ppb	12.0	66.67	20	
28	Si	45	H2	-0.848	ppb	N/A	417.14	100	
39	K	45	He	4.859	ppb	52.2	16697.24	200	
40	Ca	45	H2	1.171	ppb	12.7	5405.68	20	
51	V	89	He	-0.030	ppb	N/A	234.45	1	
52	Cr	89	He	-0.012	ppb	N/A	581.24	1	
55	Mn	89	He	0.007	ppb	107.4	121.31	0.4	
56	Fe	89	H2	1.332	ppb	12.4	43301.47	20	
59	Co	89	He	0.003	ppb	85.3	37.78	0.2	
60	Ni	89	He	0.000	ppb	4427.6	34.45	0.4	
63	Cu	89	He	0.017	ppb	46.4	352.24	0.6	
66	Zn	89	He	0.014	ppb	70.9	86.67	2	
75	As	89	He	0.010	ppb	48.1	23.33	1	
78	Se	89	H2	0.023	ppb	4.5	7.50	1	
88	Sr	89	He	0.001	ppb	457.2	27.78	1	
95	Mo	89	He	0.069	ppb	12.5	246.68	1	
107	Ag	89	He	0.005	ppb	27.5	97.78	0.2	
111	Cd	89	He	0.006	ppb	16.3	7.78	0.2	
118	Sn	159	He	0.068	ppb	7.8	438.91	1	
121	Sb	159	No Gas	0.047	ppb	56.0	1077.92	0.2	
137	Ba	159	No Gas	0.044	ppb	66.6	437.16	0.4	
182	W	159	No Gas	0.107	ppb	24.2	1979.03	1	
205	Tl	209	No Gas	0.050	ppb	54.8	1975.74	0.2	
208	Pb	209	No Gas	0.015	ppb	119.3	3691.06	0.2	
232	Th	209	No Gas	0.217	ppb	22.3	10716.89	1	
238	U	209	No Gas	0.057	ppb	80.4	2650.05	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6468757.69	1.7	6947791.61	93.11	29.5	120.4	
Sc	45	No Gas	10405923.26	3.6	11828674.09	87.97	29.5	120.4	
Sc	45	H2	1342750.55	3.7	1511145.3	88.86	29.5	120.4	
Sc	45	He	346738.14	3.1	392815.69	88.27	29.5	120.4	
Ge	72	No Gas	2120832.03	2.0	2346521.52	90.38	29.5	120.4	
Ge	72	H2	454965.64	2.5	505748.89	89.96	29.5	120.4	
Ge	72	He	216810.13	2.4	240647.81	90.09	29.5	120.4	
Y	89	H2	7649594.43	3.6	8216492.56	93.1	29.5	120.4	
Y	89	He	1841270.68	3.2	2023870.27	90.98	29.5	120.4	
Tb	159	No Gas	21284453.29	3.2	21789053.29	97.68	29.5	120.4	
Tb	159	He	8257049.53	3.4	8552940.43	96.54	29.5	120.4	
Bi	209	No Gas	10915977.78	2.5	10957550.08	99.62	29.5	120.4	

Sample Report

Sample Name	TN0267-044L
File Name	079SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:30:52
Sample Type	Sample
Total Dilution	25.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.010	ppb	412.1	11.11	100	
11	B	6	No Gas	7.389	ppb	12.1	1953.53	1000	
23	Na	45	He	42.511	ppb	20.7	9229.96	200000	
24	Mg	45	He	12.773	ppb	10.8	228.91	200000	
27	Al	45	He	29.076	ppb	19.8	183.34	200000	
28	Si	45	H2	5.049	ppb	224.3	634.06	10000	
39	K	45	He	176.863	ppb	30.2	17141.01	200000	
40	Ca	45	H2	24.623	ppb	14.3	5072.21	200000	
51	V	89	He	-0.497	ppb	N/A	273.35	1000	
52	Cr	89	He	-0.018	ppb	N/A	635.90	2000	
55	Mn	89	He	0.195	ppb	196.4	121.98	2000	
56	Fe	89	H2	4.127	ppb	99.5	35350.24	100000	
59	Co	89	He	0.025	ppb	92.8	22.22	1000	
60	Ni	89	He	0.005	ppb	1847.5	34.45	1000	
63	Cu	89	He	2.202	ppb	5.4	790.05	2000	
66	Zn	89	He	1.538	ppb	6.4	124.45	2000	
75	As	89	He	-0.160	ppb	N/A	13.67	1000	
78	Se	89	H2	0.042	ppb	62.3	1.83	1000	
88	Sr	89	He	0.051	ppb	146.0	30.00	2000	
95	Mo	89	He	0.536	ppb	43.9	87.78	1000	
107	Ag	89	He	0.022	ppb	77.4	51.11	100	
111	Cd	89	He	0.055	ppb	21.8	2.96	1000	
118	Sn	159	He	0.851	ppb	38.4	338.90	1000	
121	Sb	159	No Gas	0.114	ppb	92.1	240.27	1000	
137	Ba	159	No Gas	0.172	ppb	52.7	156.84	2000	
182	W	159	No Gas	0.252	ppb	13.7	293.66	1000	
205	Tl	209	No Gas	-0.020	ppb	N/A	213.58	1000	
208	Pb	209	No Gas	-0.202	ppb	N/A	2609.71	2000	
232	Th	209	No Gas	0.914	ppb	0.5	2092.53	1000	
238	U	209	No Gas	0.044	ppb	38.2	86.77	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6670306.32	5.1	6947791.61	96.01	29.5	120.4	
Sc	45	No Gas	10533509.39	4.3	11828674.09	89.05	29.5	120.4	
Sc	45	H2	1340309.44	0.0	1511145.3	88.69	29.5	120.4	
Sc	45	He	343709.94	0.8	392815.69	87.5	29.5	120.4	
Ge	72	No Gas	2161398.41	5.0	2346521.52	92.11	29.5	120.4	
Ge	72	H2	451874.09	1.0	505748.89	89.35	29.5	120.4	
Ge	72	He	214170.15	0.4	240647.81	89	29.5	120.4	
Y	89	H2	7557801.55	0.4	8216492.56	91.98	29.5	120.4	
Y	89	He	1820263.08	0.5	2023870.27	89.94	29.5	120.4	
Tb	159	No Gas	21577819.26	4.6	21789053.29	99.03	29.5	120.4	
Tb	159	He	8167436.55	0.3	8552940.43	95.49	29.5	120.4	
Bi	209	No Gas	11132426.31	5.1	10957550.08	101.6	29.5	120.4	

Sample Report

Sample Name	TN0267-044P
File Name	080SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:33:26
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	44.946	ppb	8.3	62495.91	100	
11	B	6	No Gas	445.492	ppb	7.6	406063.98	1000	
23	Na	45	He	7819.637	ppb	0.7	899983.13	200000	
24	Mg	45	He	5175.390	ppb	0.5	324258.95	200000	
27	Al	45	He	2024.602	ppb	1.7	47827.49	200000	
28	Si	45	H2	941.811	ppb	2.2	38973.25	10000	
39	K	45	He	10285.170	ppb	0.9	548155.01	200000	
40	Ca	45	H2	2536.555	ppb	0.3	879984.00	200000	
51	V	89	He	491.363	ppb	0.2	395513.70	1000	
52	Cr	89	He	199.622	ppb	0.3	206525.76	2000	
55	Mn	89	He	498.816	ppb	0.5	237148.88	2000	
56	Fe	89	H2	993.335	ppb	0.6	1289939.65	100000	
59	Co	89	He	506.693	ppb	0.3	829206.71	1000	
60	Ni	89	He	505.444	ppb	0.6	229412.76	1000	
63	Cu	89	He	253.740	ppb	0.8	311500.16	2000	
66	Zn	89	He	500.785	ppb	0.6	80756.12	2000	
75	As	89	He	99.854	ppb	0.9	11395.91	1000	
78	Se	89	H2	99.191	ppb	0.8	5255.25	1000	
88	Sr	89	He	487.511	ppb	0.3	285086.44	2000	
95	Mo	89	He	103.172	ppb	0.2	65948.53	1000	
107	Ag	89	He	51.647	ppb	0.4	107219.56	100	
111	Cd	89	He	257.228	ppb	0.5	68289.31	1000	
118	Sn	159	He	477.187	ppb	0.7	269393.49	1000	
121	Sb	159	No Gas	94.674	ppb	8.3	379655.15	1000	
137	Ba	159	No Gas	1834.413	ppb	7.5	2857082.84	2000	
182	W	159	No Gas	95.672	ppb	7.9	335250.32	1000	
205	Tl	209	No Gas	99.311	ppb	7.4	695452.83	1000	
208	Pb	209	No Gas	98.026	ppb	7.5	967227.78	2000	
232	Th	209	No Gas	96.234	ppb	7.5	936867.77	1000	
238	U	209	No Gas	97.173	ppb	6.9	924171.09	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6666489.48	2.2	6947791.61	95.95	29.5	120.4	
Sc	45	No Gas	10315079.61	2.3	11828674.09	87.2	29.5	120.4	
Sc	45	H2	1310211.44	0.3	1511145.3	86.7	29.5	120.4	
Sc	45	He	337840.45	0.8	392815.69	86	29.5	120.4	
Ge	72	No Gas	2115497.56	2.2	2346521.52	90.15	29.5	120.4	
Ge	72	H2	433634.76	0.8	505748.89	85.74	29.5	120.4	
Ge	72	He	209727.70	0.7	240647.81	87.15	29.5	120.4	
Y	89	H2	7483211.33	0.7	8216492.56	91.08	29.5	120.4	
Y	89	He	1786846.66	0.5	2023870.27	88.29	29.5	120.4	
Tb	159	No Gas	21394215.10	1.8	21789053.29	98.19	29.5	120.4	
Tb	159	He	8075244.26	0.3	8552940.43	94.41	29.5	120.4	
Bi	209	No Gas	11031328.23	1.8	10957550.08	100.67	29.5	120.4	

Sample Report

Sample Name	TN0267-044S
File Name	081SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:36:04
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	46.289	ppb	8.4	64346.21	100	
11	B	6	No Gas	458.683	ppb	7.2	418010.37	1000	
23	Na	45	He	8017.796	ppb	1.1	919206.79	200000	
24	Mg	45	He	5367.483	ppb	1.4	335042.78	200000	
27	Al	45	He	2080.405	ppb	1.0	48964.79	200000	
28	Si	45	H2	961.975	ppb	1.5	39946.83	10000	
39	K	45	He	10546.790	ppb	0.9	559653.13	200000	
40	Ca	45	H2	2552.055	ppb	0.7	888804.05	200000	
51	V	89	He	505.915	ppb	0.7	405792.14	1000	
52	Cr	89	He	206.181	ppb	0.5	212548.76	2000	
55	Mn	89	He	513.558	ppb	0.8	243301.63	2000	
56	Fe	89	H2	1025.546	ppb	0.3	1317140.66	100000	
59	Co	89	He	524.340	ppb	0.6	855089.99	1000	
60	Ni	89	He	522.930	ppb	0.5	236524.39	1000	
63	Cu	89	He	260.839	ppb	1.0	319081.61	2000	
66	Zn	89	He	518.592	ppb	2.1	83325.72	2000	
75	As	89	He	101.848	ppb	1.4	11583.41	1000	
78	Se	89	H2	100.949	ppb	0.3	5294.10	1000	
88	Sr	89	He	501.081	ppb	0.7	292004.72	2000	
95	Mo	89	He	105.734	ppb	1.2	67347.32	1000	
107	Ag	89	He	53.456	ppb	1.2	110584.28	100	
111	Cd	89	He	265.568	ppb	0.4	70258.52	1000	
118	Sn	159	He	487.867	ppb	0.8	275572.71	1000	
121	Sb	159	No Gas	96.425	ppb	8.1	386435.50	1000	
137	Ba	159	No Gas	1893.717	ppb	8.0	2947461.73	2000	
182	W	159	No Gas	97.472	ppb	7.6	341371.48	1000	
205	Tl	209	No Gas	101.812	ppb	7.9	711792.23	1000	
208	Pb	209	No Gas	101.181	ppb	7.8	996663.03	2000	
232	Th	209	No Gas	100.214	ppb	6.3	974273.25	1000	
238	U	209	No Gas	98.702	ppb	7.2	937226.34	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6664934.38	2.1	6947791.61	95.93	29.5	120.4	
Sc	45	No Gas	10290386.17	2.6	11828674.09	87	29.5	120.4	
Sc	45	H2	1315305.44	0.5	1511145.3	87.04	29.5	120.4	
Sc	45	He	336604.96	1.1	392815.69	85.69	29.5	120.4	
Ge	72	No Gas	2107959.03	2.2	2346521.52	89.83	29.5	120.4	
Ge	72	H2	430759.48	0.7	505748.89	85.17	29.5	120.4	
Ge	72	He	210324.41	0.8	240647.81	87.4	29.5	120.4	
Y	89	H2	7407100.07	0.5	8216492.56	90.15	29.5	120.4	
Y	89	He	1780667.41	1.0	2023870.27	87.98	29.5	120.4	
Tb	159	No Gas	21389720.65	2.5	21789053.29	98.17	29.5	120.4	
Tb	159	He	8079625.43	0.3	8552940.43	94.47	29.5	120.4	
Bi	209	No Gas	11016292.26	2.2	10957550.08	100.54	29.5	120.4	

Sample Report

Sample Name	TN0267-045
File Name	082SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:38:35
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.069	ppb	77.8	98.89	100	
11	B	6	No Gas	7.544	ppb	9.8	7091.99	1000	
23	Na	45	He	23.553	ppb	5.7	10682.44	200000	
24	Mg	45	He	9.998	ppb	10.8	684.51	200000	
27	Al	45	He	9.114	ppb	8.6	255.57	200000	
28	Si	45	H2	10.541	ppb	18.7	977.79	10000	
39	K	45	He	38.060	ppb	19.4	16822.34	200000	
40	Ca	45	H2	14.651	ppb	8.1	8069.24	200000	
51	V	89	He	0.245	ppb	28.6	536.70	1000	
52	Cr	89	He	0.229	ppb	16.3	849.87	2000	
55	Mn	89	He	0.236	ppb	14.2	209.96	2000	
56	Fe	89	H2	1.505	ppb	13.2	34959.65	100000	
59	Co	89	He	0.062	ppb	24.7	113.34	1000	
60	Ni	89	He	0.135	ppb	14.1	93.34	1000	
63	Cu	89	He	0.540	ppb	12.0	883.39	2000	
66	Zn	89	He	1.645	ppb	14.0	332.24	2000	
75	As	89	He	0.035	ppb	106.6	20.67	1000	
78	Se	89	H2	0.133	ppb	59.9	8.17	1000	
88	Sr	89	He	0.089	ppb	51.3	74.45	2000	
95	Mo	89	He	0.236	ppb	14.4	165.56	1000	
107	Ag	89	He	0.016	ppb	57.7	73.34	100	
111	Cd	89	He	0.033	ppb	7.0	8.52	1000	
118	Sn	159	He	1.132	ppb	8.7	871.17	1000	
121	Sb	159	No Gas	0.216	ppb	44.2	981.14	1000	
137	Ba	159	No Gas	2.131	ppb	38.9	3310.83	2000	
182	W	159	No Gas	0.381	ppb	3.9	1404.98	1000	
205	Tl	209	No Gas	0.195	ppb	41.6	1568.52	1000	
208	Pb	209	No Gas	0.151	ppb	20.4	4375.20	2000	
232	Th	209	No Gas	2.329	ppb	25.6	22466.22	1000	
238	U	209	No Gas	0.162	ppb	38.6	1511.80	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6319203.98	0.8	6947791.61	90.95	29.5	120.4	
Sc	45	No Gas	9928302.22	1.3	11828674.09	83.93	29.5	120.4	
Sc	45	H2	1272126.42	4.2	1511145.3	84.18	29.5	120.4	
Sc	45	He	334503.78	0.1	392815.69	85.16	29.5	120.4	
Ge	72	No Gas	2037852.21	1.4	2346521.52	86.85	29.5	120.4	
Ge	72	H2	420883.58	2.0	505748.89	83.22	29.5	120.4	
Ge	72	He	207048.24	0.5	240647.81	86.04	29.5	120.4	
Y	89	H2	7293853.54	4.5	8216492.56	88.77	29.5	120.4	
Y	89	He	1758845.77	0.8	2023870.27	86.91	29.5	120.4	
Tb	159	No Gas	20734870.38	1.3	21789053.29	95.16	29.5	120.4	
Tb	159	He	8012230.37	0.4	8552940.43	93.68	29.5	120.4	
Bi	209	No Gas	10802384.40	1.2	10957550.08	98.58	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	083SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:41:11
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.001	ppb	25.7	15.56	100	
11	B	6	No Gas	0.441	ppb	6.2	2532.53	1000	
23	Na	45	He	0.518	ppb	128.5	8431.81	200000	
24	Mg	45	He	0.145	ppb	56.0	111.12	200000	
27	Al	45	He	0.264	ppb	26.6	74.45	200000	
28	Si	45	H2	-0.732	ppb	N/A	440.50	10000	
39	K	45	He	5.789	ppb	25.5	16588.93	200000	
40	Ca	45	H2	0.325	ppb	14.4	3911.78	200000	
51	V	89	He	-0.021	ppb	N/A	264.46	1000	
52	Cr	89	He	-0.003	ppb	N/A	617.90	2000	
55	Mn	89	He	-0.003	ppb	N/A	94.65	2000	
56	Fe	89	H2	-0.076	ppb	N/A	33908.62	100000	
59	Co	89	He	0.006	ppb	27.0	62.23	1000	
60	Ni	89	He	0.008	ppb	129.8	52.23	1000	
63	Cu	89	He	0.027	ppb	27.9	402.24	2000	
66	Zn	89	He	0.078	ppb	3.7	136.67	2000	
75	As	89	He	0.002	ppb	115.5	18.33	1000	
78	Se	89	H2	0.001	ppb	272.6	1.67	1000	
88	Sr	89	He	0.003	ppb	65.4	32.22	2000	
95	Mo	89	He	0.015	ppb	24.6	65.56	1000	
107	Ag	89	He	0.003	ppb	28.8	72.23	100	
111	Cd	89	He	0.005	ppb	26.9	6.30	1000	
118	Sn	159	He	0.032	ppb	14.3	331.13	1000	
121	Sb	159	No Gas	0.004	ppb	22.7	216.91	1000	
137	Ba	159	No Gas	0.026	ppb	28.1	300.34	2000	
182	W	159	No Gas	0.009	ppb	50.7	270.31	1000	
205	Tl	209	No Gas	0.001	ppb	173.1	256.96	1000	
208	Pb	209	No Gas	-0.015	ppb	N/A	2209.24	2000	
232	Th	209	No Gas	0.013	ppb	13.2	931.08	1000	
238	U	209	No Gas	0.002	ppb	42.7	86.76	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6439812.45	1.2	6947791.61	92.69	29.5	120.4	
Sc	45	No Gas	10169358.79	0.7	11828674.09	85.97	29.5	120.4	
Sc	45	H2	1342728.41	1.1	1511145.3	88.86	29.5	120.4	
Sc	45	He	339383.29	1.8	392815.69	86.4	29.5	120.4	
Ge	72	No Gas	2090265.27	1.0	2346521.52	89.08	29.5	120.4	
Ge	72	H2	446057.19	1.2	505748.89	88.2	29.5	120.4	
Ge	72	He	212729.78	1.1	240647.81	88.4	29.5	120.4	
Y	89	H2	7579407.99	1.3	8216492.56	92.25	29.5	120.4	
Y	89	He	1803390.62	1.7	2023870.27	89.11	29.5	120.4	
Tb	159	No Gas	21025859.82	0.5	21789053.29	96.5	29.5	120.4	
Tb	159	He	8112025.57	1.3	8552940.43	94.84	29.5	120.4	
Bi	209	No Gas	10847806.07	0.7	10957550.08	99	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBWNL18IMW2
File Name	084_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:43:42
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.006	ppb	99.6	15.55	0.5	
B	11	6	No Gas	2.346	ppb	10.2	2649.22	10	
Na	23	45	He	15.386	ppb	17.6	9810.95	500	
Mg	24	45	He	8.627	ppb	14.5	602.28	50	
Al	27	45	He	12.883	ppb	7.8	345.57	50	
Si	28	45	H2	18.842	ppb	6.4	1308.18	250	
K	39	45	He	26.724	ppb	7.9	16327.04	500	
Ca	40	45	H2	14.079	ppb	4.8	7885.80	50	
V	51	89	He	0.191	ppb	11.6	498.92	2.5	
Cr	52	89	He	0.192	ppb	11.5	820.54	2.5	
Mn	55	89	He	0.496	ppb	10.2	334.61	1	
Fe	56	89	H2	2.124	ppb	35.1	35450.96	50	
Co	59	89	He	0.020	ppb	86.3	46.67	0.5	
Ni	60	89	He	0.084	ppb	14.9	71.11	1	
Cu	63	89	He	0.433	ppb	9.8	761.16	1.5	
Zn	66	89	He	2.413	ppb	14.0	457.81	5	
As	75	89	He	0.030	ppb	39.3	20.33	2.5	
Se	78	89	H2	0.026	ppb	83.7	2.67	2.5	
Sr	88	89	He	0.053	ppb	58.9	54.45	2.5	
Mo	95	89	He	0.058	ppb	12.3	54.45	2.5	
Ag	107	89	He	0.008	ppb	76.4	57.78	0.5	
Cd	111	89	He	0.014	ppb	68.1	3.70	0.5	
Sn	118	159	He	0.766	ppb	2.9	673.38	2.5	
Sb	121	159	No Gas	0.047	ppb	22.6	337.05	0.5	
Ba	137	159	No Gas	0.433	ppb	11.4	774.23	1	
W	182	159	No Gas	0.022	ppb	34.7	190.22	2.5	
Tl	205	209	No Gas	0.006	ppb	172.8	283.66	0.5	
Pb	208	209	No Gas	0.029	ppb	49.7	3273.85	0.5	
Th	232	209	No Gas	0.232	ppb	7.9	2549.80	2.5	
U	238	209	No Gas	0.007	ppb	32.0	66.74	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6431839.69	2.5	6947791.61	92.57	29.5	120.4	
Sc	45	No Gas	10250195.35	2.3	11828674.09	86.66	29.5	120.4	
Sc	45	H2	1272808.44	3.2	1511145.3	84.23	29.5	120.4	
Sc	45	He	336291.36	1.3	392815.69	85.61	29.5	120.4	
Ge	72	No Gas	2072932.13	2.1	2346521.52	88.34	29.5	120.4	
Ge	72	H2	425776.33	2.3	505748.89	84.19	29.5	120.4	
Ge	72	He	207372.03	1.0	240647.81	86.17	29.5	120.4	
Y	89	H2	7242577.74	2.8	8216492.56	88.15	29.5	120.4	
Y	89	He	1774481.02	1.3	2023870.27	87.68	29.5	120.4	
Tb	159	No Gas	21364429.54	2.1	21789053.29	98.05	29.5	120.4	
Tb	159	He	8102040.09	1.8	8552940.43	94.73	29.5	120.4	
Bi	209	No Gas	11022100.46	1.9	10957550.08	100.59	29.5	120.4	

Sample Report

Sample Name	TN0289-001
File Name	085SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:46:17
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.016	ppb	51.1	28.89	100	
11	B	6	No Gas	92.538	ppb	6.5	78730.24	1000	
23	Na	45	He	268315.616	ppb	2.9	30795447.07	200000	
24	Mg	45	He	97282.043	ppb	3.0	6130426.58	200000	
27	Al	45	He	83.806	ppb	7.6	2033.57	200000	
28	Si	45	H2	18836.273	ppb	2.3	775861.83	10000	
39	K	45	He	200469.823	ppb	2.2	10470616.69	200000	
40	Ca	45	H2	521676.172	ppb	2.0	182049726.18	200000	
51	V	89	He	13.191	ppb	5.0	10943.53	1000	
52	Cr	89	He	2.110	ppb	3.9	2801.78	2000	
55	Mn	89	He	5616.772	ppb	2.8	2667275.23	2000	
56	Fe	89	H2	43614.151	ppb	1.9	55033294.69	100000	
59	Co	89	He	10.711	ppb	2.5	17529.99	1000	
60	Ni	89	He	15.588	ppb	3.6	7100.93	1000	
63	Cu	89	He	0.897	ppb	10.0	1333.45	2000	
66	Zn	89	He	4.846	ppb	10.4	852.28	2000	
75	As	89	He	17.538	ppb	2.5	2014.70	1000	
78	Se	89	H2	0.642	ppb	21.5	35.33	1000	
88	Sr	89	He	1316.425	ppb	2.4	769255.45	2000	
95	Mo	89	He	14.385	ppb	2.6	9203.39	1000	
107	Ag	89	He	0.009	ppb	55.5	58.89	100	
111	Cd	89	He	0.031	ppb	23.0	8.15	1000	
118	Sn	159	He	0.744	ppb	21.8	654.49	1000	
121	Sb	159	No Gas	0.144	ppb	15.2	700.81	1000	
137	Ba	159	No Gas	676.075	ppb	5.3	1016666.39	2000	
182	W	159	No Gas	0.153	ppb	7.0	627.38	1000	
205	Tl	209	No Gas	0.058	ppb	21.3	597.35	1000	
208	Pb	209	No Gas	0.147	ppb	21.7	4081.50	2000	
232	Th	209	No Gas	0.192	ppb	13.2	1985.70	1000	
238	U	209	No Gas	2.239	ppb	4.5	19597.37	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6185039.46	2.0	6947791.61	89.02	29.5	120.4	
Sc	45	No Gas	9953299.09	1.6	11828674.09	84.15	29.5	120.4	
Sc	45	H2	1322534.47	1.6	1511145.3	87.52	29.5	120.4	
Sc	45	He	340046.13	2.9	392815.69	86.57	29.5	120.4	
Ge	72	No Gas	2006273.34	2.0	2346521.52	85.5	29.5	120.4	
Ge	72	H2	428234.05	1.9	505748.89	84.67	29.5	120.4	
Ge	72	He	208901.54	1.9	240647.81	86.81	29.5	120.4	
Y	89	H2	7462905.72	1.3	8216492.56	90.83	29.5	120.4	
Y	89	He	1786476.94	3.0	2023870.27	88.27	29.5	120.4	
Tb	159	No Gas	20651056.91	1.9	21789053.29	94.78	29.5	120.4	
Tb	159	He	8031627.73	2.3	8552940.43	93.9	29.5	120.4	
Bi	209	No Gas	10146705.72	1.3	10957550.08	92.6	29.5	120.4	

Sample Report

Sample Name	TN0289-002
File Name	086SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:48:54
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.012	ppb	63.4	24.45	100	
11	B	6	No Gas	63.929	ppb	5.8	57997.12	1000	
23	Na	45	He	101219.084	ppb	0.5	11794348.62	200000	
24	Mg	45	He	13653.761	ppb	0.5	873245.35	200000	
27	Al	45	He	121.074	ppb	0.8	2961.54	200000	
28	Si	45	H2	5073.177	ppb	1.1	213177.71	10000	
39	K	45	He	2433.427	ppb	1.4	144112.10	200000	
40	Ca	45	H2	122287.589	ppb	0.4	43452762.13	200000	
51	V	89	He	0.630	ppb	19.6	872.28	1000	
52	Cr	89	He	0.531	ppb	4.2	1199.17	2000	
55	Mn	89	He	5.893	ppb	2.1	2959.12	2000	
56	Fe	89	H2	185.050	ppb	0.9	270629.16	100000	
59	Co	89	He	0.428	ppb	3.8	728.96	1000	
60	Ni	89	He	6.486	ppb	4.3	3035.99	1000	
63	Cu	89	He	1.757	ppb	4.6	2438.08	2000	
66	Zn	89	He	3.837	ppb	4.9	704.49	2000	
75	As	89	He	0.298	ppb	26.1	52.01	1000	
78	Se	89	H2	6.224	ppb	4.0	334.32	1000	
88	Sr	89	He	318.965	ppb	0.3	190257.45	2000	
95	Mo	89	He	6.819	ppb	5.3	4462.00	1000	
107	Ag	89	He	0.014	ppb	16.9	71.11	100	
111	Cd	89	He	0.074	ppb	14.0	20.00	1000	
118	Sn	159	He	0.483	ppb	15.0	517.81	1000	
121	Sb	159	No Gas	0.184	ppb	9.6	891.03	1000	
137	Ba	159	No Gas	25.887	ppb	4.9	40667.58	2000	
182	W	159	No Gas	0.016	ppb	43.3	170.19	1000	
205	Tl	209	No Gas	0.231	ppb	13.2	1838.86	1000	
208	Pb	209	No Gas	0.152	ppb	13.6	4431.99	2000	
232	Th	209	No Gas	0.109	ppb	8.6	1334.90	1000	
238	U	209	No Gas	1.348	ppb	8.1	12680.67	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6574697.90	2.2	6947791.61	94.63	29.5	120.4	
Sc	45	No Gas	10521102.50	2.6	11828674.09	88.95	29.5	120.4	
Sc	45	H2	1346900.25	1.1	1511145.3	89.13	29.5	120.4	
Sc	45	He	344901.21	0.9	392815.69	87.8	29.5	120.4	
Ge	72	No Gas	2153400.30	2.1	2346521.52	91.77	29.5	120.4	
Ge	72	H2	445277.95	0.4	505748.89	88.04	29.5	120.4	
Ge	72	He	214905.01	0.5	240647.81	89.3	29.5	120.4	
Y	89	H2	7558491.14	0.6	8216492.56	91.99	29.5	120.4	
Y	89	He	1822514.54	0.9	2023870.27	90.05	29.5	120.4	
Tb	159	No Gas	21523983.29	2.3	21789053.29	98.78	29.5	120.4	
Tb	159	He	8170043.21	0.3	8552940.43	95.52	29.5	120.4	
Bi	209	No Gas	10913190.72	2.0	10957550.08	99.6	29.5	120.4	

Sample Report

Sample Name	TN0289-003
File Name	087SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:51:29
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.015	ppb	66.1	28.89	100	
11	B	6	No Gas	103.759	ppb	5.4	91936.58	1000	
23	Na	45	He	154844.853	ppb	0.5	17741228.73	200000	
24	Mg	45	He	21496.916	ppb	0.5	1352141.73	200000	
27	Al	45	He	42.493	ppb	3.3	1050.08	200000	
28	Si	45	H2	6627.167	ppb	0.3	278792.74	10000	
39	K	45	He	6114.627	ppb	0.8	333323.80	200000	
40	Ca	45	H2	77174.275	ppb	1.0	27471665.98	200000	
51	V	89	He	0.821	ppb	7.9	1011.18	1000	
52	Cr	89	He	0.554	ppb	4.5	1203.17	2000	
55	Mn	89	He	1091.255	ppb	1.3	520139.87	2000	
56	Fe	89	H2	9564.101	ppb	0.3	12256325.89	100000	
59	Co	89	He	3.519	ppb	3.5	5788.29	1000	
60	Ni	89	He	3.870	ppb	3.4	1794.62	1000	
63	Cu	89	He	1.329	ppb	5.6	1871.30	2000	
66	Zn	89	He	4.989	ppb	7.3	878.95	2000	
75	As	89	He	1.498	ppb	8.0	188.35	1000	
78	Se	89	H2	0.267	ppb	41.8	15.67	1000	
88	Sr	89	He	250.026	ppb	1.6	146630.29	2000	
95	Mo	89	He	4.034	ppb	5.7	2602.56	1000	
107	Ag	89	He	0.012	ppb	87.4	66.67	100	
111	Cd	89	He	0.049	ppb	29.7	12.96	1000	
118	Sn	159	He	0.580	ppb	16.9	564.48	1000	
121	Sb	159	No Gas	0.252	ppb	14.8	1151.34	1000	
137	Ba	159	No Gas	52.646	ppb	5.6	81711.87	2000	
182	W	159	No Gas	-0.001	ppb	N/A	110.12	1000	
205	Tl	209	No Gas	0.063	ppb	15.2	670.77	1000	
208	Pb	209	No Gas	0.089	ppb	39.0	3791.16	2000	
232	Th	209	No Gas	0.101	ppb	8.9	1254.81	1000	
238	U	209	No Gas	1.608	ppb	5.3	15009.05	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6444062.43	1.1	6947791.61	92.75	29.5	120.4	
Sc	45	No Gas	10331562.97	1.0	11828674.09	87.34	29.5	120.4	
Sc	45	H2	1349198.97	0.8	1511145.3	89.28	29.5	120.4	
Sc	45	He	339214.01	0.8	392815.69	86.35	29.5	120.4	
Ge	72	No Gas	2119896.13	1.5	2346521.52	90.34	29.5	120.4	
Ge	72	H2	440585.21	0.6	505748.89	87.12	29.5	120.4	
Ge	72	He	212613.05	0.3	240647.81	88.35	29.5	120.4	
Y	89	H2	7562933.50	0.6	8216492.56	92.05	29.5	120.4	
Y	89	He	1791934.23	0.6	2023870.27	88.54	29.5	120.4	
Tb	159	No Gas	21280306.35	0.7	21789053.29	97.67	29.5	120.4	
Tb	159	He	8049030.50	0.3	8552940.43	94.11	29.5	120.4	
Bi	209	No Gas	10820277.61	1.4	10957550.08	98.75	29.5	120.4	

Sample Report

Sample Name	TN0289-004
File Name	088SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:54:00
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.099	ppb	17.3	143.34	100	
11	B	6	No Gas	28.362	ppb	6.2	25938.40	1000	
23	Na	45	He	210034.887	ppb	3.1	23934323.27	200000	
24	Mg	45	He	2511.723	ppb	3.3	157208.76	200000	
27	Al	45	He	90.091	ppb	2.9	2166.92	200000	
28	Si	45	H2	9554.380	ppb	2.2	393461.70	10000	
39	K	45	He	2746.728	ppb	3.6	157198.29	200000	
40	Ca	45	H2	5903.461	ppb	2.1	2061529.07	200000	
51	V	89	He	0.260	ppb	32.2	558.92	1000	
52	Cr	89	He	0.370	ppb	7.4	1011.86	2000	
55	Mn	89	He	160.492	ppb	2.3	76491.67	2000	
56	Fe	89	H2	632.296	ppb	2.3	829657.70	100000	
59	Co	89	He	3.733	ppb	2.8	6135.14	1000	
60	Ni	89	He	16.475	ppb	2.9	7521.18	1000	
63	Cu	89	He	2.113	ppb	4.2	2831.50	2000	
66	Zn	89	He	25.539	ppb	5.8	4191.88	2000	
75	As	89	He	0.793	ppb	24.8	107.34	1000	
78	Se	89	H2	0.322	ppb	23.4	18.33	1000	
88	Sr	89	He	17.980	ppb	3.7	10551.06	2000	
95	Mo	89	He	0.849	ppb	6.7	561.15	1000	
107	Ag	89	He	0.001	ppb	411.3	43.34	100	
111	Cd	89	He	0.284	ppb	7.0	75.55	1000	
118	Sn	159	He	0.444	ppb	23.4	491.14	1000	
121	Sb	159	No Gas	0.094	ppb	7.8	527.27	1000	
137	Ba	159	No Gas	18.810	ppb	6.6	29542.57	2000	
182	W	159	No Gas	-0.004	ppb	N/A	100.11	1000	
205	Tl	209	No Gas	0.138	ppb	12.0	1208.11	1000	
208	Pb	209	No Gas	0.078	ppb	39.5	3757.76	2000	
232	Th	209	No Gas	0.067	ppb	16.3	951.11	1000	
238	U	209	No Gas	0.113	ppb	5.7	1084.61	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6540674.09	1.4	6947791.61	94.14	29.5	120.4	
Sc	45	No Gas	10481983.70	0.7	11828674.09	88.62	29.5	120.4	
Sc	45	H2	1321987.76	2.0	1511145.3	87.48	29.5	120.4	
Sc	45	He	337608.70	2.9	392815.69	85.95	29.5	120.4	
Ge	72	No Gas	2143643.02	1.0	2346521.52	91.35	29.5	120.4	
Ge	72	H2	441399.31	0.5	505748.89	87.28	29.5	120.4	
Ge	72	He	212203.26	2.3	240647.81	88.18	29.5	120.4	
Y	89	H2	7451507.60	2.1	8216492.56	90.69	29.5	120.4	
Y	89	He	1790415.70	2.7	2023870.27	88.46	29.5	120.4	
Tb	159	No Gas	21486429.68	0.4	21789053.29	98.61	29.5	120.4	
Tb	159	He	8081862.45	2.7	8552940.43	94.49	29.5	120.4	
Bi	209	No Gas	11055171.14	0.9	10957550.08	100.89	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	089_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:56:36
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	22.911	ppb	12.6	151031.01	25	91.64	89.8	110.2	
11	B	6	No Gas	23.133	ppb	12.5	100409.17	25	92.53	89.8	110.2	
23	Na	45	He	4997.104	ppb	0.7	2970481.73	5000	99.94	89.8	110.2	
24	Mg	45	He	5009.044	ppb	0.3	1630760.41	5000	100.18	89.8	110.2	
27	Al	45	He	484.585	ppb	0.3	59486.64	500	96.92	89.8	110.2	
28	Si	45	H2	472.470	ppb	2.4	101423.98	500	94.49	89.8	110.2	
39	K	45	He	4939.153	ppb	0.5	1346262.61	5000	98.78	89.8	110.2	
40	Ca	45	H2	4965.777	ppb	0.8	8987221.12	5000	99.32	89.8	110.2	
51	V	89	He	24.057	ppb	0.4	101123.55	25	96.23	89.8	110.2	
52	Cr	89	He	24.259	ppb	0.3	130961.28	25	97.04	89.8	110.2	
55	Mn	89	He	24.303	ppb	0.7	60253.46	25	97.21	89.8	110.2	
56	Fe	89	H2	4857.945	ppb	0.8	31634570.75	5000	97.16	89.8	110.2	
59	Co	89	He	24.221	ppb	0.3	206445.82	25	96.88	89.8	110.2	
60	Ni	89	He	24.156	ppb	0.6	57128.54	25	96.62	89.8	110.2	
63	Cu	89	He	24.427	ppb	0.4	156297.44	25	97.71	89.8	110.2	
66	Zn	89	He	24.676	ppb	2.2	20779.42	25	98.7	89.8	110.2	
75	As	89	He	24.083	ppb	1.2	14308.57	25	96.33	89.8	110.2	
78	Se	89	H2	24.475	ppb	0.6	6670.80	25	97.9	89.8	110.2	
88	Sr	89	He	23.805	ppb	0.9	72519.46	25	95.22	89.8	110.2	
95	Mo	89	He	25.020	ppb	0.2	83283.53	25	100.08	89.8	110.2	
107	Ag	89	He	25.357	ppb	0.6	274084.77	25	101.43	89.8	110.2	
111	Cd	89	He	25.200	ppb	0.5	34841.36	25	100.8	89.8	110.2	
118	Sn	159	He	23.913	ppb	0.2	69273.09	25	95.65	89.8	110.2	
121	Sb	159	No Gas	23.909	ppb	12.2	466309.19	25	95.64	89.8	110.2	
137	Ba	159	No Gas	23.952	ppb	12.6	181521.96	25	95.81	89.8	110.2	
182	W	159	No Gas	23.990	ppb	12.3	408843.76	25	95.96	89.8	110.2	
205	Tl	209	No Gas	24.951	ppb	12.3	840988.15	25	99.8	89.8	110.2	
208	Pb	209	No Gas	24.551	ppb	12.7	1165249.54	25	98.2	89.8	110.2	
232	Th	209	No Gas	23.625	ppb	13.0	1106841.78	25	94.5	89.8	110.2	
238	U	209	No Gas	24.067	ppb	12.5	1101680.43	25	96.27	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6341374.43	5.0	6947791.61	91.27	29.5	120.4	
Sc	45	No Gas	10223203.26	5.0	11828674.09	86.43	29.5	120.4	
Sc	45	H2	1371572.20	0.7	1511145.3	90.76	29.5	120.4	
Sc	45	He	351151.20	1.0	392815.69	89.39	29.5	120.4	
Ge	72	No Gas	2097375.97	5.5	2346521.52	89.38	29.5	120.4	
Ge	72	H2	453138.46	1.1	505748.89	89.6	29.5	120.4	
Ge	72	He	218393.24	0.8	240647.81	90.75	29.5	120.4	
Y	89	H2	7699309.45	1.0	8216492.56	93.71	29.5	120.4	
Y	89	He	1861140.32	1.0	2023870.27	91.96	29.5	120.4	
Tb	159	No Gas	20880768.58	5.1	21789053.29	95.83	29.5	120.4	
Tb	159	He	8265364.53	0.5	8552940.43	96.64	29.5	120.4	
Bi	209	No Gas	10657194.22	5.3	10957550.08	97.26	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	090_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 15:59:07
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.030	ppb	46.5	216.68	0.2	
11	B	6	No Gas	0.336	ppb	12.1	2131.35	4	
23	Na	45	He	8.379	ppb	7.0	13487.93	200	
24	Mg	45	He	0.850	ppb	23.4	346.70	20	
27	Al	45	He	0.040	ppb	305.9	50.00	20	
28	Si	45	H2	-0.477	ppb	N/A	510.58	100	
39	K	45	He	6.845	ppb	14.0	17581.35	200	
40	Ca	45	H2	2.050	ppb	2.8	7217.62	20	
51	V	89	He	-0.037	ppb	N/A	210.01	1	
52	Cr	89	He	-0.014	ppb	N/A	581.91	1	
55	Mn	89	He	0.010	ppb	9.0	131.98	0.4	
56	Fe	89	H2	1.116	ppb	13.5	42890.01	20	
59	Co	89	He	0.002	ppb	96.3	35.56	0.2	
60	Ni	89	He	0.000	ppb	N/A	34.44	0.4	
63	Cu	89	He	0.011	ppb	105.6	320.02	0.6	
66	Zn	89	He	0.007	ppb	325.7	82.23	2	
75	As	89	He	0.000	ppb	1527.5	18.00	1	
78	Se	89	H2	0.027	ppb	35.0	8.83	1	
88	Sr	89	He	0.002	ppb	109.4	31.11	1	
95	Mo	89	He	0.062	ppb	16.2	225.56	1	
107	Ag	89	He	0.004	ppb	10.3	84.45	0.2	
111	Cd	89	He	0.004	ppb	105.8	5.55	0.2	
118	Sn	159	He	0.071	ppb	7.1	454.47	1	
121	Sb	159	No Gas	0.034	ppb	23.1	840.96	0.2	
137	Ba	159	No Gas	0.031	ppb	45.6	340.38	0.4	
182	W	159	No Gas	0.078	ppb	19.6	1495.08	1	
205	Tl	209	No Gas	0.037	ppb	35.4	1551.84	0.2	
208	Pb	209	No Gas	0.002	ppb	567.2	3090.30	0.2	
232	Th	209	No Gas	0.122	ppb	14.9	6215.18	1	
238	U	209	No Gas	0.036	ppb	59.4	1715.40	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6636434.79	0.6	6947791.61	95.52	29.5	120.4	
Sc	45	No Gas	10635479.59	1.5	11828674.09	89.91	29.5	120.4	
Sc	45	H2	1390996.47	1.0	1511145.3	92.05	29.5	120.4	
Sc	45	He	353719.36	0.5	392815.69	90.05	29.5	120.4	
Ge	72	No Gas	2171634.97	1.0	2346521.52	92.55	29.5	120.4	
Ge	72	H2	468751.24	1.7	505748.89	92.68	29.5	120.4	
Ge	72	He	221864.43	1.0	240647.81	92.19	29.5	120.4	
Y	89	H2	7826584.12	0.9	8216492.56	95.25	29.5	120.4	
Y	89	He	1877617.68	0.7	2023870.27	92.77	29.5	120.4	
Tb	159	No Gas	21514672.46	1.1	21789053.29	98.74	29.5	120.4	
Tb	159	He	8328330.43	0.4	8552940.43	97.37	29.5	120.4	
Bi	209	No Gas	11038286.75	0.4	10957550.08	100.74	29.5	120.4	

Sample Report

Sample Name	TN0289-005
File Name	091SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:01:42
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.108	ppb	22.2	152.23	100	
11	B	6	No Gas	95.833	ppb	7.5	84013.29	1000	
23	Na	45	He	2024168.588	ppb	0.7	238665887.48	200000	>LDR
24	Mg	45	He	62080.021	ppb	0.3	4020069.21	200000	
27	Al	45	He	162.230	ppb	3.3	4001.81	200000	
28	Si	45	H2	6691.974	ppb	0.7	284203.00	10000	
39	K	45	He	13011.824	ppb	0.5	712779.97	200000	
40	Ca	45	H2	210488.583	ppb	0.5	75636126.65	200000	
51	V	89	He	0.452	ppb	7.5	723.38	1000	
52	Cr	89	He	1.111	ppb	5.4	1801.12	2000	
55	Mn	89	He	3936.870	ppb	0.8	1899961.30	2000	
56	Fe	89	H2	16089.209	ppb	0.4	20190925.21	100000	
59	Co	89	He	16.270	ppb	1.5	27052.41	1000	
60	Ni	89	He	57.966	ppb	1.7	26748.56	1000	
63	Cu	89	He	12.895	ppb	2.1	16303.43	2000	
66	Zn	89	He	71.735	ppb	2.3	11809.89	2000	
75	As	89	He	0.432	ppb	8.7	67.34	1000	
78	Se	89	H2	0.188	ppb	34.0	11.17	1000	
88	Sr	89	He	590.793	ppb	0.5	350846.80	2000	
95	Mo	89	He	3.214	ppb	1.5	2103.58	1000	
107	Ag	89	He	0.013	ppb	45.9	68.89	100	
111	Cd	89	He	0.151	ppb	10.7	40.74	1000	
118	Sn	159	He	0.604	ppb	8.6	563.37	1000	
121	Sb	159	No Gas	0.318	ppb	15.3	1351.57	1000	
137	Ba	159	No Gas	159.469	ppb	7.0	235993.04	2000	
182	W	159	No Gas	0.052	ppb	24.3	280.31	1000	
205	Tl	209	No Gas	1.326	ppb	8.3	8609.29	1000	
208	Pb	209	No Gas	0.170	ppb	12.8	4211.69	2000	
232	Th	209	No Gas	0.586	ppb	8.0	5420.60	1000	
238	U	209	No Gas	0.844	ppb	8.7	7253.59	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6375734.52	2.0	6947791.61	91.77	29.5	120.4	
Sc	45	No Gas	10300820.14	2.6	11828674.09	87.08	29.5	120.4	
Sc	45	H2	1362069.52	0.8	1511145.3	90.13	29.5	120.4	
Sc	45	He	349237.56	1.2	392815.69	88.91	29.5	120.4	
Ge	72	No Gas	2051721.68	2.8	2346521.52	87.44	29.5	120.4	
Ge	72	H2	436448.27	1.4	505748.89	86.3	29.5	120.4	
Ge	72	He	212320.68	0.9	240647.81	88.23	29.5	120.4	
Y	89	H2	7414499.86	1.4	8216492.56	90.24	29.5	120.4	
Y	89	He	1814665.04	1.6	2023870.27	89.66	29.5	120.4	
Tb	159	No Gas	20322342.61	2.2	21789053.29	93.27	29.5	120.4	
Tb	159	He	7845135.51	0.9	8552940.43	91.72	29.5	120.4	
Bi	209	No Gas	9977167.13	3.1	10957550.08	91.05	29.5	120.4	

Sample Report

Sample Name	TN0289-006
File Name	092SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:04:17
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.192	ppb	7.4	273.35	100	
11	B	6	No Gas	126.912	ppb	6.0	115097.10	1000	
23	Na	45	He	236623.789	ppb	0.9	27350591.71	200000	
24	Mg	45	He	28255.258	ppb	0.8	1793207.99	200000	
27	Al	45	He	439.618	ppb	1.0	10556.54	200000	
28	Si	45	H2	10328.057	ppb	1.5	437283.36	10000	
39	K	45	He	9330.923	ppb	1.0	505234.11	200000	
40	Ca	45	H2	91546.615	ppb	0.9	32822493.12	200000	
51	V	89	He	4.125	ppb	6.7	3791.76	1000	
52	Cr	89	He	3.351	ppb	5.3	4224.55	2000	
55	Mn	89	He	1711.670	ppb	1.2	841714.83	2000	
56	Fe	89	H2	20069.738	ppb	0.9	26420738.77	100000	
59	Co	89	He	13.882	ppb	0.8	23521.24	1000	
60	Ni	89	He	41.082	ppb	1.0	19325.05	1000	
63	Cu	89	He	4.781	ppb	1.7	6312.76	2000	
66	Zn	89	He	44.848	ppb	3.5	7550.09	2000	
75	As	89	He	2.837	ppb	8.7	352.04	1000	
78	Se	89	H2	0.779	ppb	2.0	44.33	1000	
88	Sr	89	He	190.413	ppb	1.0	115226.11	2000	
95	Mo	89	He	4.235	ppb	7.6	2817.06	1000	
107	Ag	89	He	0.015	ppb	77.3	75.56	100	
111	Cd	89	He	0.333	ppb	0.4	91.48	1000	
118	Sn	159	He	0.669	ppb	18.4	618.93	1000	
121	Sb	159	No Gas	0.211	ppb	9.0	991.14	1000	
137	Ba	159	No Gas	89.927	ppb	6.2	139734.34	2000	
182	W	159	No Gas	0.041	ppb	37.6	256.96	1000	
205	Tl	209	No Gas	0.345	ppb	6.7	2593.17	1000	
208	Pb	209	No Gas	0.375	ppb	5.3	6504.69	2000	
232	Th	209	No Gas	1.137	ppb	9.4	11067.37	1000	
238	U	209	No Gas	2.617	ppb	9.0	24247.35	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6606448.82	2.1	6947791.61	95.09	29.5	120.4	
Sc	45	No Gas	10624125.31	2.6	11828674.09	89.82	29.5	120.4	
Sc	45	H2	1358981.89	0.3	1511145.3	89.93	29.5	120.4	
Sc	45	He	342268.29	0.6	392815.69	87.13	29.5	120.4	
Ge	72	No Gas	2162461.60	2.8	2346521.52	92.16	29.5	120.4	
Ge	72	H2	448394.95	0.5	505748.89	88.66	29.5	120.4	
Ge	72	He	214437.98	1.0	240647.81	89.11	29.5	120.4	
Y	89	H2	7780860.43	0.4	8216492.56	94.7	29.5	120.4	
Y	89	He	1848938.57	1.1	2023870.27	91.36	29.5	120.4	
Tb	159	No Gas	21328866.91	2.0	21789053.29	97.89	29.5	120.4	
Tb	159	He	8103457.73	0.8	8552940.43	94.74	29.5	120.4	
Bi	209	No Gas	10749935.29	2.0	10957550.08	98.11	29.5	120.4	

Sample Report

Sample Name	TN0289-007
File Name	093SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:06:55
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.006	ppb	66.5	16.66	100	
11	B	6	No Gas	2.468	ppb	6.5	2808.16	1000	
23	Na	45	He	243.676	ppb	10.8	35848.10	200000	
24	Mg	45	He	12.607	ppb	15.8	853.43	200000	
27	Al	45	He	7.277	ppb	11.9	214.45	200000	
28	Si	45	H2	19.666	ppb	7.2	1428.33	10000	
39	K	45	He	45.149	ppb	47.0	17342.77	200000	
40	Ca	45	H2	43.012	ppb	5.3	18752.99	200000	
51	V	89	He	0.144	ppb	34.6	465.58	1000	
52	Cr	89	He	0.269	ppb	24.8	909.21	2000	
55	Mn	89	He	0.418	ppb	7.1	301.28	2000	
56	Fe	89	H2	7.111	ppb	4.7	43921.35	100000	
59	Co	89	He	0.005	ppb	55.9	22.22	1000	
60	Ni	89	He	0.021	ppb	184.7	43.33	1000	
63	Cu	89	He	0.526	ppb	7.0	884.50	2000	
66	Zn	89	He	0.643	ppb	30.5	176.67	2000	
75	As	89	He	0.057	ppb	65.3	23.67	1000	
78	Se	89	H2	0.002	ppb	817.5	1.50	1000	
88	Sr	89	He	0.073	ppb	41.1	66.67	2000	
95	Mo	89	He	0.045	ppb	24.7	46.67	1000	
107	Ag	89	He	0.013	ppb	30.3	68.89	100	
111	Cd	89	He	0.001	ppb	173.2	0.37	1000	
118	Sn	159	He	0.380	ppb	19.1	453.36	1000	
121	Sb	159	No Gas	0.012	ppb	29.0	196.89	1000	
137	Ba	159	No Gas	0.261	ppb	49.9	510.58	2000	
182	W	159	No Gas	-0.011	ppb	N/A	76.76	1000	
205	Tl	209	No Gas	-0.017	ppb	N/A	126.81	1000	
208	Pb	209	No Gas	0.040	ppb	48.6	3393.97	2000	
232	Th	209	No Gas	0.108	ppb	7.5	1344.91	1000	
238	U	209	No Gas	0.003	ppb	60.8	36.71	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6542639.49	1.5	6947791.61	94.17	29.5	120.4	
Sc	45	No Gas	10393344.23	0.8	11828674.09	87.87	29.5	120.4	
Sc	45	H2	1355841.20	0.4	1511145.3	89.72	29.5	120.4	
Sc	45	He	337988.34	3.2	392815.69	86.04	29.5	120.4	
Ge	72	No Gas	2124337.62	1.5	2346521.52	90.53	29.5	120.4	
Ge	72	H2	449364.42	0.8	505748.89	88.85	29.5	120.4	
Ge	72	He	211310.98	2.8	240647.81	87.81	29.5	120.4	
Y	89	H2	7652625.17	0.9	8216492.56	93.14	29.5	120.4	
Y	89	He	1796963.65	4.0	2023870.27	88.79	29.5	120.4	
Tb	159	No Gas	21461143.29	1.1	21789053.29	98.5	29.5	120.4	
Tb	159	He	8065475.29	3.3	8552940.43	94.3	29.5	120.4	
Bi	209	No Gas	11078946.05	1.7	10957550.08	101.11	29.5	120.4	

Sample Report

Sample Name	TN0289-009
File Name	094SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:09:27
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.008	ppb	64.2	18.89	100	
11	B	6	No Gas	96.997	ppb	5.8	82808.64	1000	
23	Na	45	He	273631.045	ppb	1.1	30906977.14	200000	
24	Mg	45	He	101041.618	ppb	1.2	6266357.48	200000	
27	Al	45	He	50.442	ppb	4.9	1221.28	200000	
28	Si	45	H2	20030.366	ppb	0.7	823724.13	10000	
39	K	45	He	215547.789	ppb	0.7	11077197.80	200000	
40	Ca	45	H2	545186.811	ppb	0.6	189961872.72	200000	
51	V	89	He	10.761	ppb	2.3	8945.36	1000	
52	Cr	89	He	1.874	ppb	4.2	2545.77	2000	
55	Mn	89	He	5758.816	ppb	0.8	2719715.74	2000	
56	Fe	89	H2	43929.768	ppb	0.3	55392480.11	100000	
59	Co	89	He	10.280	ppb	3.1	16731.23	1000	
60	Ni	89	He	15.726	ppb	3.6	7125.39	1000	
63	Cu	89	He	0.761	ppb	3.4	1162.31	2000	
66	Zn	89	He	4.542	ppb	11.1	798.94	2000	
75	As	89	He	16.635	ppb	3.4	1900.34	1000	
78	Se	89	H2	0.666	ppb	14.2	36.50	1000	
88	Sr	89	He	1376.881	ppb	1.0	800097.88	2000	
95	Mo	89	He	14.137	ppb	2.0	8994.36	1000	
107	Ag	89	He	0.011	ppb	28.9	63.33	100	
111	Cd	89	He	0.017	ppb	67.3	4.44	1000	
118	Sn	159	He	0.526	ppb	5.1	525.59	1000	
121	Sb	159	No Gas	0.176	ppb	23.4	820.95	1000	
137	Ba	159	No Gas	691.334	ppb	4.7	1036377.96	2000	
182	W	159	No Gas	0.147	ppb	17.9	607.36	1000	
205	Tl	209	No Gas	0.037	ppb	57.1	457.19	1000	
208	Pb	209	No Gas	0.066	ppb	25.1	3320.57	2000	
232	Th	209	No Gas	0.077	ppb	21.3	951.11	1000	
238	U	209	No Gas	1.736	ppb	5.7	15102.85	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6204163.43	0.4	6947791.61	89.3	29.5	120.4	
Sc	45	No Gas	10014700.70	0.9	11828674.09	84.66	29.5	120.4	
Sc	45	H2	1320854.69	1.3	1511145.3	87.41	29.5	120.4	
Sc	45	He	334498.68	1.3	392815.69	85.15	29.5	120.4	
Ge	72	No Gas	2026625.25	0.2	2346521.52	86.37	29.5	120.4	
Ge	72	H2	429043.94	1.0	505748.89	84.83	29.5	120.4	
Ge	72	He	208353.31	1.2	240647.81	86.58	29.5	120.4	
Y	89	H2	7458054.15	0.9	8216492.56	90.77	29.5	120.4	
Y	89	He	1775801.50	1.1	2023870.27	87.74	29.5	120.4	
Tb	159	No Gas	20567311.08	1.1	21789053.29	94.39	29.5	120.4	
Tb	159	He	7918152.94	1.4	8552940.43	92.58	29.5	120.4	
Bi	209	No Gas	10081568.29	0.4	10957550.08	92.01	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	095SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:12:06
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.001	ppb	7.4	13.33	100	
11	B	6	No Gas	0.251	ppb	5.4	1760.17	1000	
23	Na	45	He	32.131	ppb	4.9	28175.65	200000	
24	Mg	45	He	2.995	ppb	21.8	1069.02	200000	
27	Al	45	He	0.182	ppb	92.9	68.89	200000	
28	Si	45	H2	0.914	ppb	45.4	824.28	10000	
39	K	45	He	15.864	ppb	14.4	20395.38	200000	
40	Ca	45	H2	22.701	ppb	5.3	45743.82	200000	
51	V	89	He	-0.043	ppb	N/A	187.79	1000	
52	Cr	89	He	-0.006	ppb	N/A	638.57	2000	
55	Mn	89	He	0.149	ppb	17.4	485.25	2000	
56	Fe	89	H2	2.403	ppb	4.8	52148.61	100000	
59	Co	89	He	0.000	ppb	440.6	17.78	1000	
60	Ni	89	He	-0.002	ppb	N/A	30.00	1000	
63	Cu	89	He	0.034	ppb	28.9	471.14	2000	
66	Zn	89	He	0.093	ppb	26.7	157.78	2000	
75	As	89	He	-0.012	ppb	N/A	11.00	1000	
78	Se	89	H2	0.000	ppb	N/A	1.33	1000	
88	Sr	89	He	0.038	ppb	7.8	142.23	2000	
95	Mo	89	He	0.007	ppb	28.0	43.34	1000	
107	Ag	89	He	0.002	ppb	115.5	61.11	100	
111	Cd	89	He	0.000	ppb	173.2	0.37	1000	
118	Sn	159	He	0.012	ppb	136.1	282.24	1000	
121	Sb	159	No Gas	0.002	ppb	57.7	193.55	1000	
137	Ba	159	No Gas	0.114	ppb	68.8	1011.18	2000	
182	W	159	No Gas	-0.003	ppb	N/A	70.08	1000	
205	Tl	209	No Gas	-0.004	ppb	N/A	106.79	1000	
208	Pb	209	No Gas	-0.018	ppb	N/A	2122.46	2000	
232	Th	209	No Gas	0.001	ppb	104.3	347.07	1000	
238	U	209	No Gas	0.000	ppb	29.8	23.36	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6697465.46	2.7	6947791.61	96.4	29.5	120.4	
Sc	45	No Gas	10701487.36	2.7	11828674.09	90.47	29.5	120.4	
Sc	45	H2	1410726.81	1.4	1511145.3	93.35	29.5	120.4	
Sc	45	He	360239.18	0.5	392815.69	91.71	29.5	120.4	
Ge	72	No Gas	2188011.06	2.7	2346521.52	93.24	29.5	120.4	
Ge	72	H2	476125.49	0.5	505748.89	94.14	29.5	120.4	
Ge	72	He	225046.27	1.1	240647.81	93.52	29.5	120.4	
Y	89	H2	7939827.25	1.2	8216492.56	96.63	29.5	120.4	
Y	89	He	1906437.91	1.0	2023870.27	94.2	29.5	120.4	
Tb	159	No Gas	21543839.13	2.9	21789053.29	98.87	29.5	120.4	
Tb	159	He	8375083.28	0.1	8552940.43	97.92	29.5	120.4	
Bi	209	No Gas	11070269.25	2.7	10957550.08	101.03	29.5	120.4	

Sample Report

Sample Name	TN0289-010
File Name	096SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:14:40
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.004	ppb	126.7	13.33	100	
11	B	6	No Gas	64.267	ppb	1.5	56297.25	1000	
23	Na	45	He	99420.693	ppb	1.6	11625456.40	200000	
24	Mg	45	He	13272.993	ppb	2.2	851799.30	200000	
27	Al	45	He	21.249	ppb	7.2	557.81	200000	
28	Si	45	H2	4848.038	ppb	4.9	206852.89	10000	
39	K	45	He	2312.918	ppb	2.0	138211.08	200000	
40	Ca	45	H2	120126.632	ppb	4.9	43332098.24	200000	
51	V	89	He	0.391	ppb	14.7	682.26	1000	
52	Cr	89	He	0.403	ppb	9.2	1073.85	2000	
55	Mn	89	He	4.894	ppb	2.6	2497.78	2000	
56	Fe	89	H2	23.679	ppb	5.6	65367.86	100000	
59	Co	89	He	0.363	ppb	9.7	626.72	1000	
60	Ni	89	He	6.159	ppb	1.9	2910.40	1000	
63	Cu	89	He	1.719	ppb	2.2	2412.52	2000	
66	Zn	89	He	4.317	ppb	7.6	791.16	2000	
75	As	89	He	0.160	ppb	25.5	36.33	1000	
78	Se	89	H2	5.759	ppb	9.1	313.16	1000	
88	Sr	89	He	311.180	ppb	1.8	187242.02	2000	
95	Mo	89	He	6.812	ppb	0.8	4497.58	1000	
107	Ag	89	He	0.011	ppb	12.2	65.56	100	
111	Cd	89	He	0.082	ppb	45.1	22.59	1000	
118	Sn	159	He	0.302	ppb	23.1	420.02	1000	
121	Sb	159	No Gas	0.156	ppb	20.5	744.19	1000	
137	Ba	159	No Gas	25.438	ppb	0.5	38351.47	2000	
182	W	159	No Gas	-0.006	ppb	N/A	90.10	1000	
205	Tl	209	No Gas	0.199	ppb	14.1	1558.51	1000	
208	Pb	209	No Gas	0.015	ppb	31.2	2996.84	2000	
232	Th	209	No Gas	0.060	ppb	7.2	837.63	1000	
238	U	209	No Gas	1.350	ppb	1.2	12279.83	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6341662.95	2.7	6947791.61	91.28	29.5	120.4	
Sc	45	No Gas	10048594.80	4.7	11828674.09	84.95	29.5	120.4	
Sc	45	H2	1368794.87	3.8	1511145.3	90.58	29.5	120.4	
Sc	45	He	346147.99	1.4	392815.69	88.12	29.5	120.4	
Ge	72	No Gas	2078493.34	3.0	2346521.52	88.58	29.5	120.4	
Ge	72	H2	448293.26	2.5	505748.89	88.64	29.5	120.4	
Ge	72	He	215622.87	1.5	240647.81	89.6	29.5	120.4	
Y	89	H2	7658476.12	3.3	8216492.56	93.21	29.5	120.4	
Y	89	He	1838901.32	1.8	2023870.27	90.86	29.5	120.4	
Tb	159	No Gas	20643019.55	5.5	21789053.29	94.74	29.5	120.4	
Tb	159	He	8280432.65	1.7	8552940.43	96.81	29.5	120.4	
Bi	209	No Gas	10536363.28	3.8	10957550.08	96.16	29.5	120.4	

Sample Report

Sample Name	TN0289-011
File Name	097SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:17:15
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.013	ppb	38.0	25.55	100	
11	B	6	No Gas	103.928	ppb	1.2	90431.13	1000	
23	Na	45	He	151860.315	ppb	3.3	17088443.26	200000	
24	Mg	45	He	21366.603	ppb	3.5	1319884.73	200000	
27	Al	45	He	14.428	ppb	11.9	377.80	200000	
28	Si	45	H2	6710.401	ppb	0.2	272577.42	10000	
39	K	45	He	6126.669	ppb	2.9	328011.75	200000	
40	Ca	45	H2	78867.877	ppb	1.0	27106757.09	200000	
51	V	89	He	0.473	ppb	26.1	725.61	1000	
52	Cr	89	He	0.429	ppb	16.5	1066.52	2000	
55	Mn	89	He	1076.510	ppb	3.7	509852.68	2000	
56	Fe	89	H2	5749.872	ppb	0.2	7157498.50	100000	
59	Co	89	He	3.582	ppb	3.5	5854.99	1000	
60	Ni	89	He	3.992	ppb	1.6	1839.08	1000	
63	Cu	89	He	0.878	ppb	7.3	1306.78	2000	
66	Zn	89	He	4.164	ppb	6.9	741.16	2000	
75	As	89	He	0.837	ppb	10.7	112.01	1000	
78	Se	89	H2	0.203	ppb	37.5	11.83	1000	
88	Sr	89	He	242.102	ppb	4.0	141075.90	2000	
95	Mo	89	He	3.618	ppb	5.3	2321.39	1000	
107	Ag	89	He	0.001	ppb	513.9	43.33	100	
111	Cd	89	He	0.024	ppb	42.2	6.30	1000	
118	Sn	159	He	0.318	ppb	33.4	416.69	1000	
121	Sb	159	No Gas	0.215	ppb	11.0	974.46	1000	
137	Ba	159	No Gas	50.131	ppb	2.8	75793.54	2000	
182	W	159	No Gas	-0.003	ppb	N/A	100.11	1000	
205	Tl	209	No Gas	0.055	ppb	17.0	604.03	1000	
208	Pb	209	No Gas	0.005	ppb	236.3	2920.06	2000	
232	Th	209	No Gas	0.042	ppb	12.5	674.11	1000	
238	U	209	No Gas	1.704	ppb	3.5	15583.81	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6325503.30	2.4	6947791.61	91.04	29.5	120.4	
Sc	45	No Gas	9972434.79	3.4	11828674.09	84.31	29.5	120.4	
Sc	45	H2	1302808.67	1.3	1511145.3	86.21	29.5	120.4	
Sc	45	He	333307.44	2.3	392815.69	84.85	29.5	120.4	
Ge	72	No Gas	2069847.77	2.2	2346521.52	88.21	29.5	120.4	
Ge	72	H2	435710.45	0.8	505748.89	86.15	29.5	120.4	
Ge	72	He	209911.97	1.7	240647.81	87.23	29.5	120.4	
Y	89	H2	7332869.64	1.0	8216492.56	89.25	29.5	120.4	
Y	89	He	1781441.36	2.3	2023870.27	88.02	29.5	120.4	
Tb	159	No Gas	20718945.94	3.7	21789053.29	95.09	29.5	120.4	
Tb	159	He	8062799.25	3.2	8552940.43	94.27	29.5	120.4	
Bi	209	No Gas	10603845.34	3.4	10957550.08	96.77	29.5	120.4	

Sample Report

Sample Name	TN0289-012
File Name	098SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:19:48
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.120	ppb	5.5	168.90	100	
11	B	6	No Gas	28.450	ppb	8.4	25567.80	1000	
23	Na	45	He	213150.011	ppb	1.4	23867702.49	200000	
24	Mg	45	He	2581.606	ppb	1.7	158770.82	200000	
27	Al	45	He	105.510	ppb	5.4	2485.86	200000	
28	Si	45	H2	9615.313	ppb	0.7	391104.09	10000	
39	K	45	He	2794.088	ppb	1.1	156889.48	200000	
40	Ca	45	H2	5974.897	ppb	0.5	2060805.58	200000	
51	V	89	He	0.395	ppb	14.5	655.60	1000	
52	Cr	89	He	0.460	ppb	6.0	1084.52	2000	
55	Mn	89	He	164.704	ppb	1.2	77078.71	2000	
56	Fe	89	H2	677.113	ppb	3.9	878074.62	100000	
59	Co	89	He	3.761	ppb	2.9	6068.44	1000	
60	Ni	89	He	15.573	ppb	1.2	6984.22	1000	
63	Cu	89	He	1.541	ppb	3.1	2090.23	2000	
66	Zn	89	He	26.239	ppb	3.2	4228.57	2000	
75	As	89	He	0.912	ppb	5.3	119.01	1000	
78	Se	89	H2	0.322	ppb	10.6	18.17	1000	
88	Sr	89	He	17.956	ppb	2.6	10348.71	2000	
95	Mo	89	He	0.851	ppb	6.5	552.25	1000	
107	Ag	89	He	0.004	ppb	185.4	48.89	100	
111	Cd	89	He	0.316	ppb	5.8	82.60	1000	
118	Sn	159	He	0.474	ppb	16.8	502.33	1000	
121	Sb	159	No Gas	0.101	ppb	21.6	547.29	1000	
137	Ba	159	No Gas	18.565	ppb	7.6	28853.55	2000	
182	W	159	No Gas	-0.017	ppb	N/A	56.73	1000	
205	Tl	209	No Gas	0.140	ppb	10.5	1211.42	1000	
208	Pb	209	No Gas	0.064	ppb	38.7	3587.53	2000	
232	Th	209	No Gas	0.040	ppb	9.5	674.11	1000	
238	U	209	No Gas	0.141	ppb	17.5	1331.55	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6433003.45	2.7	6947791.61	92.59	29.5	120.4	
Sc	45	No Gas	10164015.53	2.1	11828674.09	85.93	29.5	120.4	
Sc	45	H2	1305435.26	1.2	1511145.3	86.39	29.5	120.4	
Sc	45	He	331594.57	1.3	392815.69	84.41	29.5	120.4	
Ge	72	No Gas	2098150.78	2.1	2346521.52	89.42	29.5	120.4	
Ge	72	H2	435687.05	0.8	505748.89	86.15	29.5	120.4	
Ge	72	He	207602.82	0.7	240647.81	86.27	29.5	120.4	
Y	89	H2	7384149.93	1.4	8216492.56	89.87	29.5	120.4	
Y	89	He	1757449.89	0.7	2023870.27	86.84	29.5	120.4	
Tb	159	No Gas	21279939.54	2.2	21789053.29	97.66	29.5	120.4	
Tb	159	He	8009202.52	0.4	8552940.43	93.64	29.5	120.4	
Bi	209	No Gas	10935109.94	2.4	10957550.08	99.8	29.5	120.4	

Sample Report

Sample Name	TN0289-013
File Name	099SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:22:27
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.112	ppb	13.7	153.34	100	
11	B	6	No Gas	99.602	ppb	5.7	84938.72	1000	
23	Na	45	He	2121136.796	ppb	1.3	239385373.61	200000	>LDR
24	Mg	45	He	65388.255	ppb	1.1	4052803.10	200000	
27	Al	45	He	300.081	ppb	0.6	7050.89	200000	
28	Si	45	H2	7059.346	ppb	1.4	291238.50	10000	
39	K	45	He	13538.437	ppb	1.9	709214.60	200000	
40	Ca	45	H2	218109.043	ppb	0.5	76150447.76	200000	
51	V	89	He	1.030	ppb	8.5	1148.98	1000	
52	Cr	89	He	0.769	ppb	10.5	1387.16	2000	
55	Mn	89	He	4118.726	ppb	1.1	1910804.26	2000	
56	Fe	89	H2	16511.197	ppb	0.3	20397042.99	100000	
59	Co	89	He	17.720	ppb	2.6	28319.46	1000	
60	Ni	89	He	63.051	ppb	1.0	27965.34	1000	
63	Cu	89	He	1.849	ppb	2.3	2443.63	2000	
66	Zn	89	He	43.937	ppb	3.8	6980.88	2000	
75	As	89	He	0.590	ppb	16.1	82.34	1000	
78	Se	89	H2	0.255	ppb	4.8	14.50	1000	
88	Sr	89	He	617.784	ppb	1.4	352673.78	2000	
95	Mo	89	He	3.758	ppb	1.8	2361.40	1000	
107	Ag	89	He	0.017	ppb	19.2	74.45	100	
111	Cd	89	He	0.169	ppb	16.9	43.70	1000	
118	Sn	159	He	0.342	ppb	3.2	410.02	1000	
121	Sb	159	No Gas	0.320	ppb	16.1	1344.91	1000	
137	Ba	159	No Gas	171.687	ppb	6.4	251058.68	2000	
182	W	159	No Gas	-0.010	ppb	N/A	73.41	1000	
205	Tl	209	No Gas	1.416	ppb	4.2	9110.17	1000	
208	Pb	209	No Gas	0.412	ppb	14.2	6311.05	2000	
232	Th	209	No Gas	0.133	ppb	7.1	1421.68	1000	
238	U	209	No Gas	0.962	ppb	6.7	8208.69	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6199322.33	0.7	6947791.61	89.23	29.5	120.4	
Sc	45	No Gas	9933574.89	0.8	11828674.09	83.98	29.5	120.4	
Sc	45	H2	1323497.97	1.8	1511145.3	87.58	29.5	120.4	
Sc	45	He	334275.83	0.6	392815.69	85.1	29.5	120.4	
Ge	72	No Gas	1989708.87	1.2	2346521.52	84.79	29.5	120.4	
Ge	72	H2	424614.43	1.3	505748.89	83.96	29.5	120.4	
Ge	72	He	204868.10	0.8	240647.81	85.13	29.5	120.4	
Y	89	H2	7299412.02	1.0	8216492.56	88.84	29.5	120.4	
Y	89	He	1744302.33	0.5	2023870.27	86.19	29.5	120.4	
Tb	159	No Gas	20072183.87	1.2	21789053.29	92.12	29.5	120.4	
Tb	159	He	7666918.98	1.0	8552940.43	89.64	29.5	120.4	
Bi	209	No Gas	9888917.53	1.6	10957550.08	90.25	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	100SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:25:02
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	996.5	8.89	100	
11	B	6	No Gas	0.265	ppb	14.9	1816.85	1000	
23	Na	45	He	121.688	ppb	11.4	79797.99	200000	
24	Mg	45	He	2.106	ppb	18.7	746.75	200000	
27	Al	45	He	0.119	ppb	107.4	58.89	200000	
28	Si	45	H2	-0.284	ppb	N/A	550.62	10000	
39	K	45	He	10.937	ppb	19.4	18373.51	200000	
40	Ca	45	H2	9.761	ppb	21.1	21259.16	200000	
51	V	89	He	-0.038	ppb	N/A	202.23	1000	
52	Cr	89	He	-0.015	ppb	N/A	568.58	2000	
55	Mn	89	He	0.120	ppb	24.3	401.27	2000	
56	Fe	89	H2	1.008	ppb	26.3	41976.56	100000	
59	Co	89	He	0.000	ppb	N/A	13.33	1000	
60	Ni	89	He	-0.002	ppb	N/A	30.00	1000	
63	Cu	89	He	0.021	ppb	24.4	376.69	2000	
66	Zn	89	He	0.086	ppb	19.4	146.67	2000	
75	As	89	He	-0.009	ppb	N/A	12.67	1000	
78	Se	89	H2	0.002	ppb	86.6	2.00	1000	
88	Sr	89	He	0.018	ppb	10.1	78.89	2000	
95	Mo	89	He	0.006	ppb	95.3	36.67	1000	
107	Ag	89	He	0.000	ppb	1038.1	43.33	100	
111	Cd	89	He	0.000	ppb	173.2	0.37	1000	
118	Sn	159	He	0.000	ppb	N/A	241.12	1000	
121	Sb	159	No Gas	0.000	ppb	1619.0	150.17	1000	
137	Ba	159	No Gas	0.083	ppb	84.7	744.20	2000	
182	W	159	No Gas	-0.002	ppb	N/A	73.42	1000	
205	Tl	209	No Gas	-0.003	ppb	N/A	120.13	1000	
208	Pb	209	No Gas	-0.017	ppb	N/A	2135.80	2000	
232	Th	209	No Gas	0.001	ppb	87.3	357.07	1000	
238	U	209	No Gas	0.001	ppb	61.5	53.39	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6652532.09	1.9	6947791.61	95.75	29.5	120.4	
Sc	45	No Gas	10415243.00	1.1	11828674.09	88.05	29.5	120.4	
Sc	45	H2	1386044.84	1.3	1511145.3	91.72	29.5	120.4	
Sc	45	He	347791.63	2.2	392815.69	88.54	29.5	120.4	
Ge	72	No Gas	2125507.36	1.2	2346521.52	90.58	29.5	120.4	
Ge	72	H2	467026.90	1.0	505748.89	92.34	29.5	120.4	
Ge	72	He	219604.13	1.1	240647.81	91.26	29.5	120.4	
Y	89	H2	7787908.36	0.1	8216492.56	94.78	29.5	120.4	
Y	89	He	1851346.67	1.9	2023870.27	91.48	29.5	120.4	
Tb	159	No Gas	21184814.96	1.1	21789053.29	97.23	29.5	120.4	
Tb	159	He	8203310.09	1.7	8552940.43	95.91	29.5	120.4	
Bi	209	No Gas	10863380.81	1.5	10957550.08	99.14	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	101_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:27:37
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	22.944	ppb	4.3	152091.53	25	91.78	89.8	110.2	
11	B	6	No Gas	22.829	ppb	4.5	99643.92	25	91.32	89.8	110.2	
23	Na	45	He	5093.074	ppb	0.7	2930308.46	5000	101.86	89.8	110.2	
24	Mg	45	He	5070.751	ppb	0.7	1597902.96	5000	101.42	89.8	110.2	
27	Al	45	He	488.942	ppb	1.4	58094.26	500	97.79	89.8	110.2	
28	Si	45	H2	501.844	ppb	4.2	102550.67	500	100.37	89.8	110.2	
39	K	45	He	4950.788	ppb	0.9	1306048.94	5000	99.02	89.8	110.2	
40	Ca	45	H2	5166.216	ppb	3.4	8904196.32	5000	103.32	89.8	110.2	
51	V	89	He	24.055	ppb	0.6	98301.09	25	96.22	89.8	110.2	
52	Cr	89	He	24.232	ppb	0.3	127183.89	25	96.93	89.8	110.2	
55	Mn	89	He	24.303	ppb	0.6	58578.60	25	97.21	89.8	110.2	
56	Fe	89	H2	5090.296	ppb	3.8	31626270.16	5000	101.81	89.8	110.2	
59	Co	89	He	24.022	ppb	0.6	199051.34	25	96.09	89.8	110.2	
60	Ni	89	He	24.131	ppb	0.4	55482.79	25	96.52	89.8	110.2	
63	Cu	89	He	24.256	ppb	0.6	150892.89	25	97.02	89.8	110.2	
66	Zn	89	He	24.547	ppb	1.7	20097.31	25	98.19	89.8	110.2	
75	As	89	He	23.987	ppb	0.9	13856.73	25	95.95	89.8	110.2	
78	Se	89	H2	25.286	ppb	3.1	6576.26	25	101.14	89.8	110.2	
88	Sr	89	He	24.226	ppb	0.9	71750.19	25	96.9	89.8	110.2	
95	Mo	89	He	24.872	ppb	0.7	80495.91	25	99.49	89.8	110.2	
107	Ag	89	He	25.427	ppb	0.1	267208.40	25	101.71	89.8	110.2	
111	Cd	89	He	25.089	ppb	1.2	33723.36	25	100.36	89.8	110.2	
118	Sn	159	He	23.751	ppb	0.4	67417.80	25	95	89.8	110.2	
121	Sb	159	No Gas	24.608	ppb	4.0	468214.24	25	98.43	89.8	110.2	
137	Ba	159	No Gas	24.441	ppb	2.7	180706.40	25	97.76	89.8	110.2	
182	W	159	No Gas	24.499	ppb	4.1	407349.69	25	98	89.8	110.2	
205	Tl	209	No Gas	25.103	ppb	4.0	837017.03	25	100.41	89.8	110.2	
208	Pb	209	No Gas	24.729	ppb	4.3	1161244.11	25	98.92	89.8	110.2	
232	Th	209	No Gas	24.403	ppb	4.8	1131177.87	25	97.61	89.8	110.2	
238	U	209	No Gas	24.561	ppb	4.7	1112257.30	25	98.24	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6350399.24	1.7	6947791.61	91.4	29.5	120.4	
Sc	45	No Gas	9860806.81	2.6	11828674.09	83.36	29.5	120.4	
Sc	45	H2	1306914.54	2.4	1511145.3	86.49	29.5	120.4	
Sc	45	He	339877.91	0.3	392815.69	86.52	29.5	120.4	
Ge	72	No Gas	2045033.14	2.4	2346521.52	87.15	29.5	120.4	
Ge	72	H2	444048.92	2.1	505748.89	87.8	29.5	120.4	
Ge	72	He	213741.84	0.7	240647.81	88.82	29.5	120.4	
Y	89	H2	7350391.07	2.3	8216492.56	89.46	29.5	120.4	
Y	89	He	1809433.77	0.7	2023870.27	89.4	29.5	120.4	
Tb	159	No Gas	20289147.89	2.6	21789053.29	93.12	29.5	120.4	
Tb	159	He	8098642.86	0.5	8552940.43	94.69	29.5	120.4	
Bi	209	No Gas	10500029.24	2.3	10957550.08	95.82	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	102_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:30:08
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.066	ppb	86.8	453.36	0.2	
11	B	6	No Gas	0.316	ppb	16.9	1981.33	4	
23	Na	45	He	70.730	ppb	12.6	49165.63	200	
24	Mg	45	He	3.171	ppb	9.1	1073.45	20	
27	Al	45	He	0.146	ppb	26.0	61.11	20	
28	Si	45	H2	-0.293	ppb	N/A	543.94	100	
39	K	45	He	11.201	ppb	43.4	18185.04	200	
40	Ca	45	H2	9.327	ppb	2.0	20310.75	20	
51	V	89	He	-0.040	ppb	N/A	193.34	1	
52	Cr	89	He	-0.014	ppb	N/A	571.25	1	
55	Mn	89	He	0.114	ppb	8.2	381.27	0.4	
56	Fe	89	H2	1.746	ppb	8.2	46489.19	20	
59	Co	89	He	0.005	ppb	66.3	53.34	0.2	
60	Ni	89	He	0.005	ppb	288.4	45.56	0.4	
63	Cu	89	He	0.025	ppb	40.0	397.80	0.6	
66	Zn	89	He	-0.007	ppb	N/A	68.89	2	
75	As	89	He	-0.001	ppb	N/A	16.67	1	
78	Se	89	H2	0.024	ppb	45.7	8.00	1	
88	Sr	89	He	0.025	ppb	12.0	100.00	1	
95	Mo	89	He	0.078	ppb	18.8	273.34	1	
107	Ag	89	He	0.004	ppb	33.3	84.45	0.2	
111	Cd	89	He	0.004	ppb	22.1	5.18	0.2	
118	Sn	159	He	0.069	ppb	25.8	436.69	1	
121	Sb	159	No Gas	0.074	ppb	62.7	1571.86	0.2	
137	Ba	159	No Gas	0.054	ppb	83.9	503.91	0.4	
182	W	159	No Gas	0.148	ppb	46.0	2609.91	1	
205	Tl	209	No Gas	0.070	ppb	73.0	2606.59	0.2	
208	Pb	209	No Gas	0.020	ppb	147.8	3831.19	0.2	
232	Th	209	No Gas	0.279	ppb	27.1	13432.65	1	
238	U	209	No Gas	0.100	ppb	77.0	4569.69	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6437248.95	0.7	6947791.61	92.65	29.5	120.4	
Sc	45	No Gas	10142068.59	2.2	11828674.09	85.74	29.5	120.4	
Sc	45	H2	1373652.50	1.3	1511145.3	90.9	29.5	120.4	
Sc	45	He	343477.74	4.1	392815.69	87.44	29.5	120.4	
Ge	72	No Gas	2085827.32	1.4	2346521.52	88.89	29.5	120.4	
Ge	72	H2	467325.55	1.6	505748.89	92.4	29.5	120.4	
Ge	72	He	216195.61	2.4	240647.81	89.84	29.5	120.4	
Y	89	H2	7729980.28	1.3	8216492.56	94.08	29.5	120.4	
Y	89	He	1834802.70	3.7	2023870.27	90.66	29.5	120.4	
Tb	159	No Gas	20739035.52	1.6	21789053.29	95.18	29.5	120.4	
Tb	159	He	8129178.77	3.6	8552940.43	95.05	29.5	120.4	
Bi	209	No Gas	10703673.71	2.1	10957550.08	97.68	29.5	120.4	

Sample Report

Sample Name	TN0289-014
File Name	103SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:32:46
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.245	ppb	11.8	332.24	100	
11	B	6	No Gas	134.795	ppb	8.0	117494.54	1000	
23	Na	45	He	243170.144	ppb	0.2	27202535.95	200000	
24	Mg	45	He	29630.365	ppb	0.4	1819967.68	200000	
27	Al	45	He	1249.674	ppb	2.7	28961.24	200000	
28	Si	45	H2	11327.516	ppb	0.6	464580.20	10000	
39	K	45	He	9969.053	ppb	0.5	521409.84	200000	
40	Ca	45	H2	95655.230	ppb	0.3	33224849.23	200000	
51	V	89	He	7.477	ppb	3.9	6425.04	1000	
52	Cr	89	He	4.745	ppb	1.5	5577.44	2000	
55	Mn	89	He	1807.931	ppb	0.2	867930.02	2000	
56	Fe	89	H2	24004.511	ppb	0.4	30475637.90	100000	
59	Co	89	He	15.677	ppb	2.9	25925.82	1000	
60	Ni	89	He	46.593	ppb	0.8	21391.44	1000	
63	Cu	89	He	5.472	ppb	2.9	7017.55	2000	
66	Zn	89	He	52.375	ppb	2.9	8596.26	2000	
75	As	89	He	3.943	ppb	5.2	471.06	1000	
78	Se	89	H2	1.113	ppb	7.7	60.50	1000	
88	Sr	89	He	194.157	ppb	0.6	114699.50	2000	
95	Mo	89	He	7.130	ppb	3.6	4619.83	1000	
107	Ag	89	He	0.032	ppb	32.1	108.89	100	
111	Cd	89	He	0.344	ppb	14.8	92.22	1000	
118	Sn	159	He	0.521	ppb	13.6	527.81	1000	
121	Sb	159	No Gas	0.354	ppb	4.6	1535.14	1000	
137	Ba	159	No Gas	100.061	ppb	7.8	152648.80	2000	
182	W	159	No Gas	0.071	ppb	39.6	353.73	1000	
205	Tl	209	No Gas	0.471	ppb	10.9	3394.26	1000	
208	Pb	209	No Gas	1.199	ppb	4.8	14178.96	2000	
232	Th	209	No Gas	2.047	ppb	4.9	19390.00	1000	
238	U	209	No Gas	3.283	ppb	8.7	29929.62	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6355975.28	2.9	6947791.61	91.48	29.5	120.4	
Sc	45	No Gas	10153686.56	2.7	11828674.09	85.84	29.5	120.4	
Sc	45	H2	1316529.99	0.8	1511145.3	87.12	29.5	120.4	
Sc	45	He	331246.31	0.5	392815.69	84.33	29.5	120.4	
Ge	72	No Gas	2085214.67	2.7	2346521.52	88.86	29.5	120.4	
Ge	72	H2	430356.85	0.5	505748.89	85.09	29.5	120.4	
Ge	72	He	207206.30	0.5	240647.81	86.1	29.5	120.4	
Y	89	H2	7505252.44	0.5	8216492.56	91.34	29.5	120.4	
Y	89	He	1804852.78	0.4	2023870.27	89.18	29.5	120.4	
Tb	159	No Gas	20948682.19	2.1	21789053.29	96.14	29.5	120.4	
Tb	159	He	7993697.38	0.5	8552940.43	93.46	29.5	120.4	
Bi	209	No Gas	10576331.59	2.1	10957550.08	96.52	29.5	120.4	

Sample Report

Sample Name	TN0289-015
File Name	104SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:35:19
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.005	ppb	68.1	15.56	100	
11	B	6	No Gas	2.592	ppb	6.5	2859.27	1000	
23	Na	45	He	231.474	ppb	7.1	34473.10	200000	
24	Mg	45	He	13.871	ppb	14.5	933.43	200000	
27	Al	45	He	8.877	ppb	8.4	252.23	200000	
28	Si	45	H2	18.826	ppb	24.0	1365.05	10000	
39	K	45	He	48.235	ppb	4.0	17509.55	200000	
40	Ca	45	H2	60.084	ppb	4.6	24370.46	200000	
51	V	89	He	0.150	ppb	46.0	470.03	1000	
52	Cr	89	He	0.265	ppb	6.8	903.87	2000	
55	Mn	89	He	0.541	ppb	25.6	358.61	2000	
56	Fe	89	H2	11.123	ppb	11.2	48290.18	100000	
59	Co	89	He	0.007	ppb	74.9	24.45	1000	
60	Ni	89	He	1.853	ppb	3.9	876.73	1000	
63	Cu	89	He	0.497	ppb	11.5	846.72	2000	
66	Zn	89	He	4.638	ppb	12.4	821.17	2000	
75	As	89	He	0.025	ppb	239.1	20.00	1000	
78	Se	89	H2	0.018	ppb	60.2	2.33	1000	
88	Sr	89	He	0.066	ppb	4.9	62.23	2000	
95	Mo	89	He	0.042	ppb	9.5	44.44	1000	
107	Ag	89	He	0.008	ppb	26.3	58.89	100	
111	Cd	89	He	0.001	ppb	173.2	0.37	1000	
118	Sn	159	He	0.414	ppb	9.3	476.69	1000	
121	Sb	159	No Gas	0.010	ppb	106.7	183.54	1000	
137	Ba	159	No Gas	0.189	ppb	30.3	390.44	2000	
182	W	159	No Gas	-0.002	ppb	N/A	106.79	1000	
205	Tl	209	No Gas	-0.020	ppb	N/A	103.45	1000	
208	Pb	209	No Gas	0.009	ppb	63.3	3066.90	2000	
232	Th	209	No Gas	0.143	ppb	14.1	1675.31	1000	
238	U	209	No Gas	0.008	ppb	44.7	83.43	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6409914.74	1.0	6947791.61	92.26	29.5	120.4	
Sc	45	No Gas	10093557.58	1.3	11828674.09	85.33	29.5	120.4	
Sc	45	H2	1329279.40	0.6	1511145.3	87.97	29.5	120.4	
Sc	45	He	337696.92	1.6	392815.69	85.97	29.5	120.4	
Ge	72	No Gas	2073610.96	1.0	2346521.52	88.37	29.5	120.4	
Ge	72	H2	438747.88	0.7	505748.89	86.75	29.5	120.4	
Ge	72	He	210501.19	0.9	240647.81	87.47	29.5	120.4	
Y	89	H2	7524808.60	0.1	8216492.56	91.58	29.5	120.4	
Y	89	He	1791335.23	1.8	2023870.27	88.51	29.5	120.4	
Tb	159	No Gas	21065957.05	0.6	21789053.29	96.68	29.5	120.4	
Tb	159	He	8138588.08	1.4	8552940.43	95.16	29.5	120.4	
Bi	209	No Gas	10982779.27	0.8	10957550.08	100.23	29.5	120.4	

Sample Report

Sample Name	TN0289-005
File Name	105SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:37:57
Sample Type	Sample
Total Dilution	10.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.104	ppb	30.0	75.56	100	
11	B	6	No Gas	97.823	ppb	7.5	41979.80	1000	
23	Na	45	He	2093276.066	ppb	1.0	120010332.77	200000	>LDR
24	Mg	45	He	64161.060	ppb	0.7	2020180.93	200000	
27	Al	45	He	111.010	ppb	3.1	1360.12	200000	
28	Si	45	H2	6879.153	ppb	0.8	143352.31	10000	
39	K	45	He	13255.209	ppb	1.3	360453.15	200000	
40	Ca	45	H2	214593.955	ppb	1.7	37763396.66	200000	
51	V	89	He	0.257	ppb	19.4	451.13	1000	
52	Cr	89	He	0.488	ppb	18.7	878.54	2000	
55	Mn	89	He	3981.306	ppb	1.0	944728.41	2000	
56	Fe	89	H2	16159.238	ppb	2.2	10151276.34	100000	
59	Co	89	He	16.630	ppb	2.0	13603.06	1000	
60	Ni	89	He	59.578	ppb	1.7	13534.76	1000	
63	Cu	89	He	1.513	ppb	9.5	1161.21	2000	
66	Zn	89	He	40.178	ppb	3.7	3303.85	2000	
75	As	89	He	0.321	ppb	24.2	35.33	1000	
78	Se	89	H2	0.178	ppb	47.4	6.00	1000	
88	Sr	89	He	608.090	ppb	0.6	177554.70	2000	
95	Mo	89	He	3.031	ppb	6.3	984.52	1000	
107	Ag	89	He	0.021	ppb	79.0	63.34	100	
111	Cd	89	He	0.187	ppb	9.9	24.81	1000	
118	Sn	159	He	0.300	ppb	55.3	315.57	1000	
121	Sb	159	No Gas	0.311	ppb	16.6	737.52	1000	
137	Ba	159	No Gas	162.149	ppb	5.3	120681.39	2000	
182	W	159	No Gas	0.000	ppb	6277.4	110.12	1000	
205	Tl	209	No Gas	1.351	ppb	14.8	4596.06	1000	
208	Pb	209	No Gas	-0.005	ppb	N/A	2739.87	2000	
232	Th	209	No Gas	0.128	ppb	16.7	844.31	1000	
238	U	209	No Gas	0.855	ppb	9.9	3761.45	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6199249.66	1.4	6947791.61	89.23	29.5	120.4	
Sc	45	No Gas	10045990.22	0.7	11828674.09	84.93	29.5	120.4	
Sc	45	H2	1333969.59	0.8	1511145.3	88.28	29.5	120.4	
Sc	45	He	339610.92	0.6	392815.69	86.46	29.5	120.4	
Ge	72	No Gas	2035348.14	1.1	2346521.52	86.74	29.5	120.4	
Ge	72	H2	434662.42	1.0	505748.89	85.94	29.5	120.4	
Ge	72	He	209705.34	0.7	240647.81	87.14	29.5	120.4	
Y	89	H2	7411042.08	0.6	8216492.56	90.2	29.5	120.4	
Y	89	He	1784345.81	0.9	2023870.27	88.17	29.5	120.4	
Tb	159	No Gas	20418558.03	0.6	21789053.29	93.71	29.5	120.4	
Tb	159	He	7869855.37	0.3	8552940.43	92.01	29.5	120.4	
Bi	209	No Gas	10197844.36	1.1	10957550.08	93.07	29.5	120.4	

Sample Report

Sample Name	TN0289-013
File Name	106SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:40:31
Sample Type	Sample
Total Dilution	10.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.106	ppb	25.0	77.78	100	
11	B	6	No Gas	101.126	ppb	9.2	44086.07	1000	
23	Na	45	He	2121412.641	ppb	2.4	123111287.78	200000	>LDR
24	Mg	45	He	65662.194	ppb	2.5	2092708.65	200000	
27	Al	45	He	299.925	ppb	3.0	3645.04	200000	
28	Si	45	H2	7319.706	ppb	0.2	153978.78	10000	
39	K	45	He	13656.366	ppb	2.4	375449.97	200000	
40	Ca	45	H2	222206.994	ppb	0.4	39481757.47	200000	
51	V	89	He	0.822	ppb	4.4	686.71	1000	
52	Cr	89	He	0.770	ppb	14.3	1037.85	2000	
55	Mn	89	He	4102.171	ppb	2.3	985895.98	2000	
56	Fe	89	H2	16854.377	ppb	0.3	10673833.98	100000	
59	Co	89	He	18.254	ppb	3.4	15118.15	1000	
60	Ni	89	He	64.579	ppb	3.7	14850.60	1000	
63	Cu	89	He	1.923	ppb	11.6	1430.13	2000	
66	Zn	89	He	46.034	ppb	4.2	3822.88	2000	
75	As	89	He	0.520	ppb	20.1	47.34	1000	
78	Se	89	H2	0.295	ppb	43.3	9.17	1000	
88	Sr	89	He	617.391	ppb	2.0	182588.52	2000	
95	Mo	89	He	3.835	ppb	4.6	1256.77	1000	
107	Ag	89	He	0.007	ppb	191.7	48.89	100	
111	Cd	89	He	0.218	ppb	13.6	29.26	1000	
118	Sn	159	He	0.423	ppb	6.1	353.35	1000	
121	Sb	159	No Gas	0.296	ppb	19.1	710.81	1000	
137	Ba	159	No Gas	171.717	ppb	8.7	128369.04	2000	
182	W	159	No Gas	-0.003	ppb	N/A	103.45	1000	
205	Tl	209	No Gas	1.344	ppb	4.9	4575.95	1000	
208	Pb	209	No Gas	0.281	ppb	23.5	4041.46	2000	
232	Th	209	No Gas	0.160	ppb	13.3	991.16	1000	
238	U	209	No Gas	0.993	ppb	9.9	4369.04	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6307331.28	3.0	6947791.61	90.78	29.5	120.4	
Sc	45	No Gas	10208315.14	2.8	11828674.09	86.3	29.5	120.4	
Sc	45	H2	1346987.57	0.9	1511145.3	89.14	29.5	120.4	
Sc	45	He	343908.25	2.8	392815.69	87.55	29.5	120.4	
Ge	72	No Gas	2062759.74	3.5	2346521.52	87.91	29.5	120.4	
Ge	72	H2	442852.55	0.6	505748.89	87.56	29.5	120.4	
Ge	72	He	211748.73	1.6	240647.81	87.99	29.5	120.4	
Y	89	H2	7472265.75	0.8	8216492.56	90.94	29.5	120.4	
Y	89	He	1807756.93	2.3	2023870.27	89.32	29.5	120.4	
Tb	159	No Gas	20535762.47	2.6	21789053.29	94.25	29.5	120.4	
Tb	159	He	7962239.53	2.1	8552940.43	93.09	29.5	120.4	
Bi	209	No Gas	10203293.98	2.6	10957550.08	93.12	29.5	120.4	

Sample Report

Sample Name	TN0322-027
File Name	107SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:43:13
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	-0.003	ppb	N/A	4.44	100	
11	B	6	No Gas	1.493	ppb	5.4	1906.86	1000	
23	Na	45	He	507.559	ppb	3.4	65723.07	200000	
24	Mg	45	He	15.066	ppb	7.9	1004.55	200000	
27	Al	45	He	8.342	ppb	9.5	238.90	200000	
28	Si	45	H2	11.592	ppb	48.8	1031.18	10000	
39	K	45	He	67.127	ppb	6.6	18420.31	200000	
40	Ca	45	H2	49.587	ppb	9.0	20159.40	200000	
51	V	89	He	0.175	ppb	18.7	488.91	1000	
52	Cr	89	He	0.285	ppb	8.6	921.20	2000	
55	Mn	89	He	0.434	ppb	2.5	307.28	2000	
56	Fe	89	H2	3.373	ppb	13.2	37679.62	100000	
59	Co	89	He	0.005	ppb	44.9	22.22	1000	
60	Ni	89	He	0.037	ppb	51.3	50.00	1000	
63	Cu	89	He	0.521	ppb	8.2	874.51	2000	
66	Zn	89	He	0.826	ppb	6.8	205.57	2000	
75	As	89	He	0.028	ppb	205.7	20.33	1000	
78	Se	89	H2	0.003	ppb	810.7	1.50	1000	
88	Sr	89	He	0.108	ppb	6.3	86.67	2000	
95	Mo	89	He	0.023	ppb	74.1	32.22	1000	
107	Ag	89	He	0.009	ppb	49.0	58.89	100	
111	Cd	89	He	0.003	ppb	86.6	0.74	1000	
118	Sn	159	He	0.451	ppb	17.6	494.47	1000	
121	Sb	159	No Gas	0.003	ppb	259.9	153.51	1000	
137	Ba	159	No Gas	0.539	ppb	10.8	904.38	2000	
182	W	159	No Gas	-0.007	ppb	N/A	86.76	1000	
205	Tl	209	No Gas	-0.019	ppb	N/A	106.79	1000	
208	Pb	209	No Gas	-0.012	ppb	N/A	2769.91	2000	
232	Th	209	No Gas	0.032	ppb	33.9	580.67	1000	
238	U	209	No Gas	0.001	ppb	44.0	16.68	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6444832.52	1.4	6947791.61	92.76	29.5	120.4	
Sc	45	No Gas	9901295.32	3.7	11828674.09	83.71	29.5	120.4	
Sc	45	H2	1300001.67	7.8	1511145.3	86.03	29.5	120.4	
Sc	45	He	336444.66	0.3	392815.69	85.65	29.5	120.4	
Ge	72	No Gas	2041809.34	1.7	2346521.52	87.01	29.5	120.4	
Ge	72	H2	434505.82	4.4	505748.89	85.91	29.5	120.4	
Ge	72	He	209556.61	0.6	240647.81	87.08	29.5	120.4	
Y	89	H2	7370967.16	7.7	8216492.56	89.71	29.5	120.4	
Y	89	He	1786307.46	0.8	2023870.27	88.26	29.5	120.4	
Tb	159	No Gas	20563025.81	3.4	21789053.29	94.37	29.5	120.4	
Tb	159	He	8094722.38	0.2	8552940.43	94.64	29.5	120.4	
Bi	209	No Gas	10643251.00	2.2	10957550.08	97.13	29.5	120.4	

Sample Report

Sample Name	TN0322-028
File Name	108SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:45:46
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.003	ppb	101.8	12.22	100	
11	B	6	No Gas	1.142	ppb	4.1	1596.81	1000	
23	Na	45	He	319.947	ppb	2.5	43594.20	200000	
24	Mg	45	He	10.866	ppb	7.1	728.96	200000	
27	Al	45	He	8.196	ppb	17.8	231.12	200000	
28	Si	45	H2	12.128	ppb	3.5	1064.57	10000	
39	K	45	He	61.958	ppb	2.8	17819.82	200000	
40	Ca	45	H2	23.160	ppb	2.0	11170.33	200000	
51	V	89	He	0.185	ppb	25.5	491.14	1000	
52	Cr	89	He	0.211	ppb	12.6	835.21	2000	
55	Mn	89	He	0.290	ppb	4.0	235.96	2000	
56	Fe	89	H2	1.201	ppb	55.3	35059.98	100000	
59	Co	89	He	0.012	ppb	67.5	33.34	1000	
60	Ni	89	He	0.023	ppb	111.6	43.33	1000	
63	Cu	89	He	0.591	ppb	5.8	948.96	2000	
66	Zn	89	He	1.274	ppb	4.8	274.46	2000	
75	As	89	He	0.004	ppb	129.8	17.33	1000	
78	Se	89	H2	0.012	ppb	133.3	2.00	1000	
88	Sr	89	He	0.019	ppb	120.3	34.45	2000	
95	Mo	89	He	0.016	ppb	67.0	27.78	1000	
107	Ag	89	He	0.008	ppb	91.2	56.67	100	
111	Cd	89	He	0.003	ppb	86.6	0.74	1000	
118	Sn	159	He	0.344	ppb	13.3	432.24	1000	
121	Sb	159	No Gas	-0.003	ppb	N/A	133.48	1000	
137	Ba	159	No Gas	0.066	ppb	43.8	203.57	2000	
182	W	159	No Gas	-0.012	ppb	N/A	73.42	1000	
205	Tl	209	No Gas	-0.021	ppb	N/A	96.78	1000	
208	Pb	209	No Gas	-0.006	ppb	N/A	2940.11	2000	
232	Th	209	No Gas	0.034	ppb	32.8	620.72	1000	
238	U	209	No Gas	0.001	ppb	3.4	10.01	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6445022.45	2.4	6947791.61	92.76	29.5	120.4	
Sc	45	No Gas	10138718.05	1.9	11828674.09	85.71	29.5	120.4	
Sc	45	H2	1299751.53	0.9	1511145.3	86.01	29.5	120.4	
Sc	45	He	330257.11	0.2	392815.69	84.07	29.5	120.4	
Ge	72	No Gas	2068362.35	2.0	2346521.52	88.15	29.5	120.4	
Ge	72	H2	432653.67	0.3	505748.89	85.55	29.5	120.4	
Ge	72	He	206020.15	0.2	240647.81	85.61	29.5	120.4	
Y	89	H2	7395051.46	0.2	8216492.56	90	29.5	120.4	
Y	89	He	1764966.53	0.2	2023870.27	87.21	29.5	120.4	
Tb	159	No Gas	21300665.52	2.0	21789053.29	97.76	29.5	120.4	
Tb	159	He	8056707.52	0.3	8552940.43	94.2	29.5	120.4	
Bi	209	No Gas	11063725.11	2.3	10957550.08	100.97	29.5	120.4	

Sample Report

Sample Name	TN0289-005
File Name	109SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:48:23
Sample Type	Sample
Total Dilution	50.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.109	ppb	38.9	22.22	100	
11	B	6	No Gas	99.999	ppb	9.2	9116.52	1000	
23	Na	45	He	2130488.823	ppb	0.5	23979072.60	200000	
24	Mg	45	He	65847.275	ppb	1.0	406968.10	200000	
27	Al	45	He	118.751	ppb	6.7	318.90	200000	
28	Si	45	H2	6889.552	ppb	2.3	28687.39	10000	
39	K	45	He	13890.408	ppb	1.3	85840.14	200000	
40	Ca	45	H2	217663.644	ppb	1.3	7533473.08	200000	
51	V	89	He	-1.292	ppb	N/A	242.24	1000	
52	Cr	89	He	-0.109	ppb	N/A	611.24	2000	
55	Mn	89	He	4167.928	ppb	0.8	196419.63	2000	
56	Fe	89	H2	16472.361	ppb	0.4	2089722.70	100000	
59	Co	89	He	17.185	ppb	7.2	2800.50	1000	
60	Ni	89	He	60.826	ppb	1.0	2769.26	1000	
63	Cu	89	He	2.388	ppb	13.5	523.36	2000	
66	Zn	89	He	60.497	ppb	9.9	1037.86	2000	
75	As	89	He	-0.023	ppb	N/A	16.67	1000	
78	Se	89	H2	0.188	ppb	29.6	2.33	1000	
88	Sr	89	He	612.496	ppb	1.0	35525.70	2000	
95	Mo	89	He	3.127	ppb	9.9	215.57	1000	
107	Ag	89	He	0.006	ppb	1412.3	42.22	100	
111	Cd	89	He	0.140	ppb	33.9	3.70	1000	
118	Sn	159	He	0.714	ppb	26.3	275.57	1000	
121	Sb	159	No Gas	0.197	ppb	34.8	220.25	1000	
137	Ba	159	No Gas	165.280	ppb	6.2	25091.73	2000	
182	W	159	No Gas	-0.161	ppb	N/A	56.73	1000	
205	Tl	209	No Gas	0.982	ppb	19.0	897.71	1000	
208	Pb	209	No Gas	-0.957	ppb	N/A	1975.60	2000	
232	Th	209	No Gas	0.065	ppb	67.1	343.72	1000	
238	U	209	No Gas	0.786	ppb	19.1	724.17	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6258075.98	2.4	6947791.61	90.07	29.5	120.4	
Sc	45	No Gas	10008693.97	1.9	11828674.09	84.61	29.5	120.4	
Sc	45	H2	1311380.42	0.6	1511145.3	86.78	29.5	120.4	
Sc	45	He	333265.04	0.7	392815.69	84.84	29.5	120.4	
Ge	72	No Gas	2064062.30	2.2	2346521.52	87.96	29.5	120.4	
Ge	72	H2	438668.82	1.4	505748.89	86.74	29.5	120.4	
Ge	72	He	210128.71	0.9	240647.81	87.32	29.5	120.4	
Y	89	H2	7387609.28	0.7	8216492.56	89.91	29.5	120.4	
Y	89	He	1771126.48	1.1	2023870.27	87.51	29.5	120.4	
Tb	159	No Gas	20767478.58	1.7	21789053.29	95.31	29.5	120.4	
Tb	159	He	7965303.91	0.6	8552940.43	93.13	29.5	120.4	
Bi	209	No Gas	10654599.43	1.8	10957550.08	97.24	29.5	120.4	

Sample Report

Sample Name	TN0289-013
File Name	110SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:50:58
Sample Type	Sample
Total Dilution	50.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.186	ppb	70.5	32.22	100	
11	B	6	No Gas	104.305	ppb	7.9	9470.09	1000	
23	Na	45	He	2211524.206	ppb	1.6	24621127.97	200000	
24	Mg	45	He	68944.752	ppb	1.0	421495.13	200000	
27	Al	45	He	316.171	ppb	3.5	770.05	200000	
28	Si	45	H2	7252.282	ppb	0.6	30302.74	10000	
39	K	45	He	14634.391	ppb	2.0	88674.41	200000	
40	Ca	45	H2	223055.776	ppb	0.6	7753887.45	200000	
51	V	89	He	0.040	ppb	942.6	345.57	1000	
52	Cr	89	He	0.255	ppb	110.0	643.90	2000	
55	Mn	89	He	4339.834	ppb	0.8	203002.50	2000	
56	Fe	89	H2	17041.388	ppb	1.5	2161425.91	100000	
59	Co	89	He	19.573	ppb	3.1	3165.03	1000	
60	Ni	89	He	66.313	ppb	3.4	2993.76	1000	
63	Cu	89	He	2.810	ppb	12.6	571.15	2000	
66	Zn	89	He	50.497	ppb	5.8	872.28	2000	
75	As	89	He	0.228	ppb	220.4	19.33	1000	
78	Se	89	H2	0.316	ppb	31.7	3.00	1000	
88	Sr	89	He	637.472	ppb	0.5	36696.46	2000	
95	Mo	89	He	3.472	ppb	4.5	235.57	1000	
107	Ag	89	He	0.030	ppb	103.0	46.67	100	
111	Cd	89	He	0.284	ppb	23.1	7.41	1000	
118	Sn	159	He	0.758	ppb	36.9	276.68	1000	
121	Sb	159	No Gas	0.184	ppb	72.5	213.58	1000	
137	Ba	159	No Gas	179.912	ppb	8.2	27141.23	2000	
182	W	159	No Gas	-0.220	ppb	N/A	36.71	1000	
205	Tl	209	No Gas	1.232	ppb	13.1	1057.89	1000	
208	Pb	209	No Gas	-0.659	ppb	N/A	2239.25	2000	
232	Th	209	No Gas	0.094	ppb	72.2	367.08	1000	
238	U	209	No Gas	0.953	ppb	10.8	871.00	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6245888.90	1.6	6947791.61	89.9	29.5	120.4	
Sc	45	No Gas	9903208.07	0.9	11828674.09	83.72	29.5	120.4	
Sc	45	H2	1317167.30	0.3	1511145.3	87.16	29.5	120.4	
Sc	45	He	329682.57	1.1	392815.69	83.93	29.5	120.4	
Ge	72	No Gas	2050577.20	1.2	2346521.52	87.39	29.5	120.4	
Ge	72	H2	438757.62	1.3	505748.89	86.75	29.5	120.4	
Ge	72	He	208369.21	1.1	240647.81	86.59	29.5	120.4	
Y	89	H2	7390419.48	0.8	8216492.56	89.95	29.5	120.4	
Y	89	He	1758059.68	1.4	2023870.27	86.87	29.5	120.4	
Tb	159	No Gas	20645204.97	1.7	21789053.29	94.75	29.5	120.4	
Tb	159	He	7927091.62	1.4	8552940.43	92.68	29.5	120.4	
Bi	209	No Gas	10564256.18	1.6	10957550.08	96.41	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	111SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:53:37
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	291.0	10.00	100	
11	B	6	No Gas	0.063	ppb	17.0	842.28	1000	
23	Na	45	He	43.866	ppb	6.2	32807.20	200000	
24	Mg	45	He	0.458	ppb	5.2	206.68	200000	
27	Al	45	He	0.160	ppb	52.2	61.11	200000	
28	Si	45	H2	-0.634	ppb	N/A	470.53	10000	
39	K	45	He	9.544	ppb	38.1	17322.74	200000	
40	Ca	45	H2	1.593	ppb	1.6	6262.70	200000	
51	V	89	He	-0.027	ppb	N/A	240.01	1000	
52	Cr	89	He	-0.011	ppb	N/A	573.91	2000	
55	Mn	89	He	0.018	ppb	3.8	143.98	2000	
56	Fe	89	H2	0.023	ppb	772.1	35407.27	100000	
59	Co	89	He	-0.001	ppb	N/A	8.89	1000	
60	Ni	89	He	0.006	ppb	70.1	46.67	1000	
63	Cu	89	He	0.023	ppb	9.3	376.69	2000	
66	Zn	89	He	0.094	ppb	13.7	148.89	2000	
75	As	89	He	-0.012	ppb	N/A	10.33	1000	
78	Se	89	H2	-0.001	ppb	N/A	1.17	1000	
88	Sr	89	He	0.002	ppb	88.6	31.11	2000	
95	Mo	89	He	0.001	ppb	395.2	20.00	1000	
107	Ag	89	He	0.000	ppb	597.1	44.45	100	
111	Cd	89	He	0.000	ppb	173.2	0.37	1000	
118	Sn	159	He	0.009	ppb	181.0	266.68	1000	
121	Sb	159	No Gas	0.001	ppb	60.7	153.51	1000	
137	Ba	159	No Gas	0.002	ppb	296.5	113.46	2000	
182	W	159	No Gas	-0.003	ppb	N/A	56.73	1000	
205	Tl	209	No Gas	-0.005	ppb	N/A	73.42	1000	
208	Pb	209	No Gas	-0.023	ppb	N/A	1775.38	2000	
232	Th	209	No Gas	0.002	ppb	93.5	360.42	1000	
238	U	209	No Gas	0.000	ppb	114.2	13.35	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6266114.12	0.8	6947791.61	90.19	29.5	120.4	
Sc	45	No Gas	9733548.00	1.4	11828674.09	82.29	29.5	120.4	
Sc	45	H2	1365581.09	4.7	1511145.3	90.37	29.5	120.4	
Sc	45	He	335014.03	3.6	392815.69	85.29	29.5	120.4	
Ge	72	No Gas	2021208.95	0.6	2346521.52	86.14	29.5	120.4	
Ge	72	H2	451790.72	3.2	505748.89	89.33	29.5	120.4	
Ge	72	He	210289.97	2.0	240647.81	87.38	29.5	120.4	
Y	89	H2	7768457.97	4.1	8216492.56	94.55	29.5	120.4	
Y	89	He	1800695.53	2.9	2023870.27	88.97	29.5	120.4	
Tb	159	No Gas	20383215.25	1.3	21789053.29	93.55	29.5	120.4	
Tb	159	He	8104346.82	2.8	8552940.43	94.76	29.5	120.4	
Bi	209	No Gas	10604709.86	0.8	10957550.08	96.78	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	112SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:56:08
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	N/A	5.56	100	
11	B	6	No Gas	0.048	ppb	16.8	773.38	1000	
23	Na	45	He	34.644	ppb	5.2	26808.05	200000	
24	Mg	45	He	0.330	ppb	25.9	162.23	200000	
27	Al	45	He	0.095	ppb	9.5	52.23	200000	
28	Si	45	H2	-0.341	ppb	N/A	510.57	10000	
39	K	45	He	10.322	ppb	6.0	17029.16	200000	
40	Ca	45	H2	1.244	ppb	10.4	5417.91	200000	
51	V	89	He	-0.033	ppb	N/A	208.90	1000	
52	Cr	89	He	-0.006	ppb	N/A	583.24	2000	
55	Mn	89	He	0.012	ppb	55.0	125.98	2000	
56	Fe	89	H2	-0.078	ppb	N/A	33356.65	100000	
59	Co	89	He	-0.001	ppb	N/A	8.89	1000	
60	Ni	89	He	-0.002	ppb	N/A	28.89	1000	
63	Cu	89	He	0.030	ppb	10.2	408.91	2000	
66	Zn	89	He	0.093	ppb	17.1	143.34	2000	
75	As	89	He	-0.003	ppb	N/A	14.67	1000	
78	Se	89	H2	-0.001	ppb	N/A	1.17	1000	
88	Sr	89	He	-0.002	ppb	N/A	17.78	2000	
95	Mo	89	He	0.001	ppb	121.3	20.00	1000	
107	Ag	89	He	0.001	ppb	133.6	47.78	100	
111	Cd	89	He	0.001	ppb	101.1	1.11	1000	
118	Sn	159	He	0.009	ppb	86.2	260.01	1000	
121	Sb	159	No Gas	-0.002	ppb	N/A	103.45	1000	
137	Ba	159	No Gas	0.001	ppb	141.9	106.79	2000	
182	W	159	No Gas	-0.004	ppb	N/A	43.38	1000	
205	Tl	209	No Gas	-0.004	ppb	N/A	103.45	1000	
208	Pb	209	No Gas	-0.020	ppb	N/A	1922.22	2000	
232	Th	209	No Gas	0.002	ppb	41.1	350.40	1000	
238	U	209	No Gas	0.000	ppb	168.8	6.67	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6201265.16	2.1	6947791.61	89.26	29.5	120.4	
Sc	45	No Gas	9600612.78	3.1	11828674.09	81.16	29.5	120.4	
Sc	45	H2	1313716.73	1.7	1511145.3	86.94	29.5	120.4	
Sc	45	He	325206.82	2.0	392815.69	82.79	29.5	120.4	
Ge	72	No Gas	1990309.93	2.1	2346521.52	84.82	29.5	120.4	
Ge	72	H2	442296.81	1.4	505748.89	87.45	29.5	120.4	
Ge	72	He	205912.84	0.9	240647.81	85.57	29.5	120.4	
Y	89	H2	7459604.97	1.5	8216492.56	90.79	29.5	120.4	
Y	89	He	1741493.43	2.1	2023870.27	86.05	29.5	120.4	
Tb	159	No Gas	20354767.20	3.0	21789053.29	93.42	29.5	120.4	
Tb	159	He	7933947.45	2.9	8552940.43	92.76	29.5	120.4	
Bi	209	No Gas	10562518.08	2.7	10957550.08	96.39	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	113_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 16:58:43
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	22.687	ppb	5.5	149300.34	25	90.75	89.8	110.2	
11	B	6	No Gas	22.580	ppb	6.9	97824.91	25	90.32	89.8	110.2	
23	Na	45	He	5110.716	ppb	0.4	2805697.42	5000	102.21	89.8	110.2	
24	Mg	45	He	5097.867	ppb	0.5	1532832.22	5000	101.96	89.8	110.2	
27	Al	45	He	495.329	ppb	0.3	56158.68	500	99.07	89.8	110.2	
28	Si	45	H2	482.097	ppb	0.9	97715.00	500	96.42	89.8	110.2	
39	K	45	He	4941.766	ppb	0.9	1243957.68	5000	98.84	89.8	110.2	
40	Ca	45	H2	4955.437	ppb	0.4	8469641.82	5000	99.11	89.8	110.2	
51	V	89	He	23.996	ppb	0.1	94495.30	25	95.98	89.8	110.2	
52	Cr	89	He	24.004	ppb	1.1	121410.49	25	96.02	89.8	110.2	
55	Mn	89	He	24.095	ppb	0.2	55967.54	25	96.38	89.8	110.2	
56	Fe	89	H2	4865.948	ppb	0.3	30407979.41	5000	97.32	89.8	110.2	
59	Co	89	He	24.079	ppb	1.0	192270.35	25	96.32	89.8	110.2	
60	Ni	89	He	24.344	ppb	1.4	53935.78	25	97.38	89.8	110.2	
63	Cu	89	He	24.189	ppb	1.0	145007.82	25	96.76	89.8	110.2	
66	Zn	89	He	24.458	ppb	1.0	19296.13	25	97.83	89.8	110.2	
75	As	89	He	23.701	ppb	0.6	13193.68	25	94.8	89.8	110.2	
78	Se	89	H2	24.305	ppb	0.8	6357.16	25	97.22	89.8	110.2	
88	Sr	89	He	24.076	ppb	0.8	68708.86	25	96.3	89.8	110.2	
95	Mo	89	He	25.078	ppb	0.9	78208.25	25	100.31	89.8	110.2	
107	Ag	89	He	25.503	ppb	0.4	258260.74	25	102.01	89.8	110.2	
111	Cd	89	He	25.472	ppb	0.5	32994.21	25	101.89	89.8	110.2	
118	Sn	159	He	23.440	ppb	0.3	65438.55	25	93.76	89.8	110.2	
121	Sb	159	No Gas	23.579	ppb	5.7	464969.23	25	94.32	89.8	110.2	
137	Ba	159	No Gas	23.521	ppb	5.4	180270.42	25	94.08	89.8	110.2	
182	W	159	No Gas	23.996	ppb	5.7	413497.79	25	95.98	89.8	110.2	
205	Tl	209	No Gas	24.817	ppb	5.8	850765.37	25	99.27	89.8	110.2	
208	Pb	209	No Gas	24.310	ppb	5.5	1173741.34	25	97.24	89.8	110.2	
232	Th	209	No Gas	24.212	ppb	5.8	1153958.33	25	96.85	89.8	110.2	
238	U	209	No Gas	24.692	ppb	5.3	1149748.59	25	98.77	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6310665.13	2.9	6947791.61	90.83	29.5	120.4	
Sc	45	No Gas	9919167.57	2.5	11828674.09	83.86	29.5	120.4	
Sc	45	H2	1295290.66	0.4	1511145.3	85.72	29.5	120.4	
Sc	45	He	324312.25	0.4	392815.69	82.56	29.5	120.4	
Ge	72	No Gas	2042277.02	2.7	2346521.52	87.03	29.5	120.4	
Ge	72	H2	431745.19	0.9	505748.89	85.37	29.5	120.4	
Ge	72	He	205096.61	0.5	240647.81	85.23	29.5	120.4	
Y	89	H2	7388695.57	0.3	8216492.56	89.93	29.5	120.4	
Y	89	He	1743625.87	0.5	2023870.27	86.15	29.5	120.4	
Tb	159	No Gas	21048906.49	3.1	21789053.29	96.6	29.5	120.4	
Tb	159	He	7964730.23	0.2	8552940.43	93.12	29.5	120.4	
Bi	209	No Gas	10803266.43	2.7	10957550.08	98.59	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	114_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:01:17
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.010	ppb	45.6	75.56	0.2	
11	B	6	No Gas	0.223	ppb	11.3	1527.91	4	
23	Na	45	He	24.098	ppb	2.6	21082.57	200	
24	Mg	45	He	0.625	ppb	40.7	251.13	20	
27	Al	45	He	-0.033	ppb	N/A	37.78	20	
28	Si	45	H2	-0.775	ppb	N/A	413.81	100	
39	K	45	He	8.834	ppb	20.0	16700.62	200	
40	Ca	45	H2	1.046	ppb	9.3	4983.28	20	
51	V	89	He	-0.039	ppb	N/A	185.57	1	
52	Cr	89	He	-0.019	ppb	N/A	515.25	1	
55	Mn	89	He	0.001	ppb	318.1	101.31	0.4	
56	Fe	89	H2	0.775	ppb	17.4	37997.39	20	
59	Co	89	He	0.001	ppb	93.6	24.45	0.2	
60	Ni	89	He	0.001	ppb	569.9	34.45	0.4	
63	Cu	89	He	0.010	ppb	86.5	287.79	0.6	
66	Zn	89	He	-0.008	ppb	N/A	64.45	2	
75	As	89	He	-0.002	ppb	N/A	15.67	1	
78	Se	89	H2	0.025	ppb	17.3	7.83	1	
88	Sr	89	He	0.002	ppb	282.6	27.78	1	
95	Mo	89	He	0.070	ppb	10.2	235.57	1	
107	Ag	89	He	0.002	ppb	35.7	62.23	0.2	
111	Cd	89	He	0.003	ppb	15.1	4.07	0.2	
118	Sn	159	He	0.055	ppb	54.6	388.91	1	
121	Sb	159	No Gas	0.022	ppb	20.6	580.66	0.2	
137	Ba	159	No Gas	0.010	ppb	28.5	176.87	0.4	
182	W	159	No Gas	0.060	ppb	8.9	1144.67	1	
205	Tl	209	No Gas	0.023	ppb	35.2	1044.56	0.2	
208	Pb	209	No Gas	-0.009	ppb	N/A	2469.54	0.2	
232	Th	209	No Gas	0.083	ppb	12.2	4265.50	1	
238	U	209	No Gas	0.017	ppb	31.4	817.62	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6259917.09	1.7	6947791.61	90.1	29.5	120.4	
Sc	45	No Gas	9800705.26	0.8	11828674.09	82.86	29.5	120.4	
Sc	45	H2	1289162.97	1.3	1511145.3	85.31	29.5	120.4	
Sc	45	He	326015.86	1.2	392815.69	82.99	29.5	120.4	
Ge	72	No Gas	2020979.68	1.2	2346521.52	86.13	29.5	120.4	
Ge	72	H2	435864.83	0.5	505748.89	86.18	29.5	120.4	
Ge	72	He	205669.38	0.4	240647.81	85.46	29.5	120.4	
Y	89	H2	7316752.80	0.7	8216492.56	89.05	29.5	120.4	
Y	89	He	1745257.06	1.2	2023870.27	86.23	29.5	120.4	
Tb	159	No Gas	20888949.13	1.1	21789053.29	95.87	29.5	120.4	
Tb	159	He	7982250.57	1.4	8552940.43	93.33	29.5	120.4	
Bi	209	No Gas	10793057.36	1.4	10957550.08	98.5	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBWNL22IMW4
File Name	115_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:03:53
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.016	ppb	31.1	28.89	0.5	
B	11	6	No Gas	1.491	ppb	13.3	1845.74	10	
Na	23	45	He	183.648	ppb	7.1	27410.00	500	
Mg	24	45	He	19.112	ppb	6.8	1189.03	50	
Al	27	45	He	8.435	ppb	18.6	227.79	50	
Si	28	45	H2	10.903	ppb	23.4	947.75	250	
K	39	45	He	58.196	ppb	22.1	17002.52	500	
Ca	40	45	H2	31.694	ppb	7.0	13115.38	50	
V	51	89	He	0.342	ppb	11.8	594.48	2.5	
Cr	52	89	He	0.422	ppb	2.6	1013.86	2.5	
Mn	55	89	He	0.268	ppb	5.3	217.96	1	
Fe	56	89	H2	9.060	ppb	9.4	42097.10	50	
Co	59	89	He	0.013	ppb	87.4	33.34	0.5	
Ni	60	89	He	0.070	ppb	15.5	62.23	1	
Cu	63	89	He	0.747	ppb	7.2	1097.86	1.5	
Zn	66	89	He	0.902	ppb	6.0	207.79	5	
As	75	89	He	0.007	ppb	1258.9	17.00	2.5	
Se	78	89	H2	0.042	ppb	20.2	3.33	2.5	
Sr	88	89	He	0.075	ppb	5.8	64.45	2.5	
Mo	95	89	He	0.117	ppb	35.2	87.78	2.5	
Ag	107	89	He	0.028	ppb	46.4	94.45	0.5	
Cd	111	89	He	0.016	ppb	28.3	4.07	0.5	
Sn	118	159	He	0.587	ppb	4.1	556.70	2.5	
Sb	121	159	No Gas	0.008	ppb	73.8	176.86	0.5	
Ba	137	159	No Gas	0.136	ppb	22.0	307.01	1	
W	182	159	No Gas	0.051	ppb	15.1	286.99	2.5	
Tl	205	209	No Gas	-0.001	ppb	N/A	233.60	0.5	
Pb	208	209	No Gas	-0.003	ppb	N/A	2930.07	0.5	
Th	232	209	No Gas	0.505	ppb	4.3	5156.87	2.5	
U	238	209	No Gas	0.012	ppb	33.6	120.14	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6255306.70	3.0	6947791.61	90.03	29.5	120.4	
Sc	45	No Gas	9783962.68	5.6	11828674.09	82.71	29.5	120.4	
Sc	45	H2	1210813.27	4.1	1511145.3	80.13	29.5	120.4	
Sc	45	He	318666.17	3.2	392815.69	81.12	29.5	120.4	
Ge	72	No Gas	1992894.31	3.1	2346521.52	84.93	29.5	120.4	
Ge	72	H2	408943.66	2.6	505748.89	80.86	29.5	120.4	
Ge	72	He	199480.12	2.6	240647.81	82.89	29.5	120.4	
Y	89	H2	6939409.01	4.2	8216492.56	84.46	29.5	120.4	
Y	89	He	1705032.32	3.3	2023870.27	84.25	29.5	120.4	
Tb	159	No Gas	20946562.05	5.6	21789053.29	96.13	29.5	120.4	
Tb	159	He	7885873.98	3.6	8552940.43	92.2	29.5	120.4	
Bi	209	No Gas	10924529.67	4.0	10957550.08	99.7	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	LCSWNL22IMW4
File Name	116LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:06:24
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	47.598	ppb	4.5	63720.78	50	19.04	79.5	120.4	
B	11	6	No Gas	460.213	ppb	4.7	403845.53	500	18.41	79.5	120.4	
Na	23	45	He	8033.126	ppb	0.7	870619.05	7500	21.42	79.5	120.4	
Mg	24	45	He	5309.672	ppb	0.5	313348.40	5000	21.24	79.5	120.4	
Al	27	45	He	2072.303	ppb	0.3	46111.83	2000	20.72	79.5	120.4	
Si	28	45	H2	983.749	ppb	2.2	38427.54	1000	19.68	0	200	
K	39	45	He	10421.543	ppb	0.3	522980.20	10000	20.84	79.5	120.4	
Ca	40	45	H2	2601.320	ppb	0.8	852345.20	2500	20.81	79.5	120.4	
V	51	89	He	499.923	ppb	0.5	383921.19	500	20	79.5	120.4	
Cr	52	89	He	202.991	ppb	0.2	200360.32	200	20.3	79.5	120.4	
Mn	55	89	He	510.367	ppb	0.5	231493.39	500	20.41	79.5	120.4	
Fe	56	89	H2	1017.950	ppb	0.7	1264437.04	1000	20.36	79.5	120.4	
Co	59	89	He	517.445	ppb	0.5	807915.00	500	20.7	79.5	120.4	
Ni	60	89	He	512.886	ppb	1.0	222103.64	500	20.52	79.5	120.4	
Cu	63	89	He	255.465	ppb	0.9	299205.65	250	20.44	79.5	120.4	
Zn	66	89	He	509.550	ppb	0.5	78392.68	500	20.38	79.5	120.4	
As	75	89	He	100.015	ppb	0.4	10889.78	100	20	79.5	120.4	
Se	78	89	H2	99.387	ppb	0.9	5040.18	100	19.88	79.5	120.4	
Sr	88	89	He	495.443	ppb	0.5	276427.93	500	19.82	79.5	120.4	
Mo	95	89	He	105.611	ppb	1.1	64406.78	100	21.12	79.5	120.4	
Ag	107	89	He	53.551	ppb	0.4	106068.67	50	21.42	79.5	120.4	
Cd	111	89	He	263.616	ppb	0.8	66769.83	250	21.09	79.5	120.4	
Sn	118	159	He	480.200	ppb	0.9	264877.37	500	19.21	79.5	120.4	
Sb	121	159	No Gas	98.759	ppb	2.7	387143.04	100	19.75	79.5	120.4	
Ba	137	159	No Gas	1958.812	ppb	3.0	2982097.30	2000	19.59	79.5	120.4	
W	182	159	No Gas	101.519	ppb	4.7	347649.05	100	20.3	79.5	120.4	
Tl	205	209	No Gas	104.096	ppb	4.3	722515.77	100	20.82	79.5	120.4	
[Pb]	206	209	No Gas	100.939	ppb	3.6	252930.21	100	20.19	79.5	120.4	
[Pb]	207	209	No Gas	101.708	ppb	2.7	219924.03	100	20.34	79.5	120.4	
Pb	208	209	No Gas	102.738	ppb	3.6	1004753.75	100	20.55	79.5	120.4	
Th	232	209	No Gas	102.949	ppb	4.0	993485.69	100	20.59	79.5	120.4	
U	238	209	No Gas	103.427	ppb	3.8	974987.39	100	20.68	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6416396.07	2.5	6947791.61	92.35	29.5	120.4	
Sc	45	No Gas	9730519.97	2.1	11828674.09	82.26	29.5	120.4	
Sc	45	H2	1237597.22	0.3	1511145.3	81.9	29.5	120.4	
Sc	45	He	318213.43	1.1	392815.69	81.01	29.5	120.4	
Ge	72	No Gas	2017066.97	2.6	2346521.52	85.96	29.5	120.4	
Ge	72	H2	416121.25	0.6	505748.89	82.28	29.5	120.4	
Ge	72	He	199800.58	0.7	240647.81	83.03	29.5	120.4	
Y	89	H2	7162349.59	0.7	8216492.56	87.17	29.5	120.4	
Y	89	He	1704823.79	1.0	2023870.27	84.24	29.5	120.4	
Tb	159	No Gas	20903325.94	2.0	21789053.29	95.93	29.5	120.4	
Tb	159	He	7889991.34	0.3	8552940.43	92.25	29.5	120.4	
Bi	209	No Gas	10931205.30	2.1	10957550.08	99.76	29.5	120.4	

Sample Report

Sample Name	TN0328-001
File Name	117SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:08:59
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.107	ppb	58.9	136.67	100	
11	B	6	No Gas	163.403	ppb	1.4	132905.77	1000	
23	Na	45	He	912331.592	ppb	2.8	98552817.68	200000	
24	Mg	45	He	26702.530	ppb	3.1	1584066.57	200000	
27	Al	45	He	37.885	ppb	10.9	887.85	200000	
28	Si	45	H2	6769.583	ppb	2.5	261253.61	10000	
39	K	45	He	6262.833	ppb	2.7	321686.20	200000	
40	Ca	45	H2	136919.675	ppb	2.2	44713470.44	200000	
51	V	89	He	0.948	ppb	1.0	1046.74	1000	
52	Cr	89	He	0.374	ppb	8.9	954.53	2000	
55	Mn	89	He	383.366	ppb	3.3	171649.49	2000	
56	Fe	89	H2	478.270	ppb	1.3	592476.88	100000	
59	Co	89	He	0.078	ppb	26.1	133.35	1000	
60	Ni	89	He	0.195	ppb	19.5	114.45	1000	
63	Cu	89	He	0.928	ppb	8.3	1292.33	2000	
66	Zn	89	He	2.154	ppb	21.8	394.46	2000	
75	As	89	He	0.403	ppb	7.4	59.34	1000	
78	Se	89	H2	0.113	ppb	12.2	6.83	1000	
88	Sr	89	He	1155.621	ppb	3.3	636339.97	2000	
95	Mo	89	He	0.509	ppb	0.9	323.35	1000	
107	Ag	89	He	0.003	ppb	232.4	44.45	100	
111	Cd	89	He	0.028	ppb	25.0	7.04	1000	
118	Sn	159	He	0.986	ppb	6.0	754.50	1000	
121	Sb	159	No Gas	0.216	ppb	51.5	907.73	1000	
137	Ba	159	No Gas	1285.502	ppb	4.2	1835618.42	2000	
182	W	159	No Gas	0.487	ppb	35.3	1641.94	1000	
205	Tl	209	No Gas	0.180	ppb	53.3	1321.55	1000	
208	Pb	209	No Gas	0.137	ppb	66.1	3854.55	2000	
232	Th	209	No Gas	2.372	ppb	28.8	20700.82	1000	
238	U	209	No Gas	0.400	ppb	44.5	3347.59	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5930262.55	5.9	6947791.61	85.35	29.5	120.4	
Sc	45	No Gas	9370595.79	8.9	11828674.09	79.22	29.5	120.4	
Sc	45	H2	1238305.97	2.7	1511145.3	81.94	29.5	120.4	
Sc	45	He	320090.80	2.7	392815.69	81.49	29.5	120.4	
Ge	72	No Gas	1908908.41	5.8	2346521.52	81.35	29.5	120.4	
Ge	72	H2	405400.88	2.3	505748.89	80.16	29.5	120.4	
Ge	72	He	197713.32	1.8	240647.81	82.16	29.5	120.4	
Y	89	H2	6942483.12	1.5	8216492.56	84.49	29.5	120.4	
Y	89	He	1683572.23	2.7	2023870.27	83.19	29.5	120.4	
Tb	159	No Gas	19645528.18	8.6	21789053.29	90.16	29.5	120.4	
Tb	159	He	7669545.86	2.7	8552940.43	89.67	29.5	120.4	
Bi	209	No Gas	9888992.60	7.0	10957550.08	90.25	29.5	120.4	

Sample Report

Sample Name	TN0328-002
File Name	118SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:11:30
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.075	ppb	14.1	106.67	100	
11	B	6	No Gas	141.639	ppb	6.0	122349.07	1000	
23	Na	45	He	73301.100	ppb	2.1	7869559.54	200000	
24	Mg	45	He	42931.252	ppb	2.1	2528920.40	200000	
27	Al	45	He	28.254	ppb	1.2	667.82	200000	
28	Si	45	H2	5904.672	ppb	6.4	242581.55	10000	
39	K	45	He	6994.561	ppb	1.8	355092.12	200000	
40	Ca	45	H2	138037.822	ppb	5.0	47985861.51	200000	
51	V	89	He	0.803	ppb	4.9	946.73	1000	
52	Cr	89	He	0.503	ppb	9.5	1091.18	2000	
55	Mn	89	He	966.915	ppb	1.7	437537.15	2000	
56	Fe	89	H2	33315.327	ppb	5.7	41988539.56	100000	
59	Co	89	He	0.178	ppb	11.9	291.13	1000	
60	Ni	89	He	0.475	ppb	11.9	236.68	1000	
63	Cu	89	He	3.329	ppb	3.6	4111.87	2000	
66	Zn	89	He	2.903	ppb	6.5	514.48	2000	
75	As	89	He	0.206	ppb	78.1	38.34	1000	
78	Se	89	H2	0.222	ppb	35.6	13.00	1000	
88	Sr	89	He	698.850	ppb	1.5	389061.96	2000	
95	Mo	89	He	0.120	ppb	17.6	90.00	1000	
107	Ag	89	He	0.009	ppb	67.2	57.78	100	
111	Cd	89	He	0.023	ppb	38.5	5.93	1000	
118	Sn	159	He	0.535	ppb	10.8	518.92	1000	
121	Sb	159	No Gas	0.042	ppb	50.1	307.02	1000	
137	Ba	159	No Gas	815.190	ppb	6.9	1229361.15	2000	
182	W	159	No Gas	0.031	ppb	89.5	216.91	1000	
205	Tl	209	No Gas	-0.013	ppb	N/A	146.83	1000	
208	Pb	209	No Gas	0.095	ppb	19.1	3754.45	2000	
232	Th	209	No Gas	0.208	ppb	15.1	2212.70	1000	
238	U	209	No Gas	0.029	ppb	19.8	266.97	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6293587.01	1.3	6947791.61	90.58	29.5	120.4	
Sc	45	No Gas	9823744.96	1.8	11828674.09	83.05	29.5	120.4	
Sc	45	H2	1319203.76	3.6	1511145.3	87.3	29.5	120.4	
Sc	45	He	317781.33	2.2	392815.69	80.9	29.5	120.4	
Ge	72	No Gas	2015633.12	1.9	2346521.52	85.9	29.5	120.4	
Ge	72	H2	429387.15	1.8	505748.89	84.9	29.5	120.4	
Ge	72	He	199284.07	1.7	240647.81	82.81	29.5	120.4	
Y	89	H2	7463113.68	3.7	8216492.56	90.83	29.5	120.4	
Y	89	He	1701481.52	2.1	2023870.27	84.07	29.5	120.4	
Tb	159	No Gas	20705572.75	1.8	21789053.29	95.03	29.5	120.4	
Tb	159	He	7755650.79	1.4	8552940.43	90.68	29.5	120.4	
Bi	209	No Gas	10551034.52	1.6	10957550.08	96.29	29.5	120.4	

Sample Report

Sample Name	TN0328-003
File Name	119SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:14:10
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.033	ppb	9.3	51.12	100	
11	B	6	No Gas	132.452	ppb	5.2	114467.48	1000	
23	Na	45	He	41612.588	ppb	1.0	4589995.67	200000	
24	Mg	45	He	50272.740	ppb	0.9	3040329.19	200000	
27	Al	45	He	24.515	ppb	7.0	600.04	200000	
28	Si	45	H2	7164.039	ppb	1.9	290536.07	10000	
39	K	45	He	3570.492	ppb	1.0	193182.00	200000	
40	Ca	45	H2	198806.936	ppb	2.0	68226470.65	200000	
51	V	89	He	2.968	ppb	2.0	2653.68	1000	
52	Cr	89	He	0.615	ppb	10.8	1223.83	2000	
55	Mn	89	He	1009.721	ppb	1.6	465508.44	2000	
56	Fe	89	H2	198.781	ppb	2.4	279723.06	100000	
59	Co	89	He	0.118	ppb	39.5	200.02	1000	
60	Ni	89	He	0.243	ppb	27.1	138.89	1000	
63	Cu	89	He	0.839	ppb	6.8	1226.77	2000	
66	Zn	89	He	3.031	ppb	11.0	544.48	2000	
75	As	89	He	0.303	ppb	26.3	50.01	1000	
78	Se	89	H2	0.176	ppb	18.7	10.50	1000	
88	Sr	89	He	1008.034	ppb	1.5	571745.10	2000	
95	Mo	89	He	0.161	ppb	2.8	116.67	1000	
107	Ag	89	He	0.013	ppb	43.1	66.67	100	
111	Cd	89	He	0.011	ppb	20.7	2.96	1000	
118	Sn	159	He	0.500	ppb	14.8	512.25	1000	
121	Sb	159	No Gas	0.094	ppb	23.0	517.26	1000	
137	Ba	159	No Gas	1086.496	ppb	4.2	1668627.19	2000	
182	W	159	No Gas	2.174	ppb	3.6	7620.72	1000	
205	Tl	209	No Gas	-0.015	ppb	N/A	130.15	1000	
208	Pb	209	No Gas	-0.011	ppb	N/A	2773.24	2000	
232	Th	209	No Gas	0.103	ppb	6.9	1244.79	1000	
238	U	209	No Gas	0.153	ppb	13.6	1411.67	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6291986.61	0.5	6947791.61	90.56	29.5	120.4	
Sc	45	No Gas	9866966.72	1.2	11828674.09	83.42	29.5	120.4	
Sc	45	H2	1300964.81	0.8	1511145.3	86.09	29.5	120.4	
Sc	45	He	326167.56	1.0	392815.69	83.03	29.5	120.4	
Ge	72	No Gas	2025077.24	0.2	2346521.52	86.3	29.5	120.4	
Ge	72	H2	430585.25	0.7	505748.89	85.14	29.5	120.4	
Ge	72	He	202703.69	1.0	240647.81	84.23	29.5	120.4	
Y	89	H2	7337810.94	1.2	8216492.56	89.31	29.5	120.4	
Y	89	He	1733330.96	1.2	2023870.27	85.64	29.5	120.4	
Tb	159	No Gas	21071874.68	1.1	21789053.29	96.71	29.5	120.4	
Tb	159	He	7929618.98	1.0	8552940.43	92.71	29.5	120.4	
Bi	209	No Gas	10632969.99	0.9	10957550.08	97.04	29.5	120.4	

Sample Report

Sample Name	TN0328-004
File Name	120SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:16:41
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.027	ppb	15.5	42.23	100	
11	B	6	No Gas	87.182	ppb	3.7	74364.00	1000	
23	Na	45	He	299057.926	ppb	0.6	32916339.76	200000	
24	Mg	45	He	10588.536	ppb	0.6	639989.39	200000	
27	Al	45	He	29.264	ppb	6.7	707.84	200000	
28	Si	45	H2	4224.423	ppb	2.5	170238.37	10000	
39	K	45	He	2566.668	ppb	0.8	142856.97	200000	
40	Ca	45	H2	91385.585	ppb	2.2	31123296.76	200000	
51	V	89	He	1.083	ppb	6.9	1187.87	1000	
52	Cr	89	He	0.400	ppb	12.4	1013.86	2000	
55	Mn	89	He	508.074	ppb	0.9	235362.98	2000	
56	Fe	89	H2	1333.785	ppb	2.7	1677838.38	100000	
59	Co	89	He	0.534	ppb	5.7	864.54	1000	
60	Ni	89	He	1.695	ppb	3.4	782.28	1000	
63	Cu	89	He	1.731	ppb	3.5	2298.06	2000	
66	Zn	89	He	3.960	ppb	13.2	692.26	2000	
75	As	89	He	1.225	ppb	8.5	152.69	1000	
78	Se	89	H2	0.371	ppb	6.1	20.50	1000	
88	Sr	89	He	165.333	ppb	0.8	94224.88	2000	
95	Mo	89	He	6.189	ppb	4.0	3870.70	1000	
107	Ag	89	He	0.009	ppb	66.8	58.89	100	
111	Cd	89	He	0.007	ppb	34.4	1.85	1000	
118	Sn	159	He	0.470	ppb	9.5	493.36	1000	
121	Sb	159	No Gas	0.176	ppb	9.2	817.60	1000	
137	Ba	159	No Gas	68.267	ppb	1.4	102012.22	2000	
182	W	159	No Gas	0.015	ppb	31.2	160.18	1000	
205	Tl	209	No Gas	0.147	ppb	21.3	1208.07	1000	
208	Pb	209	No Gas	0.050	ppb	20.7	3303.86	2000	
232	Th	209	No Gas	0.068	ppb	41.0	907.73	1000	
238	U	209	No Gas	4.273	ppb	5.5	38663.09	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6192246.51	0.9	6947791.61	89.13	29.5	120.4	
Sc	45	No Gas	9823314.43	1.2	11828674.09	83.05	29.5	120.4	
Sc	45	H2	1290943.83	0.6	1511145.3	85.43	29.5	120.4	
Sc	45	He	325939.27	0.7	392815.69	82.98	29.5	120.4	
Ge	72	No Gas	2024514.58	0.5	2346521.52	86.28	29.5	120.4	
Ge	72	H2	427280.99	1.2	505748.89	84.48	29.5	120.4	
Ge	72	He	204811.15	0.8	240647.81	85.11	29.5	120.4	
Y	89	H2	7298910.58	0.8	8216492.56	88.83	29.5	120.4	
Y	89	He	1741094.52	0.3	2023870.27	86.03	29.5	120.4	
Tb	159	No Gas	20490018.03	1.0	21789053.29	94.04	29.5	120.4	
Tb	159	He	7899222.31	0.4	8552940.43	92.36	29.5	120.4	
Bi	209	No Gas	10484081.52	0.6	10957550.08	95.68	29.5	120.4	

Sample Report

Sample Name	TN0328-005
File Name	121SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:19:17
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.019	ppb	82.6	33.33	100	
11	B	6	No Gas	156.731	ppb	3.5	135278.41	1000	
23	Na	45	He	1176950.866	ppb	2.5	131212774.82	200000	>LDR
24	Mg	45	He	11535.637	ppb	2.8	706314.81	200000	
27	Al	45	He	92.956	ppb	3.9	2188.07	200000	
28	Si	45	H2	6446.399	ppb	1.4	266675.64	10000	
39	K	45	He	6397.876	ppb	3.3	338795.44	200000	
40	Ca	45	H2	47427.330	ppb	1.5	16601716.42	200000	
51	V	89	He	1.087	ppb	4.7	1191.21	1000	
52	Cr	89	He	0.696	ppb	2.8	1311.83	2000	
55	Mn	89	He	564.339	ppb	2.6	261444.45	2000	
56	Fe	89	H2	4533.205	ppb	1.4	5665154.33	100000	
59	Co	89	He	0.114	ppb	14.4	195.57	1000	
60	Ni	89	He	0.560	ppb	12.2	280.01	1000	
63	Cu	89	He	1.097	ppb	8.3	1540.14	2000	
66	Zn	89	He	2.961	ppb	20.0	535.59	2000	
75	As	89	He	0.580	ppb	18.2	81.01	1000	
78	Se	89	H2	0.208	ppb	12.4	12.17	1000	
88	Sr	89	He	154.441	ppb	1.9	88038.51	2000	
95	Mo	89	He	15.153	ppb	0.9	9455.82	1000	
107	Ag	89	He	0.004	ppb	292.6	48.89	100	
111	Cd	89	He	0.009	ppb	49.6	2.22	1000	
118	Sn	159	He	0.419	ppb	14.8	457.80	1000	
121	Sb	159	No Gas	0.058	ppb	4.0	367.08	1000	
137	Ba	159	No Gas	63.026	ppb	3.9	94872.44	2000	
182	W	159	No Gas	0.076	ppb	25.4	367.08	1000	
205	Tl	209	No Gas	-0.012	ppb	N/A	146.83	1000	
208	Pb	209	No Gas	0.042	ppb	26.5	3167.02	2000	
232	Th	209	No Gas	0.079	ppb	22.3	987.83	1000	
238	U	209	No Gas	0.207	ppb	1.3	1838.86	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6291037.74	1.8	6947791.61	90.55	29.5	120.4	
Sc	45	No Gas	10027040.96	2.4	11828674.09	84.77	29.5	120.4	
Sc	45	H2	1326693.77	0.4	1511145.3	87.79	29.5	120.4	
Sc	45	He	330332.17	2.6	392815.69	84.09	29.5	120.4	
Ge	72	No Gas	2035320.30	2.1	2346521.52	86.74	29.5	120.4	
Ge	72	H2	428522.42	0.8	505748.89	84.73	29.5	120.4	
Ge	72	He	203762.17	1.0	240647.81	84.67	29.5	120.4	
Y	89	H2	7352920.74	0.7	8216492.56	89.49	29.5	120.4	
Y	89	He	1741811.97	2.0	2023870.27	86.06	29.5	120.4	
Tb	159	No Gas	20653463.16	2.5	21789053.29	94.79	29.5	120.4	
Tb	159	He	7780305.72	2.4	8552940.43	90.97	29.5	120.4	
Bi	209	No Gas	10260078.68	2.3	10957550.08	93.63	29.5	120.4	

Sample Report

Sample Name	TN0328-006
File Name	122SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:21:52
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.013	ppb	46.4	24.44	100	
11	B	6	No Gas	265.121	ppb	4.9	226570.72	1000	
23	Na	45	He	1183851.876	ppb	0.8	134835782.70	200000	>LDR
24	Mg	45	He	22278.757	ppb	1.3	1393565.36	200000	
27	Al	45	He	64.245	ppb	7.3	1556.84	200000	
28	Si	45	H2	5608.569	ppb	2.4	228231.30	10000	
39	K	45	He	11519.615	ppb	1.0	611246.21	200000	
40	Ca	45	H2	95843.783	ppb	2.7	32987772.56	200000	
51	V	89	He	1.582	ppb	4.8	1611.26	1000	
52	Cr	89	He	2.210	ppb	3.1	2891.12	2000	
55	Mn	89	He	466.337	ppb	1.2	220412.28	2000	
56	Fe	89	H2	385.431	ppb	2.1	504536.68	100000	
59	Co	89	He	2.108	ppb	7.3	3442.92	1000	
60	Ni	89	He	16.735	ppb	3.6	7582.31	1000	
63	Cu	89	He	5.514	ppb	1.4	6958.63	2000	
66	Zn	89	He	10.512	ppb	3.3	1755.73	2000	
75	As	89	He	1.754	ppb	2.2	215.69	1000	
78	Se	89	H2	1.418	ppb	1.5	74.00	1000	
88	Sr	89	He	1279.356	ppb	2.3	743679.63	2000	
95	Mo	89	He	78.614	ppb	1.6	49959.90	1000	
107	Ag	89	He	0.008	ppb	112.3	57.78	100	
111	Cd	89	He	0.206	ppb	6.9	54.44	1000	
118	Sn	159	He	0.948	ppb	7.1	758.94	1000	
121	Sb	159	No Gas	3.291	ppb	5.3	12653.46	1000	
137	Ba	159	No Gas	273.076	ppb	5.0	403493.80	2000	
182	W	159	No Gas	7.307	ppb	6.5	24387.04	1000	
205	Tl	209	No Gas	0.399	ppb	6.4	2766.77	1000	
208	Pb	209	No Gas	0.139	ppb	0.4	3968.05	2000	
232	Th	209	No Gas	0.067	ppb	23.8	860.99	1000	
238	U	209	No Gas	11.205	ppb	5.6	97108.85	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6237657.60	0.3	6947791.61	89.78	29.5	120.4	
Sc	45	No Gas	9851780.08	1.5	11828674.09	83.29	29.5	120.4	
Sc	45	H2	1305081.94	2.5	1511145.3	86.36	29.5	120.4	
Sc	45	He	337337.15	0.4	392815.69	85.88	29.5	120.4	
Ge	72	No Gas	2000429.26	0.3	2346521.52	85.25	29.5	120.4	
Ge	72	H2	429347.34	2.0	505748.89	84.89	29.5	120.4	
Ge	72	He	207583.63	0.8	240647.81	86.26	29.5	120.4	
Y	89	H2	7243794.16	1.9	8216492.56	88.16	29.5	120.4	
Y	89	He	1776462.46	0.7	2023870.27	87.78	29.5	120.4	
Tb	159	No Gas	20272552.61	0.5	21789053.29	93.04	29.5	120.4	
Tb	159	He	7918536.76	1.4	8552940.43	92.58	29.5	120.4	
Bi	209	No Gas	10043210.98	0.3	10957550.08	91.66	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	123SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:24:32
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	365.4	10.00	100	
11	B	6	No Gas	0.603	ppb	17.2	3226.03	1000	
23	Na	45	He	117.656	ppb	4.0	74414.73	200000	
24	Mg	45	He	0.877	ppb	22.4	335.58	200000	
27	Al	45	He	0.062	ppb	149.9	50.00	200000	
28	Si	45	H2	-0.466	ppb	N/A	497.23	10000	
39	K	45	He	15.839	ppb	28.0	18915.71	200000	
40	Ca	45	H2	5.167	ppb	11.2	12530.41	200000	
51	V	89	He	-0.024	ppb	N/A	253.35	1000	
52	Cr	89	He	-0.007	ppb	N/A	589.24	2000	
55	Mn	89	He	0.019	ppb	38.1	145.31	2000	
56	Fe	89	H2	-0.070	ppb	N/A	34230.12	100000	
59	Co	89	He	0.000	ppb	N/A	13.33	1000	
60	Ni	89	He	-0.005	ppb	N/A	22.22	1000	
63	Cu	89	He	0.033	ppb	25.2	437.80	2000	
66	Zn	89	He	0.078	ppb	23.6	135.56	2000	
75	As	89	He	-0.012	ppb	N/A	10.00	1000	
78	Se	89	H2	-0.002	ppb	N/A	0.83	1000	
88	Sr	89	He	0.032	ppb	25.8	115.56	2000	
95	Mo	89	He	0.024	ppb	15.5	93.34	1000	
107	Ag	89	He	0.001	ppb	293.2	48.89	100	
111	Cd	89	He	0.001	ppb	173.2	0.74	1000	
118	Sn	159	He	0.008	ppb	170.7	257.79	1000	
121	Sb	159	No Gas	0.000	ppb	444.0	146.83	1000	
137	Ba	159	No Gas	0.073	ppb	58.4	640.74	2000	
182	W	159	No Gas	0.006	ppb	114.5	213.57	1000	
205	Tl	209	No Gas	-0.002	ppb	N/A	150.17	1000	
208	Pb	209	No Gas	-0.020	ppb	N/A	1958.92	2000	
232	Th	209	No Gas	0.002	ppb	90.0	360.41	1000	
238	U	209	No Gas	0.003	ppb	73.1	150.17	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6412283.51	2.1	6947791.61	92.29	29.5	120.4	
Sc	45	No Gas	9970505.78	4.0	11828674.09	84.29	29.5	120.4	
Sc	45	H2	1348770.05	2.4	1511145.3	89.25	29.5	120.4	
Sc	45	He	334403.75	2.0	392815.69	85.13	29.5	120.4	
Ge	72	No Gas	2055630.30	1.7	2346521.52	87.6	29.5	120.4	
Ge	72	H2	455696.70	2.7	505748.89	90.1	29.5	120.4	
Ge	72	He	211227.86	2.2	240647.81	87.77	29.5	120.4	
Y	89	H2	7642483.57	2.1	8216492.56	93.01	29.5	120.4	
Y	89	He	1784690.56	2.5	2023870.27	88.18	29.5	120.4	
Tb	159	No Gas	20750669.41	3.8	21789053.29	95.23	29.5	120.4	
Tb	159	He	8006121.62	2.4	8552940.43	93.61	29.5	120.4	
Bi	209	No Gas	10673400.52	2.5	10957550.08	97.41	29.5	120.4	

Sample Report

Sample Name	TN0328-007
File Name	124SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:27:04
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.004	ppb	70.1	13.33	100	
11	B	6	No Gas	2.032	ppb	5.6	2318.04	1000	
23	Na	45	He	339.028	ppb	3.2	46135.18	200000	
24	Mg	45	He	15.939	ppb	7.3	1049.01	200000	
27	Al	45	He	10.206	ppb	21.8	280.01	200000	
28	Si	45	H2	11.674	ppb	20.0	1041.21	10000	
39	K	45	He	47.944	ppb	17.2	17264.34	200000	
40	Ca	45	H2	16.936	ppb	3.1	9009.82	200000	
51	V	89	He	0.333	ppb	11.3	615.59	1000	
52	Cr	89	He	0.217	ppb	17.1	849.88	2000	
55	Mn	89	He	0.211	ppb	37.4	201.30	2000	
56	Fe	89	H2	0.057	ppb	573.6	33734.96	100000	
59	Co	89	He	0.009	ppb	153.4	28.89	1000	
60	Ni	89	He	0.017	ppb	136.2	41.11	1000	
63	Cu	89	He	0.752	ppb	6.1	1155.65	2000	
66	Zn	89	He	3.647	ppb	7.2	658.93	2000	
75	As	89	He	0.038	ppb	62.7	21.33	1000	
78	Se	89	H2	0.019	ppb	159.9	2.33	1000	
88	Sr	89	He	0.036	ppb	47.6	44.45	2000	
95	Mo	89	He	0.054	ppb	54.9	52.23	1000	
107	Ag	89	He	0.013	ppb	70.6	67.78	100	
111	Cd	89	He	0.003	ppb	86.6	0.74	1000	
118	Sn	159	He	0.321	ppb	11.3	425.58	1000	
121	Sb	159	No Gas	0.003	ppb	234.6	153.51	1000	
137	Ba	159	No Gas	0.433	ppb	11.3	744.19	2000	
182	W	159	No Gas	0.003	ppb	221.5	120.14	1000	
205	Tl	209	No Gas	-0.020	ppb	N/A	100.11	1000	
208	Pb	209	No Gas	0.007	ppb	517.0	2966.82	2000	
232	Th	209	No Gas	0.030	ppb	18.2	570.65	1000	
238	U	209	No Gas	0.001	ppb	147.9	10.01	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6276564.89	3.3	6947791.61	90.34	29.5	120.4	
Sc	45	No Gas	9740415.38	5.1	11828674.09	82.35	29.5	120.4	
Sc	45	H2	1296244.17	3.3	1511145.3	85.78	29.5	120.4	
Sc	45	He	333251.42	0.3	392815.69	84.84	29.5	120.4	
Ge	72	No Gas	2013277.02	3.1	2346521.52	85.8	29.5	120.4	
Ge	72	H2	432574.69	2.5	505748.89	85.53	29.5	120.4	
Ge	72	He	206902.68	0.6	240647.81	85.98	29.5	120.4	
Y	89	H2	7418820.54	3.7	8216492.56	90.29	29.5	120.4	
Y	89	He	1783983.41	0.8	2023870.27	88.15	29.5	120.4	
Tb	159	No Gas	20537167.05	4.7	21789053.29	94.25	29.5	120.4	
Tb	159	He	8173843.84	0.4	8552940.43	95.57	29.5	120.4	
Bi	209	No Gas	10745099.72	3.7	10957550.08	98.06	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	125_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:29:40
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	22.399	ppb	6.4	146075.48	25	89.6	89.8	110.2	> +/- 10%
11	B	6	No Gas	22.495	ppb	7.1	96596.83	25	89.98	89.8	110.2	
23	Na	45	He	5102.192	ppb	0.4	2803273.80	5000	102.04	89.8	110.2	
24	Mg	45	He	5067.251	ppb	0.7	1524867.28	5000	101.35	89.8	110.2	
27	Al	45	He	497.500	ppb	1.3	56447.55	500	99.5	89.8	110.2	
28	Si	45	H2	474.712	ppb	1.7	96192.78	500	94.94	89.8	110.2	
39	K	45	He	4932.275	ppb	0.6	1242598.66	5000	98.65	89.8	110.2	
40	Ca	45	H2	4920.930	ppb	0.5	8407884.53	5000	98.42	89.8	110.2	
51	V	89	He	23.823	ppb	1.1	94415.46	25	95.29	89.8	110.2	
52	Cr	89	He	23.852	ppb	0.5	121414.35	25	95.41	89.8	110.2	
55	Mn	89	He	24.334	ppb	0.9	56879.56	25	97.34	89.8	110.2	
56	Fe	89	H2	4801.477	ppb	0.2	29935447.10	5000	96.03	89.8	110.2	
59	Co	89	He	23.901	ppb	0.1	192065.79	25	95.6	89.8	110.2	
60	Ni	89	He	23.889	ppb	1.2	53264.50	25	95.56	89.8	110.2	
63	Cu	89	He	23.977	ppb	0.3	144655.09	25	95.91	89.8	110.2	
66	Zn	89	He	24.546	ppb	1.2	19489.77	25	98.18	89.8	110.2	
75	As	89	He	23.854	ppb	1.2	13363.52	25	95.42	89.8	110.2	
78	Se	89	H2	23.986	ppb	2.1	6258.29	25	95.94	89.8	110.2	
88	Sr	89	He	24.059	ppb	1.2	69099.74	25	96.24	89.8	110.2	
95	Mo	89	He	24.831	ppb	1.3	77931.29	25	99.32	89.8	110.2	
107	Ag	89	He	25.423	ppb	1.2	259083.03	25	101.69	89.8	110.2	
111	Cd	89	He	25.534	ppb	0.2	33285.27	25	102.14	89.8	110.2	
118	Sn	159	He	23.627	ppb	1.3	65956.51	25	94.51	89.8	110.2	
121	Sb	159	No Gas	23.306	ppb	5.7	459223.55	25	93.22	89.8	110.2	
137	Ba	159	No Gas	23.156	ppb	5.1	177327.44	25	92.62	89.8	110.2	
182	W	159	No Gas	23.626	ppb	6.0	406790.81	25	94.5	89.8	110.2	
205	Tl	209	No Gas	24.353	ppb	6.4	835192.59	25	97.41	89.8	110.2	
208	Pb	209	No Gas	23.979	ppb	5.7	1158330.01	25	95.92	89.8	110.2	
232	Th	209	No Gas	23.698	ppb	6.7	1129899.73	25	94.79	89.8	110.2	
238	U	209	No Gas	24.019	ppb	5.3	1118960.12	25	96.08	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6253195.95	2.4	6947791.61	90	29.5	120.4	
Sc	45	No Gas	9908540.69	2.0	11828674.09	83.77	29.5	120.4	
Sc	45	H2	1294907.26	1.0	1511145.3	85.69	29.5	120.4	
Sc	45	He	324573.16	0.5	392815.69	82.63	29.5	120.4	
Ge	72	No Gas	2047540.77	2.4	2346521.52	87.26	29.5	120.4	
Ge	72	H2	434182.92	1.1	505748.89	85.85	29.5	120.4	
Ge	72	He	205385.03	0.3	240647.81	85.35	29.5	120.4	
Y	89	H2	7371342.80	0.8	8216492.56	89.71	29.5	120.4	
Y	89	He	1754743.34	0.3	2023870.27	86.7	29.5	120.4	
Tb	159	No Gas	21023573.02	2.1	21789053.29	96.49	29.5	120.4	
Tb	159	He	7965110.30	0.6	8552940.43	93.13	29.5	120.4	
Bi	209	No Gas	10805757.36	2.1	10957550.08	98.61	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	126_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:32:14
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.021	ppb	65.2	144.45	0.2	
11	B	6	No Gas	0.298	ppb	19.0	1839.07	4	
23	Na	45	He	54.649	ppb	4.3	38263.38	200	
24	Mg	45	He	1.243	ppb	9.3	442.26	20	
27	Al	45	He	0.290	ppb	90.9	74.45	20	
28	Si	45	H2	-0.850	ppb	N/A	383.77	100	
39	K	45	He	11.789	ppb	35.5	17596.34	200	
40	Ca	45	H2	0.978	ppb	18.5	4659.83	20	
51	V	89	He	-0.044	ppb	N/A	171.12	1	
52	Cr	89	He	-0.012	ppb	N/A	563.24	1	
55	Mn	89	He	0.021	ppb	26.5	150.64	0.4	
56	Fe	89	H2	0.700	ppb	27.4	35946.93	20	
59	Co	89	He	0.003	ppb	94.7	37.78	0.2	
60	Ni	89	He	0.003	ppb	336.5	40.00	0.4	
63	Cu	89	He	0.021	ppb	48.3	357.80	0.6	
66	Zn	89	He	0.007	ppb	151.6	77.78	2	
75	As	89	He	0.002	ppb	393.5	18.33	1	
78	Se	89	H2	0.023	ppb	29.7	7.00	1	
88	Sr	89	He	0.016	ppb	11.5	68.89	1	
95	Mo	89	He	0.065	ppb	22.3	222.23	1	
107	Ag	89	He	0.004	ppb	41.8	82.22	0.2	
111	Cd	89	He	0.004	ppb	18.6	4.81	0.2	
118	Sn	159	He	0.053	ppb	9.2	386.69	1	
121	Sb	159	No Gas	0.032	ppb	30.6	770.89	0.2	
137	Ba	159	No Gas	0.017	ppb	62.9	230.26	0.4	
182	W	159	No Gas	0.085	ppb	29.1	1555.17	1	
205	Tl	209	No Gas	0.027	ppb	47.6	1174.70	0.2	
208	Pb	209	No Gas	-0.005	ppb	N/A	2699.81	0.2	
232	Th	209	No Gas	0.104	ppb	19.7	5270.39	1	
238	U	209	No Gas	0.029	ppb	55.9	1344.94	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6231329.91	1.5	6947791.61	89.69	29.5	120.4	
Sc	45	No Gas	9863366.14	3.3	11828674.09	83.39	29.5	120.4	
Sc	45	H2	1236119.17	6.5	1511145.3	81.8	29.5	120.4	
Sc	45	He	329553.73	4.9	392815.69	83.9	29.5	120.4	
Ge	72	No Gas	2034011.75	1.6	2346521.52	86.68	29.5	120.4	
Ge	72	H2	428558.77	4.7	505748.89	84.74	29.5	120.4	
Ge	72	He	207825.03	3.3	240647.81	86.36	29.5	120.4	
Y	89	H2	7006452.87	5.5	8216492.56	85.27	29.5	120.4	
Y	89	He	1777164.63	4.8	2023870.27	87.81	29.5	120.4	
Tb	159	No Gas	20929470.11	3.1	21789053.29	96.05	29.5	120.4	
Tb	159	He	8060399.11	4.7	8552940.43	94.24	29.5	120.4	
Bi	209	No Gas	10845775.92	2.4	10957550.08	98.98	29.5	120.4	

Sample Report

Sample Name	TN0328-007A
File Name	127SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:34:49
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	9.492	ppb	5.1	12181.10	100	
11	B	6	No Gas	188.435	ppb	4.7	158763.35	1000	
23	Na	45	He	10529.733	ppb	2.1	1167834.73	200000	
24	Mg	45	He	1046.237	ppb	1.1	63370.17	200000	
27	Al	45	He	1050.945	ppb	2.4	23999.73	200000	
28	Si	45	H2	4735.746	ppb	1.6	186372.29	10000	
39	K	45	He	10195.155	ppb	2.2	524952.74	200000	
40	Ca	45	H2	1082.403	ppb	1.8	363218.19	200000	
51	V	89	He	48.598	ppb	2.7	38705.12	1000	
52	Cr	89	He	49.399	ppb	2.5	50632.16	2000	
55	Mn	89	He	18.637	ppb	1.6	8794.50	2000	
56	Fe	89	H2	1015.297	ppb	0.9	1267790.75	100000	
59	Co	89	He	10.153	ppb	1.0	16326.25	1000	
60	Ni	89	He	20.127	ppb	2.5	8998.78	1000	
63	Cu	89	He	30.822	ppb	2.4	37345.26	2000	
66	Zn	89	He	104.801	ppb	3.5	16643.79	2000	
75	As	89	He	48.804	ppb	1.4	5477.02	1000	
78	Se	89	H2	50.371	ppb	2.5	2568.29	1000	
88	Sr	89	He	49.231	ppb	3.2	28277.76	2000	
95	Mo	89	He	51.130	ppb	2.4	32090.70	1000	
107	Ag	89	He	10.976	ppb	1.8	22401.43	100	
111	Cd	89	He	10.927	ppb	3.1	2847.37	1000	
118	Sn	159	He	47.986	ppb	2.1	27328.46	1000	
121	Sb	159	No Gas	10.107	ppb	2.6	39033.62	1000	
137	Ba	159	No Gas	20.195	ppb	3.5	30294.99	2000	
182	W	159	No Gas	48.951	ppb	3.3	164730.13	1000	
205	Tl	209	No Gas	10.395	ppb	4.7	71786.41	1000	
208	Pb	209	No Gas	10.509	ppb	3.9	104563.60	2000	
232	Th	209	No Gas	11.766	ppb	2.9	112872.40	1000	
238	U	209	No Gas	10.295	ppb	6.3	96273.38	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6142203.60	0.8	6947791.61	88.41	29.5	120.4	
Sc	45	No Gas	9513153.02	1.8	11828674.09	80.42	29.5	120.4	
Sc	45	H2	1261105.19	0.4	1511145.3	83.45	29.5	120.4	
Sc	45	He	326363.80	1.4	392815.69	83.08	29.5	120.4	
Ge	72	No Gas	1968984.28	1.4	2346521.52	83.91	29.5	120.4	
Ge	72	H2	417414.34	0.9	505748.89	82.53	29.5	120.4	
Ge	72	He	203359.15	1.4	240647.81	84.5	29.5	120.4	
Y	89	H2	7199525.42	0.3	8216492.56	87.62	29.5	120.4	
Y	89	He	1754446.24	1.8	2023870.27	86.69	29.5	120.4	
Tb	159	No Gas	20516163.86	2.1	21789053.29	94.16	29.5	120.4	
Tb	159	He	8084076.13	1.9	8552940.43	94.52	29.5	120.4	
Bi	209	No Gas	10834514.34	1.3	10957550.08	98.88	29.5	120.4	

Sample Report

Sample Name	TN0328-007L
File Name	128SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:37:21
Sample Type	Sample
Total Dilution	25.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.148	ppb	46.5	46.67	100	
11	B	6	No Gas	13.105	ppb	14.2	2821.48	1000	
23	Na	45	He	804.027	ppb	6.7	25534.34	200000	
24	Mg	45	He	27.105	ppb	19.6	391.15	200000	
27	Al	45	He	237.759	ppb	4.6	1126.75	200000	
28	Si	45	H2	8.412	ppb	199.6	637.40	10000	
39	K	45	He	283.582	ppb	24.3	17342.73	200000	
40	Ca	45	H2	52.655	ppb	10.7	6800.77	200000	
51	V	89	He	-0.123	ppb	N/A	322.24	1000	
52	Cr	89	He	-0.111	ppb	N/A	593.91	2000	
55	Mn	89	He	0.353	ppb	89.5	131.98	2000	
56	Fe	89	H2	7.749	ppb	14.5	35638.58	100000	
59	Co	89	He	0.033	ppb	88.2	24.45	1000	
60	Ni	89	He	0.032	ppb	473.0	35.55	1000	
63	Cu	89	He	1.132	ppb	4.9	504.48	2000	
66	Zn	89	He	5.295	ppb	8.1	238.90	2000	
75	As	89	He	-0.014	ppb	N/A	16.33	1000	
78	Se	89	H2	0.476	ppb	42.4	6.33	1000	
88	Sr	89	He	0.183	ppb	137.7	44.45	2000	
95	Mo	89	He	1.073	ppb	3.0	152.23	1000	
107	Ag	89	He	0.044	ppb	113.7	58.89	100	
111	Cd	89	He	0.035	ppb	66.2	1.85	1000	
118	Sn	159	He	0.465	ppb	96.5	288.90	1000	
121	Sb	159	No Gas	0.155	ppb	65.8	270.30	1000	
137	Ba	159	No Gas	0.601	ppb	43.2	286.99	2000	
182	W	159	No Gas	1.166	ppb	24.2	927.73	1000	
205	Tl	209	No Gas	0.112	ppb	63.8	397.12	1000	
208	Pb	209	No Gas	-0.333	ppb	N/A	2319.36	2000	
232	Th	209	No Gas	0.675	ppb	24.4	1598.56	1000	
238	U	209	No Gas	0.201	ppb	4.4	383.77	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6275741.25	1.0	6947791.61	90.33	29.5	120.4	
Sc	45	No Gas	10013652.78	2.5	11828674.09	84.66	29.5	120.4	
Sc	45	H2	1293217.91	2.4	1511145.3	85.58	29.5	120.4	
Sc	45	He	326426.55	2.2	392815.69	83.1	29.5	120.4	
Ge	72	No Gas	2046274.59	1.2	2346521.52	87.2	29.5	120.4	
Ge	72	H2	434298.43	1.8	505748.89	85.87	29.5	120.4	
Ge	72	He	205576.87	2.1	240647.81	85.43	29.5	120.4	
Y	89	H2	7425294.61	2.2	8216492.56	90.37	29.5	120.4	
Y	89	He	1756183.08	3.4	2023870.27	86.77	29.5	120.4	
Tb	159	No Gas	21360030.65	2.4	21789053.29	98.03	29.5	120.4	
Tb	159	He	8017767.66	2.1	8552940.43	93.74	29.5	120.4	
Bi	209	No Gas	10985345.27	2.1	10957550.08	100.25	29.5	120.4	

Sample Report

Sample Name	TN0328-007P
File Name	129SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:39:55
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	44.560	ppb	6.9	58869.78	100	
11	B	6	No Gas	445.924	ppb	6.1	386176.61	1000	
23	Na	45	He	7995.948	ppb	0.9	879953.04	200000	
24	Mg	45	He	5252.641	ppb	1.1	314732.04	200000	
27	Al	45	He	2056.910	ppb	2.0	46468.72	200000	
28	Si	45	H2	979.814	ppb	4.3	38504.56	10000	
39	K	45	He	10402.336	ppb	2.0	530021.90	200000	
40	Ca	45	H2	2609.205	ppb	3.8	860139.87	200000	
51	V	89	He	491.406	ppb	1.9	384293.18	1000	
52	Cr	89	He	200.141	ppb	2.5	201163.30	2000	
55	Mn	89	He	503.696	ppb	2.1	232652.02	2000	
56	Fe	89	H2	1032.372	ppb	3.8	1277579.57	100000	
59	Co	89	He	508.728	ppb	2.0	808852.46	1000	
60	Ni	89	He	505.207	ppb	2.2	222778.75	1000	
63	Cu	89	He	252.995	ppb	1.7	301754.81	2000	
66	Zn	89	He	504.365	ppb	2.1	79018.44	2000	
75	As	89	He	99.794	ppb	2.2	11064.27	1000	
78	Se	89	H2	102.654	ppb	3.1	5188.73	1000	
88	Sr	89	He	493.450	ppb	2.3	280340.75	2000	
95	Mo	89	He	104.129	ppb	1.9	64665.82	1000	
107	Ag	89	He	53.097	ppb	1.8	107092.73	100	
111	Cd	89	He	262.304	ppb	2.3	67655.42	1000	
118	Sn	159	He	475.899	ppb	1.5	266648.39	1000	
121	Sb	159	No Gas	94.111	ppb	5.3	374303.42	1000	
137	Ba	159	No Gas	1848.739	ppb	5.5	2855848.92	2000	
182	W	159	No Gas	96.464	ppb	5.6	335240.26	1000	
205	Tl	209	No Gas	100.100	ppb	6.3	699701.74	1000	
208	Pb	209	No Gas	99.136	ppb	6.4	976388.19	2000	
232	Th	209	No Gas	96.429	ppb	5.5	937120.45	1000	
238	U	209	No Gas	97.964	ppb	6.3	929948.68	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6327643.04	1.1	6947791.61	91.07	29.5	120.4	
Sc	45	No Gas	9819752.32	1.6	11828674.09	83.02	29.5	120.4	
Sc	45	H2	1245981.03	2.8	1511145.3	82.45	29.5	120.4	
Sc	45	He	323108.55	1.0	392815.69	82.25	29.5	120.4	
Ge	72	No Gas	2020844.31	1.0	2346521.52	86.12	29.5	120.4	
Ge	72	H2	418929.63	2.5	505748.89	82.83	29.5	120.4	
Ge	72	He	202666.88	0.3	240647.81	84.22	29.5	120.4	
Y	89	H2	7142871.68	2.6	8216492.56	86.93	29.5	120.4	
Y	89	He	1736267.44	1.3	2023870.27	85.79	29.5	120.4	
Tb	159	No Gas	21196269.83	1.9	21789053.29	97.28	29.5	120.4	
Tb	159	He	8015224.40	1.0	8552940.43	93.71	29.5	120.4	
Bi	209	No Gas	11003769.84	1.3	10957550.08	100.42	29.5	120.4	

Sample Report

Sample Name	TN0328-007S
File Name	130SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:42:27
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	45.406	ppb	4.6	59865.62	100	
11	B	6	No Gas	459.839	ppb	3.9	397417.48	1000	
23	Na	45	He	8021.159	ppb	4.8	875682.36	200000	
24	Mg	45	He	5327.166	ppb	5.8	316543.96	200000	
27	Al	45	He	2075.129	ppb	6.4	46486.39	200000	
28	Si	45	H2	1022.357	ppb	6.6	39692.51	10000	
39	K	45	He	10493.336	ppb	5.9	530153.89	200000	
40	Ca	45	H2	2677.889	ppb	6.4	872609.82	200000	
51	V	89	He	496.247	ppb	7.0	386724.85	1000	
52	Cr	89	He	202.297	ppb	6.8	202638.40	2000	
55	Mn	89	He	509.125	ppb	6.8	234354.69	2000	
56	Fe	89	H2	1060.581	ppb	6.8	1298851.31	100000	
59	Co	89	He	512.485	ppb	6.9	812004.82	1000	
60	Ni	89	He	507.687	ppb	6.5	223132.95	1000	
63	Cu	89	He	256.035	ppb	6.6	304350.30	2000	
66	Zn	89	He	510.998	ppb	6.6	79789.33	2000	
75	As	89	He	100.489	ppb	6.2	11105.98	1000	
78	Se	89	H2	104.605	ppb	6.2	5235.58	1000	
88	Sr	89	He	496.459	ppb	6.7	281115.90	2000	
95	Mo	89	He	105.238	ppb	6.2	65144.73	1000	
107	Ag	89	He	53.543	ppb	7.6	107591.48	100	
111	Cd	89	He	265.576	ppb	6.5	68274.89	1000	
118	Sn	159	He	485.604	ppb	7.3	270374.85	1000	
121	Sb	159	No Gas	95.527	ppb	3.4	381457.29	1000	
137	Ba	159	No Gas	1882.245	ppb	2.6	2918777.06	2000	
182	W	159	No Gas	97.908	ppb	3.1	341607.68	1000	
205	Tl	209	No Gas	102.271	ppb	4.0	713465.74	1000	
208	Pb	209	No Gas	101.466	ppb	3.4	997231.85	2000	
232	Th	209	No Gas	100.134	ppb	2.6	971040.79	1000	
238	U	209	No Gas	99.370	ppb	3.9	941470.54	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6313656.30	0.7	6947791.61	90.87	29.5	120.4	
Sc	45	No Gas	9891647.34	1.9	11828674.09	83.62	29.5	120.4	
Sc	45	H2	1233558.61	5.3	1511145.3	81.63	29.5	120.4	
Sc	45	He	321032.69	5.1	392815.69	81.73	29.5	120.4	
Ge	72	No Gas	2027395.45	1.2	2346521.52	86.4	29.5	120.4	
Ge	72	H2	418931.63	4.4	505748.89	82.83	29.5	120.4	
Ge	72	He	201692.92	3.2	240647.81	83.81	29.5	120.4	
Y	89	H2	7084020.91	5.0	8216492.56	86.22	29.5	120.4	
Y	89	He	1734250.62	5.3	2023870.27	85.69	29.5	120.4	
Tb	159	No Gas	21277761.35	2.1	21789053.29	97.65	29.5	120.4	
Tb	159	He	7985244.46	5.4	8552940.43	93.36	29.5	120.4	
Bi	209	No Gas	10977810.34	1.2	10957550.08	100.18	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	131SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:45:03
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.009	ppb	47.8	63.34	100	
11	B	6	No Gas	1.068	ppb	7.6	5087.75	1000	
23	Na	45	He	20.996	ppb	3.1	19267.80	200000	
24	Mg	45	He	0.316	ppb	31.4	157.79	200000	
27	Al	45	He	0.036	ppb	402.7	45.56	200000	
28	Si	45	H2	-0.807	ppb	N/A	417.14	10000	
39	K	45	He	9.381	ppb	25.5	16752.36	200000	
40	Ca	45	H2	0.566	ppb	4.8	4260.80	200000	
51	V	89	He	-0.023	ppb	N/A	252.23	1000	
52	Cr	89	He	-0.005	ppb	N/A	591.24	2000	
55	Mn	89	He	0.013	ppb	134.4	128.64	2000	
56	Fe	89	H2	-0.099	ppb	N/A	33580.94	100000	
59	Co	89	He	0.021	ppb	24.8	182.24	1000	
60	Ni	89	He	0.024	ppb	51.2	85.56	1000	
63	Cu	89	He	0.030	ppb	19.3	408.91	2000	
66	Zn	89	He	0.106	ppb	16.1	154.45	2000	
75	As	89	He	-0.002	ppb	N/A	15.67	1000	
78	Se	89	H2	0.023	ppb	35.0	7.50	1000	
88	Sr	89	He	0.015	ppb	13.1	66.67	2000	
95	Mo	89	He	0.039	ppb	10.6	140.01	1000	
107	Ag	89	He	0.001	ppb	150.8	55.56	100	
111	Cd	89	He	0.014	ppb	43.4	18.15	1000	
118	Sn	159	He	0.102	ppb	11.8	521.14	1000	
121	Sb	159	No Gas	0.029	ppb	20.3	710.81	1000	
137	Ba	159	No Gas	0.255	ppb	45.0	2052.50	2000	
182	W	159	No Gas	0.056	ppb	21.5	1074.58	1000	
205	Tl	209	No Gas	0.026	ppb	28.0	1148.01	1000	
208	Pb	209	No Gas	-0.005	ppb	N/A	2709.84	2000	
232	Th	209	No Gas	0.092	ppb	10.1	4679.50	1000	
238	U	209	No Gas	0.023	ppb	45.4	1057.90	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6192988.61	1.4	6947791.61	89.14	29.5	120.4	
Sc	45	No Gas	9758352.49	1.0	11828674.09	82.5	29.5	120.4	
Sc	45	H2	1318486.65	0.9	1511145.3	87.25	29.5	120.4	
Sc	45	He	324316.46	2.3	392815.69	82.56	29.5	120.4	
Ge	72	No Gas	2019515.51	1.5	2346521.52	86.06	29.5	120.4	
Ge	72	H2	443588.16	0.2	505748.89	87.71	29.5	120.4	
Ge	72	He	204322.18	1.1	240647.81	84.91	29.5	120.4	
Y	89	H2	7538131.15	1.0	8216492.56	91.74	29.5	120.4	
Y	89	He	1747727.16	1.5	2023870.27	86.36	29.5	120.4	
Tb	159	No Gas	20969955.94	1.0	21789053.29	96.24	29.5	120.4	
Tb	159	He	7972448.56	2.1	8552940.43	93.21	29.5	120.4	
Bi	209	No Gas	10821128.87	1.5	10957550.08	98.76	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	132SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:47:37
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.002	ppb	28.9	20.00	100	
11	B	6	No Gas	0.429	ppb	11.3	2364.72	1000	
23	Na	45	He	20.410	ppb	2.8	18953.65	200000	
24	Mg	45	He	0.162	ppb	93.9	111.12	200000	
27	Al	45	He	0.155	ppb	29.6	58.89	200000	
28	Si	45	H2	-0.772	ppb	N/A	430.50	10000	
39	K	45	He	9.795	ppb	22.3	16855.82	200000	
40	Ca	45	H2	0.833	ppb	6.4	4798.76	200000	
51	V	89	He	-0.029	ppb	N/A	223.34	1000	
52	Cr	89	He	-0.012	ppb	N/A	549.91	2000	
55	Mn	89	He	0.014	ppb	59.2	130.64	2000	
56	Fe	89	H2	-0.061	ppb	N/A	34326.95	100000	
59	Co	89	He	0.009	ppb	47.7	82.23	1000	
60	Ni	89	He	0.008	ppb	95.1	50.00	1000	
63	Cu	89	He	0.018	ppb	41.0	338.91	2000	
66	Zn	89	He	0.086	ppb	72.8	137.79	2000	
75	As	89	He	-0.002	ppb	N/A	15.33	1000	
78	Se	89	H2	0.010	ppb	40.6	4.00	1000	
88	Sr	89	He	0.007	ppb	49.1	43.33	2000	
95	Mo	89	He	0.014	ppb	28.2	60.00	1000	
107	Ag	89	He	0.002	ppb	65.6	63.34	100	
111	Cd	89	He	0.005	ppb	53.8	6.30	1000	
118	Sn	159	He	0.027	ppb	31.3	312.24	1000	
121	Sb	159	No Gas	0.006	ppb	40.7	256.96	1000	
137	Ba	159	No Gas	0.038	ppb	13.3	387.10	2000	
182	W	159	No Gas	0.006	ppb	46.5	210.24	1000	
205	Tl	209	No Gas	0.001	ppb	152.3	286.99	1000	
208	Pb	209	No Gas	-0.020	ppb	N/A	1955.58	2000	
232	Th	209	No Gas	0.025	ppb	10.6	1461.73	1000	
238	U	209	No Gas	0.003	ppb	19.4	150.17	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6154821.01	2.2	6947791.61	88.59	29.5	120.4	
Sc	45	No Gas	9604030.36	4.0	11828674.09	81.19	29.5	120.4	
Sc	45	H2	1338992.99	2.4	1511145.3	88.61	29.5	120.4	
Sc	45	He	324356.74	0.5	392815.69	82.57	29.5	120.4	
Ge	72	No Gas	2015321.03	1.8	2346521.52	85.89	29.5	120.4	
Ge	72	H2	447264.61	1.1	505748.89	88.44	29.5	120.4	
Ge	72	He	203922.52	0.3	240647.81	84.74	29.5	120.4	
Y	89	H2	7652045.32	1.7	8216492.56	93.13	29.5	120.4	
Y	89	He	1737089.61	0.1	2023870.27	85.83	29.5	120.4	
Tb	159	No Gas	20655669.14	4.2	21789053.29	94.8	29.5	120.4	
Tb	159	He	7974525.09	0.7	8552940.43	93.24	29.5	120.4	
Bi	209	No Gas	10787545.92	2.4	10957550.08	98.45	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	133SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:50:17
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.001	ppb	94.4	16.67	100	
11	B	6	No Gas	0.253	ppb	11.7	1591.25	1000	
23	Na	45	He	17.975	ppb	10.0	17399.87	200000	
24	Mg	45	He	0.097	ppb	83.4	91.12	200000	
27	Al	45	He	0.003	ppb	5411.8	41.11	200000	
28	Si	45	H2	-0.579	ppb	N/A	447.18	10000	
39	K	45	He	8.261	ppb	10.8	16286.98	200000	
40	Ca	45	H2	0.474	ppb	18.4	3970.71	200000	
51	V	89	He	-0.038	ppb	N/A	188.90	1000	
52	Cr	89	He	-0.022	ppb	N/A	495.92	2000	
55	Mn	89	He	0.001	ppb	424.0	101.31	2000	
56	Fe	89	H2	-0.191	ppb	N/A	31922.22	100000	
59	Co	89	He	0.003	ppb	92.4	35.56	1000	
60	Ni	89	He	0.004	ppb	130.2	42.22	1000	
63	Cu	89	He	0.010	ppb	10.5	288.91	2000	
66	Zn	89	He	-0.018	ppb	N/A	56.67	2000	
75	As	89	He	-0.008	ppb	N/A	12.00	1000	
78	Se	89	H2	0.001	ppb	299.5	1.67	1000	
88	Sr	89	He	0.001	ppb	524.3	24.44	2000	
95	Mo	89	He	0.007	ppb	84.1	40.00	1000	
107	Ag	89	He	0.001	ppb	54.8	47.78	100	
111	Cd	89	He	0.003	ppb	31.2	3.33	1000	
118	Sn	159	He	0.023	ppb	29.0	298.91	1000	
121	Sb	159	No Gas	0.002	ppb	24.4	180.20	1000	
137	Ba	159	No Gas	0.029	ppb	18.5	307.01	2000	
182	W	159	No Gas	-0.001	ppb	N/A	100.11	1000	
205	Tl	209	No Gas	-0.002	ppb	N/A	173.53	1000	
208	Pb	209	No Gas	-0.022	ppb	N/A	1832.10	2000	
232	Th	209	No Gas	0.013	ppb	7.8	901.05	1000	
238	U	209	No Gas	0.002	ppb	27.1	80.09	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6017365.54	3.4	6947791.61	86.61	29.5	120.4	
Sc	45	No Gas	9482345.45	6.0	11828674.09	80.16	29.5	120.4	
Sc	45	H2	1275937.46	3.5	1511145.3	84.44	29.5	120.4	
Sc	45	He	320678.89	3.6	392815.69	81.64	29.5	120.4	
Ge	72	No Gas	1968073.61	3.4	2346521.52	83.87	29.5	120.4	
Ge	72	H2	437528.47	2.6	505748.89	86.51	29.5	120.4	
Ge	72	He	203757.01	2.5	240647.81	84.67	29.5	120.4	
Y	89	H2	7294212.81	3.8	8216492.56	88.78	29.5	120.4	
Y	89	He	1733944.40	3.9	2023870.27	85.67	29.5	120.4	
Tb	159	No Gas	20361879.28	6.1	21789053.29	93.45	29.5	120.4	
Tb	159	He	7929996.62	3.3	8552940.43	92.72	29.5	120.4	
Bi	209	No Gas	10562018.41	4.5	10957550.08	96.39	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	134SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:52:47
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.001	ppb	43.1	12.22	100	
11	B	6	No Gas	0.194	ppb	10.6	1373.45	1000	
23	Na	45	He	16.994	ppb	12.7	17052.23	200000	
24	Mg	45	He	0.102	ppb	48.7	93.34	200000	
27	Al	45	He	0.020	ppb	441.7	43.33	200000	
28	Si	45	H2	-1.059	ppb	N/A	367.08	10000	
39	K	45	He	8.613	ppb	73.4	16512.22	200000	
40	Ca	45	H2	0.426	ppb	13.0	4054.06	200000	
51	V	89	He	-0.035	ppb	N/A	200.01	1000	
52	Cr	89	He	-0.021	ppb	N/A	508.59	2000	
55	Mn	89	He	-0.004	ppb	N/A	89.99	2000	
56	Fe	89	H2	-0.271	ppb	N/A	33068.96	100000	
59	Co	89	He	0.003	ppb	89.0	40.00	1000	
60	Ni	89	He	-0.001	ppb	N/A	30.00	1000	
63	Cu	89	He	0.010	ppb	22.3	291.13	2000	
66	Zn	89	He	-0.008	ppb	N/A	64.45	2000	
75	As	89	He	-0.007	ppb	N/A	12.33	1000	
78	Se	89	H2	0.003	ppb	225.9	2.17	1000	
88	Sr	89	He	0.002	ppb	208.8	27.78	2000	
95	Mo	89	He	0.004	ppb	92.3	31.11	1000	
107	Ag	89	He	0.000	ppb	448.3	44.45	100	
111	Cd	89	He	0.002	ppb	84.3	2.22	1000	
118	Sn	159	He	0.021	ppb	64.2	295.59	1000	
121	Sb	159	No Gas	0.001	ppb	204.2	160.18	1000	
137	Ba	159	No Gas	0.024	ppb	55.5	283.65	2000	
182	W	159	No Gas	0.001	ppb	104.0	130.15	1000	
205	Tl	209	No Gas	-0.003	ppb	N/A	130.15	1000	
208	Pb	209	No Gas	-0.025	ppb	N/A	1748.67	2000	
232	Th	209	No Gas	0.009	ppb	37.9	707.48	1000	
238	U	209	No Gas	0.001	ppb	73.5	30.03	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6130159.01	1.4	6947791.61	88.23	29.5	120.4	
Sc	45	No Gas	9728744.23	2.5	11828674.09	82.25	29.5	120.4	
Sc	45	H2	1331077.41	4.0	1511145.3	88.08	29.5	120.4	
Sc	45	He	324617.41	6.0	392815.69	82.64	29.5	120.4	
Ge	72	No Gas	2012827.48	1.7	2346521.52	85.78	29.5	120.4	
Ge	72	H2	447801.49	2.4	505748.89	88.54	29.5	120.4	
Ge	72	He	204807.05	3.6	240647.81	85.11	29.5	120.4	
Y	89	H2	7673071.55	3.7	8216492.56	93.39	29.5	120.4	
Y	89	He	1746262.80	5.6	2023870.27	86.28	29.5	120.4	
Tb	159	No Gas	20890277.47	2.6	21789053.29	95.88	29.5	120.4	
Tb	159	He	8021032.31	5.0	8552940.43	93.78	29.5	120.4	
Bi	209	No Gas	10876941.14	1.9	10957550.08	99.26	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	135SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:55:26
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	278.1	10.00	100	
11	B	6	No Gas	0.139	ppb	7.1	1107.86	1000	
23	Na	45	He	23.165	ppb	5.1	20377.03	200000	
24	Mg	45	He	0.606	ppb	24.1	244.47	200000	
27	Al	45	He	0.038	ppb	212.1	45.56	200000	
28	Si	45	H2	-0.814	ppb	N/A	407.13	10000	
39	K	45	He	8.355	ppb	25.4	16415.51	200000	
40	Ca	45	H2	1.980	ppb	7.4	6557.31	200000	
51	V	89	He	-0.034	ppb	N/A	206.68	1000	
52	Cr	89	He	-0.018	ppb	N/A	519.25	2000	
55	Mn	89	He	0.011	ppb	72.9	122.65	2000	
56	Fe	89	H2	0.098	ppb	76.8	33734.80	100000	
59	Co	89	He	0.005	ppb	74.7	53.34	1000	
60	Ni	89	He	-0.002	ppb	N/A	28.89	1000	
63	Cu	89	He	0.014	ppb	62.0	315.57	2000	
66	Zn	89	He	-0.002	ppb	N/A	68.89	2000	
75	As	89	He	-0.006	ppb	N/A	13.33	1000	
78	Se	89	H2	-0.001	ppb	N/A	1.00	1000	
88	Sr	89	He	0.014	ppb	67.2	64.45	2000	
95	Mo	89	He	0.001	ppb	406.2	18.89	1000	
107	Ag	89	He	0.000	ppb	308.0	44.45	100	
111	Cd	89	He	0.005	ppb	71.8	6.30	1000	
118	Sn	159	He	-0.002	ppb	N/A	230.01	1000	
121	Sb	159	No Gas	0.003	ppb	184.6	196.89	1000	
137	Ba	159	No Gas	0.030	ppb	22.8	317.03	2000	
182	W	159	No Gas	0.001	ppb	215.1	116.80	1000	
205	Tl	209	No Gas	-0.001	ppb	N/A	180.20	1000	
208	Pb	209	No Gas	-0.021	ppb	N/A	1858.81	2000	
232	Th	209	No Gas	0.008	ppb	9.8	660.76	1000	
238	U	209	No Gas	0.002	ppb	49.3	90.10	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5941306.72	0.5	6947791.61	85.51	29.5	120.4	
Sc	45	No Gas	9290708.82	0.7	11828674.09	78.54	29.5	120.4	
Sc	45	H2	1287773.48	5.5	1511145.3	85.22	29.5	120.4	
Sc	45	He	322969.01	3.1	392815.69	82.22	29.5	120.4	
Ge	72	No Gas	1952886.52	0.9	2346521.52	83.22	29.5	120.4	
Ge	72	H2	435762.08	3.2	505748.89	86.16	29.5	120.4	
Ge	72	He	204375.42	2.0	240647.81	84.93	29.5	120.4	
Y	89	H2	7303884.30	5.3	8216492.56	88.89	29.5	120.4	
Y	89	He	1739890.32	2.9	2023870.27	85.97	29.5	120.4	
Tb	159	No Gas	20001073.87	1.7	21789053.29	91.79	29.5	120.4	
Tb	159	He	7988582.10	3.4	8552940.43	93.4	29.5	120.4	
Bi	209	No Gas	10414323.54	1.9	10957550.08	95.04	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	136SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 17:57:57
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.001	ppb	0.3	13.33	100	
11	B	6	No Gas	0.119	ppb	18.3	1048.97	1000	
23	Na	45	He	17.344	ppb	6.7	17346.40	200000	
24	Mg	45	He	0.352	ppb	6.4	168.90	200000	
27	Al	45	He	0.007	ppb	912.3	42.22	200000	
28	Si	45	H2	-0.512	ppb	N/A	450.51	10000	
39	K	45	He	7.920	ppb	11.3	16458.79	200000	
40	Ca	45	H2	1.404	ppb	25.4	5412.35	200000	
51	V	89	He	-0.034	ppb	N/A	206.68	1000	
52	Cr	89	He	-0.027	ppb	N/A	480.59	2000	
55	Mn	89	He	0.007	ppb	97.8	114.65	2000	
56	Fe	89	H2	-0.004	ppb	N/A	32500.57	100000	
59	Co	89	He	0.002	ppb	109.6	28.89	1000	
60	Ni	89	He	-0.001	ppb	N/A	31.11	1000	
63	Cu	89	He	0.009	ppb	45.6	283.35	2000	
66	Zn	89	He	-0.003	ppb	N/A	68.89	2000	
75	As	89	He	-0.013	ppb	N/A	9.67	1000	
78	Se	89	H2	0.003	ppb	136.1	2.17	1000	
88	Sr	89	He	0.005	ppb	62.5	36.67	2000	
95	Mo	89	He	0.002	ppb	21.3	24.44	1000	
107	Ag	89	He	0.001	ppb	143.4	45.56	100	
111	Cd	89	He	0.002	ppb	25.5	2.59	1000	
118	Sn	159	He	0.002	ppb	219.2	244.46	1000	
121	Sb	159	No Gas	0.000	ppb	N/A	140.16	1000	
137	Ba	159	No Gas	0.015	ppb	32.3	210.24	2000	
182	W	159	No Gas	0.001	ppb	17.4	133.49	1000	
205	Tl	209	No Gas	-0.001	ppb	N/A	183.54	1000	
208	Pb	209	No Gas	-0.022	ppb	N/A	1815.43	2000	
232	Th	209	No Gas	0.007	ppb	25.7	620.72	1000	
238	U	209	No Gas	0.002	ppb	54.5	73.41	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6054031.63	0.1	6947791.61	87.14	29.5	120.4	
Sc	45	No Gas	9538763.43	1.7	11828674.09	80.64	29.5	120.4	
Sc	45	H2	1246261.27	1.8	1511145.3	82.47	29.5	120.4	
Sc	45	He	325774.03	1.1	392815.69	82.93	29.5	120.4	
Ge	72	No Gas	1982299.13	0.7	2346521.52	84.48	29.5	120.4	
Ge	72	H2	432614.97	0.4	505748.89	85.54	29.5	120.4	
Ge	72	He	205589.21	1.5	240647.81	85.43	29.5	120.4	
Y	89	H2	7166293.44	1.2	8216492.56	87.22	29.5	120.4	
Y	89	He	1748103.34	1.6	2023870.27	86.37	29.5	120.4	
Tb	159	No Gas	20338369.56	1.2	21789053.29	93.34	29.5	120.4	
Tb	159	He	8038236.76	1.6	8552940.43	93.98	29.5	120.4	
Bi	209	No Gas	10600793.96	0.9	10957550.08	96.74	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	137_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:00:35
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	22.828	ppb	4.7	140792.43	25	91.31	89.8	110.2	
11	B	6	No Gas	22.959	ppb	4.3	93228.87	25	91.84	89.8	110.2	
23	Na	45	He	5130.257	ppb	3.8	2748473.43	5000	102.61	89.8	110.2	
24	Mg	45	He	5163.997	ppb	4.0	1515185.46	5000	103.28	89.8	110.2	
27	Al	45	He	502.314	ppb	3.6	55578.65	500	100.46	89.8	110.2	
28	Si	45	H2	455.095	ppb	7.6	95175.94	500	91.02	89.8	110.2	
39	K	45	He	5005.579	ppb	3.9	1229441.77	5000	100.11	89.8	110.2	
40	Ca	45	H2	4742.949	ppb	6.5	8363908.91	5000	94.86	89.8	110.2	
51	V	89	He	24.052	ppb	3.8	92803.45	25	96.21	89.8	110.2	
52	Cr	89	He	24.308	ppb	4.1	120449.00	25	97.23	89.8	110.2	
55	Mn	89	He	24.749	ppb	4.4	56314.79	25	99	89.8	110.2	
56	Fe	89	H2	4668.673	ppb	6.6	29802287.49	5000	93.37	89.8	110.2	
59	Co	89	He	24.241	ppb	3.7	189663.32	25	96.96	89.8	110.2	
60	Ni	89	He	24.382	ppb	3.3	52934.41	25	97.53	89.8	110.2	
63	Cu	89	He	24.400	ppb	4.0	143306.29	25	97.6	89.8	110.2	
66	Zn	89	He	24.846	ppb	3.6	19206.06	25	99.38	89.8	110.2	
75	As	89	He	24.077	ppb	3.3	13133.95	25	96.31	89.8	110.2	
78	Se	89	H2	23.541	ppb	6.1	6290.14	25	94.16	89.8	110.2	
88	Sr	89	He	24.689	ppb	4.0	69032.86	25	98.76	89.8	110.2	
95	Mo	89	He	25.417	ppb	3.7	77666.24	25	101.67	89.8	110.2	
107	Ag	89	He	25.804	ppb	3.3	256061.63	25	103.22	89.8	110.2	
111	Cd	89	He	25.943	ppb	3.0	32930.74	25	103.77	89.8	110.2	
118	Sn	159	He	23.831	ppb	2.8	65335.51	25	95.32	89.8	110.2	
121	Sb	159	No Gas	23.893	ppb	3.1	447632.15	25	95.57	89.8	110.2	
137	Ba	159	No Gas	23.743	ppb	3.7	172869.75	25	94.97	89.8	110.2	
182	W	159	No Gas	24.192	ppb	3.7	396066.60	25	96.77	89.8	110.2	
205	Tl	209	No Gas	25.012	ppb	4.5	827911.59	25	100.05	89.8	110.2	
208	Pb	209	No Gas	24.443	ppb	4.1	1139365.43	25	97.77	89.8	110.2	
232	Th	209	No Gas	23.701	ppb	5.7	1090751.59	25	94.8	89.8	110.2	
238	U	209	No Gas	24.452	ppb	5.0	1099249.97	25	97.81	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5906288.95	1.0	6947791.61	85.01	29.5	120.4	
Sc	45	No Gas	9340406.53	1.8	11828674.09	78.96	29.5	120.4	
Sc	45	H2	1338972.55	4.5	1511145.3	88.61	29.5	120.4	
Sc	45	He	316769.34	3.6	392815.69	80.64	29.5	120.4	
Ge	72	No Gas	1955525.93	1.6	2346521.52	83.34	29.5	120.4	
Ge	72	H2	441514.02	2.6	505748.89	87.3	29.5	120.4	
Ge	72	He	200579.40	2.7	240647.81	83.35	29.5	120.4	
Y	89	H2	7560048.01	3.9	8216492.56	92.01	29.5	120.4	
Y	89	He	1709817.96	3.3	2023870.27	84.48	29.5	120.4	
Tb	159	No Gas	19968305.81	1.6	21789053.29	91.64	29.5	120.4	
Tb	159	He	7826549.74	3.0	8552940.43	91.51	29.5	120.4	
Bi	209	No Gas	10417678.98	0.8	10957550.08	95.07	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	138_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:03:07
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.064	ppb	75.7	421.13	0.2	
11	B	6	No Gas	0.308	ppb	7.6	1849.07	4	
23	Na	45	He	17.487	ppb	3.4	17273.01	200	
24	Mg	45	He	1.337	ppb	8.3	462.27	20	
27	Al	45	He	0.128	ppb	11.9	55.56	20	
28	Si	45	H2	-0.478	ppb	N/A	463.86	100	
39	K	45	He	10.726	ppb	7.3	17007.54	200	
40	Ca	45	H2	3.500	ppb	5.6	8968.72	20	
51	V	89	He	-0.040	ppb	N/A	182.23	1	
52	Cr	89	He	-0.021	ppb	N/A	502.59	1	
55	Mn	89	He	0.008	ppb	80.3	117.31	0.4	
56	Fe	89	H2	2.769	ppb	14.8	50085.31	20	
59	Co	89	He	0.008	ppb	68.4	75.56	0.2	
60	Ni	89	He	0.008	ppb	34.7	50.00	0.4	
63	Cu	89	He	0.015	ppb	36.0	317.80	0.6	
66	Zn	89	He	0.065	ppb	21.1	121.12	2	
75	As	89	He	0.004	ppb	135.2	19.00	1	
78	Se	89	H2	0.038	ppb	14.1	11.17	1	
88	Sr	89	He	0.006	ppb	91.9	41.11	1	
95	Mo	89	He	0.078	ppb	19.3	257.79	1	
107	Ag	89	He	0.006	ppb	40.0	103.34	0.2	
111	Cd	89	He	0.008	ppb	31.1	10.74	0.2	
118	Sn	159	He	0.091	ppb	59.4	489.24	1	
121	Sb	159	No Gas	0.077	ppb	44.8	1641.93	0.2	
137	Ba	159	No Gas	0.060	ppb	50.3	550.63	0.4	
182	W	159	No Gas	0.128	ppb	27.9	2276.12	1	
205	Tl	209	No Gas	0.074	ppb	51.0	2753.45	0.2	
208	Pb	209	No Gas	0.023	ppb	130.9	4021.46	0.2	
232	Th	209	No Gas	0.221	ppb	21.3	10786.90	1	
238	U	209	No Gas	0.098	ppb	73.7	4566.36	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6112666.67	2.0	6947791.61	87.98	29.5	120.4	
Sc	45	No Gas	9647222.40	1.8	11828674.09	81.56	29.5	120.4	
Sc	45	H2	1263105.30	0.6	1511145.3	83.59	29.5	120.4	
Sc	45	He	322865.31	0.7	392815.69	82.19	29.5	120.4	
Ge	72	No Gas	2003724.78	1.9	2346521.52	85.39	29.5	120.4	
Ge	72	H2	436715.51	0.7	505748.89	86.35	29.5	120.4	
Ge	72	He	203513.29	0.5	240647.81	84.57	29.5	120.4	
Y	89	H2	7283430.05	1.6	8216492.56	88.64	29.5	120.4	
Y	89	He	1728558.24	0.8	2023870.27	85.41	29.5	120.4	
Tb	159	No Gas	20584361.78	1.7	21789053.29	94.47	29.5	120.4	
Tb	159	He	7961334.67	0.2	8552940.43	93.08	29.5	120.4	
Bi	209	No Gas	10744673.56	1.2	10957550.08	98.06	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBWNL22IMW4
File Name	139_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:05:42
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.010	ppb	50.1	21.11	0.5	
B	11	6	No Gas	1.630	ppb	14.0	1921.31	10	
Na	23	45	He	85.869	ppb	7.1	16795.26	500	
Mg	24	45	He	14.954	ppb	11.9	940.10	50	
Al	27	45	He	7.458	ppb	7.5	205.56	50	
Si	28	45	H2	8.637	ppb	35.1	891.02	250	
K	39	45	He	44.355	ppb	31.8	16250.28	500	
Ca	40	45	H2	18.116	ppb	2.1	9114.32	50	
V	51	89	He	0.200	ppb	12.9	486.69	2.5	
Cr	52	89	He	0.407	ppb	7.8	1001.19	2.5	
Mn	55	89	He	0.145	ppb	21.5	162.64	1	
Fe	56	89	H2	5.927	ppb	7.6	39920.93	50	
Co	59	89	He	0.010	ppb	96.4	28.89	0.5	
Ni	60	89	He	0.037	ppb	30.9	47.78	1	
Cu	63	89	He	0.716	ppb	3.4	1063.42	1.5	
Zn	66	89	He	1.095	ppb	11.8	237.79	5	
As	75	89	He	-0.015	ppb	N/A	14.67	2.5	
Se	78	89	H2	0.072	ppb	23.2	5.00	2.5	
Sr	88	89	He	0.041	ppb	71.2	45.56	2.5	
Mo	95	89	He	0.114	ppb	23.3	86.67	2.5	
Ag	107	89	He	0.011	ppb	70.9	61.12	0.5	
Cd	111	89	He	0.007	ppb	69.1	1.85	0.5	
Sn	118	159	He	0.500	ppb	3.4	508.92	2.5	
Sb	121	159	No Gas	0.029	ppb	46.0	256.96	0.5	
Ba	137	159	No Gas	0.154	ppb	6.7	333.71	1	
W	182	159	No Gas	0.063	ppb	34.8	327.04	2.5	
Tl	205	209	No Gas	0.003	ppb	35.4	260.29	0.5	
Pb	208	209	No Gas	-0.017	ppb	N/A	2799.95	0.5	
Th	232	209	No Gas	0.775	ppb	7.1	7777.83	2.5	
U	238	209	No Gas	0.015	ppb	18.4	143.50	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6119703.24	2.5	6947791.61	88.08	29.5	120.4	
Sc	45	No Gas	9674741.80	2.9	11828674.09	81.79	29.5	120.4	
Sc	45	H2	1254691.43	0.3	1511145.3	83.03	29.5	120.4	
Sc	45	He	317083.33	0.5	392815.69	80.72	29.5	120.4	
Ge	72	No Gas	1991090.20	2.6	2346521.52	84.85	29.5	120.4	
Ge	72	H2	417672.50	1.0	505748.89	82.58	29.5	120.4	
Ge	72	He	198641.48	0.7	240647.81	82.54	29.5	120.4	
Y	89	H2	7206384.31	0.9	8216492.56	87.71	29.5	120.4	
Y	89	He	1707153.31	0.9	2023870.27	84.35	29.5	120.4	
Tb	159	No Gas	20894336.08	3.1	21789053.29	95.89	29.5	120.4	
Tb	159	He	7882952.52	0.4	8552940.43	92.17	29.5	120.4	
Bi	209	No Gas	10934356.16	2.7	10957550.08	99.79	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	LCSWNL22IMW4
File Name	140LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:08:13
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	45.164	ppb	7.0	59212.05	50	18.07	79.5	120.4	
B	11	6	No Gas	449.927	ppb	6.0	386678.14	500	18	79.5	120.4	
Na	23	45	He	7942.129	ppb	2.4	858333.41	7500	21.18	79.5	120.4	
Mg	24	45	He	5297.365	ppb	3.4	311648.76	5000	21.19	79.5	120.4	
Al	27	45	He	2071.231	ppb	3.6	45943.53	2000	20.71	79.5	120.4	
Si	28	45	H2	953.287	ppb	1.2	38120.31	1000	19.07	0	200	
K	39	45	He	10435.713	ppb	2.9	522096.94	10000	20.87	79.5	120.4	
Ca	40	45	H2	2542.614	ppb	0.8	852559.63	2500	20.34	79.5	120.4	
V	51	89	He	498.059	ppb	2.9	382128.39	500	19.92	79.5	120.4	
Cr	52	89	He	202.297	ppb	2.9	199484.91	200	20.23	79.5	120.4	
Mn	55	89	He	509.774	ppb	2.9	231005.53	500	20.39	79.5	120.4	
Fe	56	89	H2	1018.283	ppb	0.5	1271769.45	1000	20.37	79.5	120.4	
Co	59	89	He	513.663	ppb	3.0	801238.99	500	20.55	79.5	120.4	
Ni	60	89	He	512.384	ppb	2.8	221677.61	500	20.5	79.5	120.4	
Cu	63	89	He	255.671	ppb	3.0	299172.17	250	20.45	79.5	120.4	
Zn	66	89	He	511.516	ppb	3.1	78619.43	500	20.46	79.5	120.4	
As	75	89	He	99.773	ppb	2.5	10853.74	100	19.95	79.5	120.4	
Se	78	89	H2	100.849	ppb	1.1	5141.89	100	20.17	79.5	120.4	
Sr	88	89	He	499.056	ppb	2.5	278188.13	500	19.96	79.5	120.4	
Mo	95	89	He	104.681	ppb	2.7	63781.60	100	20.94	79.5	120.4	
Ag	107	89	He	53.507	ppb	2.4	105887.19	50	21.4	79.5	120.4	
Cd	111	89	He	263.991	ppb	2.8	66804.62	250	21.12	79.5	120.4	
Sn	118	159	He	481.632	ppb	2.8	265295.17	500	19.27	79.5	120.4	
Sb	121	159	No Gas	94.945	ppb	6.1	372785.24	100	18.99	79.5	120.4	
Ba	137	159	No Gas	1873.001	ppb	5.5	2856282.80	2000	18.73	79.5	120.4	
W	182	159	No Gas	96.913	ppb	5.1	332540.23	100	19.38	79.5	120.4	
Tl	205	209	No Gas	100.591	ppb	6.2	696468.47	100	20.12	79.5	120.4	
[Pb]	206	209	No Gas	97.335	ppb	6.6	243293.33	100	19.47	79.5	120.4	
[Pb]	207	209	No Gas	98.591	ppb	6.4	212616.10	100	19.72	79.5	120.4	
Pb	208	209	No Gas	99.352	ppb	5.8	969262.16	100	19.87	79.5	120.4	
Th	232	209	No Gas	97.323	ppb	6.2	936830.48	100	19.46	79.5	120.4	
U	238	209	No Gas	98.428	ppb	6.3	925478.93	100	19.69	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6281476.36	1.2	6947791.61	90.41	29.5	120.4	
Sc	45	No Gas	9734215.64	0.9	11828674.09	82.29	29.5	120.4	
Sc	45	H2	1266417.22	0.9	1511145.3	83.81	29.5	120.4	
Sc	45	He	317386.95	2.4	392815.69	80.8	29.5	120.4	
Ge	72	No Gas	2001783.89	1.3	2346521.52	85.31	29.5	120.4	
Ge	72	H2	423288.70	0.4	505748.89	83.7	29.5	120.4	
Ge	72	He	200194.92	1.0	240647.81	83.19	29.5	120.4	
Y	89	H2	7201562.77	0.8	8216492.56	87.65	29.5	120.4	
Y	89	He	1703822.69	2.0	2023870.27	84.19	29.5	120.4	
Tb	159	No Gas	20935289.27	1.5	21789053.29	96.08	29.5	120.4	
Tb	159	He	7882263.49	2.2	8552940.43	92.16	29.5	120.4	
Bi	209	No Gas	10902934.22	1.3	10957550.08	99.5	29.5	120.4	

Sample Report

Sample Name	TN0328-001
File Name	141SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:10:52
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.060	ppb	54.6	78.89	100	
11	B	6	No Gas	162.740	ppb	2.1	130225.23	1000	
23	Na	45	He	882789.626	ppb	3.8	98045814.86	200000	
24	Mg	45	He	25794.947	ppb	3.7	1573360.81	200000	
27	Al	45	He	31.951	ppb	8.4	777.84	200000	
28	Si	45	H2	6584.856	ppb	3.8	259102.40	10000	
39	K	45	He	6065.349	ppb	3.8	320770.35	200000	
40	Ca	45	H2	133800.421	ppb	2.7	44555997.12	200000	
51	V	89	He	0.806	ppb	6.9	965.63	1000	
52	Cr	89	He	0.332	ppb	4.3	941.20	2000	
55	Mn	89	He	371.037	ppb	3.1	170925.05	2000	
56	Fe	89	H2	462.309	ppb	3.7	585390.75	100000	
59	Co	89	He	0.081	ppb	23.9	142.24	1000	
60	Ni	89	He	0.206	ppb	15.9	123.34	1000	
63	Cu	89	He	0.772	ppb	2.1	1146.76	2000	
66	Zn	89	He	1.791	ppb	23.9	351.13	2000	
75	As	89	He	0.375	ppb	7.7	58.01	1000	
78	Se	89	H2	0.138	ppb	46.4	8.17	1000	
88	Sr	89	He	1118.198	ppb	3.3	633481.38	2000	
95	Mo	89	He	0.439	ppb	0.8	288.90	1000	
107	Ag	89	He	0.007	ppb	32.6	54.45	100	
111	Cd	89	He	0.031	ppb	50.1	8.15	1000	
118	Sn	159	He	0.981	ppb	12.0	774.50	1000	
121	Sb	159	No Gas	0.163	ppb	24.3	727.51	1000	
137	Ba	159	No Gas	1284.111	ppb	1.5	1830564.93	2000	
182	W	159	No Gas	0.373	ppb	22.9	1291.52	1000	
205	Tl	209	No Gas	0.149	ppb	41.3	1144.67	1000	
208	Pb	209	No Gas	0.052	ppb	67.4	3127.00	2000	
232	Th	209	No Gas	2.538	ppb	28.6	22262.00	1000	
238	U	209	No Gas	0.312	ppb	31.8	2643.26	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5829478.44	3.8	6947791.61	83.9	29.5	120.4	
Sc	45	No Gas	9266701.69	5.5	11828674.09	78.34	29.5	120.4	
Sc	45	H2	1262915.25	3.0	1511145.3	83.57	29.5	120.4	
Sc	45	He	329213.89	3.4	392815.69	83.81	29.5	120.4	
Ge	72	No Gas	1891920.20	3.6	2346521.52	80.63	29.5	120.4	
Ge	72	H2	412724.02	2.4	505748.89	81.61	29.5	120.4	
Ge	72	He	200915.52	1.7	240647.81	83.49	29.5	120.4	
Y	89	H2	7086991.84	2.8	8216492.56	86.25	29.5	120.4	
Y	89	He	1732104.70	2.7	2023870.27	85.58	29.5	120.4	
Tb	159	No Gas	19569144.99	5.4	21789053.29	89.81	29.5	120.4	
Tb	159	He	7884289.39	2.6	8552940.43	92.18	29.5	120.4	
Bi	209	No Gas	9891707.82	4.4	10957550.08	90.27	29.5	120.4	

Sample Report

Sample Name	TN0328-002
File Name	142SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:13:23
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.076	ppb	13.1	105.56	100	
11	B	6	No Gas	147.522	ppb	1.4	125119.32	1000	
23	Na	45	He	70326.565	ppb	1.4	7771420.26	200000	
24	Mg	45	He	41307.428	ppb	1.2	2504526.61	200000	
27	Al	45	He	29.260	ppb	14.1	711.16	200000	
28	Si	45	H2	6022.927	ppb	2.3	243923.61	10000	
39	K	45	He	6686.361	ppb	1.8	349982.30	200000	
40	Ca	45	H2	140744.332	ppb	1.6	48221362.62	200000	
51	V	89	He	0.690	ppb	7.6	891.17	1000	
52	Cr	89	He	0.511	ppb	6.9	1140.51	2000	
55	Mn	89	He	924.411	ppb	1.1	433746.84	2000	
56	Fe	89	H2	33538.318	ppb	1.0	41960577.43	100000	
59	Co	89	He	0.206	ppb	13.8	346.70	1000	
60	Ni	89	He	0.403	ppb	13.3	213.34	1000	
63	Cu	89	He	2.968	ppb	0.2	3827.33	2000	
66	Zn	89	He	3.020	ppb	16.7	552.25	2000	
75	As	89	He	0.194	ppb	15.0	38.67	1000	
78	Se	89	H2	0.193	ppb	25.8	11.50	1000	
88	Sr	89	He	667.539	ppb	0.4	385364.18	2000	
95	Mo	89	He	0.101	ppb	28.0	81.11	1000	
107	Ag	89	He	0.016	ppb	28.6	74.45	100	
111	Cd	89	He	0.030	ppb	24.7	7.78	1000	
118	Sn	159	He	0.527	ppb	7.0	537.81	1000	
121	Sb	159	No Gas	0.043	ppb	20.9	307.02	1000	
137	Ba	159	No Gas	855.096	ppb	1.4	1268384.80	2000	
182	W	159	No Gas	0.045	ppb	33.5	260.30	1000	
205	Tl	209	No Gas	0.003	ppb	95.3	250.29	1000	
208	Pb	209	No Gas	0.077	ppb	37.1	3540.81	2000	
232	Th	209	No Gas	0.296	ppb	4.0	3003.74	1000	
238	U	209	No Gas	0.030	ppb	28.0	270.31	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6177467.67	0.7	6947791.61	88.91	29.5	120.4	
Sc	45	No Gas	9592821.34	2.6	11828674.09	81.1	29.5	120.4	
Sc	45	H2	1298891.60	1.6	1511145.3	85.95	29.5	120.4	
Sc	45	He	327026.58	1.7	392815.69	83.25	29.5	120.4	
Ge	72	No Gas	1988374.02	1.2	2346521.52	84.74	29.5	120.4	
Ge	72	H2	427812.94	0.8	505748.89	84.59	29.5	120.4	
Ge	72	He	203473.65	1.0	240647.81	84.55	29.5	120.4	
Y	89	H2	7399247.89	1.4	8216492.56	90.05	29.5	120.4	
Y	89	He	1764067.11	1.6	2023870.27	87.16	29.5	120.4	
Tb	159	No Gas	20361226.50	2.6	21789053.29	93.45	29.5	120.4	
Tb	159	He	8091720.15	1.1	8552940.43	94.61	29.5	120.4	
Bi	209	No Gas	10424995.98	1.9	10957550.08	95.14	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	143SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:15:59
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.003	ppb	43.8	25.56	100	
11	B	6	No Gas	0.423	ppb	12.8	2396.95	1000	
23	Na	45	He	37.185	ppb	4.8	28469.78	200000	
24	Mg	45	He	1.707	ppb	8.5	582.28	200000	
27	Al	45	He	0.227	ppb	49.2	67.78	200000	
28	Si	45	H2	-0.612	ppb	N/A	453.84	10000	
39	K	45	He	10.010	ppb	26.8	17105.88	200000	
40	Ca	45	H2	5.474	ppb	9.9	12726.20	200000	
51	V	89	He	-0.047	ppb	N/A	157.79	1000	
52	Cr	89	He	-0.014	ppb	N/A	549.25	2000	
55	Mn	89	He	0.039	ppb	21.0	190.64	2000	
56	Fe	89	H2	1.247	ppb	18.0	41872.53	100000	
59	Co	89	He	0.004	ppb	12.0	44.45	1000	
60	Ni	89	He	0.008	ppb	82.1	51.11	1000	
63	Cu	89	He	0.017	ppb	10.9	334.46	2000	
66	Zn	89	He	0.097	ppb	21.5	148.89	2000	
75	As	89	He	-0.006	ppb	N/A	13.67	1000	
78	Se	89	H2	-0.001	ppb	N/A	1.17	1000	
88	Sr	89	He	0.029	ppb	21.3	107.78	2000	
95	Mo	89	He	0.010	ppb	10.2	50.00	1000	
107	Ag	89	He	0.001	ppb	82.4	48.89	100	
111	Cd	89	He	0.001	ppb	91.7	1.85	1000	
118	Sn	159	He	0.016	ppb	33.1	280.01	1000	
121	Sb	159	No Gas	0.003	ppb	80.2	203.56	1000	
137	Ba	159	No Gas	0.160	ppb	45.6	1314.89	2000	
182	W	159	No Gas	0.000	ppb	352.0	120.13	1000	
205	Tl	209	No Gas	0.000	ppb	N/A	226.93	1000	
208	Pb	209	No Gas	-0.021	ppb	N/A	1902.19	2000	
232	Th	209	No Gas	0.006	ppb	40.6	580.67	1000	
238	U	209	No Gas	0.003	ppb	36.6	153.51	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6288160.13	1.6	6947791.61	90.51	29.5	120.4	
Sc	45	No Gas	9873055.10	1.2	11828674.09	83.47	29.5	120.4	
Sc	45	H2	1311221.74	0.9	1511145.3	86.77	29.5	120.4	
Sc	45	He	328137.41	0.6	392815.69	83.53	29.5	120.4	
Ge	72	No Gas	2040391.15	1.8	2346521.52	86.95	29.5	120.4	
Ge	72	H2	443688.47	1.7	505748.89	87.73	29.5	120.4	
Ge	72	He	207155.85	0.4	240647.81	86.08	29.5	120.4	
Y	89	H2	7488408.04	0.3	8216492.56	91.14	29.5	120.4	
Y	89	He	1760751.76	0.4	2023870.27	87	29.5	120.4	
Tb	159	No Gas	20829453.72	1.7	21789053.29	95.6	29.5	120.4	
Tb	159	He	7987412.66	0.5	8552940.43	93.39	29.5	120.4	
Bi	209	No Gas	10804987.73	1.6	10957550.08	98.61	29.5	120.4	

Sample Report

Sample Name	TN0328-003
File Name	144SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:18:30
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.049	ppb	37.6	70.00	100	
11	B	6	No Gas	133.379	ppb	2.9	112247.59	1000	
23	Na	45	He	41327.708	ppb	5.5	4497692.12	200000	
24	Mg	45	He	49904.385	ppb	5.7	2977542.35	200000	
27	Al	45	He	24.847	ppb	12.9	600.06	200000	
28	Si	45	H2	7186.344	ppb	0.6	286323.14	10000	
39	K	45	He	3531.814	ppb	5.7	188706.65	200000	
40	Ca	45	H2	201582.309	ppb	0.2	67964819.54	200000	
51	V	89	He	2.946	ppb	5.4	2621.46	1000	
52	Cr	89	He	0.585	ppb	15.1	1187.17	2000	
55	Mn	89	He	997.562	ppb	5.7	457202.38	2000	
56	Fe	89	H2	193.928	ppb	1.4	270152.70	100000	
59	Co	89	He	0.106	ppb	10.9	182.24	1000	
60	Ni	89	He	0.248	ppb	8.3	141.12	1000	
63	Cu	89	He	0.826	ppb	9.8	1203.43	2000	
66	Zn	89	He	2.601	ppb	9.7	475.58	2000	
75	As	89	He	0.222	ppb	30.9	40.67	1000	
78	Se	89	H2	0.186	ppb	35.3	10.83	1000	
88	Sr	89	He	999.041	ppb	5.4	563365.70	2000	
95	Mo	89	He	0.216	ppb	30.1	151.12	1000	
107	Ag	89	He	0.007	ppb	230.9	54.45	100	
111	Cd	89	He	0.013	ppb	35.3	3.33	1000	
118	Sn	159	He	0.517	ppb	2.6	521.14	1000	
121	Sb	159	No Gas	0.109	ppb	10.9	560.64	1000	
137	Ba	159	No Gas	1113.331	ppb	3.5	1665830.90	2000	
182	W	159	No Gas	2.190	ppb	1.1	7480.57	1000	
205	Tl	209	No Gas	-0.017	ppb	N/A	113.46	1000	
208	Pb	209	No Gas	-0.014	ppb	N/A	2706.47	2000	
232	Th	209	No Gas	0.124	ppb	22.6	1428.36	1000	
238	U	209	No Gas	0.149	ppb	5.0	1348.25	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6126038.69	2.8	6947791.61	88.17	29.5	120.4	
Sc	45	No Gas	9580116.44	3.4	11828674.09	80.99	29.5	120.4	
Sc	45	H2	1278028.58	1.6	1511145.3	84.57	29.5	120.4	
Sc	45	He	322352.67	4.8	392815.69	82.06	29.5	120.4	
Ge	72	No Gas	1965267.02	2.5	2346521.52	83.75	29.5	120.4	
Ge	72	H2	422474.94	1.1	505748.89	83.53	29.5	120.4	
Ge	72	He	201064.65	2.8	240647.81	83.55	29.5	120.4	
Y	89	H2	7242037.36	1.2	8216492.56	88.14	29.5	120.4	
Y	89	He	1726235.86	5.1	2023870.27	85.29	29.5	120.4	
Tb	159	No Gas	20536634.70	3.6	21789053.29	94.25	29.5	120.4	
Tb	159	He	7929513.14	4.3	8552940.43	92.71	29.5	120.4	
Bi	209	No Gas	10486232.84	3.1	10957550.08	95.7	29.5	120.4	

Sample Report

Sample Name	TN0328-004
File Name	145SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:21:05
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.025	ppb	21.8	41.11	100	
11	B	6	No Gas	82.820	ppb	5.7	71832.35	1000	
23	Na	45	He	295911.122	ppb	1.3	32464778.22	200000	
24	Mg	45	He	10375.156	ppb	1.4	625044.60	200000	
27	Al	45	He	27.702	ppb	5.0	670.04	200000	
28	Si	45	H2	4399.388	ppb	8.9	169220.76	10000	
39	K	45	He	2534.088	ppb	2.2	140751.56	200000	
40	Ca	45	H2	94060.406	ppb	8.5	30586553.71	200000	
51	V	89	He	0.899	ppb	8.7	1038.97	1000	
52	Cr	89	He	0.466	ppb	18.7	1074.52	2000	
55	Mn	89	He	503.050	ppb	2.2	231710.33	2000	
56	Fe	89	H2	1387.082	ppb	9.9	1672002.90	100000	
59	Co	89	He	0.517	ppb	4.2	833.42	1000	
60	Ni	89	He	1.637	ppb	12.0	752.27	1000	
63	Cu	89	He	1.597	ppb	4.1	2126.90	2000	
66	Zn	89	He	4.565	ppb	6.1	783.39	2000	
75	As	89	He	1.198	ppb	10.0	148.69	1000	
78	Se	89	H2	0.299	ppb	12.8	16.17	1000	
88	Sr	89	He	164.550	ppb	2.0	93242.27	2000	
95	Mo	89	He	6.094	ppb	3.7	3791.77	1000	
107	Ag	89	He	0.006	ppb	85.9	52.23	100	
111	Cd	89	He	0.016	ppb	67.6	4.07	1000	
118	Sn	159	He	0.518	ppb	8.4	520.03	1000	
121	Sb	159	No Gas	0.152	ppb	12.9	754.19	1000	
137	Ba	159	No Gas	62.856	ppb	4.4	97370.67	2000	
182	W	159	No Gas	0.015	ppb	79.9	166.85	1000	
205	Tl	209	No Gas	0.146	ppb	18.1	1241.46	1000	
208	Pb	209	No Gas	0.040	ppb	64.0	3317.20	2000	
232	Th	209	No Gas	0.089	ppb	4.0	1134.65	1000	
238	U	209	No Gas	4.135	ppb	7.3	38626.20	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6296884.69	0.9	6947791.61	90.63	29.5	120.4	
Sc	45	No Gas	10014503.00	0.7	11828674.09	84.66	29.5	120.4	
Sc	45	H2	1237041.74	6.5	1511145.3	81.86	29.5	120.4	
Sc	45	He	324916.68	1.5	392815.69	82.71	29.5	120.4	
Ge	72	No Gas	2064705.21	1.4	2346521.52	87.99	29.5	120.4	
Ge	72	H2	413738.34	5.1	505748.89	81.81	29.5	120.4	
Ge	72	He	203942.44	1.2	240647.81	84.75	29.5	120.4	
Y	89	H2	7029798.25	6.9	8216492.56	85.56	29.5	120.4	
Y	89	He	1731539.09	1.6	2023870.27	85.56	29.5	120.4	
Tb	159	No Gas	21239270.38	0.9	21789053.29	97.48	29.5	120.4	
Tb	159	He	7908198.98	1.9	8552940.43	92.46	29.5	120.4	
Bi	209	No Gas	10828634.61	1.0	10957550.08	98.82	29.5	120.4	

Sample Report

Sample Name	TN0328-005
File Name	146SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:23:36
Sample Type	Sample
Total Dilution	25.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.142	ppb	73.6	45.56	100	
11	B	6	No Gas	754.284	ppb	7.9	129458.18	1000	
23	Na	45	He	5865004.641	ppb	1.4	129400450.89	200000	>LDR
24	Mg	45	He	57956.216	ppb	0.7	702350.34	200000	
27	Al	45	He	447.791	ppb	4.6	2085.84	200000	
28	Si	45	H2	33036.351	ppb	1.1	264973.07	10000	
39	K	45	He	31629.133	ppb	1.2	331683.55	200000	
40	Ca	45	H2	242168.190	ppb	0.3	16436566.70	200000	
51	V	89	He	5.033	ppb	2.5	1116.75	1000	
52	Cr	89	He	3.070	ppb	8.5	1216.50	2000	
55	Mn	89	He	2837.482	ppb	0.5	260210.88	2000	
56	Fe	89	H2	23232.835	ppb	0.5	5686355.32	100000	
59	Co	89	He	0.507	ppb	5.2	173.35	1000	
60	Ni	89	He	3.202	ppb	13.9	312.24	1000	
63	Cu	89	He	5.456	ppb	2.7	1517.92	2000	
66	Zn	89	He	15.011	ppb	4.7	536.70	2000	
75	As	89	He	3.105	ppb	10.9	84.68	1000	
78	Se	89	H2	1.556	ppb	29.4	17.17	1000	
88	Sr	89	He	773.888	ppb	0.7	87317.49	2000	
95	Mo	89	He	76.222	ppb	1.3	9413.57	1000	
107	Ag	89	He	0.009	ppb	187.5	43.33	100	
111	Cd	89	He	0.036	ppb	91.8	1.85	1000	
118	Sn	159	He	1.732	ppb	21.5	418.92	1000	
121	Sb	159	No Gas	0.280	ppb	36.5	357.07	1000	
137	Ba	159	No Gas	299.605	ppb	9.5	89709.03	2000	
182	W	159	No Gas	0.308	ppb	23.5	317.03	1000	
205	Tl	209	No Gas	-0.055	ppb	N/A	153.51	1000	
208	Pb	209	No Gas	0.123	ppb	64.5	3000.19	2000	
232	Th	209	No Gas	0.452	ppb	10.8	1091.27	1000	
238	U	209	No Gas	0.855	ppb	1.0	1515.12	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6259695.00	2.7	6947791.61	90.1	29.5	120.4	
Sc	45	No Gas	9888875.82	3.0	11828674.09	83.6	29.5	120.4	
Sc	45	H2	1286159.28	0.9	1511145.3	85.11	29.5	120.4	
Sc	45	He	326779.43	1.6	392815.69	83.19	29.5	120.4	
Ge	72	No Gas	2014066.39	3.2	2346521.52	85.83	29.5	120.4	
Ge	72	H2	419743.40	1.3	505748.89	82.99	29.5	120.4	
Ge	72	He	202316.30	0.5	240647.81	84.07	29.5	120.4	
Y	89	H2	7201053.77	0.3	8216492.56	87.64	29.5	120.4	
Y	89	He	1723490.44	1.2	2023870.27	85.16	29.5	120.4	
Tb	159	No Gas	20562695.11	2.9	21789053.29	94.37	29.5	120.4	
Tb	159	He	7785229.75	0.6	8552940.43	91.02	29.5	120.4	
Bi	209	No Gas	10250032.17	2.7	10957550.08	93.54	29.5	120.4	

Sample Report

Sample Name	TN0328-006
File Name	147SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:26:15
Sample Type	Sample
Total Dilution	25.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.083	ppb	5.0	28.89	100	
11	B	6	No Gas	1387.003	ppb	2.8	231639.83	1000	
23	Na	45	He	5948377.029	ppb	2.2	133398480.45	200000	>LDR
24	Mg	45	He	112012.222	ppb	2.3	1379566.06	200000	
27	Al	45	He	300.457	ppb	7.8	1435.68	200000	
28	Si	45	H2	28353.149	ppb	7.5	226059.54	10000	
39	K	45	He	57404.232	ppb	2.6	599769.81	200000	
40	Ca	45	H2	487874.893	ppb	8.9	32881263.67	200000	
51	V	89	He	7.816	ppb	5.2	1575.70	1000	
52	Cr	89	He	10.695	ppb	4.8	2781.78	2000	
55	Mn	89	He	2335.807	ppb	1.3	217968.64	2000	
56	Fe	89	H2	1927.973	ppb	8.6	496784.47	100000	
59	Co	89	He	10.026	ppb	3.8	3233.94	1000	
60	Ni	89	He	83.731	ppb	1.8	7491.14	1000	
63	Cu	89	He	27.790	ppb	1.8	6921.95	2000	
66	Zn	89	He	55.909	ppb	3.7	1839.08	2000	
75	As	89	He	8.195	ppb	11.1	200.02	1000	
78	Se	89	H2	6.721	ppb	12.8	69.00	1000	
88	Sr	89	He	6412.174	ppb	2.0	735919.11	2000	
95	Mo	89	He	389.817	ppb	2.8	48908.35	1000	
107	Ag	89	He	0.032	ppb	159.0	53.33	100	
111	Cd	89	He	1.080	ppb	6.4	56.30	1000	
118	Sn	159	He	5.102	ppb	7.5	798.94	1000	
121	Sb	159	No Gas	17.781	ppb	8.6	13117.74	1000	
137	Ba	159	No Gas	1482.992	ppb	6.5	421111.38	2000	
182	W	159	No Gas	40.265	ppb	6.9	25814.70	1000	
205	Tl	209	No Gas	2.144	ppb	5.2	2870.19	1000	
208	Pb	209	No Gas	0.731	ppb	13.3	3907.95	2000	
232	Th	209	No Gas	0.338	ppb	15.1	840.98	1000	
238	U	209	No Gas	61.016	ppb	4.9	102348.75	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6099481.19	3.9	6947791.61	87.79	29.5	120.4	
Sc	45	No Gas	9425286.41	6.8	11828674.09	79.68	29.5	120.4	
Sc	45	H2	1282623.50	7.1	1511145.3	84.88	29.5	120.4	
Sc	45	He	332184.89	1.7	392815.69	84.57	29.5	120.4	
Ge	72	No Gas	1945258.57	3.9	2346521.52	82.9	29.5	120.4	
Ge	72	H2	421306.36	5.1	505748.89	83.3	29.5	120.4	
Ge	72	He	204510.84	0.8	240647.81	84.98	29.5	120.4	
Y	89	H2	7155528.61	7.1	8216492.56	87.09	29.5	120.4	
Y	89	He	1753649.17	0.6	2023870.27	86.65	29.5	120.4	
Tb	159	No Gas	19536853.32	6.5	21789053.29	89.66	29.5	120.4	
Tb	159	He	7921140.37	1.1	8552940.43	92.61	29.5	120.4	
Bi	209	No Gas	9735748.53	5.1	10957550.08	88.85	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	148SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:28:53
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	279.2	11.11	100	
11	B	6	No Gas	0.544	ppb	8.8	3027.09	1000	
23	Na	45	He	127.922	ppb	2.7	80705.43	200000	
24	Mg	45	He	0.897	ppb	24.3	344.48	200000	
27	Al	45	He	0.213	ppb	47.1	67.78	200000	
28	Si	45	H2	-0.282	ppb	N/A	533.95	10000	
39	K	45	He	15.766	ppb	15.8	19020.68	200000	
40	Ca	45	H2	5.265	ppb	5.5	12653.88	200000	
51	V	89	He	-0.033	ppb	N/A	216.68	1000	
52	Cr	89	He	-0.012	ppb	N/A	572.58	2000	
55	Mn	89	He	0.024	ppb	27.8	160.64	2000	
56	Fe	89	H2	0.054	ppb	140.6	34909.09	100000	
59	Co	89	He	0.002	ppb	59.8	33.34	1000	
60	Ni	89	He	0.004	ppb	96.0	42.22	1000	
63	Cu	89	He	0.022	ppb	16.8	374.46	2000	
66	Zn	89	He	0.089	ppb	41.0	145.56	2000	
75	As	89	He	-0.009	ppb	N/A	12.00	1000	
78	Se	89	H2	-0.001	ppb	N/A	1.17	1000	
88	Sr	89	He	0.038	ppb	37.1	134.45	2000	
95	Mo	89	He	0.026	ppb	27.6	102.23	1000	
107	Ag	89	He	0.000	ppb	110.9	46.67	100	
111	Cd	89	He	0.001	ppb	100.0	1.11	1000	
118	Sn	159	He	0.013	ppb	55.9	276.68	1000	
121	Sb	159	No Gas	0.002	ppb	96.2	186.88	1000	
137	Ba	159	No Gas	0.039	ppb	41.7	397.11	2000	
182	W	159	No Gas	0.000	ppb	348.4	120.14	1000	
205	Tl	209	No Gas	-0.004	ppb	N/A	113.46	1000	
208	Pb	209	No Gas	-0.022	ppb	N/A	1885.51	2000	
232	Th	209	No Gas	0.001	ppb	58.6	357.07	1000	
238	U	209	No Gas	0.002	ppb	65.5	103.45	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6523771.98	1.9	6947791.61	93.9	29.5	120.4	
Sc	45	No Gas	10080236.75	1.4	11828674.09	85.22	29.5	120.4	
Sc	45	H2	1342143.31	0.6	1511145.3	88.82	29.5	120.4	
Sc	45	He	336367.37	0.2	392815.69	85.63	29.5	120.4	
Ge	72	No Gas	2075069.03	2.0	2346521.52	88.43	29.5	120.4	
Ge	72	H2	456233.66	0.7	505748.89	90.21	29.5	120.4	
Ge	72	He	210793.48	0.2	240647.81	87.59	29.5	120.4	
Y	89	H2	7615810.96	0.7	8216492.56	92.69	29.5	120.4	
Y	89	He	1801821.26	0.5	2023870.27	89.03	29.5	120.4	
Tb	159	No Gas	20982222.05	1.2	21789053.29	96.3	29.5	120.4	
Tb	159	He	8118122.17	0.3	8552940.43	94.92	29.5	120.4	
Bi	209	No Gas	10852793.98	0.9	10957550.08	99.04	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	149_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:31:33
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	22.020	ppb	8.2	145744.18	25	88.08	89.8	110.2	> +/- 10%
11	B	6	No Gas	22.349	ppb	8.2	97412.25	25	89.4	89.8	110.2	> +/- 10%
23	Na	45	He	5132.151	ppb	1.2	2831001.63	5000	102.64	89.8	110.2	
24	Mg	45	He	5073.746	ppb	0.2	1532986.48	5000	101.47	89.8	110.2	
27	Al	45	He	492.155	ppb	1.4	56065.98	500	98.43	89.8	110.2	
28	Si	45	H2	468.559	ppb	1.3	96399.03	500	93.71	89.8	110.2	
39	K	45	He	4922.854	ppb	0.3	1245269.36	5000	98.46	89.8	110.2	
40	Ca	45	H2	4882.288	ppb	1.1	8467195.08	5000	97.65	89.8	110.2	
51	V	89	He	23.573	ppb	0.3	93706.70	25	94.29	89.8	110.2	
52	Cr	89	He	23.874	ppb	0.4	121887.74	25	95.5	89.8	110.2	
55	Mn	89	He	24.223	ppb	1.2	56789.71	25	96.89	89.8	110.2	
56	Fe	89	H2	4779.104	ppb	0.5	30317063.70	5000	95.58	89.8	110.2	
59	Co	89	He	23.979	ppb	0.8	193266.08	25	95.92	89.8	110.2	
60	Ni	89	He	23.791	ppb	0.9	53204.21	25	95.16	89.8	110.2	
63	Cu	89	He	23.874	ppb	0.6	144461.02	25	95.5	89.8	110.2	
66	Zn	89	He	24.321	ppb	1.6	19368.46	25	97.28	89.8	110.2	
75	As	89	He	23.850	ppb	1.1	13400.57	25	95.4	89.8	110.2	
78	Se	89	H2	23.941	ppb	0.9	6356.33	25	95.76	89.8	110.2	
88	Sr	89	He	24.189	ppb	0.3	69679.36	25	96.76	89.8	110.2	
95	Mo	89	He	24.677	ppb	0.9	77679.29	25	98.71	89.8	110.2	
107	Ag	89	He	25.415	ppb	0.5	259782.49	25	101.66	89.8	110.2	
111	Cd	89	He	25.233	ppb	0.4	32990.85	25	100.93	89.8	110.2	
118	Sn	159	He	23.545	ppb	0.6	66029.14	25	94.18	89.8	110.2	
121	Sb	159	No Gas	23.098	ppb	8.4	453384.79	25	92.39	89.8	110.2	
137	Ba	159	No Gas	23.257	ppb	7.0	177431.28	25	93.03	89.8	110.2	
182	W	159	No Gas	23.402	ppb	7.3	401438.78	25	93.61	89.8	110.2	
205	Tl	209	No Gas	24.221	ppb	6.9	831163.37	25	96.88	89.8	110.2	
208	Pb	209	No Gas	23.888	ppb	7.4	1154426.35	25	95.55	89.8	110.2	
232	Th	209	No Gas	23.123	ppb	8.5	1103022.51	25	92.49	89.8	110.2	
238	U	209	No Gas	23.618	ppb	7.2	1100701.90	25	94.47	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6348890.23	2.5	6947791.61	91.38	29.5	120.4	
Sc	45	No Gas	9929430.12	2.4	11828674.09	83.94	29.5	120.4	
Sc	45	H2	1314424.21	1.8	1511145.3	86.98	29.5	120.4	
Sc	45	He	325883.87	0.6	392815.69	82.96	29.5	120.4	
Ge	72	No Gas	2058661.66	2.3	2346521.52	87.73	29.5	120.4	
Ge	72	H2	434822.53	1.3	505748.89	85.98	29.5	120.4	
Ge	72	He	205594.74	0.6	240647.81	85.43	29.5	120.4	
Y	89	H2	7500517.65	1.5	8216492.56	91.29	29.5	120.4	
Y	89	He	1759934.11	0.1	2023870.27	86.96	29.5	120.4	
Tb	159	No Gas	20947958.86	1.8	21789053.29	96.14	29.5	120.4	
Tb	159	He	8001115.72	0.5	8552940.43	93.55	29.5	120.4	
Bi	209	No Gas	10812325.49	2.0	10957550.08	98.67	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	150_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:34:08
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.009	ppb	59.9	67.78	0.2	
11	B	6	No Gas	0.339	ppb	9.9	2032.45	4	
23	Na	45	He	52.029	ppb	5.9	36651.03	200	
24	Mg	45	He	0.604	ppb	18.0	246.69	20	
27	Al	45	He	0.034	ppb	205.9	45.56	20	
28	Si	45	H2	-0.741	ppb	N/A	420.48	100	
39	K	45	He	12.183	ppb	10.5	17634.62	200	
40	Ca	45	H2	1.343	ppb	9.2	5473.48	20	
51	V	89	He	-0.047	ppb	N/A	156.67	1	
52	Cr	89	He	-0.014	ppb	N/A	548.58	1	
55	Mn	89	He	0.004	ppb	227.3	109.31	0.4	
56	Fe	89	H2	1.171	ppb	8.4	40590.66	20	
59	Co	89	He	0.003	ppb	96.3	35.56	0.2	
60	Ni	89	He	0.005	ppb	112.4	43.34	0.4	
63	Cu	89	He	0.012	ppb	61.2	307.79	0.6	
66	Zn	89	He	0.051	ppb	13.9	112.23	2	
75	As	89	He	0.003	ppb	340.8	18.33	1	
78	Se	89	H2	0.031	ppb	12.5	9.50	1	
88	Sr	89	He	0.003	ppb	85.1	33.33	1	
95	Mo	89	He	0.071	ppb	15.4	241.12	1	
107	Ag	89	He	0.003	ppb	24.0	74.45	0.2	
111	Cd	89	He	0.002	ppb	25.8	2.59	0.2	
118	Sn	159	He	0.057	ppb	22.6	394.47	1	
121	Sb	159	No Gas	0.022	ppb	9.4	573.99	0.2	
137	Ba	159	No Gas	0.006	ppb	53.3	146.83	0.4	
182	W	159	No Gas	0.075	ppb	13.9	1378.28	1	
205	Tl	209	No Gas	0.020	ppb	25.0	931.08	0.2	
208	Pb	209	No Gas	-0.012	ppb	N/A	2332.71	0.2	
232	Th	209	No Gas	0.069	ppb	11.4	3561.17	1	
238	U	209	No Gas	0.012	ppb	30.4	567.32	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6276470.10	1.0	6947791.61	90.34	29.5	120.4	
Sc	45	No Gas	9740943.20	0.6	11828674.09	82.35	29.5	120.4	
Sc	45	H2	1286381.05	1.8	1511145.3	85.13	29.5	120.4	
Sc	45	He	327784.77	1.3	392815.69	83.44	29.5	120.4	
Ge	72	No Gas	2023022.15	0.5	2346521.52	86.21	29.5	120.4	
Ge	72	H2	441169.98	1.2	505748.89	87.23	29.5	120.4	
Ge	72	He	206061.55	0.6	240647.81	85.63	29.5	120.4	
Y	89	H2	7344062.55	0.4	8216492.56	89.38	29.5	120.4	
Y	89	He	1763468.93	1.0	2023870.27	87.13	29.5	120.4	
Tb	159	No Gas	20687365.39	0.6	21789053.29	94.94	29.5	120.4	
Tb	159	He	7968914.19	1.1	8552940.43	93.17	29.5	120.4	
Bi	209	No Gas	10756337.42	0.3	10957550.08	98.16	29.5	120.4	

Sample Report

Sample Name	TN0328-007
File Name	151SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:36:43
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.028	ppb	28.4	44.44	100	
11	B	6	No Gas	1.698	ppb	3.5	2021.32	1000	
23	Na	45	He	290.985	ppb	9.9	38579.96	200000	
24	Mg	45	He	19.386	ppb	4.1	1195.70	200000	
27	Al	45	He	9.314	ppb	15.8	245.57	200000	
28	Si	45	H2	13.181	ppb	20.2	1087.92	10000	
39	K	45	He	56.529	ppb	4.0	16770.73	200000	
40	Ca	45	H2	19.109	ppb	2.8	9615.82	200000	
51	V	89	He	0.235	ppb	22.9	511.14	1000	
52	Cr	89	He	0.207	ppb	20.7	800.55	2000	
55	Mn	89	He	0.229	ppb	26.5	199.97	2000	
56	Fe	89	H2	1.456	ppb	47.4	34908.76	100000	
59	Co	89	He	0.017	ppb	99.3	40.00	1000	
60	Ni	89	He	0.032	ppb	16.7	45.56	1000	
63	Cu	89	He	0.760	ppb	5.7	1111.20	2000	
66	Zn	89	He	3.306	ppb	4.0	575.59	2000	
75	As	89	He	0.029	ppb	126.5	19.33	1000	
78	Se	89	H2	0.029	ppb	69.6	2.83	1000	
88	Sr	89	He	0.104	ppb	59.3	80.00	2000	
95	Mo	89	He	0.124	ppb	12.2	92.23	1000	
107	Ag	89	He	0.020	ppb	69.7	78.89	100	
111	Cd	89	He	0.021	ppb	54.0	5.19	1000	
118	Sn	159	He	0.449	ppb	12.6	478.92	1000	
121	Sb	159	No Gas	0.017	ppb	39.3	210.24	1000	
137	Ba	159	No Gas	0.513	ppb	5.6	884.36	2000	
182	W	159	No Gas	0.039	ppb	23.7	246.95	1000	
205	Tl	209	No Gas	-0.002	ppb	N/A	226.93	1000	
208	Pb	209	No Gas	-0.043	ppb	N/A	2536.26	2000	
232	Th	209	No Gas	0.536	ppb	3.2	5454.03	1000	
238	U	209	No Gas	0.011	ppb	24.0	103.45	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6245330.79	2.0	6947791.61	89.89	29.5	120.4	
Sc	45	No Gas	9707822.59	1.3	11828674.09	82.07	29.5	120.4	
Sc	45	H2	1277813.50	1.1	1511145.3	84.56	29.5	120.4	
Sc	45	He	315692.63	0.4	392815.69	80.37	29.5	120.4	
Ge	72	No Gas	2010239.60	1.9	2346521.52	85.67	29.5	120.4	
Ge	72	H2	421790.48	1.6	505748.89	83.4	29.5	120.4	
Ge	72	He	198516.13	0.8	240647.81	82.49	29.5	120.4	
Y	89	H2	7295922.23	0.7	8216492.56	88.8	29.5	120.4	
Y	89	He	1699918.17	0.9	2023870.27	83.99	29.5	120.4	
Tb	159	No Gas	20996033.85	1.3	21789053.29	96.36	29.5	120.4	
Tb	159	He	7848397.94	1.0	8552940.43	91.76	29.5	120.4	
Bi	209	No Gas	10923604.57	1.4	10957550.08	99.69	29.5	120.4	

Sample Report

Sample Name	TN0328-007A
File Name	152SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:39:14
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	9.522	ppb	6.6	12404.61	100	
11	B	6	No Gas	187.431	ppb	7.4	160297.26	1000	
23	Na	45	He	10790.121	ppb	2.1	1152762.73	200000	
24	Mg	45	He	1076.743	ppb	0.4	62841.05	200000	
27	Al	45	He	1081.934	ppb	4.5	23794.89	200000	
28	Si	45	H2	4561.059	ppb	1.1	184514.82	10000	
39	K	45	He	10462.474	ppb	2.0	518655.95	200000	
40	Ca	45	H2	1010.680	ppb	2.0	348764.39	200000	
51	V	89	He	49.252	ppb	3.0	38001.06	1000	
52	Cr	89	He	50.526	ppb	2.8	50161.28	2000	
55	Mn	89	He	19.163	ppb	1.8	8759.14	2000	
56	Fe	89	H2	952.175	ppb	1.6	1245227.41	100000	
59	Co	89	He	10.632	ppb	3.9	16557.53	1000	
60	Ni	89	He	21.139	ppb	3.6	9154.42	1000	
63	Cu	89	He	31.881	ppb	2.2	37423.26	2000	
66	Zn	89	He	107.759	ppb	4.3	16576.99	2000	
75	As	89	He	49.517	ppb	2.0	5383.30	1000	
78	Se	89	H2	47.017	ppb	0.2	2507.11	1000	
88	Sr	89	He	50.191	ppb	2.2	27937.05	2000	
95	Mo	89	He	52.538	ppb	3.4	31944.73	1000	
107	Ag	89	He	11.369	ppb	3.1	22475.95	100	
111	Cd	89	He	11.369	ppb	4.1	2869.97	1000	
118	Sn	159	He	49.167	ppb	2.8	27311.79	1000	
121	Sb	159	No Gas	10.215	ppb	8.5	40084.61	1000	
137	Ba	159	No Gas	20.138	ppb	8.8	30689.36	2000	
182	W	159	No Gas	48.728	ppb	6.6	166638.33	1000	
205	Tl	209	No Gas	10.215	ppb	7.8	71249.07	1000	
208	Pb	209	No Gas	10.260	ppb	7.1	103196.32	2000	
232	Th	209	No Gas	10.575	ppb	8.0	102488.75	1000	
238	U	209	No Gas	10.274	ppb	7.9	97018.50	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6241640.28	2.0	6947791.61	89.84	29.5	120.4	
Sc	45	No Gas	9695425.92	2.1	11828674.09	81.97	29.5	120.4	
Sc	45	H2	1296372.38	2.1	1511145.3	85.79	29.5	120.4	
Sc	45	He	314467.33	2.4	392815.69	80.05	29.5	120.4	
Ge	72	No Gas	1995979.23	2.0	2346521.52	85.06	29.5	120.4	
Ge	72	H2	427206.40	1.7	505748.89	84.47	29.5	120.4	
Ge	72	He	197733.97	1.5	240647.81	82.17	29.5	120.4	
Y	89	H2	7529238.98	2.3	8216492.56	91.64	29.5	120.4	
Y	89	He	1700147.47	2.4	2023870.27	84	29.5	120.4	
Tb	159	No Gas	20872734.69	2.0	21789053.29	95.79	29.5	120.4	
Tb	159	He	7887958.22	2.3	8552940.43	92.23	29.5	120.4	
Bi	209	No Gas	10954667.62	1.8	10957550.08	99.97	29.5	120.4	

Sample Report

Sample Name	TN0328-007L
File Name	153SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:41:50
Sample Type	Sample
Total Dilution	25.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.030	ppb	65.5	15.56	100	
11	B	6	No Gas	12.652	ppb	9.4	2682.57	1000	
23	Na	45	He	1081.844	ppb	2.7	31181.85	200000	
24	Mg	45	He	36.628	ppb	12.1	497.83	200000	
27	Al	45	He	309.820	ppb	2.3	1433.46	200000	
28	Si	45	H2	8.834	ppb	60.2	614.04	10000	
39	K	45	He	264.802	ppb	37.0	16883.95	200000	
40	Ca	45	H2	51.029	ppb	5.0	6401.66	200000	
51	V	89	He	-0.439	ppb	N/A	268.90	1000	
52	Cr	89	He	0.129	ppb	161.0	634.57	2000	
55	Mn	89	He	0.593	ppb	21.0	153.31	2000	
56	Fe	89	H2	-1.795	ppb	N/A	31647.64	100000	
59	Co	89	He	0.105	ppb	19.0	46.67	1000	
60	Ni	89	He	0.049	ppb	349.9	36.67	1000	
63	Cu	89	He	1.278	ppb	7.3	533.37	2000	
66	Zn	89	He	5.917	ppb	1.7	255.57	2000	
75	As	89	He	-0.010	ppb	N/A	16.33	1000	
78	Se	89	H2	0.338	ppb	48.3	4.67	1000	
88	Sr	89	He	0.742	ppb	57.4	107.80	2000	
95	Mo	89	He	0.548	ppb	31.5	85.56	1000	
107	Ag	89	He	0.036	ppb	37.8	54.45	100	
111	Cd	89	He	0.071	ppb	42.8	3.70	1000	
118	Sn	159	He	0.602	ppb	38.3	302.24	1000	
121	Sb	159	No Gas	0.081	ppb	53.3	203.56	1000	
137	Ba	159	No Gas	0.581	ppb	63.9	266.97	2000	
182	W	159	No Gas	0.514	ppb	0.8	453.85	1000	
205	Tl	209	No Gas	-0.027	ppb	N/A	196.89	1000	
208	Pb	209	No Gas	-0.576	ppb	N/A	1788.73	2000	
232	Th	209	No Gas	0.419	ppb	7.3	1067.91	1000	
238	U	209	No Gas	0.058	ppb	20.0	110.13	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6135942.24	1.7	6947791.61	88.32	29.5	120.4	
Sc	45	No Gas	9496319.01	4.0	11828674.09	80.28	29.5	120.4	
Sc	45	H2	1236917.72	2.3	1511145.3	81.85	29.5	120.4	
Sc	45	He	321522.12	3.9	392815.69	81.85	29.5	120.4	
Ge	72	No Gas	1978456.17	2.2	2346521.52	84.31	29.5	120.4	
Ge	72	H2	417772.06	1.6	505748.89	82.6	29.5	120.4	
Ge	72	He	202428.46	2.2	240647.81	84.12	29.5	120.4	
Y	89	H2	7067945.61	1.0	8216492.56	86.02	29.5	120.4	
Y	89	He	1735151.56	3.8	2023870.27	85.73	29.5	120.4	
Tb	159	No Gas	20417238.72	3.8	21789053.29	93.7	29.5	120.4	
Tb	159	He	7944785.30	3.9	8552940.43	92.89	29.5	120.4	
Bi	209	No Gas	10637254.80	2.5	10957550.08	97.08	29.5	120.4	

Sample Report

Sample Name	TN0328-007P
File Name	154SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:44:21
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	46.475	ppb	6.1	60429.24	100	
11	B	6	No Gas	463.788	ppb	5.4	395305.96	1000	
23	Na	45	He	8146.372	ppb	1.8	878942.11	200000	
24	Mg	45	He	5341.159	ppb	1.1	313843.97	200000	
27	Al	45	He	2059.364	ppb	2.3	45621.26	200000	
28	Si	45	H2	949.045	ppb	1.7	38487.63	10000	
39	K	45	He	10488.371	ppb	1.6	523948.46	200000	
40	Ca	45	H2	2504.814	ppb	2.8	851681.83	200000	
51	V	89	He	494.432	ppb	1.5	380466.34	1000	
52	Cr	89	He	201.453	ppb	2.0	199231.75	2000	
55	Mn	89	He	508.859	ppb	1.3	231276.70	2000	
56	Fe	89	H2	983.032	ppb	2.4	1255954.67	100000	
59	Co	89	He	512.422	ppb	1.2	801695.60	1000	
60	Ni	89	He	509.226	ppb	1.4	220964.18	1000	
63	Cu	89	He	254.690	ppb	1.6	298899.64	2000	
66	Zn	89	He	510.164	ppb	1.3	78646.43	2000	
75	As	89	He	100.451	ppb	2.1	10958.50	1000	
78	Se	89	H2	97.196	ppb	2.9	5064.86	1000	
88	Sr	89	He	493.834	ppb	1.8	276065.86	2000	
95	Mo	89	He	104.874	ppb	1.4	64087.29	1000	
107	Ag	89	He	53.518	ppb	1.4	106214.89	100	
111	Cd	89	He	264.189	ppb	1.7	67049.42	1000	
118	Sn	159	He	479.087	ppb	2.4	264980.13	1000	
121	Sb	159	No Gas	98.275	ppb	4.3	377480.75	1000	
137	Ba	159	No Gas	1948.438	ppb	4.8	2906633.49	2000	
182	W	159	No Gas	101.001	ppb	5.2	338989.83	1000	
205	Tl	209	No Gas	105.014	ppb	5.4	710336.40	1000	
208	Pb	209	No Gas	103.901	ppb	4.8	990147.96	2000	
232	Th	209	No Gas	101.195	ppb	5.4	951658.13	1000	
238	U	209	No Gas	101.705	ppb	5.0	934302.45	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6228577.58	0.5	6947791.61	89.65	29.5	120.4	
Sc	45	No Gas	9458045.74	0.7	11828674.09	79.96	29.5	120.4	
Sc	45	H2	1284570.14	2.6	1511145.3	85.01	29.5	120.4	
Sc	45	He	316869.80	1.5	392815.69	80.67	29.5	120.4	
Ge	72	No Gas	1970370.14	0.5	2346521.52	83.97	29.5	120.4	
Ge	72	H2	426707.91	1.9	505748.89	84.37	29.5	120.4	
Ge	72	He	199237.49	1.5	240647.81	82.79	29.5	120.4	
Y	89	H2	7362931.74	2.4	8216492.56	89.61	29.5	120.4	
Y	89	He	1708446.17	1.5	2023870.27	84.41	29.5	120.4	
Tb	159	No Gas	20475122.89	0.3	21789053.29	93.97	29.5	120.4	
Tb	159	He	7913890.72	2.0	8552940.43	92.53	29.5	120.4	
Bi	209	No Gas	10647225.70	0.3	10957550.08	97.17	29.5	120.4	

Sample Report

Sample Name	TN0328-007S
File Name	155SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:46:58
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	45.944	ppb	5.8	60675.93	100	
11	B	6	No Gas	461.525	ppb	5.7	399535.86	1000	
23	Na	45	He	8057.174	ppb	3.1	879947.50	200000	
24	Mg	45	He	5287.000	ppb	3.7	314363.50	200000	
27	Al	45	He	2073.835	ppb	2.5	46507.64	200000	
28	Si	45	H2	962.460	ppb	1.9	37848.71	10000	
39	K	45	He	10425.205	ppb	2.8	527223.41	200000	
40	Ca	45	H2	2582.679	ppb	0.8	851845.60	200000	
51	V	89	He	498.651	ppb	4.1	384958.79	1000	
52	Cr	89	He	202.916	ppb	3.8	201341.81	2000	
55	Mn	89	He	510.373	ppb	2.9	232767.72	2000	
56	Fe	89	H2	1027.069	ppb	1.0	1275045.61	100000	
59	Co	89	He	515.081	ppb	3.6	808528.03	1000	
60	Ni	89	He	511.569	ppb	3.8	222704.32	1000	
63	Cu	89	He	255.221	ppb	3.1	300561.67	2000	
66	Zn	89	He	508.420	ppb	2.9	78648.61	2000	
75	As	89	He	100.294	ppb	3.5	10978.53	1000	
78	Se	89	H2	101.071	ppb	0.6	5123.71	1000	
88	Sr	89	He	498.995	ppb	3.6	279891.61	2000	
95	Mo	89	He	105.809	ppb	2.4	64889.02	1000	
107	Ag	89	He	53.454	ppb	3.5	106441.30	100	
111	Cd	89	He	263.183	ppb	3.6	67017.86	1000	
118	Sn	159	He	481.547	ppb	4.1	267711.75	1000	
121	Sb	159	No Gas	98.021	ppb	5.9	384016.80	1000	
137	Ba	159	No Gas	1933.913	ppb	6.1	2942508.16	2000	
182	W	159	No Gas	100.907	ppb	6.1	345433.92	1000	
205	Tl	209	No Gas	103.889	ppb	5.0	717636.75	1000	
208	Pb	209	No Gas	102.491	ppb	5.9	997392.24	2000	
232	Th	209	No Gas	101.735	ppb	4.9	977040.25	1000	
238	U	209	No Gas	101.701	ppb	6.1	954007.75	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6328683.67	1.6	6947791.61	91.09	29.5	120.4	
Sc	45	No Gas	9663809.09	1.4	11828674.09	81.7	29.5	120.4	
Sc	45	H2	1245769.70	1.4	1511145.3	82.44	29.5	120.4	
Sc	45	He	320861.93	3.2	392815.69	81.68	29.5	120.4	
Ge	72	No Gas	2006536.93	1.4	2346521.52	85.51	29.5	120.4	
Ge	72	H2	413305.00	0.5	505748.89	81.72	29.5	120.4	
Ge	72	He	199962.95	2.3	240647.81	83.09	29.5	120.4	
Y	89	H2	7159936.09	0.5	8216492.56	87.14	29.5	120.4	
Y	89	He	1715245.86	3.4	2023870.27	84.75	29.5	120.4	
Tb	159	No Gas	20894075.38	1.3	21789053.29	95.89	29.5	120.4	
Tb	159	He	7960057.73	3.7	8552940.43	93.07	29.5	120.4	
Bi	209	No Gas	10877611.29	1.4	10957550.08	99.27	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	156SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:49:29
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.008	ppb	19.0	60.00	100	
11	B	6	No Gas	1.162	ppb	9.3	5422.31	1000	
23	Na	45	He	22.104	ppb	7.5	19809.03	200000	
24	Mg	45	He	0.140	ppb	124.7	104.45	200000	
27	Al	45	He	0.226	ppb	24.0	66.67	200000	
28	Si	45	H2	-0.747	ppb	N/A	403.79	10000	
39	K	45	He	9.596	ppb	1.1	16739.07	200000	
40	Ca	45	H2	0.544	ppb	6.6	3974.04	200000	
51	V	89	He	-0.030	ppb	N/A	223.34	1000	
52	Cr	89	He	-0.013	ppb	N/A	545.25	2000	
55	Mn	89	He	0.009	ppb	70.6	118.65	2000	
56	Fe	89	H2	-0.039	ppb	N/A	31918.88	100000	
59	Co	89	He	0.008	ppb	92.0	77.78	1000	
60	Ni	89	He	0.006	ppb	204.5	45.56	1000	
63	Cu	89	He	0.025	ppb	6.3	376.69	2000	
66	Zn	89	He	0.089	ppb	23.8	141.12	2000	
75	As	89	He	-0.002	ppb	N/A	15.67	1000	
78	Se	89	H2	0.012	ppb	90.1	4.17	1000	
88	Sr	89	He	0.011	ppb	37.4	55.56	2000	
95	Mo	89	He	0.045	ppb	12.1	157.79	1000	
107	Ag	89	He	0.002	ppb	125.5	57.78	100	
111	Cd	89	He	0.007	ppb	40.8	9.63	1000	
118	Sn	159	He	0.101	ppb	15.0	517.81	1000	
121	Sb	159	No Gas	0.030	ppb	28.1	697.46	1000	
137	Ba	159	No Gas	0.281	ppb	39.6	2162.59	2000	
182	W	159	No Gas	0.055	ppb	15.8	1024.52	1000	
205	Tl	209	No Gas	0.030	ppb	36.7	1248.12	1000	
208	Pb	209	No Gas	-0.006	ppb	N/A	2566.32	2000	
232	Th	209	No Gas	0.099	ppb	14.1	4906.47	1000	
238	U	209	No Gas	0.020	ppb	31.6	927.76	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6122744.30	1.8	6947791.61	88.13	29.5	120.4	
Sc	45	No Gas	9467881.19	3.4	11828674.09	80.04	29.5	120.4	
Sc	45	H2	1240990.61	3.6	1511145.3	82.12	29.5	120.4	
Sc	45	He	323070.63	1.0	392815.69	82.24	29.5	120.4	
Ge	72	No Gas	1989619.47	1.9	2346521.52	84.79	29.5	120.4	
Ge	72	H2	425572.69	1.7	505748.89	84.15	29.5	120.4	
Ge	72	He	204089.35	0.4	240647.81	84.81	29.5	120.4	
Y	89	H2	7086124.68	3.2	8216492.56	86.24	29.5	120.4	
Y	89	He	1744203.97	0.7	2023870.27	86.18	29.5	120.4	
Tb	159	No Gas	20237929.56	3.6	21789053.29	92.88	29.5	120.4	
Tb	159	He	7974700.85	0.4	8552940.43	93.24	29.5	120.4	
Bi	209	No Gas	10593514.18	3.0	10957550.08	96.68	29.5	120.4	

Sample Report

Sample Name	TN0328-009
File Name	157SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:52:04
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.020	ppb	84.6	32.22	100	
11	B	6	No Gas	185.784	ppb	1.0	151013.96	1000	
23	Na	45	He	646354.286	ppb	3.0	69542133.02	200000	
24	Mg	45	He	27854.930	ppb	3.8	1645650.89	200000	
27	Al	45	He	12.766	ppb	10.7	324.46	200000	
28	Si	45	H2	7445.876	ppb	6.9	279612.66	10000	
39	K	45	He	5650.804	ppb	3.1	290449.88	200000	
40	Ca	45	H2	131343.824	ppb	7.4	41733747.16	200000	
51	V	89	He	0.666	ppb	12.1	838.95	1000	
52	Cr	89	He	0.232	ppb	16.9	823.21	2000	
55	Mn	89	He	280.697	ppb	3.3	126673.68	2000	
56	Fe	89	H2	347.234	ppb	7.0	431829.84	100000	
59	Co	89	He	0.045	ppb	37.8	82.23	1000	
60	Ni	89	He	0.233	ppb	17.7	132.23	1000	
63	Cu	89	He	0.682	ppb	6.2	1016.74	2000	
66	Zn	89	He	1.403	ppb	4.6	283.35	2000	
75	As	89	He	0.386	ppb	16.4	58.01	1000	
78	Se	89	H2	0.074	ppb	44.4	4.83	1000	
88	Sr	89	He	1110.656	ppb	3.3	616275.00	2000	
95	Mo	89	He	1.002	ppb	7.0	624.48	1000	
107	Ag	89	He	0.013	ppb	23.8	64.45	100	
111	Cd	89	He	0.019	ppb	54.8	4.81	1000	
118	Sn	159	He	0.703	ppb	6.0	610.04	1000	
121	Sb	159	No Gas	0.055	ppb	26.3	343.72	1000	
137	Ba	159	No Gas	1051.650	ppb	1.8	1532691.73	2000	
182	W	159	No Gas	0.118	ppb	7.7	493.90	1000	
205	Tl	209	No Gas	-0.003	ppb	N/A	200.23	1000	
208	Pb	209	No Gas	-0.040	ppb	N/A	2376.09	2000	
232	Th	209	No Gas	0.759	ppb	5.3	7059.92	1000	
238	U	209	No Gas	0.282	ppb	4.0	2476.36	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5925118.66	3.0	6947791.61	85.28	29.5	120.4	
Sc	45	No Gas	9429369.66	5.3	11828674.09	79.72	29.5	120.4	
Sc	45	H2	1208812.32	7.4	1511145.3	79.99	29.5	120.4	
Sc	45	He	318784.45	2.2	392815.69	81.15	29.5	120.4	
Ge	72	No Gas	1929782.03	3.2	2346521.52	82.24	29.5	120.4	
Ge	72	H2	402854.72	4.7	505748.89	79.66	29.5	120.4	
Ge	72	He	197388.31	0.9	240647.81	82.02	29.5	120.4	
Y	89	H2	6850161.43	6.3	8216492.56	83.37	29.5	120.4	
Y	89	He	1696172.46	1.7	2023870.27	83.81	29.5	120.4	
Tb	159	No Gas	20014432.48	5.7	21789053.29	91.86	29.5	120.4	
Tb	159	He	7756262.04	2.1	8552940.43	90.69	29.5	120.4	
Bi	209	No Gas	10139630.73	3.9	10957550.08	92.54	29.5	120.4	

Sample Report

Sample Name	TN0328-010
File Name	158SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:54:35
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.058	ppb	33.6	84.45	100	
11	B	6	No Gas	138.604	ppb	6.8	120402.91	1000	
23	Na	45	He	69796.175	ppb	1.9	7607390.14	200000	
24	Mg	45	He	41036.313	ppb	2.1	2453974.95	200000	
27	Al	45	He	20.721	ppb	7.9	507.80	200000	
28	Si	45	H2	6066.390	ppb	4.2	234164.06	10000	
39	K	45	He	6642.875	ppb	2.3	343050.57	200000	
40	Ca	45	H2	144628.311	ppb	3.6	47233298.74	200000	
51	V	89	He	0.701	ppb	3.4	887.84	1000	
52	Cr	89	He	0.434	ppb	9.0	1046.52	2000	
55	Mn	89	He	913.589	ppb	1.8	422565.52	2000	
56	Fe	89	H2	33615.920	ppb	4.0	40184915.58	100000	
59	Co	89	He	0.146	ppb	31.3	246.69	1000	
60	Ni	89	He	0.410	ppb	22.8	213.34	1000	
63	Cu	89	He	0.716	ppb	9.8	1083.42	2000	
66	Zn	89	He	1.696	ppb	26.8	336.68	2000	
75	As	89	He	0.223	ppb	19.5	41.34	1000	
78	Se	89	H2	0.187	ppb	13.7	10.67	1000	
88	Sr	89	He	660.423	ppb	1.8	375799.93	2000	
95	Mo	89	He	0.108	ppb	14.2	84.45	1000	
107	Ag	89	He	0.005	ppb	35.1	50.00	100	
111	Cd	89	He	0.013	ppb	34.1	3.33	1000	
118	Sn	159	He	0.425	ppb	41.2	472.25	1000	
121	Sb	159	No Gas	0.039	ppb	20.0	300.34	1000	
137	Ba	159	No Gas	782.791	ppb	7.1	1200922.98	2000	
182	W	159	No Gas	0.018	ppb	13.4	173.53	1000	
205	Tl	209	No Gas	-0.011	ppb	N/A	160.18	1000	
208	Pb	209	No Gas	-0.066	ppb	N/A	2262.62	2000	
232	Th	209	No Gas	0.235	ppb	13.8	2499.72	1000	
238	U	209	No Gas	0.020	ppb	14.4	186.87	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6332172.94	2.4	6947791.61	91.14	29.5	120.4	
Sc	45	No Gas	9902673.57	1.7	11828674.09	83.72	29.5	120.4	
Sc	45	H2	1238802.13	3.1	1511145.3	81.98	29.5	120.4	
Sc	45	He	322574.34	1.7	392815.69	82.12	29.5	120.4	
Ge	72	No Gas	2029257.10	2.2	2346521.52	86.48	29.5	120.4	
Ge	72	H2	413885.37	2.6	505748.89	81.84	29.5	120.4	
Ge	72	He	201063.56	1.0	240647.81	83.55	29.5	120.4	
Y	89	H2	7074626.31	2.9	8216492.56	86.1	29.5	120.4	
Y	89	He	1738939.09	1.0	2023870.27	85.92	29.5	120.4	
Tb	159	No Gas	21070068.44	1.6	21789053.29	96.7	29.5	120.4	
Tb	159	He	7982601.06	1.5	8552940.43	93.33	29.5	120.4	
Bi	209	No Gas	10681700.81	2.0	10957550.08	97.48	29.5	120.4	

Sample Report

Sample Name	TN0328-011
File Name	159SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:57:15
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.040	ppb	7.0	60.00	100	
11	B	6	No Gas	129.778	ppb	7.2	110296.30	1000	
23	Na	45	He	40435.965	ppb	0.4	4382752.81	200000	
24	Mg	45	He	48601.365	ppb	0.5	2888066.21	200000	
27	Al	45	He	18.682	ppb	10.3	458.91	200000	
28	Si	45	H2	6965.699	ppb	1.1	273874.33	10000	
39	K	45	He	3468.145	ppb	0.7	184782.90	200000	
40	Ca	45	H2	195946.656	ppb	0.7	65192711.25	200000	
51	V	89	He	2.704	ppb	8.4	2432.52	1000	
52	Cr	89	He	0.676	ppb	11.3	1277.17	2000	
55	Mn	89	He	962.039	ppb	0.5	440843.96	2000	
56	Fe	89	H2	184.443	ppb	1.3	257253.97	100000	
59	Co	89	He	0.093	ppb	36.3	160.01	1000	
60	Ni	89	He	0.280	ppb	15.4	154.45	1000	
63	Cu	89	He	0.889	ppb	5.7	1277.88	2000	
66	Zn	89	He	2.160	ppb	10.5	405.58	2000	
75	As	89	He	0.284	ppb	30.6	47.67	1000	
78	Se	89	H2	0.128	ppb	45.6	7.83	1000	
88	Sr	89	He	971.311	ppb	0.5	547566.65	2000	
95	Mo	89	He	0.153	ppb	24.0	111.11	1000	
107	Ag	89	He	0.008	ppb	109.2	56.67	100	
111	Cd	89	He	0.006	ppb	86.6	1.48	1000	
118	Sn	159	He	0.422	ppb	34.5	467.80	1000	
121	Sb	159	No Gas	0.091	ppb	8.4	500.57	1000	
137	Ba	159	No Gas	1077.633	ppb	7.4	1640987.00	2000	
182	W	159	No Gas	2.038	ppb	9.1	7093.21	1000	
205	Tl	209	No Gas	-0.016	ppb	N/A	126.81	1000	
208	Pb	209	No Gas	0.536	ppb	15.2	7983.26	2000	
232	Th	209	No Gas	0.106	ppb	14.5	1281.51	1000	
238	U	209	No Gas	0.145	ppb	9.4	1334.91	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6192368.35	2.0	6947791.61	89.13	29.5	120.4	
Sc	45	No Gas	9724955.76	1.5	11828674.09	82.22	29.5	120.4	
Sc	45	H2	1261224.21	1.9	1511145.3	83.46	29.5	120.4	
Sc	45	He	320479.13	0.8	392815.69	81.59	29.5	120.4	
Ge	72	No Gas	2002763.64	1.9	2346521.52	85.35	29.5	120.4	
Ge	72	H2	417370.70	0.7	505748.89	82.53	29.5	120.4	
Ge	72	He	199500.14	0.2	240647.81	82.9	29.5	120.4	
Y	89	H2	7205125.91	0.7	8216492.56	87.69	29.5	120.4	
Y	89	He	1722595.13	0.4	2023870.27	85.11	29.5	120.4	
Tb	159	No Gas	20920410.11	2.1	21789053.29	96.01	29.5	120.4	
Tb	159	He	7917312.10	0.3	8552940.43	92.57	29.5	120.4	
Bi	209	No Gas	10656974.52	2.1	10957550.08	97.26	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	160SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 18:59:46
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	171.9	11.11	100	
11	B	6	No Gas	0.457	ppb	9.8	2565.87	1000	
23	Na	45	He	39.858	ppb	12.2	29807.59	200000	
24	Mg	45	He	2.332	ppb	39.0	768.97	200000	
27	Al	45	He	0.298	ppb	15.4	75.56	200000	
28	Si	45	H2	-0.415	ppb	N/A	487.22	10000	
39	K	45	He	11.561	ppb	3.6	17416.09	200000	
40	Ca	45	H2	11.495	ppb	8.5	22820.29	200000	
51	V	89	He	-0.032	ppb	N/A	217.79	1000	
52	Cr	89	He	-0.015	ppb	N/A	544.58	2000	
55	Mn	89	He	0.043	ppb	31.2	201.30	2000	
56	Fe	89	H2	0.248	ppb	23.0	35193.23	100000	
59	Co	89	He	0.006	ppb	62.9	60.00	1000	
60	Ni	89	He	0.011	ppb	37.4	56.67	1000	
63	Cu	89	He	0.011	ppb	75.5	301.13	2000	
66	Zn	89	He	0.109	ppb	10.0	158.90	2000	
75	As	89	He	-0.006	ppb	N/A	13.67	1000	
78	Se	89	H2	-0.002	ppb	N/A	0.83	1000	
88	Sr	89	He	0.053	ppb	46.7	176.68	2000	
95	Mo	89	He	0.005	ppb	34.6	32.22	1000	
107	Ag	89	He	0.001	ppb	33.9	55.56	100	
111	Cd	89	He	0.003	ppb	45.7	3.70	1000	
118	Sn	159	He	0.009	ppb	171.6	263.35	1000	
121	Sb	159	No Gas	0.001	ppb	171.0	156.84	1000	
137	Ba	159	No Gas	0.214	ppb	49.3	1738.73	2000	
182	W	159	No Gas	-0.004	ppb	N/A	43.38	1000	
205	Tl	209	No Gas	-0.004	ppb	N/A	113.46	1000	
208	Pb	209	No Gas	-0.023	ppb	N/A	1795.40	2000	
232	Th	209	No Gas	0.003	ppb	64.6	420.48	1000	
238	U	209	No Gas	0.000	ppb	57.3	23.36	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6348704.11	0.9	6947791.61	91.38	29.5	120.4	
Sc	45	No Gas	9825510.37	0.5	11828674.09	83.07	29.5	120.4	
Sc	45	H2	1292611.47	1.4	1511145.3	85.54	29.5	120.4	
Sc	45	He	326629.02	0.4	392815.69	83.15	29.5	120.4	
Ge	72	No Gas	2045683.14	0.9	2346521.52	87.18	29.5	120.4	
Ge	72	H2	439247.03	0.1	505748.89	86.85	29.5	120.4	
Ge	72	He	206832.28	0.7	240647.81	85.95	29.5	120.4	
Y	89	H2	7412877.77	0.9	8216492.56	90.22	29.5	120.4	
Y	89	He	1767977.30	0.3	2023870.27	87.36	29.5	120.4	
Tb	159	No Gas	20973502.74	0.8	21789053.29	96.26	29.5	120.4	
Tb	159	He	8029011.41	0.2	8552940.43	93.87	29.5	120.4	
Bi	209	No Gas	10805080.95	0.6	10957550.08	98.61	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	161_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:02:22
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	21.870	ppb	7.7	143274.99	25	87.48	89.8	110.2	> +/- 10%
11	B	6	No Gas	22.257	ppb	6.6	96033.32	25	89.03	89.8	110.2	> +/- 10%
23	Na	45	He	5099.705	ppb	0.1	2789055.70	5000	101.99	89.8	110.2	
24	Mg	45	He	5122.158	ppb	0.3	1534296.90	5000	102.44	89.8	110.2	
27	Al	45	He	497.696	ppb	1.1	56211.23	500	99.54	89.8	110.2	
28	Si	45	H2	467.207	ppb	2.0	94837.43	500	93.44	89.8	110.2	
39	K	45	He	4956.206	ppb	0.4	1242847.66	5000	99.12	89.8	110.2	
40	Ca	45	H2	4894.168	ppb	1.7	8376227.93	5000	97.88	89.8	110.2	
51	V	89	He	23.875	ppb	1.2	94035.55	25	95.5	89.8	110.2	
52	Cr	89	He	23.956	ppb	0.6	121187.69	25	95.82	89.8	110.2	
55	Mn	89	He	24.180	ppb	0.5	56172.02	25	96.72	89.8	110.2	
56	Fe	89	H2	4811.538	ppb	1.9	29967966.29	5000	96.23	89.8	110.2	
59	Co	89	He	24.142	ppb	0.4	192809.43	25	96.57	89.8	110.2	
60	Ni	89	He	23.928	ppb	1.1	53022.39	25	95.71	89.8	110.2	
63	Cu	89	He	24.051	ppb	0.7	144198.62	25	96.2	89.8	110.2	
66	Zn	89	He	24.681	ppb	1.5	19474.16	25	98.72	89.8	110.2	
75	As	89	He	24.206	ppb	1.3	13477.97	25	96.82	89.8	110.2	
78	Se	89	H2	24.258	ppb	2.7	6323.31	25	97.03	89.8	110.2	
88	Sr	89	He	24.025	ppb	0.6	68574.86	25	96.1	89.8	110.2	
95	Mo	89	He	24.858	ppb	0.4	77535.36	25	99.43	89.8	110.2	
107	Ag	89	He	25.522	ppb	0.7	258491.66	25	102.09	89.8	110.2	
111	Cd	89	He	25.439	ppb	0.6	32956.32	25	101.76	89.8	110.2	
118	Sn	159	He	23.600	ppb	1.5	65842.67	25	94.4	89.8	110.2	
121	Sb	159	No Gas	22.944	ppb	6.3	451080.41	25	91.78	89.8	110.2	
137	Ba	159	No Gas	22.932	ppb	7.0	175191.42	25	91.73	89.8	110.2	
182	W	159	No Gas	23.053	ppb	6.1	396059.97	25	92.21	89.8	110.2	
205	Tl	209	No Gas	24.181	ppb	7.4	824896.97	25	96.72	89.8	110.2	
208	Pb	209	No Gas	23.614	ppb	6.5	1134601.13	25	94.46	89.8	110.2	
232	Th	209	No Gas	23.282	ppb	7.9	1104213.23	25	93.13	89.8	110.2	
238	U	209	No Gas	23.681	ppb	7.6	1097103.90	25	94.72	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6280197.06	1.5	6947791.61	90.39	29.5	120.4	
Sc	45	No Gas	9838218.92	1.1	11828674.09	83.17	29.5	120.4	
Sc	45	H2	1297276.98	1.9	1511145.3	85.85	29.5	120.4	
Sc	45	He	323080.34	0.4	392815.69	82.25	29.5	120.4	
Ge	72	No Gas	2038151.20	1.7	2346521.52	86.86	29.5	120.4	
Ge	72	H2	435620.90	1.8	505748.89	86.13	29.5	120.4	
Ge	72	He	204402.72	0.3	240647.81	84.94	29.5	120.4	
Y	89	H2	7365347.75	1.4	8216492.56	89.64	29.5	120.4	
Y	89	He	1743926.64	0.7	2023870.27	86.17	29.5	120.4	
Tb	159	No Gas	20969990.66	1.2	21789053.29	96.24	29.5	120.4	
Tb	159	He	7960173.08	0.6	8552940.43	93.07	29.5	120.4	
Bi	209	No Gas	10747900.54	2.0	10957550.08	98.09	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	162_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:04:57
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.011	ppb	41.5	77.78	0.2	
11	B	6	No Gas	0.339	ppb	14.0	2023.55	4	
23	Na	45	He	25.980	ppb	6.2	21867.62	200	
24	Mg	45	He	0.520	ppb	26.7	217.80	20	
27	Al	45	He	0.178	ppb	33.1	61.11	20	
28	Si	45	H2	-0.504	ppb	N/A	453.85	100	
39	K	45	He	10.952	ppb	34.6	17027.50	200	
40	Ca	45	H2	1.511	ppb	9.6	5639.11	20	
51	V	89	He	-0.042	ppb	N/A	173.34	1	
52	Cr	89	He	-0.020	ppb	N/A	512.58	1	
55	Mn	89	He	0.004	ppb	205.5	107.31	0.4	
56	Fe	89	H2	0.724	ppb	6.3	37003.65	20	
59	Co	89	He	0.002	ppb	39.9	31.11	0.2	
60	Ni	89	He	0.002	ppb	147.0	36.67	0.4	
63	Cu	89	He	0.015	ppb	14.3	320.02	0.6	
66	Zn	89	He	0.057	ppb	36.3	115.56	2	
75	As	89	He	-0.009	ppb	N/A	11.67	1	
78	Se	89	H2	0.034	ppb	35.2	9.67	1	
88	Sr	89	He	0.007	ppb	38.3	42.22	1	
95	Mo	89	He	0.068	ppb	6.3	230.01	1	
107	Ag	89	He	0.004	ppb	46.2	77.78	0.2	
111	Cd	89	He	0.001	ppb	126.2	1.85	0.2	
118	Sn	159	He	0.065	ppb	11.2	415.58	1	
121	Sb	159	No Gas	0.022	ppb	11.2	563.97	0.2	
137	Ba	159	No Gas	0.018	ppb	21.6	233.60	0.4	
182	W	159	No Gas	0.066	ppb	9.3	1238.10	1	
205	Tl	209	No Gas	0.018	ppb	31.9	854.32	0.2	
208	Pb	209	No Gas	-0.014	ppb	N/A	2215.90	0.2	
232	Th	209	No Gas	0.087	ppb	9.1	4445.77	1	
238	U	209	No Gas	0.013	ppb	23.9	610.71	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6268861.66	3.7	6947791.61	90.23	29.5	120.4	
Sc	45	No Gas	9795486.60	6.3	11828674.09	82.81	29.5	120.4	
Sc	45	H2	1261920.04	8.5	1511145.3	83.51	29.5	120.4	
Sc	45	He	322425.62	2.4	392815.69	82.08	29.5	120.4	
Ge	72	No Gas	2029427.31	3.8	2346521.52	86.49	29.5	120.4	
Ge	72	H2	429903.45	6.7	505748.89	85	29.5	120.4	
Ge	72	He	204653.80	1.6	240647.81	85.04	29.5	120.4	
Y	89	H2	7188346.90	8.5	8216492.56	87.49	29.5	120.4	
Y	89	He	1744400.37	2.7	2023870.27	86.19	29.5	120.4	
Tb	159	No Gas	20739366.36	6.1	21789053.29	95.18	29.5	120.4	
Tb	159	He	7916838.49	2.0	8552940.43	92.56	29.5	120.4	
Bi	209	No Gas	10805772.79	4.9	10957550.08	98.61	29.5	120.4	

Sample Report

Sample Name	TN0328-012
File Name	163SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:07:32
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.038	ppb	34.3	56.67	100	
11	B	6	No Gas	87.179	ppb	5.1	74484.53	1000	
23	Na	45	He	302425.366	ppb	0.7	32983582.01	200000	
24	Mg	45	He	10828.468	ppb	1.0	648510.46	200000	
27	Al	45	He	18.668	ppb	6.4	462.25	200000	
28	Si	45	H2	4160.637	ppb	0.3	164958.76	10000	
39	K	45	He	2601.110	ppb	0.6	143255.27	200000	
40	Ca	45	H2	90763.490	ppb	0.3	30410244.27	200000	
51	V	89	He	0.644	ppb	6.5	833.39	1000	
52	Cr	89	He	0.376	ppb	10.2	977.19	2000	
55	Mn	89	He	521.693	ppb	0.4	238575.25	2000	
56	Fe	89	H2	1231.085	ppb	0.2	1518157.78	100000	
59	Co	89	He	0.544	ppb	2.9	868.98	1000	
60	Ni	89	He	2.334	ppb	4.4	1051.19	1000	
63	Cu	89	He	1.345	ppb	4.2	1813.52	2000	
66	Zn	89	He	13.068	ppb	4.3	2094.68	2000	
75	As	89	He	0.997	ppb	8.1	125.68	1000	
78	Se	89	H2	0.340	ppb	9.7	18.50	1000	
88	Sr	89	He	168.683	ppb	1.0	94899.01	2000	
95	Mo	89	He	5.922	ppb	0.5	3657.29	1000	
107	Ag	89	He	0.016	ppb	74.3	71.11	100	
111	Cd	89	He	0.025	ppb	53.7	6.30	1000	
118	Sn	159	He	0.613	ppb	14.2	570.03	1000	
121	Sb	159	No Gas	0.065	ppb	10.3	400.45	1000	
137	Ba	159	No Gas	69.649	ppb	3.6	106429.42	2000	
182	W	159	No Gas	0.059	ppb	29.3	313.69	1000	
205	Tl	209	No Gas	0.154	ppb	1.7	1284.84	1000	
208	Pb	209	No Gas	-0.019	ppb	N/A	2716.49	2000	
232	Th	209	No Gas	0.660	ppb	5.7	6518.99	1000	
238	U	209	No Gas	4.244	ppb	4.1	39198.49	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6209614.66	2.9	6947791.61	89.38	29.5	120.4	
Sc	45	No Gas	9938349.04	2.7	11828674.09	84.02	29.5	120.4	
Sc	45	H2	1269963.86	0.8	1511145.3	84.04	29.5	120.4	
Sc	45	He	322976.27	1.0	392815.69	82.22	29.5	120.4	
Ge	72	No Gas	2040137.59	3.1	2346521.52	86.94	29.5	120.4	
Ge	72	H2	416878.16	0.9	505748.89	82.43	29.5	120.4	
Ge	72	He	200977.54	0.5	240647.81	83.52	29.5	120.4	
Y	89	H2	7142474.05	0.5	8216492.56	86.93	29.5	120.4	
Y	89	He	1718825.37	0.7	2023870.27	84.93	29.5	120.4	
Tb	159	No Gas	20966414.27	2.5	21789053.29	96.22	29.5	120.4	
Tb	159	He	7871402.59	0.6	8552940.43	92.03	29.5	120.4	
Bi	209	No Gas	10711937.71	3.2	10957550.08	97.76	29.5	120.4	

Sample Report

Sample Name	TN0328-013
File Name	164SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:10:04
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.047	ppb	42.0	66.67	100	
11	B	6	No Gas	154.409	ppb	2.0	127515.65	1000	
23	Na	45	He	1169482.635	ppb	3.6	125995342.57	200000	>LDR
24	Mg	45	He	11393.406	ppb	3.6	674144.58	200000	
27	Al	45	He	25.699	ppb	5.5	613.38	200000	
28	Si	45	H2	6001.764	ppb	1.8	244234.78	10000	
39	K	45	He	6157.748	ppb	3.2	315699.84	200000	
40	Ca	45	H2	44831.551	ppb	1.3	15434582.27	200000	
51	V	89	He	0.802	ppb	11.7	944.51	1000	
52	Cr	89	He	0.469	ppb	8.5	1057.18	2000	
55	Mn	89	He	550.633	ppb	3.1	248896.74	2000	
56	Fe	89	H2	3831.987	ppb	2.5	4811969.41	100000	
59	Co	89	He	0.097	ppb	10.0	164.46	1000	
60	Ni	89	He	1.673	ppb	12.2	752.27	1000	
63	Cu	89	He	3.884	ppb	5.4	4752.09	2000	
66	Zn	89	He	4.691	ppb	5.2	787.83	2000	
75	As	89	He	0.442	ppb	15.9	64.01	1000	
78	Se	89	H2	0.255	ppb	13.0	14.67	1000	
88	Sr	89	He	151.645	ppb	2.7	84336.67	2000	
95	Mo	89	He	14.845	ppb	5.1	9033.32	1000	
107	Ag	89	He	0.005	ppb	97.0	50.00	100	
111	Cd	89	He	0.019	ppb	58.2	4.81	1000	
118	Sn	159	He	0.528	ppb	10.7	507.81	1000	
121	Sb	159	No Gas	0.048	ppb	11.0	310.36	1000	
137	Ba	159	No Gas	61.872	ppb	2.5	88454.98	2000	
182	W	159	No Gas	0.107	ppb	34.4	450.51	1000	
205	Tl	209	No Gas	-0.008	ppb	N/A	166.85	1000	
208	Pb	209	No Gas	0.095	ppb	21.3	3504.13	2000	
232	Th	209	No Gas	0.170	ppb	7.8	1738.76	1000	
238	U	209	No Gas	0.170	ppb	3.0	1445.04	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6016310.00	1.5	6947791.61	86.59	29.5	120.4	
Sc	45	No Gas	9438033.43	3.6	11828674.09	79.79	29.5	120.4	
Sc	45	H2	1304963.73	1.9	1511145.3	86.36	29.5	120.4	
Sc	45	He	319306.52	3.0	392815.69	81.29	29.5	120.4	
Ge	72	No Gas	1950944.54	1.2	2346521.52	83.14	29.5	120.4	
Ge	72	H2	426825.35	1.5	505748.89	84.39	29.5	120.4	
Ge	72	He	199310.32	2.3	240647.81	82.82	29.5	120.4	
Y	89	H2	7381927.50	2.0	8216492.56	89.84	29.5	120.4	
Y	89	He	1699819.61	2.6	2023870.27	83.99	29.5	120.4	
Tb	159	No Gas	19606575.82	3.2	21789053.29	89.98	29.5	120.4	
Tb	159	He	7642345.44	2.7	8552940.43	89.35	29.5	120.4	
Bi	209	No Gas	9840223.73	2.3	10957550.08	89.8	29.5	120.4	

Sample Report

Sample Name	TN0328-014
File Name	165SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:12:44
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.031	ppb	5.7	46.67	100	
11	B	6	No Gas	280.342	ppb	2.3	228987.31	1000	
23	Na	45	He	1211923.302	ppb	0.4	133388663.97	200000	>LDR
24	Mg	45	He	22953.982	ppb	1.0	1387474.02	200000	
27	Al	45	He	29.986	ppb	2.7	724.49	200000	
28	Si	45	H2	5727.885	ppb	1.0	224413.93	10000	
39	K	45	He	11717.878	ppb	0.5	600605.57	200000	
40	Ca	45	H2	98989.752	ppb	0.3	32805812.85	200000	
51	V	89	He	1.621	ppb	6.9	1593.49	1000	
52	Cr	89	He	0.841	ppb	9.1	1441.82	2000	
55	Mn	89	He	474.141	ppb	1.7	217471.31	2000	
56	Fe	89	H2	240.535	ppb	0.6	320543.40	100000	
59	Co	89	He	2.101	ppb	5.0	3329.54	1000	
60	Ni	89	He	17.480	ppb	3.8	7685.73	1000	
63	Cu	89	He	4.422	ppb	1.1	5461.27	2000	
66	Zn	89	He	12.833	ppb	2.6	2064.68	2000	
75	As	89	He	1.391	ppb	14.6	169.35	1000	
78	Se	89	H2	1.361	ppb	6.0	69.67	1000	
88	Sr	89	He	1313.371	ppb	1.4	740919.21	2000	
95	Mo	89	He	80.229	ppb	1.6	49476.95	1000	
107	Ag	89	He	0.003	ppb	53.6	46.67	100	
111	Cd	89	He	0.218	ppb	4.6	55.93	1000	
118	Sn	159	He	1.058	ppb	19.4	802.28	1000	
121	Sb	159	No Gas	3.278	ppb	3.3	11888.44	1000	
137	Ba	159	No Gas	291.004	ppb	3.7	405694.75	2000	
182	W	159	No Gas	7.908	ppb	3.6	24894.96	1000	
205	Tl	209	No Gas	0.406	ppb	6.7	2689.98	1000	
208	Pb	209	No Gas	0.022	ppb	49.4	2783.25	2000	
232	Th	209	No Gas	0.106	ppb	12.0	1148.01	1000	
238	U	209	No Gas	11.863	ppb	5.1	98080.49	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5961296.35	3.3	6947791.61	85.8	29.5	120.4	
Sc	45	No Gas	9229191.37	4.6	11828674.09	78.02	29.5	120.4	
Sc	45	H2	1256160.29	0.5	1511145.3	83.13	29.5	120.4	
Sc	45	He	325985.95	0.5	392815.69	82.99	29.5	120.4	
Ge	72	No Gas	1904549.23	2.9	2346521.52	81.16	29.5	120.4	
Ge	72	H2	412570.34	0.6	505748.89	81.58	29.5	120.4	
Ge	72	He	201225.25	0.2	240647.81	83.62	29.5	120.4	
Y	89	H2	7094915.50	1.5	8216492.56	86.35	29.5	120.4	
Y	89	He	1723920.60	0.8	2023870.27	85.18	29.5	120.4	
Tb	159	No Gas	19139977.07	5.1	21789053.29	87.84	29.5	120.4	
Tb	159	He	7748439.75	0.9	8552940.43	90.59	29.5	120.4	
Bi	209	No Gas	9585248.56	4.4	10957550.08	87.48	29.5	120.4	

Sample Report

Sample Name	TN0328-015
File Name	166SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:15:22
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.006	ppb	106.5	16.67	100	
11	B	6	No Gas	3.775	ppb	6.1	3904.01	1000	
23	Na	45	He	563.502	ppb	5.6	70453.94	200000	
24	Mg	45	He	16.732	ppb	7.3	1082.34	200000	
27	Al	45	He	14.885	ppb	16.3	383.35	200000	
28	Si	45	H2	12.318	ppb	3.7	1067.90	10000	
39	K	45	He	69.341	ppb	17.2	18106.74	200000	
40	Ca	45	H2	39.448	ppb	7.3	16699.29	200000	
51	V	89	He	0.194	ppb	33.8	498.92	1000	
52	Cr	89	He	0.250	ppb	3.8	875.21	2000	
55	Mn	89	He	0.227	ppb	5.1	206.63	2000	
56	Fe	89	H2	1.727	ppb	9.4	35483.98	100000	
59	Co	89	He	0.019	ppb	35.1	44.45	1000	
60	Ni	89	He	0.060	ppb	31.6	60.00	1000	
63	Cu	89	He	0.657	ppb	3.9	1028.97	2000	
66	Zn	89	He	1.041	ppb	9.9	237.79	2000	
75	As	89	He	0.028	ppb	110.9	20.00	1000	
78	Se	89	H2	0.019	ppb	32.2	2.33	1000	
88	Sr	89	He	0.157	ppb	30.0	114.45	2000	
95	Mo	89	He	0.174	ppb	6.8	127.78	1000	
107	Ag	89	He	0.014	ppb	51.9	68.89	100	
111	Cd	89	He	0.004	ppb	101.0	1.11	1000	
118	Sn	159	He	0.478	ppb	12.0	510.04	1000	
121	Sb	159	No Gas	0.012	ppb	69.1	193.55	1000	
137	Ba	159	No Gas	0.395	ppb	7.9	707.48	2000	
182	W	159	No Gas	0.027	ppb	49.1	206.90	1000	
205	Tl	209	No Gas	-0.019	ppb	N/A	110.12	1000	
208	Pb	209	No Gas	-0.053	ppb	N/A	2432.83	2000	
232	Th	209	No Gas	0.059	ppb	6.6	857.66	1000	
238	U	209	No Gas	0.016	ppb	28.3	153.51	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6422219.50	2.3	6947791.61	92.44	29.5	120.4	
Sc	45	No Gas	9943595.64	1.6	11828674.09	84.06	29.5	120.4	
Sc	45	H2	1294221.91	3.1	1511145.3	85.65	29.5	120.4	
Sc	45	He	328855.41	2.5	392815.69	83.72	29.5	120.4	
Ge	72	No Gas	2052516.61	2.1	2346521.52	87.47	29.5	120.4	
Ge	72	H2	427661.47	1.6	505748.89	84.56	29.5	120.4	
Ge	72	He	204308.81	1.8	240647.81	84.9	29.5	120.4	
Y	89	H2	7346730.06	2.3	8216492.56	89.41	29.5	120.4	
Y	89	He	1766393.63	2.5	2023870.27	87.28	29.5	120.4	
Tb	159	No Gas	21086147.04	2.5	21789053.29	96.77	29.5	120.4	
Tb	159	He	8095700.99	2.7	8552940.43	94.65	29.5	120.4	
Bi	209	No Gas	10915020.37	2.1	10957550.08	99.61	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	167SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:17:58
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	167.5	11.11	100	
11	B	6	No Gas	0.200	ppb	5.8	1454.57	1000	
23	Na	45	He	64.769	ppb	2.8	44170.42	200000	
24	Mg	45	He	0.197	ppb	21.3	124.45	200000	
27	Al	45	He	0.117	ppb	99.7	55.56	200000	
28	Si	45	H2	0.156	ppb	324.6	600.68	10000	
39	K	45	He	14.529	ppb	17.1	18418.67	200000	
40	Ca	45	H2	1.710	ppb	18.2	6111.53	200000	
51	V	89	He	-0.034	ppb	N/A	210.01	1000	
52	Cr	89	He	-0.016	ppb	N/A	543.25	2000	
55	Mn	89	He	0.003	ppb	272.8	107.31	2000	
56	Fe	89	H2	-0.071	ppb	N/A	33059.01	100000	
59	Co	89	He	-0.001	ppb	N/A	8.89	1000	
60	Ni	89	He	0.000	ppb	N/A	32.22	1000	
63	Cu	89	He	0.010	ppb	9.7	297.79	2000	
66	Zn	89	He	-0.007	ppb	N/A	66.67	2000	
75	As	89	He	-0.011	ppb	N/A	10.67	1000	
78	Se	89	H2	-0.001	ppb	N/A	1.00	1000	
88	Sr	89	He	0.008	ppb	11.4	46.67	2000	
95	Mo	89	He	0.010	ppb	57.9	51.11	1000	
107	Ag	89	He	0.000	ppb	421.9	45.56	100	
111	Cd	89	He	0.001	ppb	86.6	1.48	1000	
118	Sn	159	He	0.003	ppb	135.5	247.79	1000	
121	Sb	159	No Gas	0.001	ppb	199.9	156.84	1000	
137	Ba	159	No Gas	0.012	ppb	84.5	190.21	2000	
182	W	159	No Gas	-0.002	ppb	N/A	83.43	1000	
205	Tl	209	No Gas	-0.004	ppb	N/A	100.11	1000	
208	Pb	209	No Gas	-0.027	ppb	N/A	1645.21	2000	
232	Th	209	No Gas	0.000	ppb	262.3	303.67	1000	
238	U	209	No Gas	0.001	ppb	50.8	26.69	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6373694.41	2.0	6947791.61	91.74	29.5	120.4	
Sc	45	No Gas	9899133.47	2.2	11828674.09	83.69	29.5	120.4	
Sc	45	H2	1289190.14	0.9	1511145.3	85.31	29.5	120.4	
Sc	45	He	331293.86	1.4	392815.69	84.34	29.5	120.4	
Ge	72	No Gas	2051379.22	2.1	2346521.52	87.42	29.5	120.4	
Ge	72	H2	440896.96	0.9	505748.89	87.18	29.5	120.4	
Ge	72	He	208729.76	0.5	240647.81	86.74	29.5	120.4	
Y	89	H2	7382369.09	1.3	8216492.56	89.85	29.5	120.4	
Y	89	He	1786191.64	1.5	2023870.27	88.26	29.5	120.4	
Tb	159	No Gas	20873575.66	2.0	21789053.29	95.8	29.5	120.4	
Tb	159	He	8080180.85	1.5	8552940.43	94.47	29.5	120.4	
Bi	209	No Gas	10826377.77	2.6	10957550.08	98.8	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	168SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:20:30
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.001	ppb	42.8	12.22	100	
11	B	6	No Gas	0.128	ppb	16.2	1108.97	1000	
23	Na	45	He	58.117	ppb	4.3	40535.68	200000	
24	Mg	45	He	0.183	ppb	46.8	120.01	200000	
27	Al	45	He	0.047	ppb	24.5	47.78	200000	
28	Si	45	H2	0.196	ppb	346.2	627.37	10000	
39	K	45	He	12.587	ppb	15.7	17961.61	200000	
40	Ca	45	H2	0.926	ppb	17.7	4938.82	200000	
51	V	89	He	-0.040	ppb	N/A	186.67	1000	
52	Cr	89	He	-0.020	ppb	N/A	527.92	2000	
55	Mn	89	He	0.000	ppb	N/A	101.32	2000	
56	Fe	89	H2	-0.140	ppb	N/A	33584.04	100000	
59	Co	89	He	0.001	ppb	102.4	20.00	1000	
60	Ni	89	He	-0.003	ppb	N/A	26.67	1000	
63	Cu	89	He	0.013	ppb	23.1	314.46	2000	
66	Zn	89	He	0.006	ppb	446.2	77.78	2000	
75	As	89	He	-0.015	ppb	N/A	8.33	1000	
78	Se	89	H2	0.001	ppb	267.9	1.67	1000	
88	Sr	89	He	0.007	ppb	123.7	44.45	2000	
95	Mo	89	He	0.005	ppb	25.7	33.33	1000	
107	Ag	89	He	0.000	ppb	940.0	43.33	100	
111	Cd	89	He	0.001	ppb	86.6	0.74	1000	
118	Sn	159	He	0.010	ppb	11.9	268.90	1000	
121	Sb	159	No Gas	0.001	ppb	151.9	160.18	1000	
137	Ba	159	No Gas	0.021	ppb	74.0	243.61	2000	
182	W	159	No Gas	-0.002	ppb	N/A	70.08	1000	
205	Tl	209	No Gas	-0.005	ppb	N/A	80.09	1000	
208	Pb	209	No Gas	-0.026	ppb	N/A	1618.53	2000	
232	Th	209	No Gas	0.002	ppb	32.2	363.75	1000	
238	U	209	No Gas	0.000	ppb	113.1	13.35	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6185887.75	1.0	6947791.61	89.03	29.5	120.4	
Sc	45	No Gas	9522602.69	2.1	11828674.09	80.5	29.5	120.4	
Sc	45	H2	1332893.30	2.2	1511145.3	88.2	29.5	120.4	
Sc	45	He	332096.00	2.3	392815.69	84.54	29.5	120.4	
Ge	72	No Gas	1991073.06	1.4	2346521.52	84.85	29.5	120.4	
Ge	72	H2	446862.79	1.7	505748.89	88.36	29.5	120.4	
Ge	72	He	207430.37	1.5	240647.81	86.2	29.5	120.4	
Y	89	H2	7595928.89	2.3	8216492.56	92.45	29.5	120.4	
Y	89	He	1793260.01	2.1	2023870.27	88.61	29.5	120.4	
Tb	159	No Gas	20051566.51	2.3	21789053.29	92.03	29.5	120.4	
Tb	159	He	8111310.50	2.1	8552940.43	94.84	29.5	120.4	
Bi	209	No Gas	10425629.01	2.0	10957550.08	95.15	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBWNL23IMW1
File Name	169_PBE.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:23:06
Sample Type	PB200.8
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.000	ppb	13.4	10.00	0.1	
B	11	6	No Gas	0.272	ppb	7.9	1767.95	2	
Na	23	45	He	53.352	ppb	4.0	37604.06	100	
Mg	24	45	He	10.729	ppb	5.4	3342.89	10	200.8 PB Fails DoD
Al	27	45	He	6.129	ppb	11.5	746.71	10	
Si	28	45	H2	7.367	ppb	11.6	2102.50	50	
K	39	45	He	11.613	ppb	22.6	17594.58	100	
Ca	40	45	H2	2.989	ppb	11.1	8512.86	10	
V	51	89	He	-0.041	ppb	N/A	181.12	0.5	
Cr	52	89	He	-0.007	ppb	N/A	587.91	0.5	
Mn	55	89	He	0.089	ppb	14.4	310.62	0.2	
Fe	56	89	H2	0.748	ppb	24.4	39168.42	10	
Co	59	89	He	0.002	ppb	146.0	33.34	0.1	
Ni	60	89	He	0.002	ppb	185.8	36.67	0.2	
Cu	63	89	He	0.034	ppb	9.9	443.35	0.3	
Zn	66	89	He	0.211	ppb	7.0	241.12	1	
As	75	89	He	-0.006	ppb	N/A	13.33	0.5	
Se	78	89	H2	-0.003	ppb	N/A	0.67	0.5	
Sr	88	89	He	0.017	ppb	15.2	73.34	0.5	
Mo	95	89	He	0.003	ppb	44.2	27.78	0.5	
Ag	107	89	He	0.001	ppb	29.9	48.89	0.1	
Cd	111	89	He	0.000	ppb	173.2	0.37	0.1	
Sn	118	159	He	0.076	ppb	6.6	451.14	0.5	
Sb	121	159	No Gas	-0.001	ppb	N/A	116.80	0.1	
Ba	137	159	No Gas	0.900	ppb	3.8	7029.72	0.2	200.8 PB Fails DoD 200.8 PB Fails non-DoD
W	182	159	No Gas	-0.002	ppb	N/A	73.42	0.5	
Tl	205	209	No Gas	-0.005	ppb	N/A	83.43	0.1	
[Pb]	206	209	No Gas	-0.005	ppb	N/A	634.06	0.1	
[Pb]	207	209	No Gas	-0.009	ppb	N/A	517.26	0.1	
Pb	208	209	No Gas	-0.012	ppb	N/A	2399.45	0.1	
Th	232	209	No Gas	0.003	ppb	14.4	447.18	0.5	
U	238	209	No Gas	0.000	ppb	172.6	6.67	0.1	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6374332.02	2.5	6947791.61	91.75	29.5	120.4	
Sc	45	No Gas	9982802.87	2.3	11828674.09	84.39	29.5	120.4	
Sc	45	H2	1326134.13	3.3	1511145.3	87.76	29.5	120.4	
Sc	45	He	329935.40	3.2	392815.69	83.99	29.5	120.4	
Ge	72	No Gas	2050998.40	2.1	2346521.52	87.41	29.5	120.4	
Ge	72	H2	441864.72	1.7	505748.89	87.37	29.5	120.4	
Ge	72	He	206761.64	2.0	240647.81	85.92	29.5	120.4	
Y	89	H2	7576421.16	2.8	8216492.56	92.21	29.5	120.4	
Y	89	He	1778605.55	3.0	2023870.27	87.88	29.5	120.4	
Tb	159	No Gas	21142243.99	2.5	21789053.29	97.03	29.5	120.4	
Tb	159	He	8049924.19	2.5	8552940.43	94.12	29.5	120.4	
Bi	209	No Gas	10958625.95	1.5	10957550.08	100.01	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	LCSWNL23IMW1
File Name	170_LCS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:25:37
Sample Type	LCS
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High
Be	9	6	No Gas	41.535	ppb	7.0	300307.85	50	83.07	79.5	120.4
B	11	6	No Gas	395.902	ppb	6.4	1874489.14	500	79.18	79.5	120.4
Na	23	45	He	7780.799	ppb	0.8	4228006.92	7500	103.74	79.5	120.4
Mg	24	45	He	5206.781	ppb	0.8	1551103.10	5000	104.14	79.5	120.4
Al	27	45	He	2050.026	ppb	0.5	230145.84	2000	102.5	79.5	120.4
Si	28	45	H2	969.676	ppb	1.5	193494.29	1000	96.97	79.5	120.4
K	39	45	He	10105.328	ppb	0.6	2505342.38	10000	101.05	79.5	120.4
Ca	40	45	H2	2533.807	ppb	0.9	4277913.75	2500	101.35	79.5	120.4
V	51	89	He	492.120	ppb	0.3	1920844.05	500	98.42	79.5	120.4
Cr	52	89	He	194.056	ppb	0.5	971870.29	200	97.03	79.5	120.4
Mn	55	89	He	486.778	ppb	0.4	1122607.53	500	97.36	79.5	120.4
Fe	56	89	H2	1009.457	ppb	0.2	6256177.26	1000	100.95	79.5	120.4
Co	59	89	He	495.954	ppb	0.2	3938458.52	500	99.19	79.5	120.4
Ni	60	89	He	488.936	ppb	0.3	1076760.18	500	97.79	79.5	120.4
Cu	63	89	He	238.969	ppb	0.2	1422728.33	250	95.59	79.5	120.4
Zn	66	89	He	501.032	ppb	0.4	391772.45	500	100.21	79.5	120.4
As	75	89	He	99.230	ppb	0.3	54886.48	100	99.23	79.5	120.4
Se	78	89	H2	99.933	ppb	0.3	25809.31	100	99.93	79.5	120.4
Sr	88	89	He	490.304	ppb	0.7	1391210.26	500	98.06	79.5	120.4
Mo	95	89	He	101.658	ppb	0.2	315256.99	100	101.66	79.5	120.4
Ag	107	89	He	51.202	ppb	0.6	515645.97	50	102.4	79.5	120.4
Cd	111	89	He	257.732	ppb	1.0	332015.39	250	103.09	79.5	120.4
Sn	118	159	He	482.630	ppb	0.9	1333040.22	500	96.53	79.5	120.4
Sb	121	159	No Gas	94.402	ppb	6.5	1842038.97	100	94.4	79.5	120.4
Ba	137	159	No Gas	1905.515	ppb	6.6	14444712.85	2000	95.28	79.5	120.4
W	182	159	No Gas	94.799	ppb	6.7	1616425.53	100	94.8	79.5	120.4
Tl	205	209	No Gas	100.693	ppb	5.5	3391907.41	100	100.69	79.5	120.4
Pb	208	209	No Gas	98.074	ppb	6.8	4644209.12	100	98.07	79.5	120.4
Th	232	209	No Gas	99.481	ppb	7.8	4657962.96	100	99.48	79.5	120.4
U	238	209	No Gas	98.594	ppb	7.3	4510757.63	100	98.59	79.5	120.4

QC Flag
> +/- 15% (EPA)
> +/- 20% (6020)□ > +/- 15% (EPA)

Laboratory Control Sample (LCS) Report

QC Flag

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6930404.95	1.6	6947791.61	99.75	29.5	120.4	
Sc	45	No Gas	9803070.64	1.8	11828674.09	82.88	29.5	120.4	
Sc	45	H2	1279159.97	1.7	1511145.3	84.65	29.5	120.4	
Sc	45	He	321323.78	1.0	392815.69	81.8	29.5	120.4	
Ge	72	No Gas	2021039.77	2.1	2346521.52	86.13	29.5	120.4	
Ge	72	H2	427305.58	0.4	505748.89	84.49	29.5	120.4	
Ge	72	He	202455.49	0.6	240647.81	84.13	29.5	120.4	
Y	89	H2	7296970.57	0.6	8216492.56	88.81	29.5	120.4	
Y	89	He	1734166.19	0.8	2023870.27	85.69	29.5	120.4	
Tb	159	No Gas	20824555.38	1.8	21789053.29	95.57	29.5	120.4	
Tb	159	He	7907260.85	0.4	8552940.43	92.45	29.5	120.4	
Bi	209	No Gas	10613870.68	1.9	10957550.08	96.86	29.5	120.4	

Sample Report

Sample Name	TN0394-001
File Name	171SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:28:13
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.029	ppb	4.6	194.45	100	
11	B	6	No Gas	10.354	ppb	1.6	43725.81	1000	
23	Na	45	He	7231.112	ppb	0.2	3937361.42	200000	
24	Mg	45	He	3842.123	ppb	0.3	1146786.40	200000	
27	Al	45	He	34.983	ppb	3.2	3975.27	200000	
28	Si	45	H2	3164.925	ppb	1.0	628041.30	10000	
39	K	45	He	641.653	ppb	0.3	172784.09	200000	
40	Ca	45	H2	14227.298	ppb	0.7	23918880.76	200000	
51	V	89	He	0.118	ppb	20.6	801.17	1000	
52	Cr	89	He	0.157	ppb	6.6	1401.15	2000	
55	Mn	89	He	2.036	ppb	1.4	4809.30	2000	
56	Fe	89	H2	39.076	ppb	1.5	273440.21	100000	
59	Co	89	He	0.142	ppb	19.0	1142.35	1000	
60	Ni	89	He	0.323	ppb	4.6	746.72	1000	
63	Cu	89	He	1.309	ppb	2.5	8043.71	2000	
66	Zn	89	He	20.907	ppb	0.3	16469.17	2000	
75	As	89	He	0.097	ppb	11.7	70.34	1000	
78	Se	89	H2	0.217	ppb	5.3	57.33	1000	
88	Sr	89	He	50.002	ppb	1.1	142358.68	2000	
95	Mo	89	He	0.268	ppb	5.7	850.06	1000	
107	Ag	89	He	0.012	ppb	38.7	163.34	100	
111	Cd	89	He	0.042	ppb	14.6	54.08	1000	
118	Sn	159	He	1.421	ppb	9.6	4190.80	1000	
121	Sb	159	No Gas	0.081	ppb	7.7	1702.01	1000	
137	Ba	159	No Gas	10.631	ppb	1.0	79851.65	2000	
182	W	159	No Gas	0.267	ppb	11.4	4612.64	1000	
205	Tl	209	No Gas	0.068	ppb	15.4	2549.79	1000	
208	Pb	209	No Gas	0.211	ppb	7.5	12900.37	2000	
232	Th	209	No Gas	0.435	ppb	9.3	20740.61	1000	
238	U	209	No Gas	0.072	ppb	10.5	3327.51	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6099774.92	1.6	6947791.61	87.79	29.5	120.4	
Sc	45	No Gas	9697800.69	0.8	11828674.09	81.99	29.5	120.4	
Sc	45	H2	1274435.58	1.0	1511145.3	84.34	29.5	120.4	
Sc	45	He	321924.85	0.3	392815.69	81.95	29.5	120.4	
Ge	72	No Gas	2033497.59	1.0	2346521.52	86.66	29.5	120.4	
Ge	72	H2	432589.75	1.3	505748.89	85.53	29.5	120.4	
Ge	72	He	204060.68	0.2	240647.81	84.8	29.5	120.4	
Y	89	H2	7282117.75	0.5	8216492.56	88.63	29.5	120.4	
Y	89	He	1739790.46	0.5	2023870.27	85.96	29.5	120.4	
Tb	159	No Gas	20594822.33	1.2	21789053.29	94.52	29.5	120.4	
Tb	159	He	7965818.35	0.1	8552940.43	93.14	29.5	120.4	
Bi	209	No Gas	10645429.85	1.7	10957550.08	97.15	29.5	120.4	

Sample Report

Sample Name	TN0394-002
File Name	172SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:30:44
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.003	ppb	49.2	28.89	100	
11	B	6	No Gas	7.662	ppb	1.4	32501.69	1000	
23	Na	45	He	7538.492	ppb	1.5	4099363.44	200000	
24	Mg	45	He	4000.107	ppb	1.6	1192454.13	200000	
27	Al	45	He	27.075	ppb	5.7	3081.67	200000	
28	Si	45	H2	3201.928	ppb	2.5	642802.66	10000	
39	K	45	He	658.832	ppb	1.1	176815.65	200000	
40	Ca	45	H2	14469.480	ppb	2.0	24612252.13	200000	
51	V	89	He	0.029	ppb	27.6	450.03	1000	
52	Cr	89	He	0.065	ppb	10.1	936.53	2000	
55	Mn	89	He	1.429	ppb	2.6	3395.80	2000	
56	Fe	89	H2	30.111	ppb	2.4	221832.49	100000	
59	Co	89	He	0.051	ppb	7.1	417.82	1000	
60	Ni	89	He	0.245	ppb	14.6	572.25	1000	
63	Cu	89	He	1.131	ppb	5.1	6959.75	2000	
66	Zn	89	He	24.289	ppb	1.5	19065.81	2000	
75	As	89	He	0.056	ppb	25.1	47.34	1000	
78	Se	89	H2	0.138	ppb	16.2	37.50	1000	
88	Sr	89	He	51.669	ppb	1.2	146686.94	2000	
95	Mo	89	He	0.079	ppb	14.1	261.12	1000	
107	Ag	89	He	0.003	ppb	26.8	73.34	100	
111	Cd	89	He	0.013	ppb	23.2	17.41	1000	
118	Sn	159	He	0.412	ppb	5.5	1380.12	1000	
121	Sb	159	No Gas	0.015	ppb	6.7	433.83	1000	
137	Ba	159	No Gas	10.175	ppb	3.3	76215.90	2000	
182	W	159	No Gas	0.035	ppb	37.3	694.13	1000	
205	Tl	209	No Gas	0.003	ppb	55.3	337.05	1000	
208	Pb	209	No Gas	0.172	ppb	3.0	10950.77	2000	
232	Th	209	No Gas	0.061	ppb	4.4	3123.91	1000	
238	U	209	No Gas	0.009	ppb	11.5	430.49	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6101162.46	0.7	6947791.61	87.81	29.5	120.4	
Sc	45	No Gas	9643769.68	2.0	11828674.09	81.53	29.5	120.4	
Sc	45	H2	1289670.03	1.6	1511145.3	85.34	29.5	120.4	
Sc	45	He	321556.50	0.9	392815.69	81.86	29.5	120.4	
Ge	72	No Gas	2022412.52	0.9	2346521.52	86.19	29.5	120.4	
Ge	72	H2	430148.24	2.6	505748.89	85.05	29.5	120.4	
Ge	72	He	204045.55	0.4	240647.81	84.79	29.5	120.4	
Y	89	H2	7402041.05	2.6	8216492.56	90.09	29.5	120.4	
Y	89	He	1734848.12	0.9	2023870.27	85.72	29.5	120.4	
Tb	159	No Gas	20543785.11	1.9	21789053.29	94.28	29.5	120.4	
Tb	159	He	7955414.88	0.7	8552940.43	93.01	29.5	120.4	
Bi	209	No Gas	10568804.99	1.0	10957550.08	96.45	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	173_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:33:30
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	23.079	ppb	3.6	148337.86	25	92.32	89.8	110.2	
11	B	6	No Gas	23.921	ppb	3.2	101216.22	25	95.68	89.8	110.2	
23	Na	45	He	5086.592	ppb	2.8	2751064.77	5000	101.73	89.8	110.2	
24	Mg	45	He	5106.953	ppb	2.6	1512841.94	5000	102.14	89.8	110.2	
27	Al	45	He	500.818	ppb	2.5	55940.21	500	100.16	89.8	110.2	
28	Si	45	H2	471.514	ppb	2.4	92649.34	500	94.3	89.8	110.2	
39	K	45	He	4966.291	ppb	2.2	1231657.19	5000	99.33	89.8	110.2	
40	Ca	45	H2	4975.234	ppb	2.3	8242510.99	5000	99.5	89.8	110.2	
51	V	89	He	23.781	ppb	4.5	92716.11	25	95.12	89.8	110.2	
52	Cr	89	He	23.923	ppb	2.3	119836.73	25	95.69	89.8	110.2	
55	Mn	89	He	23.994	ppb	3.2	55186.53	25	95.98	89.8	110.2	
56	Fe	89	H2	4882.805	ppb	2.3	29587606.36	5000	97.66	89.8	110.2	
59	Co	89	He	24.190	ppb	3.2	191265.29	25	96.76	89.8	110.2	
60	Ni	89	He	24.064	ppb	4.8	52777.01	25	96.26	89.8	110.2	
63	Cu	89	He	24.039	ppb	3.7	142685.13	25	96.16	89.8	110.2	
66	Zn	89	He	24.723	ppb	2.6	19316.10	25	98.89	89.8	110.2	
75	As	89	He	23.834	ppb	3.0	13138.29	25	95.34	89.8	110.2	
78	Se	89	H2	24.548	ppb	1.3	6226.61	25	98.19	89.8	110.2	
88	Sr	89	He	24.050	ppb	2.7	67973.08	25	96.2	89.8	110.2	
95	Mo	89	He	24.959	ppb	3.9	77066.12	25	99.84	89.8	110.2	
107	Ag	89	He	25.610	ppb	3.2	256800.86	25	102.44	89.8	110.2	
111	Cd	89	He	25.361	ppb	3.2	32530.15	25	101.44	89.8	110.2	
118	Sn	159	He	23.658	ppb	3.8	65326.93	25	94.63	89.8	110.2	
121	Sb	159	No Gas	23.755	ppb	3.3	466366.21	25	95.02	89.8	110.2	
137	Ba	159	No Gas	24.047	ppb	2.4	183480.38	25	96.19	89.8	110.2	
182	W	159	No Gas	24.265	ppb	3.8	416273.72	25	97.06	89.8	110.2	
205	Tl	209	No Gas	25.069	ppb	3.0	856599.36	25	100.28	89.8	110.2	
208	Pb	209	No Gas	24.772	ppb	2.7	1192046.71	25	99.09	89.8	110.2	
232	Th	209	No Gas	24.879	ppb	3.6	1181828.31	25	99.52	89.8	110.2	
238	U	209	No Gas	24.906	ppb	3.5	1155764.57	25	99.62	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6159966.73	2.0	6947791.61	88.66	29.5	120.4	
Sc	45	No Gas	9784523.45	1.6	11828674.09	82.72	29.5	120.4	
Sc	45	H2	1255930.97	2.1	1511145.3	83.11	29.5	120.4	
Sc	45	He	319640.53	2.4	392815.69	81.37	29.5	120.4	
Ge	72	No Gas	2021910.54	1.5	2346521.52	86.17	29.5	120.4	
Ge	72	H2	420058.44	1.7	505748.89	83.06	29.5	120.4	
Ge	72	He	201800.66	2.0	240647.81	83.86	29.5	120.4	
Y	89	H2	7166579.82	1.9	8216492.56	87.22	29.5	120.4	
Y	89	He	1727557.98	2.8	2023870.27	85.36	29.5	120.4	
Tb	159	No Gas	20940401.36	2.1	21789053.29	96.11	29.5	120.4	
Tb	159	He	7882574.68	2.5	8552940.43	92.16	29.5	120.4	
Bi	209	No Gas	10760210.35	1.6	10957550.08	98.2	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	174_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:36:05
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.021	ppb	68.5	145.56	0.2	
11	B	6	No Gas	0.650	ppb	4.4	3299.38	4	
23	Na	45	He	33.480	ppb	2.9	25594.49	200	
24	Mg	45	He	0.462	ppb	14.0	197.80	20	
27	Al	45	He	0.178	ppb	90.9	60.00	20	
28	Si	45	H2	-0.536	ppb	N/A	467.20	100	
39	K	45	He	13.015	ppb	19.3	17304.45	200	
40	Ca	45	H2	1.094	ppb	4.0	5126.64	20	
51	V	89	He	-0.049	ppb	N/A	147.78	1	
52	Cr	89	He	-0.014	ppb	N/A	539.92	1	
55	Mn	89	He	0.004	ppb	215.7	107.31	0.4	
56	Fe	89	H2	0.793	ppb	26.8	39004.32	20	
59	Co	89	He	0.005	ppb	44.6	53.34	0.2	
60	Ni	89	He	0.004	ppb	203.8	42.22	0.4	
63	Cu	89	He	0.016	ppb	28.8	322.24	0.6	
66	Zn	89	He	0.075	ppb	8.7	128.89	2	
75	As	89	He	-0.002	ppb	N/A	15.67	1	
78	Se	89	H2	0.028	ppb	21.1	8.83	1	
88	Sr	89	He	0.007	ppb	113.7	42.23	1	
95	Mo	89	He	0.081	ppb	10.5	267.79	1	
107	Ag	89	He	0.003	ppb	59.2	72.23	0.2	
111	Cd	89	He	0.004	ppb	28.4	4.82	0.2	
118	Sn	159	He	0.145	ppb	5.1	635.60	1	
121	Sb	159	No Gas	0.035	ppb	13.7	817.61	0.2	
137	Ba	159	No Gas	0.043	ppb	19.5	420.48	0.4	
182	W	159	No Gas	0.105	ppb	14.8	1878.91	1	
205	Tl	209	No Gas	0.032	ppb	41.9	1311.54	0.2	
208	Pb	209	No Gas	-0.007	ppb	N/A	2562.98	0.2	
232	Th	209	No Gas	0.174	ppb	18.2	8489.16	1	
238	U	209	No Gas	0.033	ppb	63.4	1538.50	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6154338.08	1.0	6947791.61	88.58	29.5	120.4	
Sc	45	No Gas	9659813.95	2.3	11828674.09	81.66	29.5	120.4	
Sc	45	H2	1304794.15	1.4	1511145.3	86.34	29.5	120.4	
Sc	45	He	318034.61	2.2	392815.69	80.96	29.5	120.4	
Ge	72	No Gas	2013511.85	1.4	2346521.52	85.81	29.5	120.4	
Ge	72	H2	439049.04	1.3	505748.89	86.81	29.5	120.4	
Ge	72	He	202977.08	1.9	240647.81	84.35	29.5	120.4	
Y	89	H2	7492214.76	2.2	8216492.56	91.19	29.5	120.4	
Y	89	He	1730837.25	2.3	2023870.27	85.52	29.5	120.4	
Tb	159	No Gas	20620615.81	1.8	21789053.29	94.64	29.5	120.4	
Tb	159	He	7905798.15	2.1	8552940.43	92.43	29.5	120.4	
Bi	209	No Gas	10712218.30	1.3	10957550.08	97.76	29.5	120.4	

Sample Report

Sample Name	TN0394-002A
File Name	175SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:38:46
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	2.034	ppb	5.7	12908.35	100	
11	B	6	No Gas	45.540	ppb	4.7	189685.88	1000	
23	Na	45	He	9476.508	ppb	3.0	5147282.05	200000	
24	Mg	45	He	4132.868	ppb	2.5	1231216.49	200000	
27	Al	45	He	241.181	ppb	2.6	27112.07	200000	
28	Si	45	H2	3866.622	ppb	3.1	793118.59	10000	
39	K	45	He	2703.871	ppb	2.2	680865.11	200000	
40	Ca	45	H2	14145.367	ppb	1.2	24592248.80	200000	
51	V	89	He	9.787	ppb	3.2	38689.50	1000	
52	Cr	89	He	9.917	ppb	2.7	50455.52	2000	
55	Mn	89	He	5.177	ppb	4.0	12084.31	2000	
56	Fe	89	H2	220.271	ppb	1.9	1435560.32	100000	
59	Co	89	He	2.096	ppb	1.9	16733.26	1000	
60	Ni	89	He	4.221	ppb	2.9	9366.81	1000	
63	Cu	89	He	7.160	ppb	1.9	43031.53	2000	
66	Zn	89	He	43.550	ppb	2.4	34264.00	2000	
75	As	89	He	10.039	ppb	1.3	5592.07	1000	
78	Se	89	H2	9.638	ppb	1.5	2570.29	1000	
88	Sr	89	He	60.815	ppb	1.7	173329.21	2000	
95	Mo	89	He	10.365	ppb	2.2	32296.58	1000	
107	Ag	89	He	2.171	ppb	2.6	21994.06	100	
111	Cd	89	He	2.222	ppb	2.0	2874.78	1000	
118	Sn	159	He	10.064	ppb	3.0	28263.75	1000	
121	Sb	159	No Gas	2.186	ppb	3.8	42668.40	1000	
137	Ba	159	No Gas	13.856	ppb	3.0	104818.07	2000	
182	W	159	No Gas	10.237	ppb	4.4	174114.02	1000	
205	Tl	209	No Gas	2.189	ppb	4.0	74376.22	1000	
208	Pb	209	No Gas	2.355	ppb	3.2	114952.78	2000	
232	Th	209	No Gas	2.383	ppb	4.7	112488.74	1000	
238	U	209	No Gas	2.208	ppb	4.8	101581.58	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6082059.76	2.4	6947791.61	87.54	29.5	120.4	
Sc	45	No Gas	9747764.92	1.9	11828674.09	82.41	29.5	120.4	
Sc	45	H2	1318093.65	2.1	1511145.3	87.22	29.5	120.4	
Sc	45	He	321471.07	2.9	392815.69	81.84	29.5	120.4	
Ge	72	No Gas	2023994.89	1.9	2346521.52	86.26	29.5	120.4	
Ge	72	H2	437608.28	1.9	505748.89	86.53	29.5	120.4	
Ge	72	He	203834.15	1.7	240647.81	84.7	29.5	120.4	
Y	89	H2	7532754.68	2.4	8216492.56	91.68	29.5	120.4	
Y	89	He	1742190.63	2.6	2023870.27	86.08	29.5	120.4	
Tb	159	No Gas	20753156.08	1.4	21789053.29	95.25	29.5	120.4	
Tb	159	He	7978045.09	2.3	8552940.43	93.28	29.5	120.4	
Bi	209	No Gas	10669254.61	1.9	10957550.08	97.37	29.5	120.4	

Sample Report

Sample Name	TN0394-002L
File Name	176SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:41:21
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.033	ppb	32.1	50.00	100	
11	B	6	No Gas	9.769	ppb	2.4	8717.37	1000	
23	Na	45	He	7568.744	ppb	5.7	846914.32	200000	
24	Mg	45	He	3921.600	ppb	6.1	238787.61	200000	
27	Al	45	He	25.511	ppb	14.8	625.60	200000	
28	Si	45	H2	3278.415	ppb	1.3	129019.95	10000	
39	K	45	He	686.081	ppb	9.2	49146.97	200000	
40	Ca	45	H2	15048.081	ppb	0.5	5002490.69	200000	
51	V	89	He	-0.117	ppb	N/A	254.45	1000	
52	Cr	89	He	0.068	ppb	38.2	695.89	2000	
55	Mn	89	He	1.467	ppb	7.3	795.88	2000	
56	Fe	89	H2	35.693	ppb	18.8	76864.41	100000	
59	Co	89	He	0.053	ppb	10.6	100.01	1000	
60	Ni	89	He	0.264	ppb	10.2	153.34	1000	
63	Cu	89	He	1.182	ppb	3.2	1682.39	2000	
66	Zn	89	He	24.721	ppb	2.6	4045.18	2000	
75	As	89	He	-0.003	ppb	N/A	16.67	1000	
78	Se	89	H2	0.214	ppb	18.5	12.33	1000	
88	Sr	89	He	50.481	ppb	5.5	29440.08	2000	
95	Mo	89	He	0.242	ppb	9.6	172.23	1000	
107	Ag	89	He	0.010	ppb	100.3	61.11	100	
111	Cd	89	He	0.009	ppb	53.0	2.22	1000	
118	Sn	159	He	0.532	ppb	15.9	544.48	1000	
121	Sb	159	No Gas	0.052	ppb	15.9	347.06	1000	
137	Ba	159	No Gas	10.181	ppb	4.6	15563.37	2000	
182	W	159	No Gas	0.274	ppb	6.6	1047.89	1000	
205	Tl	209	No Gas	0.020	ppb	99.6	373.76	1000	
208	Pb	209	No Gas	0.090	ppb	8.8	3757.78	2000	
232	Th	209	No Gas	0.134	ppb	9.7	1548.49	1000	
238	U	209	No Gas	0.046	ppb	35.6	427.16	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6111278.36	1.7	6947791.61	87.96	29.5	120.4	
Sc	45	No Gas	9782953.55	1.3	11828674.09	82.71	29.5	120.4	
Sc	45	H2	1259411.63	1.1	1511145.3	83.34	29.5	120.4	
Sc	45	He	329011.27	5.3	392815.69	83.76	29.5	120.4	
Ge	72	No Gas	2048822.14	1.4	2346521.52	87.31	29.5	120.4	
Ge	72	H2	432492.85	1.1	505748.89	85.52	29.5	120.4	
Ge	72	He	207934.63	3.2	240647.81	86.41	29.5	120.4	
Y	89	H2	7272662.20	0.2	8216492.56	88.51	29.5	120.4	
Y	89	He	1783858.95	5.0	2023870.27	88.14	29.5	120.4	
Tb	159	No Gas	20853809.69	1.2	21789053.29	95.71	29.5	120.4	
Tb	159	He	8171305.99	4.5	8552940.43	95.54	29.5	120.4	
Bi	209	No Gas	10717723.28	1.7	10957550.08	97.81	29.5	120.4	

Sample Report

Sample Name	TN0394-002P
File Name	177SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:44:02
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	46.310	ppb	1.4	322511.50	100	
11	B	6	No Gas	441.297	ppb	1.1	2012405.32	1000	
23	Na	45	He	15749.991	ppb	1.6	8405568.50	200000	
24	Mg	45	He	9481.719	ppb	1.5	2776728.68	200000	
27	Al	45	He	2174.190	ppb	2.0	239934.85	200000	
28	Si	45	H2	4033.472	ppb	3.1	811088.77	10000	
39	K	45	He	11191.236	ppb	1.8	2725987.41	200000	
40	Ca	45	H2	17137.066	ppb	3.7	29196157.62	200000	
51	V	89	He	515.737	ppb	1.7	1990727.68	1000	
52	Cr	89	He	202.302	ppb	1.9	1001909.47	2000	
55	Mn	89	He	510.320	ppb	1.9	1163859.40	2000	
56	Fe	89	H2	1030.784	ppb	2.7	6508109.18	100000	
59	Co	89	He	511.174	ppb	2.3	4014120.01	1000	
60	Ni	89	He	501.816	ppb	2.0	1092861.61	1000	
63	Cu	89	He	245.834	ppb	1.7	1447385.48	2000	
66	Zn	89	He	541.326	ppb	1.9	418584.19	2000	
75	As	89	He	104.138	ppb	2.5	56957.93	1000	
78	Se	89	H2	99.294	ppb	3.0	26126.20	1000	
88	Sr	89	He	560.350	ppb	1.8	1572373.36	2000	
95	Mo	89	He	106.283	ppb	1.8	325949.27	1000	
107	Ag	89	He	53.624	ppb	1.3	534081.37	100	
111	Cd	89	He	266.572	ppb	1.8	339610.22	1000	
118	Sn	159	He	502.795	ppb	2.9	1374599.81	1000	
121	Sb	159	No Gas	106.147	ppb	1.6	1991360.72	1000	
137	Ba	159	No Gas	2124.954	ppb	1.5	15487278.92	2000	>LDR
182	W	159	No Gas	108.067	ppb	1.0	1771796.57	1000	
205	Tl	209	No Gas	110.912	ppb	0.4	3583080.48	1000	
208	Pb	209	No Gas	108.982	ppb	0.1	4949805.59	2000	
232	Th	209	No Gas	113.981	ppb	1.3	5119472.41	1000	
238	U	209	No Gas	111.807	ppb	1.5	4906724.05	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6671167.34	0.7	6947791.61	96.02	29.5	120.4	
Sc	45	No Gas	9449756.30	3.2	11828674.09	79.89	29.5	120.4	
Sc	45	H2	1292676.64	3.7	1511145.3	85.54	29.5	120.4	
Sc	45	He	315908.58	1.3	392815.69	80.42	29.5	120.4	
Ge	72	No Gas	1982942.57	1.3	2346521.52	84.51	29.5	120.4	
Ge	72	H2	430664.35	2.3	505748.89	85.15	29.5	120.4	
Ge	72	He	201180.05	1.1	240647.81	83.6	29.5	120.4	
Y	89	H2	7439038.36	3.4	8216492.56	90.54	29.5	120.4	
Y	89	He	1715235.23	1.5	2023870.27	84.75	29.5	120.4	
Tb	159	No Gas	20012750.12	2.9	21789053.29	91.85	29.5	120.4	
Tb	159	He	7829591.76	1.9	8552940.43	91.54	29.5	120.4	
Bi	209	No Gas	10172449.80	1.7	10957550.08	92.84	29.5	120.4	

Sample Report

Sample Name	TN0394-002S
File Name	178SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:46:38
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	44.028	ppb	5.0	309958.18	100	
11	B	6	No Gas	429.081	ppb	3.7	1978314.02	1000	
23	Na	45	He	15208.167	ppb	0.5	8241497.25	200000	
24	Mg	45	He	9162.482	ppb	0.5	2724470.38	200000	
27	Al	45	He	2102.743	ppb	0.5	235632.83	200000	
28	Si	45	H2	4041.443	ppb	1.9	804649.79	10000	
39	K	45	He	10912.393	ppb	1.1	2699357.07	200000	
40	Ca	45	H2	17138.197	ppb	0.9	28913330.40	200000	
51	V	89	He	495.816	ppb	0.4	1945357.16	1000	
52	Cr	89	He	194.942	ppb	0.5	981433.30	2000	
55	Mn	89	He	492.357	ppb	0.2	1141408.66	2000	
56	Fe	89	H2	1044.994	ppb	0.4	6445769.34	100000	
59	Co	89	He	492.080	ppb	0.4	3928013.59	1000	
60	Ni	89	He	479.904	ppb	0.3	1062382.32	1000	
63	Cu	89	He	237.077	ppb	0.7	1418811.91	2000	
66	Zn	89	He	525.195	ppb	0.3	412807.95	2000	
75	As	89	He	101.234	ppb	0.4	56286.13	1000	
78	Se	89	H2	102.147	ppb	0.5	26260.30	1000	
88	Sr	89	He	544.373	ppb	0.2	1552725.74	2000	
95	Mo	89	He	103.701	ppb	0.4	323273.53	1000	
107	Ag	89	He	51.084	ppb	0.5	517141.20	100	
111	Cd	89	He	260.236	ppb	0.1	337012.75	1000	
118	Sn	159	He	495.119	ppb	0.2	1370998.42	1000	
121	Sb	159	No Gas	100.652	ppb	4.0	1953500.34	1000	
137	Ba	159	No Gas	2007.501	ppb	4.8	15135495.48	2000	>LDR
182	W	159	No Gas	101.554	ppb	4.1	1722357.00	1000	
205	Tl	209	No Gas	105.608	ppb	4.2	3507536.71	1000	
208	Pb	209	No Gas	103.702	ppb	4.1	4842464.36	2000	
232	Th	209	No Gas	108.690	ppb	4.7	5018642.37	1000	
238	U	209	No Gas	106.243	ppb	5.1	4792895.59	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6747640.37	1.6	6947791.61	97.12	29.5	120.4	
Sc	45	No Gas	9798693.14	1.8	11828674.09	82.84	29.5	120.4	
Sc	45	H2	1278849.25	0.8	1511145.3	84.63	29.5	120.4	
Sc	45	He	320722.86	0.5	392815.69	81.65	29.5	120.4	
Ge	72	No Gas	2016483.61	2.3	2346521.52	85.94	29.5	120.4	
Ge	72	H2	431262.86	0.7	505748.89	85.27	29.5	120.4	
Ge	72	He	203861.09	0.4	240647.81	84.71	29.5	120.4	
Y	89	H2	7263841.40	1.4	8216492.56	88.41	29.5	120.4	
Y	89	He	1743217.98	1.0	2023870.27	86.13	29.5	120.4	
Tb	159	No Gas	20706675.39	1.6	21789053.29	95.03	29.5	120.4	
Tb	159	He	7927092.10	0.9	8552940.43	92.68	29.5	120.4	
Bi	209	No Gas	10462901.39	1.7	10957550.08	95.49	29.5	120.4	

Sample Report

Sample Name	TN0394-003
File Name	179SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:49:18
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.036	ppb	18.9	241.12	100	
11	B	6	No Gas	11.537	ppb	1.8	49002.72	1000	
23	Na	45	He	6418.889	ppb	0.1	3486833.17	200000	
24	Mg	45	He	2508.074	ppb	0.2	746666.31	200000	
27	Al	45	He	27.714	ppb	4.0	3149.35	200000	
28	Si	45	H2	2998.075	ppb	1.3	595392.61	10000	
39	K	45	He	640.367	ppb	0.2	172016.49	200000	
40	Ca	45	H2	10286.195	ppb	0.4	17305651.69	200000	
51	V	89	He	0.094	ppb	15.5	711.16	1000	
52	Cr	89	He	0.078	ppb	17.5	1009.86	2000	
55	Mn	89	He	1.614	ppb	1.8	3857.84	2000	
56	Fe	89	H2	30.615	ppb	1.1	221062.22	100000	
59	Co	89	He	0.070	ppb	29.3	571.17	1000	
60	Ni	89	He	0.186	ppb	3.1	446.69	1000	
63	Cu	89	He	0.211	ppb	9.8	1500.14	2000	
66	Zn	89	He	2.023	ppb	4.2	1669.05	2000	
75	As	89	He	0.106	ppb	11.9	76.01	1000	
78	Se	89	H2	0.201	ppb	3.8	53.00	1000	
88	Sr	89	He	32.927	ppb	0.6	94372.96	2000	
95	Mo	89	He	0.242	ppb	8.2	775.60	1000	
107	Ag	89	He	0.010	ppb	30.8	143.34	100	
111	Cd	89	He	0.035	ppb	20.4	45.56	1000	
118	Sn	159	He	1.473	ppb	6.7	4344.20	1000	
121	Sb	159	No Gas	0.109	ppb	14.4	2306.12	1000	
137	Ba	159	No Gas	9.013	ppb	3.7	69324.03	2000	
182	W	159	No Gas	0.310	ppb	6.5	5463.94	1000	
205	Tl	209	No Gas	0.090	ppb	17.0	3350.91	1000	
208	Pb	209	No Gas	0.217	ppb	2.3	13498.03	2000	
232	Th	209	No Gas	0.439	ppb	11.2	21476.05	1000	
238	U	209	No Gas	0.079	ppb	32.8	3734.82	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6144902.60	2.7	6947791.61	88.44	29.5	120.4	
Sc	45	No Gas	9891392.61	2.8	11828674.09	83.62	29.5	120.4	
Sc	45	H2	1275238.29	1.3	1511145.3	84.39	29.5	120.4	
Sc	45	He	321082.54	0.4	392815.69	81.74	29.5	120.4	
Ge	72	No Gas	2068763.38	2.9	2346521.52	88.16	29.5	120.4	
Ge	72	H2	436038.67	0.8	505748.89	86.22	29.5	120.4	
Ge	72	He	206211.71	1.1	240647.81	85.69	29.5	120.4	
Y	89	H2	7270564.47	2.3	8216492.56	88.49	29.5	120.4	
Y	89	He	1751325.81	0.9	2023870.27	86.53	29.5	120.4	
Tb	159	No Gas	21094736.22	2.7	21789053.29	96.81	29.5	120.4	
Tb	159	He	7982942.87	0.2	8552940.43	93.34	29.5	120.4	
Bi	209	No Gas	10902292.12	2.7	10957550.08	99.5	29.5	120.4	

Sample Report

Sample Name	TN0394-004
File Name	180SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:51:59
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.012	ppb	18.0	83.34	100	
11	B	6	No Gas	8.712	ppb	2.4	36463.52	1000	
23	Na	45	He	8910.611	ppb	3.1	4761338.25	200000	
24	Mg	45	He	2790.912	ppb	3.5	817736.92	200000	
27	Al	45	He	97.430	ppb	6.1	10792.68	200000	
28	Si	45	H2	3086.509	ppb	1.8	607210.83	10000	
39	K	45	He	674.904	ppb	2.6	177708.80	200000	
40	Ca	45	H2	12529.516	ppb	1.3	20885259.27	200000	
51	V	89	He	0.146	ppb	10.7	896.73	1000	
52	Cr	89	He	0.165	ppb	11.5	1421.82	2000	
55	Mn	89	He	2.746	ppb	4.2	6361.63	2000	
56	Fe	89	H2	136.210	ppb	2.0	859721.49	100000	
59	Co	89	He	0.109	ppb	7.9	868.98	1000	
60	Ni	89	He	0.261	ppb	10.9	601.15	1000	
63	Cu	89	He	1.097	ppb	4.4	6686.29	2000	
66	Zn	89	He	44.071	ppb	3.7	34161.61	2000	
75	As	89	He	0.110	ppb	17.5	76.68	1000	
78	Se	89	H2	0.145	ppb	5.0	38.17	1000	
88	Sr	89	He	40.957	ppb	2.7	115031.34	2000	
95	Mo	89	He	0.089	ppb	4.5	290.02	1000	
107	Ag	89	He	0.009	ppb	17.0	131.12	100	
111	Cd	89	He	0.016	ppb	39.3	20.74	1000	
118	Sn	159	He	0.717	ppb	2.5	2185.82	1000	
121	Sb	159	No Gas	0.020	ppb	37.5	527.27	1000	
137	Ba	159	No Gas	9.496	ppb	1.3	71364.25	2000	
182	W	159	No Gas	0.051	ppb	22.9	981.15	1000	
205	Tl	209	No Gas	0.007	ppb	34.1	487.22	1000	
208	Pb	209	No Gas	0.171	ppb	4.5	11030.96	2000	
232	Th	209	No Gas	0.076	ppb	3.7	3878.28	1000	
238	U	209	No Gas	0.018	ppb	9.7	840.97	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6033134.90	1.5	6947791.61	86.84	29.5	120.4	
Sc	45	No Gas	9659649.72	3.3	11828674.09	81.66	29.5	120.4	
Sc	45	H2	1263765.17	2.4	1511145.3	83.63	29.5	120.4	
Sc	45	He	316223.14	2.9	392815.69	80.5	29.5	120.4	
Ge	72	No Gas	2022538.80	1.5	2346521.52	86.19	29.5	120.4	
Ge	72	H2	428030.41	2.1	505748.89	84.63	29.5	120.4	
Ge	72	He	201787.52	2.3	240647.81	83.85	29.5	120.4	
Y	89	H2	7189170.69	1.8	8216492.56	87.5	29.5	120.4	
Y	89	He	1717089.04	2.9	2023870.27	84.84	29.5	120.4	
Tb	159	No Gas	20606305.94	3.1	21789053.29	94.57	29.5	120.4	
Tb	159	He	7805438.84	2.6	8552940.43	91.26	29.5	120.4	
Bi	209	No Gas	10652873.96	2.1	10957550.08	97.22	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	181SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:54:40
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.002	ppb	92.7	20.00	100	
11	B	6	No Gas	1.202	ppb	8.2	5475.67	1000	
23	Na	45	He	29.870	ppb	8.5	23913.12	200000	
24	Mg	45	He	1.057	ppb	36.5	375.58	200000	
27	Al	45	He	0.091	ppb	80.5	51.11	200000	
28	Si	45	H2	-0.188	ppb	N/A	503.90	10000	
39	K	45	He	11.036	ppb	32.1	17007.49	200000	
40	Ca	45	H2	3.042	ppb	4.6	7961.39	200000	
51	V	89	He	-0.022	ppb	N/A	255.57	1000	
52	Cr	89	He	-0.010	ppb	N/A	565.24	2000	
55	Mn	89	He	0.030	ppb	38.9	168.64	2000	
56	Fe	89	H2	-0.134	ppb	N/A	31209.51	100000	
59	Co	89	He	0.015	ppb	28.3	135.57	1000	
60	Ni	89	He	0.006	ppb	91.2	46.67	1000	
63	Cu	89	He	0.027	ppb	16.7	393.35	2000	
66	Zn	89	He	0.108	ppb	19.9	157.78	2000	
75	As	89	He	-0.006	ppb	N/A	13.33	1000	
78	Se	89	H2	0.009	ppb	69.9	3.67	1000	
88	Sr	89	He	0.020	ppb	47.7	80.00	2000	
95	Mo	89	He	0.038	ppb	25.1	137.78	1000	
107	Ag	89	He	0.003	ppb	37.7	66.67	100	
111	Cd	89	He	0.007	ppb	63.5	8.52	1000	
118	Sn	159	He	0.215	ppb	27.0	835.61	1000	
121	Sb	159	No Gas	0.011	ppb	27.1	340.38	1000	
137	Ba	159	No Gas	0.056	ppb	30.7	513.92	2000	
182	W	159	No Gas	0.021	ppb	27.2	467.20	1000	
205	Tl	209	No Gas	0.003	ppb	118.3	337.06	1000	
208	Pb	209	No Gas	-0.015	ppb	N/A	2155.84	2000	
232	Th	209	No Gas	0.014	ppb	17.1	917.73	1000	
238	U	209	No Gas	0.003	ppb	70.0	136.82	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6008607.41	4.4	6947791.61	86.48	29.5	120.4	
Sc	45	No Gas	9525191.31	7.1	11828674.09	80.53	29.5	120.4	
Sc	45	H2	1226505.45	6.6	1511145.3	81.16	29.5	120.4	
Sc	45	He	322006.37	5.5	392815.69	81.97	29.5	120.4	
Ge	72	No Gas	1980593.05	4.4	2346521.52	84.41	29.5	120.4	
Ge	72	H2	420949.30	5.1	505748.89	83.23	29.5	120.4	
Ge	72	He	203938.70	3.7	240647.81	84.75	29.5	120.4	
Y	89	H2	7053189.03	5.9	8216492.56	85.84	29.5	120.4	
Y	89	He	1758277.84	5.2	2023870.27	86.88	29.5	120.4	
Tb	159	No Gas	20420829.56	7.0	21789053.29	93.72	29.5	120.4	
Tb	159	He	7970242.59	5.3	8552940.43	93.19	29.5	120.4	
Bi	209	No Gas	10544165.04	5.8	10957550.08	96.23	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBWNL24IMW2
File Name	182_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:57:16
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.023	ppb	53.4	36.67	0.5	
B	11	6	No Gas	5.306	ppb	1.0	5009.92	10	
Na	23	45	He	129.663	ppb	1.6	21139.03	500	
Mg	24	45	He	18.509	ppb	13.3	1131.23	50	
Al	27	45	He	8.785	ppb	6.4	231.12	50	
Si	28	45	H2	8.934	ppb	6.8	897.70	250	
K	39	45	He	49.876	ppb	4.4	16253.70	500	
Ca	40	45	H2	17.717	ppb	10.6	8935.36	50	
V	51	89	He	0.284	ppb	24.4	545.59	2.5	
Cr	52	89	He	0.291	ppb	8.3	877.87	2.5	
Mn	55	89	He	0.496	ppb	13.5	318.61	1	
Fe	56	89	H2	0.089	ppb	237.9	32724.32	50	
Co	59	89	He	0.236	ppb	5.2	377.81	0.5	
Ni	60	89	He	0.206	ppb	9.8	120.00	1	
Cu	63	89	He	0.418	ppb	7.4	707.82	1.5	
Zn	66	89	He	0.607	ppb	29.9	161.12	5	
As	75	89	He	0.098	ppb	20.9	26.67	2.5	
Se	78	89	H2	0.063	ppb	101.9	4.50	2.5	
Sr	88	89	He	0.078	ppb	66.6	65.56	2.5	
Mo	95	89	He	0.162	ppb	19.3	114.45	2.5	
Ag	107	89	He	0.040	ppb	26.6	116.67	0.5	
Cd	111	89	He	0.019	ppb	35.6	4.81	0.5	
Sn	118	159	He	1.682	ppb	18.6	1151.21	2.5	
Sb	121	159	No Gas	0.048	ppb	15.1	333.71	0.5	
Ba	137	159	No Gas	0.995	ppb	26.4	1611.92	1	
W	182	159	No Gas	0.083	ppb	21.5	397.12	2.5	
Tl	205	209	No Gas	-0.002	ppb	N/A	223.58	0.5	
Pb	208	209	No Gas	-0.008	ppb	N/A	2866.67	0.5	
Th	232	209	No Gas	0.241	ppb	3.5	2599.88	2.5	
U	238	209	No Gas	0.008	ppb	26.1	80.09	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6132898.15	1.3	6947791.61	88.27	29.5	120.4	
Sc	45	No Gas	9627113.96	0.3	11828674.09	81.39	29.5	120.4	
Sc	45	H2	1247246.50	1.6	1511145.3	82.54	29.5	120.4	
Sc	45	He	311955.29	0.7	392815.69	79.42	29.5	120.4	
Ge	72	No Gas	2001577.23	0.7	2346521.52	85.3	29.5	120.4	
Ge	72	H2	412816.93	1.6	505748.89	81.62	29.5	120.4	
Ge	72	He	196103.73	0.4	240647.81	81.49	29.5	120.4	
Y	89	H2	7186993.67	1.1	8216492.56	87.47	29.5	120.4	
Y	89	He	1690646.87	0.6	2023870.27	83.54	29.5	120.4	
Tb	159	No Gas	20911604.41	1.1	21789053.29	95.97	29.5	120.4	
Tb	159	He	7829715.72	0.6	8552940.43	91.54	29.5	120.4	
Bi	209	No Gas	10879765.21	0.3	10957550.08	99.29	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	LCSWNL24IMW2
File Name	183LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 19:59:59
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	46.843	ppb	4.2	60287.34	50	18.74	79.5	120.4	
B	11	6	No Gas	461.238	ppb	3.2	389151.16	500	18.45	79.5	120.4	
Na	23	45	He	7777.813	ppb	3.9	836609.35	7500	20.74	79.5	120.4	
Mg	24	45	He	5150.675	ppb	4.0	301577.65	5000	20.6	79.5	120.4	
Al	27	45	He	2029.819	ppb	4.3	44809.98	2000	20.3	79.5	120.4	
Si	28	45	H2	882.033	ppb	6.7	35764.75	1000	17.64	0	200	
K	39	45	He	10095.886	ppb	3.0	503215.89	10000	20.19	79.5	120.4	
Ca	40	45	H2	2407.316	ppb	4.6	818250.68	2500	19.26	79.5	120.4	
V	51	89	He	485.766	ppb	3.3	373338.02	500	19.43	79.5	120.4	
Cr	52	89	He	195.832	ppb	3.5	193452.11	200	19.58	79.5	120.4	
Mn	55	89	He	495.776	ppb	3.1	225058.52	500	19.83	79.5	120.4	
Fe	56	89	H2	956.679	ppb	5.5	1229627.01	1000	19.13	79.5	120.4	
Co	59	89	He	499.333	ppb	3.3	780237.80	500	19.97	79.5	120.4	
Ni	60	89	He	496.610	ppb	3.6	215203.67	500	19.86	79.5	120.4	
Cu	63	89	He	247.597	ppb	3.3	290232.42	250	19.81	79.5	120.4	
Zn	66	89	He	493.099	ppb	2.9	75928.92	500	19.72	79.5	120.4	
As	75	89	He	96.218	ppb	3.9	10483.76	100	19.24	79.5	120.4	
Se	78	89	H2	93.472	ppb	5.2	4896.97	100	18.69	79.5	120.4	
Sr	88	89	He	478.587	ppb	3.4	267216.69	500	19.14	79.5	120.4	
Mo	95	89	He	101.344	ppb	3.5	61851.41	100	20.27	79.5	120.4	
Ag	107	89	He	52.613	ppb	4.2	104269.93	50	21.05	79.5	120.4	
Cd	111	89	He	255.546	ppb	3.6	64772.61	250	20.44	79.5	120.4	
Sn	118	159	He	464.267	ppb	2.4	257667.53	500	18.57	79.5	120.4	
Sb	121	159	No Gas	98.165	ppb	3.4	377154.96	100	19.63	79.5	120.4	
Ba	137	159	No Gas	1973.302	ppb	3.4	2944467.15	2000	19.73	79.5	120.4	
W	182	159	No Gas	101.271	ppb	2.6	340003.63	100	20.25	79.5	120.4	
Tl	205	209	No Gas	102.959	ppb	3.2	702360.75	100	20.59	79.5	120.4	
[Pb]	206	209	No Gas	99.766	ppb	3.7	245683.38	100	19.95	79.5	120.4	
[Pb]	207	209	No Gas	101.101	ppb	2.7	214824.11	100	20.22	79.5	120.4	
Pb	208	209	No Gas	102.037	ppb	3.4	980688.61	100	20.41	79.5	120.4	
Th	232	209	No Gas	100.771	ppb	4.2	955663.08	100	20.15	79.5	120.4	
U	238	209	No Gas	102.175	ppb	4.1	946561.42	100	20.43	79.5	120.4	

QC ISTD Table

Katahdin Analytical Services 4000284

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6165669.67	1.0	6947791.61	88.74	29.5	120.4	
Sc	45	No Gas	9450927.47	1.2	11828674.09	79.9	29.5	120.4	
Sc	45	H2	1285395.40	4.9	1511145.3	85.06	29.5	120.4	
Sc	45	He	315988.11	3.4	392815.69	80.44	29.5	120.4	
Ge	72	No Gas	1977653.59	1.3	2346521.52	84.28	29.5	120.4	
Ge	72	H2	420640.81	3.6	505748.89	83.17	29.5	120.4	
Ge	72	He	199171.66	2.4	240647.81	82.76	29.5	120.4	
Y	89	H2	7409931.28	4.1	8216492.56	90.18	29.5	120.4	
Y	89	He	1707261.31	3.1	2023870.27	84.36	29.5	120.4	
Tb	159	No Gas	20484379.56	1.1	21789053.29	94.01	29.5	120.4	
Tb	159	He	7941461.20	2.5	8552940.43	92.85	29.5	120.4	
Bi	209	No Gas	10740127.25	1.3	10957550.08	98.02	29.5	120.4	

Sample Report

Sample Name	TN0335-001
File Name	184SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:02:38
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.042	ppb	12.4	61.12	100	
11	B	6	No Gas	271.427	ppb	2.1	226516.19	1000	
23	Na	45	He	133275.373	ppb	2.0	14088547.84	200000	
24	Mg	45	He	689.852	ppb	1.2	40094.04	200000	
27	Al	45	He	33.587	ppb	10.5	773.39	200000	
28	Si	45	H2	8169.803	ppb	5.9	312776.99	10000	
39	K	45	He	1503.014	ppb	2.8	86078.11	200000	
40	Ca	45	H2	4680.107	ppb	5.4	1519802.25	200000	
51	V	89	He	1.339	ppb	2.3	1347.89	1000	
52	Cr	89	He	0.347	ppb	12.9	932.53	2000	
55	Mn	89	He	22.914	ppb	1.4	10393.30	2000	
56	Fe	89	H2	102.067	ppb	6.5	155584.61	100000	
59	Co	89	He	0.168	ppb	10.1	273.36	1000	
60	Ni	89	He	0.630	ppb	9.1	302.23	1000	
63	Cu	89	He	0.875	ppb	4.9	1237.88	2000	
66	Zn	89	He	1.146	ppb	10.8	243.34	2000	
75	As	89	He	0.742	ppb	14.4	96.01	1000	
78	Se	89	H2	0.418	ppb	11.7	22.50	1000	
88	Sr	89	He	14.818	ppb	4.2	8212.73	2000	
95	Mo	89	He	35.550	ppb	2.0	21497.54	1000	
107	Ag	89	He	0.022	ppb	21.7	81.11	100	
111	Cd	89	He	0.047	ppb	17.5	11.85	1000	
118	Sn	159	He	1.538	ppb	11.0	1074.53	1000	
121	Sb	159	No Gas	0.233	ppb	8.0	1054.55	1000	
137	Ba	159	No Gas	20.866	ppb	2.5	31840.78	2000	
182	W	159	No Gas	2.308	ppb	1.5	8011.50	1000	
205	Tl	209	No Gas	0.076	ppb	27.1	764.22	1000	
208	Pb	209	No Gas	0.059	ppb	15.1	3520.82	2000	
232	Th	209	No Gas	1.677	ppb	18.2	16389.45	1000	
238	U	209	No Gas	0.177	ppb	19.4	1665.30	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6091747.79	0.8	6947791.61	87.68	29.5	120.4	
Sc	45	No Gas	9699648.06	1.8	11828674.09	82	29.5	120.4	
Sc	45	H2	1230404.57	4.3	1511145.3	81.42	29.5	120.4	
Sc	45	He	313021.21	2.1	392815.69	79.69	29.5	120.4	
Ge	72	No Gas	2022942.32	1.0	2346521.52	86.21	29.5	120.4	
Ge	72	H2	416523.94	3.2	505748.89	82.36	29.5	120.4	
Ge	72	He	198745.07	1.4	240647.81	82.59	29.5	120.4	
Y	89	H2	7153162.44	4.5	8216492.56	87.06	29.5	120.4	
Y	89	He	1689985.06	2.0	2023870.27	83.5	29.5	120.4	
Tb	159	No Gas	20882334.96	1.4	21789053.29	95.84	29.5	120.4	
Tb	159	He	7847289.05	2.1	8552940.43	91.75	29.5	120.4	
Bi	209	No Gas	10875401.47	1.1	10957550.08	99.25	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	185_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:05:21
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	22.843	ppb	5.0	145346.24	25	91.37	89.8	110.2	
11	B	6	No Gas	23.814	ppb	4.5	99754.54	25	95.26	89.8	110.2	
23	Na	45	He	5038.657	ppb	0.8	2693396.61	5000	100.77	89.8	110.2	
24	Mg	45	He	5085.581	ppb	0.6	1488886.77	5000	101.71	89.8	110.2	
27	Al	45	He	494.065	ppb	1.1	54540.38	500	98.81	89.8	110.2	
28	Si	45	H2	479.688	ppb	3.2	93121.77	500	95.94	89.8	110.2	
39	K	45	He	4914.473	ppb	0.6	1204611.66	5000	98.29	89.8	110.2	
40	Ca	45	H2	4957.772	ppb	1.1	8115834.88	5000	99.16	89.8	110.2	
51	V	89	He	23.625	ppb	0.6	91350.41	25	94.5	89.8	110.2	
52	Cr	89	He	23.858	ppb	0.6	118488.22	25	95.43	89.8	110.2	
55	Mn	89	He	24.057	ppb	0.5	54863.19	25	96.23	89.8	110.2	
56	Fe	89	H2	4815.646	ppb	0.7	29394109.53	5000	96.31	89.8	110.2	
59	Co	89	He	23.829	ppb	0.6	186823.85	25	95.32	89.8	110.2	
60	Ni	89	He	23.823	ppb	0.5	51824.56	25	95.29	89.8	110.2	
63	Cu	89	He	23.908	ppb	0.5	140722.12	25	95.63	89.8	110.2	
66	Zn	89	He	24.456	ppb	0.8	18945.64	25	97.82	89.8	110.2	
75	As	89	He	23.723	ppb	1.6	12967.45	25	94.89	89.8	110.2	
78	Se	89	H2	24.141	ppb	2.0	6166.92	25	96.56	89.8	110.2	
88	Sr	89	He	23.830	ppb	1.0	66779.35	25	95.32	89.8	110.2	
95	Mo	89	He	24.687	ppb	0.8	75593.71	25	98.75	89.8	110.2	
107	Ag	89	He	25.493	ppb	0.3	253476.82	25	101.97	89.8	110.2	
111	Cd	89	He	25.346	ppb	0.6	32234.99	25	101.38	89.8	110.2	
118	Sn	159	He	23.607	ppb	1.2	65202.73	25	94.43	89.8	110.2	
121	Sb	159	No Gas	23.770	ppb	4.3	463710.37	25	95.08	89.8	110.2	
137	Ba	159	No Gas	24.054	ppb	4.6	182351.56	25	96.22	89.8	110.2	
182	W	159	No Gas	24.299	ppb	4.1	414234.83	25	97.2	89.8	110.2	
205	Tl	209	No Gas	25.159	ppb	4.7	858556.09	25	100.64	89.8	110.2	
208	Pb	209	No Gas	24.661	ppb	4.6	1185135.37	25	98.64	89.8	110.2	
232	Th	209	No Gas	24.484	ppb	6.4	1161361.75	25	97.94	89.8	110.2	
238	U	209	No Gas	24.640	ppb	5.1	1141913.60	25	98.56	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6099236.57	1.9	6947791.61	87.79	29.5	120.4	
Sc	45	No Gas	9687638.03	1.5	11828674.09	81.9	29.5	120.4	
Sc	45	H2	1240632.27	0.3	1511145.3	82.1	29.5	120.4	
Sc	45	He	315779.49	0.8	392815.69	80.39	29.5	120.4	
Ge	72	No Gas	2014503.29	2.1	2346521.52	85.85	29.5	120.4	
Ge	72	H2	421609.51	0.9	505748.89	83.36	29.5	120.4	
Ge	72	He	200299.23	0.4	240647.81	83.23	29.5	120.4	
Y	89	H2	7216976.51	1.0	8216492.56	87.84	29.5	120.4	
Y	89	He	1712003.79	0.6	2023870.27	84.59	29.5	120.4	
Tb	159	No Gas	20805528.16	1.0	21789053.29	95.49	29.5	120.4	
Tb	159	He	7880130.37	0.3	8552940.43	92.13	29.5	120.4	
Bi	209	No Gas	10748791.02	1.8	10957550.08	98.09	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	186_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:08:01
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.012	ppb	36.9	84.45	0.2	
11	B	6	No Gas	0.713	ppb	6.5	3477.21	4	
23	Na	45	He	25.716	ppb	8.8	21526.89	200	
24	Mg	45	He	1.726	ppb	32.9	571.17	20	
27	Al	45	He	0.253	ppb	26.8	68.89	20	
28	Si	45	H2	-0.110	ppb	N/A	500.57	100	
39	K	45	He	11.001	ppb	31.7	16897.39	200	
40	Ca	45	H2	1.863	ppb	5.0	5865.86	20	
51	V	89	He	-0.022	ppb	N/A	252.23	1	
52	Cr	89	He	-0.012	ppb	N/A	547.25	1	
55	Mn	89	He	0.031	ppb	7.0	169.30	0.4	
56	Fe	89	H2	0.695	ppb	8.5	34799.40	20	
59	Co	89	He	0.036	ppb	28.4	297.80	0.2	
60	Ni	89	He	0.022	ppb	32.2	81.11	0.4	
63	Cu	89	He	0.026	ppb	37.8	381.13	0.6	
66	Zn	89	He	0.125	ppb	3.3	167.79	2	
75	As	89	He	0.000	ppb	3058.2	16.67	1	
78	Se	89	H2	0.037	ppb	42.3	10.00	1	
88	Sr	89	He	0.027	ppb	62.7	98.89	1	
95	Mo	89	He	0.083	ppb	9.5	273.34	1	
107	Ag	89	He	0.010	ppb	49.3	137.78	0.2	
111	Cd	89	He	0.016	ppb	16.8	21.11	0.2	
118	Sn	159	He	0.122	ppb	12.0	568.92	1	
121	Sb	159	No Gas	0.023	ppb	18.3	580.66	0.2	
137	Ba	159	No Gas	0.074	ppb	20.7	647.42	0.4	
182	W	159	No Gas	0.075	ppb	16.0	1371.61	1	
205	Tl	209	No Gas	0.023	ppb	18.4	997.83	0.2	
208	Pb	209	No Gas	-0.008	ppb	N/A	2489.54	0.2	
232	Th	209	No Gas	0.087	ppb	3.3	4372.37	1	
238	U	209	No Gas	0.016	ppb	13.0	720.84	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6008714.34	1.1	6947791.61	86.48	29.5	120.4	
Sc	45	No Gas	9510494.85	2.1	11828674.09	80.4	29.5	120.4	
Sc	45	H2	1186240.72	5.2	1511145.3	78.5	29.5	120.4	
Sc	45	He	319615.23	1.6	392815.69	81.37	29.5	120.4	
Ge	72	No Gas	1977117.23	1.8	2346521.52	84.26	29.5	120.4	
Ge	72	H2	412178.94	2.5	505748.89	81.5	29.5	120.4	
Ge	72	He	202235.26	0.9	240647.81	84.04	29.5	120.4	
Y	89	H2	6787746.05	5.6	8216492.56	82.61	29.5	120.4	
Y	89	He	1727828.13	1.2	2023870.27	85.37	29.5	120.4	
Tb	159	No Gas	20496744.97	1.3	21789053.29	94.07	29.5	120.4	
Tb	159	He	7880429.68	1.4	8552940.43	92.14	29.5	120.4	
Bi	209	No Gas	10630305.24	1.6	10957550.08	97.01	29.5	120.4	

Sample Report

Sample Name	TN0335-002
File Name	187SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:10:41
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.029	ppb	55.3	42.23	100	
11	B	6	No Gas	309.384	ppb	4.5	245697.69	1000	
23	Na	45	He	119184.614	ppb	2.3	12640113.52	200000	
24	Mg	45	He	584.434	ppb	3.2	34077.98	200000	
27	Al	45	He	189.653	ppb	2.8	4199.67	200000	
28	Si	45	H2	8912.359	ppb	4.0	338514.65	10000	
39	K	45	He	1181.568	ppb	3.6	70869.04	200000	
40	Ca	45	H2	3792.837	ppb	3.7	1222592.86	200000	
51	V	89	He	2.031	ppb	5.3	1883.52	1000	
52	Cr	89	He	0.549	ppb	2.0	1135.84	2000	
55	Mn	89	He	9.882	ppb	2.7	4560.58	2000	
56	Fe	89	H2	145.905	ppb	5.7	204496.49	100000	
59	Co	89	He	0.139	ppb	23.3	228.91	1000	
60	Ni	89	He	0.938	ppb	0.7	436.69	1000	
63	Cu	89	He	0.985	ppb	5.8	1372.35	2000	
66	Zn	89	He	1.819	ppb	4.8	347.80	2000	
75	As	89	He	1.921	ppb	8.8	224.36	1000	
78	Se	89	H2	0.363	ppb	13.9	19.33	1000	
88	Sr	89	He	15.847	ppb	2.9	8830.91	2000	
95	Mo	89	He	32.476	ppb	2.1	19746.98	1000	
107	Ag	89	He	0.016	ppb	62.3	71.11	100	
111	Cd	89	He	0.030	ppb	39.9	7.41	1000	
118	Sn	159	He	0.921	ppb	17.1	738.94	1000	
121	Sb	159	No Gas	0.386	ppb	14.5	1551.83	1000	
137	Ba	159	No Gas	21.751	ppb	6.2	31060.77	2000	
182	W	159	No Gas	2.884	ppb	8.9	9330.50	1000	
205	Tl	209	No Gas	0.009	ppb	121.9	286.99	1000	
208	Pb	209	No Gas	0.123	ppb	12.1	3934.66	2000	
232	Th	209	No Gas	0.949	ppb	3.7	8933.23	1000	
238	U	209	No Gas	0.120	ppb	8.0	1074.58	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5803544.70	3.3	6947791.61	83.53	29.5	120.4	
Sc	45	No Gas	9039187.31	6.1	11828674.09	76.42	29.5	120.4	
Sc	45	H2	1219790.96	3.0	1511145.3	80.72	29.5	120.4	
Sc	45	He	314040.30	2.1	392815.69	79.95	29.5	120.4	
Ge	72	No Gas	1928419.39	3.5	2346521.52	82.18	29.5	120.4	
Ge	72	H2	414430.19	3.1	505748.89	81.94	29.5	120.4	
Ge	72	He	199194.15	1.3	240647.81	82.77	29.5	120.4	
Y	89	H2	7014732.25	4.3	8216492.56	85.37	29.5	120.4	
Y	89	He	1699295.20	2.4	2023870.27	83.96	29.5	120.4	
Tb	159	No Gas	19578460.13	5.1	21789053.29	89.85	29.5	120.4	
Tb	159	He	7865084.88	1.7	8552940.43	91.96	29.5	120.4	
Bi	209	No Gas	10337733.83	3.7	10957550.08	94.34	29.5	120.4	

Sample Report

Sample Name	TN0335-003
File Name	188SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:13:16
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.012	ppb	28.4	22.22	100	
11	B	6	No Gas	121.339	ppb	4.7	98732.82	1000	
23	Na	45	He	326507.214	ppb	3.6	34004995.88	200000	
24	Mg	45	He	17766.375	ppb	3.9	1015987.27	200000	
27	Al	45	He	22.511	ppb	13.6	523.36	200000	
28	Si	45	H2	4993.442	ppb	1.9	201946.85	10000	
39	K	45	He	4593.300	ppb	3.8	231080.41	200000	
40	Ca	45	H2	72705.439	ppb	3.2	24854954.35	200000	
51	V	89	He	0.242	ppb	8.3	506.70	1000	
52	Cr	89	He	0.452	ppb	3.3	1021.19	2000	
55	Mn	89	He	788.631	ppb	3.7	349532.05	2000	
56	Fe	89	H2	1158.765	ppb	3.8	1492231.20	100000	
59	Co	89	He	1.615	ppb	1.9	2478.18	1000	
60	Ni	89	He	1.876	ppb	12.2	823.39	1000	
63	Cu	89	He	1.142	ppb	4.4	1525.70	2000	
66	Zn	89	He	2.252	ppb	11.1	406.69	2000	
75	As	89	He	0.688	ppb	7.5	89.01	1000	
78	Se	89	H2	0.272	ppb	8.9	15.67	1000	
88	Sr	89	He	178.788	ppb	4.9	97474.47	2000	
95	Mo	89	He	2.067	ppb	7.3	1249.00	1000	
107	Ag	89	He	0.016	ppb	32.1	70.00	100	
111	Cd	89	He	0.048	ppb	66.9	11.85	1000	
118	Sn	159	He	0.935	ppb	14.1	726.72	1000	
121	Sb	159	No Gas	0.100	ppb	9.3	527.27	1000	
137	Ba	159	No Gas	20.161	ppb	6.0	30318.48	2000	
182	W	159	No Gas	0.050	ppb	27.6	276.98	1000	
205	Tl	209	No Gas	0.148	ppb	1.2	1221.42	1000	
208	Pb	209	No Gas	-0.034	ppb	N/A	2532.94	2000	
232	Th	209	No Gas	0.157	ppb	7.9	1738.74	1000	
238	U	209	No Gas	0.554	ppb	4.1	5036.65	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5924596.58	2.0	6947791.61	85.27	29.5	120.4	
Sc	45	No Gas	9600373.47	1.9	11828674.09	81.16	29.5	120.4	
Sc	45	H2	1296754.91	3.8	1511145.3	85.81	29.5	120.4	
Sc	45	He	308669.10	3.5	392815.69	78.58	29.5	120.4	
Ge	72	No Gas	1991364.50	2.0	2346521.52	84.86	29.5	120.4	
Ge	72	H2	425793.67	2.3	505748.89	84.19	29.5	120.4	
Ge	72	He	197207.92	2.4	240647.81	81.95	29.5	120.4	
Y	89	H2	7457553.07	4.8	8216492.56	90.76	29.5	120.4	
Y	89	He	1667607.34	3.8	2023870.27	82.4	29.5	120.4	
Tb	159	No Gas	20589741.50	2.0	21789053.29	94.5	29.5	120.4	
Tb	159	He	7653557.80	3.9	8552940.43	89.48	29.5	120.4	
Bi	209	No Gas	10536012.73	2.3	10957550.08	96.15	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	189SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:15:57
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.001	ppb	65.1	15.56	100	
11	B	6	No Gas	0.546	ppb	7.1	2828.16	1000	
23	Na	45	He	32.386	ppb	7.3	24895.89	200000	
24	Mg	45	He	0.491	ppb	52.9	204.46	200000	
27	Al	45	He	0.158	ppb	73.3	57.78	200000	
28	Si	45	H2	-0.240	ppb	N/A	513.92	10000	
39	K	45	He	11.028	ppb	9.3	16754.06	200000	
40	Ca	45	H2	2.487	ppb	4.0	7326.60	200000	
51	V	89	He	-0.028	ppb	N/A	225.56	1000	
52	Cr	89	He	-0.011	ppb	N/A	548.58	2000	
55	Mn	89	He	0.036	ppb	71.6	178.64	2000	
56	Fe	89	H2	-0.032	ppb	N/A	32851.93	100000	
59	Co	89	He	0.010	ppb	16.1	93.34	1000	
60	Ni	89	He	0.004	ppb	81.4	40.00	1000	
63	Cu	89	He	0.018	ppb	20.1	331.13	2000	
66	Zn	89	He	0.093	ppb	13.0	142.23	2000	
75	As	89	He	-0.009	ppb	N/A	11.67	1000	
78	Se	89	H2	0.001	ppb	305.6	1.67	1000	
88	Sr	89	He	0.009	ppb	39.2	46.67	2000	
95	Mo	89	He	0.016	ppb	29.5	66.67	1000	
107	Ag	89	He	0.003	ppb	98.6	66.67	100	
111	Cd	89	He	0.003	ppb	65.8	3.33	1000	
118	Sn	159	He	0.042	ppb	13.6	347.79	1000	
121	Sb	159	No Gas	0.005	ppb	19.4	240.27	1000	
137	Ba	159	No Gas	0.035	ppb	34.3	360.41	2000	
182	W	159	No Gas	0.005	ppb	68.3	196.89	1000	
205	Tl	209	No Gas	-0.002	ppb	N/A	163.52	1000	
208	Pb	209	No Gas	-0.021	ppb	N/A	1868.82	2000	
232	Th	209	No Gas	0.007	ppb	7.3	614.04	1000	
238	U	209	No Gas	0.002	ppb	22.9	113.46	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6081492.73	0.7	6947791.61	87.53	29.5	120.4	
Sc	45	No Gas	9596205.87	0.5	11828674.09	81.13	29.5	120.4	
Sc	45	H2	1270958.69	1.6	1511145.3	84.11	29.5	120.4	
Sc	45	He	316689.50	1.6	392815.69	80.62	29.5	120.4	
Ge	72	No Gas	2007233.99	0.7	2346521.52	85.54	29.5	120.4	
Ge	72	H2	430959.55	0.5	505748.89	85.21	29.5	120.4	
Ge	72	He	202259.05	1.5	240647.81	84.05	29.5	120.4	
Y	89	H2	7281897.63	1.5	8216492.56	88.63	29.5	120.4	
Y	89	He	1720385.94	1.7	2023870.27	85	29.5	120.4	
Tb	159	No Gas	20507592.89	0.4	21789053.29	94.12	29.5	120.4	
Tb	159	He	7851505.58	1.8	8552940.43	91.8	29.5	120.4	
Bi	209	No Gas	10663672.15	0.1	10957550.08	97.32	29.5	120.4	

Sample Report

Sample Name	TN0335-004
File Name	190SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:18:37
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.036	ppb	30.0	52.22	100	
11	B	6	No Gas	211.930	ppb	2.3	171738.06	1000	
23	Na	45	He	833658.120	ppb	2.6	87555936.19	200000	
24	Mg	45	He	3847.737	ppb	2.7	221983.76	200000	
27	Al	45	He	145.647	ppb	5.4	3203.81	200000	
28	Si	45	H2	5275.015	ppb	0.7	206012.11	10000	
39	K	45	He	9920.475	ppb	2.4	487334.50	200000	
40	Ca	45	H2	72605.863	ppb	0.7	23980495.75	200000	
51	V	89	He	5.588	ppb	4.3	4525.32	1000	
52	Cr	89	He	0.590	ppb	7.3	1155.84	2000	
55	Mn	89	He	53.743	ppb	2.3	23967.90	2000	
56	Fe	89	H2	307.279	ppb	1.1	398164.01	100000	
59	Co	89	He	0.159	ppb	16.7	255.58	1000	
60	Ni	89	He	0.789	ppb	12.8	365.57	1000	
63	Cu	89	He	0.828	ppb	11.1	1168.98	2000	
66	Zn	89	He	1.801	ppb	7.1	338.91	2000	
75	As	89	He	1.795	ppb	10.4	207.36	1000	
78	Se	89	H2	0.211	ppb	21.7	11.83	1000	
88	Sr	89	He	472.485	ppb	2.1	258282.38	2000	
95	Mo	89	He	19.289	ppb	3.3	11537.49	1000	
107	Ag	89	He	0.016	ppb	58.1	68.89	100	
111	Cd	89	He	0.034	ppb	25.5	8.52	1000	
118	Sn	159	He	1.526	ppb	12.5	1036.75	1000	
121	Sb	159	No Gas	0.786	ppb	1.5	3110.49	1000	
137	Ba	159	No Gas	106.330	ppb	2.9	156334.17	2000	
182	W	159	No Gas	2.924	ppb	5.9	9771.26	1000	
205	Tl	209	No Gas	0.000	ppb	1034.7	226.92	1000	
208	Pb	209	No Gas	0.072	ppb	27.7	3424.02	2000	
232	Th	209	No Gas	0.144	ppb	14.1	1571.86	1000	
238	U	209	No Gas	0.368	ppb	3.5	3247.43	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5911023.26	0.5	6947791.61	85.08	29.5	120.4	
Sc	45	No Gas	9552597.05	0.6	11828674.09	80.76	29.5	120.4	
Sc	45	H2	1251844.76	0.8	1511145.3	82.84	29.5	120.4	
Sc	45	He	311159.44	2.0	392815.69	79.21	29.5	120.4	
Ge	72	No Gas	1971181.79	1.1	2346521.52	84	29.5	120.4	
Ge	72	H2	410365.06	0.4	505748.89	81.14	29.5	120.4	
Ge	72	He	195681.47	1.1	240647.81	81.31	29.5	120.4	
Y	89	H2	7052080.84	0.5	8216492.56	85.83	29.5	120.4	
Y	89	He	1670725.08	1.9	2023870.27	82.55	29.5	120.4	
Tb	159	No Gas	20168374.56	0.3	21789053.29	92.56	29.5	120.4	
Tb	159	He	7617678.15	1.9	8552940.43	89.07	29.5	120.4	
Bi	209	No Gas	10221145.68	0.9	10957550.08	93.28	29.5	120.4	

Sample Report

Sample Name	TN0335-005
File Name	191SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:21:19
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.196	ppb	9.5	258.90	100	
11	B	6	No Gas	180.767	ppb	4.0	152222.61	1000	
23	Na	45	He	246334.801	ppb	0.8	26277395.84	200000	
24	Mg	45	He	3733.146	ppb	0.9	218705.52	200000	
27	Al	45	He	94.866	ppb	3.0	2133.58	200000	
28	Si	45	H2	3395.941	ppb	1.9	131659.65	10000	
39	K	45	He	2518.119	ppb	1.5	136081.89	200000	
40	Ca	45	H2	27191.040	ppb	0.6	8903914.45	200000	
51	V	89	He	1.437	ppb	4.3	1442.35	1000	
52	Cr	89	He	0.705	ppb	3.6	1299.16	2000	
55	Mn	89	He	107.100	ppb	0.7	48901.86	2000	
56	Fe	89	H2	2011.447	ppb	0.2	2481295.71	100000	
59	Co	89	He	0.603	ppb	6.0	960.10	1000	
60	Ni	89	He	2.623	ppb	3.8	1173.42	1000	
63	Cu	89	He	0.402	ppb	13.5	698.93	2000	
66	Zn	89	He	6.296	ppb	5.9	1042.30	2000	
75	As	89	He	1.806	ppb	25.1	213.69	1000	
78	Se	89	H2	0.278	ppb	35.6	15.50	1000	
88	Sr	89	He	86.483	ppb	1.0	48513.20	2000	
95	Mo	89	He	10.554	ppb	2.0	6484.01	1000	
107	Ag	89	He	0.010	ppb	99.5	60.00	100	
111	Cd	89	He	0.013	ppb	58.0	3.33	1000	
118	Sn	159	He	0.693	ppb	10.7	611.15	1000	
121	Sb	159	No Gas	0.045	ppb	3.4	320.36	1000	
137	Ba	159	No Gas	21.356	ppb	3.5	32690.04	2000	
182	W	159	No Gas	0.021	ppb	118.9	183.54	1000	
205	Tl	209	No Gas	0.000	ppb	378.6	236.93	1000	
208	Pb	209	No Gas	-0.026	ppb	N/A	2653.09	2000	
232	Th	209	No Gas	0.143	ppb	15.6	1635.29	1000	
238	U	209	No Gas	0.182	ppb	3.3	1682.00	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6141602.95	1.9	6947791.61	88.4	29.5	120.4	
Sc	45	No Gas	9773774.05	1.9	11828674.09	82.63	29.5	120.4	
Sc	45	H2	1240831.05	1.2	1511145.3	82.11	29.5	120.4	
Sc	45	He	315877.04	0.6	392815.69	80.41	29.5	120.4	
Ge	72	No Gas	2037811.83	1.6	2346521.52	86.84	29.5	120.4	
Ge	72	H2	418897.57	1.1	505748.89	82.83	29.5	120.4	
Ge	72	He	200250.10	0.6	240647.81	83.21	29.5	120.4	
Y	89	H2	7204613.42	1.0	8216492.56	87.68	29.5	120.4	
Y	89	He	1713398.05	0.3	2023870.27	84.66	29.5	120.4	
Tb	159	No Gas	20953396.49	1.5	21789053.29	96.16	29.5	120.4	
Tb	159	He	7834768.56	0.4	8552940.43	91.6	29.5	120.4	
Bi	209	No Gas	10702932.97	1.6	10957550.08	97.68	29.5	120.4	

Sample Report

Sample Name	TN0335-006
File Name	192SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:23:55
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.026	ppb	41.3	40.00	100	
11	B	6	No Gas	286.489	ppb	1.6	234771.62	1000	
23	Na	45	He	70843.456	ppb	2.8	7578246.83	200000	
24	Mg	45	He	3984.901	ppb	3.8	233894.14	200000	
27	Al	45	He	216.509	ppb	3.8	4827.64	200000	
28	Si	45	H2	17496.274	ppb	4.7	697897.74	10000	
39	K	45	He	2840.837	ppb	1.6	152083.25	200000	
40	Ca	45	H2	44428.068	ppb	5.1	15012737.28	200000	
51	V	89	He	1.393	ppb	9.9	1414.57	1000	
52	Cr	89	He	0.528	ppb	8.9	1131.18	2000	
55	Mn	89	He	38.839	ppb	1.4	17898.78	2000	
56	Fe	89	H2	369.811	ppb	5.9	493169.86	100000	
59	Co	89	He	0.457	ppb	15.0	733.41	1000	
60	Ni	89	He	2.441	ppb	4.0	1100.09	1000	
63	Cu	89	He	1.163	ppb	6.6	1602.37	2000	
66	Zn	89	He	1.321	ppb	10.0	275.57	2000	
75	As	89	He	1.718	ppb	2.1	205.36	1000	
78	Se	89	H2	0.528	ppb	14.9	28.83	1000	
88	Sr	89	He	126.830	ppb	2.9	71536.90	2000	
95	Mo	89	He	13.730	ppb	1.7	8479.60	1000	
107	Ag	89	He	0.014	ppb	53.2	67.78	100	
111	Cd	89	He	0.025	ppb	54.3	6.30	1000	
118	Sn	159	He	0.630	ppb	21.7	585.59	1000	
121	Sb	159	No Gas	0.124	ppb	24.8	610.70	1000	
137	Ba	159	No Gas	15.134	ppb	1.0	22387.33	2000	
182	W	159	No Gas	1.049	ppb	10.0	3577.84	1000	
205	Tl	209	No Gas	0.084	ppb	17.1	800.92	1000	
208	Pb	209	No Gas	0.104	ppb	18.1	3874.60	2000	
232	Th	209	No Gas	0.155	ppb	9.6	1738.77	1000	
238	U	209	No Gas	1.194	ppb	3.5	10990.67	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5982479.93	1.6	6947791.61	86.11	29.5	120.4	
Sc	45	No Gas	9441969.66	1.9	11828674.09	79.82	29.5	120.4	
Sc	45	H2	1282521.19	4.5	1511145.3	84.87	29.5	120.4	
Sc	45	He	316692.64	2.9	392815.69	80.62	29.5	120.4	
Ge	72	No Gas	1978071.32	1.6	2346521.52	84.3	29.5	120.4	
Ge	72	H2	424859.67	2.5	505748.89	84.01	29.5	120.4	
Ge	72	He	200614.87	1.9	240647.81	83.36	29.5	120.4	
Y	89	H2	7372055.91	5.2	8216492.56	89.72	29.5	120.4	
Y	89	He	1723780.67	2.7	2023870.27	85.17	29.5	120.4	
Tb	159	No Gas	20220643.87	2.6	21789053.29	92.8	29.5	120.4	
Tb	159	He	7956048.98	2.6	8552940.43	93.02	29.5	120.4	
Bi	209	No Gas	10664705.68	2.0	10957550.08	97.33	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	193SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:26:36
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.003	ppb	30.2	30.00	100	
11	B	6	No Gas	0.679	ppb	8.2	3420.53	1000	
23	Na	45	He	45.565	ppb	2.4	32810.81	200000	
24	Mg	45	He	0.512	ppb	23.7	217.80	200000	
27	Al	45	He	0.433	ppb	51.7	91.12	200000	
28	Si	45	H2	0.541	ppb	63.9	664.09	10000	
39	K	45	He	10.521	ppb	1.7	17084.26	200000	
40	Ca	45	H2	4.914	ppb	6.5	11318.25	200000	
51	V	89	He	-0.016	ppb	N/A	281.12	1000	
52	Cr	89	He	-0.002	ppb	N/A	613.91	2000	
55	Mn	89	He	0.030	ppb	5.8	171.97	2000	
56	Fe	89	H2	0.080	ppb	223.9	33811.91	100000	
59	Co	89	He	0.017	ppb	6.9	155.57	1000	
60	Ni	89	He	0.019	ppb	25.4	76.67	1000	
63	Cu	89	He	0.022	ppb	14.7	368.91	2000	
66	Zn	89	He	0.103	ppb	26.8	154.45	2000	
75	As	89	He	-0.012	ppb	N/A	10.00	1000	
78	Se	89	H2	0.004	ppb	73.8	2.50	1000	
88	Sr	89	He	0.022	ppb	33.0	86.67	2000	
95	Mo	89	He	0.015	ppb	30.3	64.45	1000	
107	Ag	89	He	0.003	ppb	99.4	68.89	100	
111	Cd	89	He	0.008	ppb	9.4	10.74	1000	
118	Sn	159	He	0.016	ppb	28.4	285.57	1000	
121	Sb	159	No Gas	0.005	ppb	38.2	243.61	1000	
137	Ba	159	No Gas	0.076	ppb	8.3	680.78	2000	
182	W	159	No Gas	0.006	ppb	58.9	216.91	1000	
205	Tl	209	No Gas	-0.001	ppb	N/A	206.90	1000	
208	Pb	209	No Gas	-0.022	ppb	N/A	1882.17	2000	
232	Th	209	No Gas	0.006	ppb	10.0	560.65	1000	
238	U	209	No Gas	0.004	ppb	4.8	190.22	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6158871.78	1.0	6947791.61	88.65	29.5	120.4	
Sc	45	No Gas	9747562.43	0.8	11828674.09	82.41	29.5	120.4	
Sc	45	H2	1262102.54	1.0	1511145.3	83.52	29.5	120.4	
Sc	45	He	325292.41	3.2	392815.69	82.81	29.5	120.4	
Ge	72	No Gas	2030766.71	0.8	2346521.52	86.54	29.5	120.4	
Ge	72	H2	432096.86	0.6	505748.89	85.44	29.5	120.4	
Ge	72	He	206008.15	1.5	240647.81	85.61	29.5	120.4	
Y	89	H2	7342741.23	1.9	8216492.56	89.37	29.5	120.4	
Y	89	He	1772892.75	3.2	2023870.27	87.6	29.5	120.4	
Tb	159	No Gas	20914720.10	1.2	21789053.29	95.99	29.5	120.4	
Tb	159	He	8099322.52	3.6	8552940.43	94.7	29.5	120.4	
Bi	209	No Gas	10861375.16	1.6	10957550.08	99.12	29.5	120.4	

Sample Report

Sample Name	TN0335-007
File Name	194SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:29:12
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.033	ppb	5.9	50.00	100	
11	B	6	No Gas	271.184	ppb	3.0	224549.41	1000	
23	Na	45	He	133228.428	ppb	4.5	14037736.93	200000	
24	Mg	45	He	713.528	ppb	3.5	41342.16	200000	
27	Al	45	He	130.412	ppb	7.6	2879.29	200000	
28	Si	45	H2	8033.258	ppb	3.3	313573.15	10000	
39	K	45	He	1535.295	ppb	5.5	87350.73	200000	
40	Ca	45	H2	4592.336	ppb	3.1	1520365.13	200000	
51	V	89	He	1.486	ppb	4.3	1465.69	1000	
52	Cr	89	He	0.574	ppb	13.6	1157.84	2000	
55	Mn	89	He	24.361	ppb	2.6	11093.68	2000	
56	Fe	89	H2	173.147	ppb	3.0	244869.02	100000	
59	Co	89	He	0.100	ppb	15.8	168.90	1000	
60	Ni	89	He	0.632	ppb	15.5	303.35	1000	
63	Cu	89	He	1.089	ppb	7.5	1491.24	2000	
66	Zn	89	He	0.978	ppb	29.8	217.79	2000	
75	As	89	He	0.948	ppb	10.4	119.01	1000	
78	Se	89	H2	0.294	ppb	33.8	16.33	1000	
88	Sr	89	He	14.912	ppb	6.4	8300.58	2000	
95	Mo	89	He	34.886	ppb	5.4	21178.16	1000	
107	Ag	89	He	0.015	ppb	49.9	67.78	100	
111	Cd	89	He	0.017	ppb	106.6	4.07	1000	
118	Sn	159	He	0.597	ppb	9.2	556.70	1000	
121	Sb	159	No Gas	0.131	ppb	8.8	647.41	1000	
137	Ba	159	No Gas	25.116	ppb	4.4	37775.27	2000	
182	W	159	No Gas	2.139	ppb	6.4	7323.61	1000	
205	Tl	209	No Gas	-0.006	ppb	N/A	196.89	1000	
208	Pb	209	No Gas	0.039	ppb	42.7	3287.18	2000	
232	Th	209	No Gas	0.130	ppb	6.9	1521.80	1000	
238	U	209	No Gas	0.149	ppb	10.9	1378.29	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6046573.91	2.4	6947791.61	87.03	29.5	120.4	
Sc	45	No Gas	9585958.22	3.7	11828674.09	81.04	29.5	120.4	
Sc	45	H2	1253282.72	3.4	1511145.3	82.94	29.5	120.4	
Sc	45	He	312325.46	4.3	392815.69	79.51	29.5	120.4	
Ge	72	No Gas	2019272.55	2.5	2346521.52	86.05	29.5	120.4	
Ge	72	H2	419014.15	2.2	505748.89	82.85	29.5	120.4	
Ge	72	He	198936.63	2.7	240647.81	82.67	29.5	120.4	
Y	89	H2	7249066.83	2.6	8216492.56	88.23	29.5	120.4	
Y	89	He	1698578.92	4.1	2023870.27	83.93	29.5	120.4	
Tb	159	No Gas	20614736.08	4.1	21789053.29	94.61	29.5	120.4	
Tb	159	He	7812042.52	3.9	8552940.43	91.34	29.5	120.4	
Bi	209	No Gas	10748601.24	2.3	10957550.08	98.09	29.5	120.4	

Sample Report

Sample Name	TN0335-008
File Name	195SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:31:53
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.007	ppb	103.0	15.56	100	
11	B	6	No Gas	129.941	ppb	1.3	103179.02	1000	
23	Na	45	He	339038.853	ppb	3.1	34887776.13	200000	
24	Mg	45	He	18227.858	ppb	3.5	1029913.48	200000	
27	Al	45	He	24.019	ppb	5.2	550.03	200000	
28	Si	45	H2	5289.447	ppb	3.0	206865.96	10000	
39	K	45	He	4783.654	ppb	3.0	237229.58	200000	
40	Ca	45	H2	76728.598	ppb	3.7	25375354.06	200000	
51	V	89	He	0.367	ppb	22.2	592.26	1000	
52	Cr	89	He	0.341	ppb	12.0	902.53	2000	
55	Mn	89	He	820.502	ppb	3.0	359419.96	2000	
56	Fe	89	H2	1339.791	ppb	5.1	1658154.01	100000	
59	Co	89	He	1.941	ppb	2.9	2942.77	1000	
60	Ni	89	He	2.012	ppb	5.0	873.39	1000	
63	Cu	89	He	1.197	ppb	9.2	1569.04	2000	
66	Zn	89	He	14.153	ppb	1.1	2169.14	2000	
75	As	89	He	0.830	ppb	13.2	102.68	1000	
78	Se	89	H2	0.213	ppb	26.6	12.17	1000	
88	Sr	89	He	183.216	ppb	2.6	98757.09	2000	
95	Mo	89	He	2.248	ppb	4.7	1340.11	1000	
107	Ag	89	He	0.018	ppb	67.9	72.23	100	
111	Cd	89	He	0.029	ppb	32.8	7.04	1000	
118	Sn	159	He	0.553	ppb	13.1	517.81	1000	
121	Sb	159	No Gas	0.095	ppb	23.4	490.56	1000	
137	Ba	159	No Gas	20.798	ppb	1.1	30104.32	2000	
182	W	159	No Gas	0.019	ppb	38.7	166.85	1000	
205	Tl	209	No Gas	0.130	ppb	8.8	1064.57	1000	
208	Pb	209	No Gas	-0.052	ppb	N/A	2285.98	2000	
232	Th	209	No Gas	0.061	ppb	15.1	814.27	1000	
238	U	209	No Gas	0.584	ppb	4.7	5133.45	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5781303.50	2.3	6947791.61	83.21	29.5	120.4	
Sc	45	No Gas	9226992.19	4.2	11828674.09	78.01	29.5	120.4	
Sc	45	H2	1254224.92	2.4	1511145.3	83	29.5	120.4	
Sc	45	He	304913.12	3.0	392815.69	77.62	29.5	120.4	
Ge	72	No Gas	1935894.28	2.8	2346521.52	82.5	29.5	120.4	
Ge	72	H2	416457.71	2.1	505748.89	82.34	29.5	120.4	
Ge	72	He	194149.56	2.4	240647.81	80.68	29.5	120.4	
Y	89	H2	7187755.21	3.0	8216492.56	87.48	29.5	120.4	
Y	89	He	1647713.74	3.2	2023870.27	81.41	29.5	120.4	
Tb	159	No Gas	19808250.67	4.0	21789053.29	90.91	29.5	120.4	
Tb	159	He	7591103.01	2.3	8552940.43	88.75	29.5	120.4	
Bi	209	No Gas	10179031.48	3.2	10957550.08	92.9	29.5	120.4	

Sample Report

Sample Name	TN0335-009
File Name	196SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:34:33
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.004	ppb	62.4	13.33	100	
11	B	6	No Gas	3.498	ppb	6.6	3463.99	1000	
23	Na	45	He	248.507	ppb	3.0	33667.02	200000	
24	Mg	45	He	18.007	ppb	3.5	1102.35	200000	
27	Al	45	He	11.157	ppb	9.5	282.23	200000	
28	Si	45	H2	15.257	ppb	14.3	1154.67	10000	
39	K	45	He	61.466	ppb	21.8	16797.44	200000	
40	Ca	45	H2	26.427	ppb	3.0	11918.74	200000	
51	V	89	He	0.189	ppb	6.0	474.47	1000	
52	Cr	89	He	0.202	ppb	10.3	791.88	2000	
55	Mn	89	He	0.390	ppb	18.9	270.62	2000	
56	Fe	89	H2	0.742	ppb	100.6	33831.83	100000	
59	Co	89	He	0.060	ppb	17.0	106.67	1000	
60	Ni	89	He	0.053	ppb	53.8	54.45	1000	
63	Cu	89	He	0.423	ppb	21.3	711.16	2000	
66	Zn	89	He	0.596	ppb	21.4	160.01	2000	
75	As	89	He	-0.004	ppb	N/A	15.67	1000	
78	Se	89	H2	0.030	ppb	102.4	2.83	1000	
88	Sr	89	He	0.071	ppb	29.7	61.11	2000	
95	Mo	89	He	0.061	ppb	52.8	53.33	1000	
107	Ag	89	He	0.014	ppb	16.8	66.67	100	
111	Cd	89	He	0.015	ppb	80.2	3.70	1000	
118	Sn	159	He	0.503	ppb	27.9	504.48	1000	
121	Sb	159	No Gas	0.015	ppb	50.1	200.22	1000	
137	Ba	159	No Gas	0.241	ppb	16.5	457.19	2000	
182	W	159	No Gas	-0.006	ppb	N/A	90.10	1000	
205	Tl	209	No Gas	-0.020	ppb	N/A	103.45	1000	
208	Pb	209	No Gas	-0.057	ppb	N/A	2382.77	2000	
232	Th	209	No Gas	0.029	ppb	7.5	567.31	1000	
238	U	209	No Gas	0.006	ppb	19.2	63.41	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6081627.30	1.1	6947791.61	87.53	29.5	120.4	
Sc	45	No Gas	9531027.57	0.8	11828674.09	80.58	29.5	120.4	
Sc	45	H2	1260685.04	1.9	1511145.3	83.43	29.5	120.4	
Sc	45	He	312181.04	5.5	392815.69	79.47	29.5	120.4	
Ge	72	No Gas	1998650.46	1.2	2346521.52	85.18	29.5	120.4	
Ge	72	H2	420532.46	2.0	505748.89	83.15	29.5	120.4	
Ge	72	He	196964.19	3.3	240647.81	81.85	29.5	120.4	
Y	89	H2	7255049.43	1.9	8216492.56	88.3	29.5	120.4	
Y	89	He	1693496.15	5.2	2023870.27	83.68	29.5	120.4	
Tb	159	No Gas	20503043.30	0.6	21789053.29	94.1	29.5	120.4	
Tb	159	He	7820329.88	4.8	8552940.43	91.43	29.5	120.4	
Bi	209	No Gas	10824826.53	1.0	10957550.08	98.79	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	197_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:37:13
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	23.017	ppb	4.6	146507.68	25	92.07	89.8	110.2	
11	B	6	No Gas	23.194	ppb	4.8	97197.94	25	92.78	89.8	110.2	
23	Na	45	He	5089.000	ppb	0.8	2710250.75	5000	101.78	89.8	110.2	
24	Mg	45	He	5090.187	ppb	0.5	1484771.59	5000	101.8	89.8	110.2	
27	Al	45	He	494.071	ppb	1.3	54339.71	500	98.81	89.8	110.2	
28	Si	45	H2	472.315	ppb	0.8	92447.44	500	94.46	89.8	110.2	
39	K	45	He	4931.369	ppb	0.5	1204267.77	5000	98.63	89.8	110.2	
40	Ca	45	H2	4939.519	ppb	1.1	8151583.56	5000	98.79	89.8	110.2	
51	V	89	He	23.608	ppb	0.3	91483.64	25	94.43	89.8	110.2	
52	Cr	89	He	23.691	ppb	0.9	117914.44	25	94.76	89.8	110.2	
55	Mn	89	He	23.810	ppb	0.4	54418.95	25	95.24	89.8	110.2	
56	Fe	89	H2	4838.610	ppb	0.3	29446885.22	5000	96.77	89.8	110.2	
59	Co	89	He	23.632	ppb	0.5	185677.95	25	94.53	89.8	110.2	
60	Ni	89	He	23.681	ppb	1.3	51626.07	25	94.72	89.8	110.2	
63	Cu	89	He	23.861	ppb	0.5	140750.21	25	95.44	89.8	110.2	
66	Zn	89	He	24.489	ppb	0.8	19011.34	25	97.96	89.8	110.2	
75	As	89	He	23.838	ppb	1.1	13057.22	25	95.35	89.8	110.2	
78	Se	89	H2	24.149	ppb	0.5	6151.41	25	96.6	89.8	110.2	
88	Sr	89	He	23.755	ppb	0.7	66708.26	25	95.02	89.8	110.2	
95	Mo	89	He	24.627	ppb	0.6	75571.07	25	98.51	89.8	110.2	
107	Ag	89	He	25.304	ppb	0.4	252141.09	25	101.22	89.8	110.2	
111	Cd	89	He	25.108	ppb	0.8	32001.12	25	100.43	89.8	110.2	
118	Sn	159	He	23.520	ppb	0.9	64858.76	25	94.08	89.8	110.2	
121	Sb	159	No Gas	23.758	ppb	4.5	462841.94	25	95.03	89.8	110.2	
137	Ba	159	No Gas	23.904	ppb	4.5	180962.37	25	95.62	89.8	110.2	
182	W	159	No Gas	24.295	ppb	5.3	413528.43	25	97.18	89.8	110.2	
205	Tl	209	No Gas	25.069	ppb	4.1	857435.24	25	100.28	89.8	110.2	
208	Pb	209	No Gas	24.664	ppb	4.6	1187891.63	25	98.66	89.8	110.2	
232	Th	209	No Gas	24.000	ppb	6.7	1141014.02	25	96	89.8	110.2	
238	U	209	No Gas	24.556	ppb	5.6	1140544.49	25	98.22	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6100767.48	1.8	6947791.61	87.81	29.5	120.4	
Sc	45	No Gas	9726728.57	1.8	11828674.09	82.23	29.5	120.4	
Sc	45	H2	1250798.54	1.9	1511145.3	82.77	29.5	120.4	
Sc	45	He	314619.68	0.6	392815.69	80.09	29.5	120.4	
Ge	72	No Gas	2004910.18	2.0	2346521.52	85.44	29.5	120.4	
Ge	72	H2	423091.49	1.5	505748.89	83.66	29.5	120.4	
Ge	72	He	199915.37	0.7	240647.81	83.07	29.5	120.4	
Y	89	H2	7195574.59	0.9	8216492.56	87.57	29.5	120.4	
Y	89	He	1715705.77	0.5	2023870.27	84.77	29.5	120.4	
Tb	159	No Gas	20779880.11	1.6	21789053.29	95.37	29.5	120.4	
Tb	159	He	7867381.27	0.3	8552940.43	91.98	29.5	120.4	
Bi	209	No Gas	10772498.89	1.8	10957550.08	98.31	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	198_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:39:53
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.006	ppb	13.9	48.89	0.2	
11	B	6	No Gas	0.379	ppb	8.1	2125.78	4	
23	Na	45	He	30.207	ppb	5.8	23839.55	200	
24	Mg	45	He	0.500	ppb	26.4	208.91	20	
27	Al	45	He	-0.006	ppb	N/A	40.00	20	
28	Si	45	H2	-0.494	ppb	N/A	460.52	100	
39	K	45	He	12.420	ppb	37.1	17152.63	200	
40	Ca	45	H2	1.176	ppb	5.9	5093.32	20	
51	V	89	He	-0.048	ppb	N/A	148.90	1	
52	Cr	89	He	-0.020	ppb	N/A	509.25	1	
55	Mn	89	He	0.006	ppb	80.8	111.31	0.4	
56	Fe	89	H2	0.555	ppb	29.5	36675.51	20	
59	Co	89	He	0.007	ppb	24.3	66.67	0.2	
60	Ni	89	He	0.008	ppb	120.0	48.89	0.4	
63	Cu	89	He	0.010	ppb	40.4	288.90	0.6	
66	Zn	89	He	0.064	ppb	39.1	120.01	2	
75	As	89	He	-0.003	ppb	N/A	14.67	1	
78	Se	89	H2	0.024	ppb	57.6	7.67	1	
88	Sr	89	He	0.005	ppb	18.1	36.67	1	
95	Mo	89	He	0.067	ppb	5.8	224.46	1	
107	Ag	89	He	0.004	ppb	58.3	78.89	0.2	
111	Cd	89	He	0.004	ppb	64.0	5.18	0.2	
118	Sn	159	He	0.072	ppb	15.1	432.24	1	
121	Sb	159	No Gas	0.023	ppb	33.3	577.33	0.2	
137	Ba	159	No Gas	0.018	ppb	34.9	230.26	0.4	
182	W	159	No Gas	0.073	ppb	17.7	1331.56	1	
205	Tl	209	No Gas	0.016	ppb	23.0	767.56	0.2	
208	Pb	209	No Gas	-0.020	ppb	N/A	1952.25	0.2	
232	Th	209	No Gas	0.077	ppb	3.4	3918.34	1	
238	U	209	No Gas	0.010	ppb	5.4	453.86	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6058274.42	2.5	6947791.61	87.2	29.5	120.4	
Sc	45	No Gas	9481613.26	3.9	11828674.09	80.16	29.5	120.4	
Sc	45	H2	1261915.02	1.0	1511145.3	83.51	29.5	120.4	
Sc	45	He	318185.19	3.1	392815.69	81	29.5	120.4	
Ge	72	No Gas	1991674.59	2.2	2346521.52	84.88	29.5	120.4	
Ge	72	H2	428994.96	0.8	505748.89	84.82	29.5	120.4	
Ge	72	He	202056.91	1.4	240647.81	83.96	29.5	120.4	
Y	89	H2	7326465.27	1.3	8216492.56	89.17	29.5	120.4	
Y	89	He	1730134.89	2.5	2023870.27	85.49	29.5	120.4	
Tb	159	No Gas	20462577.34	3.6	21789053.29	93.91	29.5	120.4	
Tb	159	He	7918861.27	2.3	8552940.43	92.59	29.5	120.4	
Bi	209	No Gas	10661351.29	2.9	10957550.08	97.3	29.5	120.4	

Sample Report

Sample Name	TN0335-011
File Name	199SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:42:38
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.046	ppb	21.7	65.56	100	
11	B	6	No Gas	262.927	ppb	1.2	217550.91	1000	
23	Na	45	He	129076.078	ppb	0.5	13588455.79	200000	
24	Mg	45	He	671.862	ppb	1.6	38886.19	200000	
27	Al	45	He	125.107	ppb	3.3	2763.71	200000	
28	Si	45	H2	8617.805	ppb	5.5	310160.50	10000	
39	K	45	He	1485.192	ppb	1.1	84873.60	200000	
40	Ca	45	H2	4852.219	ppb	6.2	1480898.80	200000	
51	V	89	He	1.547	ppb	3.7	1505.69	1000	
52	Cr	89	He	0.783	ppb	10.2	1357.83	2000	
55	Mn	89	He	22.498	ppb	0.6	10206.52	2000	
56	Fe	89	H2	174.173	ppb	4.6	229984.62	100000	
59	Co	89	He	0.076	ppb	51.5	131.12	1000	
60	Ni	89	He	0.545	ppb	16.8	265.57	1000	
63	Cu	89	He	0.584	ppb	18.8	901.17	2000	
66	Zn	89	He	1.137	ppb	24.3	242.24	2000	
75	As	89	He	0.827	ppb	5.0	105.34	1000	
78	Se	89	H2	0.437	ppb	27.0	22.17	1000	
88	Sr	89	He	14.302	ppb	0.9	7931.45	2000	
95	Mo	89	He	34.370	ppb	0.5	20788.64	1000	
107	Ag	89	He	0.018	ppb	29.4	74.45	100	
111	Cd	89	He	0.025	ppb	19.0	6.30	1000	
118	Sn	159	He	0.588	ppb	9.0	553.37	1000	
121	Sb	159	No Gas	0.133	ppb	24.0	667.42	1000	
137	Ba	159	No Gas	23.469	ppb	2.5	36012.09	2000	
182	W	159	No Gas	2.060	ppb	4.4	7200.01	1000	
205	Tl	209	No Gas	0.014	ppb	82.6	337.05	1000	
208	Pb	209	No Gas	0.024	ppb	27.0	3193.76	2000	
232	Th	209	No Gas	0.914	ppb	5.2	9113.58	1000	
238	U	209	No Gas	0.143	ppb	6.4	1351.60	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6038413.09	0.8	6947791.61	86.91	29.5	120.4	
Sc	45	No Gas	9740596.50	2.6	11828674.09	82.35	29.5	120.4	
Sc	45	H2	1156627.22	4.2	1511145.3	76.54	29.5	120.4	
Sc	45	He	311645.80	0.5	392815.69	79.34	29.5	120.4	
Ge	72	No Gas	2016073.53	1.1	2346521.52	85.92	29.5	120.4	
Ge	72	H2	400727.49	2.5	505748.89	79.23	29.5	120.4	
Ge	72	He	198813.28	1.1	240647.81	82.62	29.5	120.4	
Y	89	H2	6777828.01	4.0	8216492.56	82.49	29.5	120.4	
Y	89	He	1689855.98	1.3	2023870.27	83.5	29.5	120.4	
Tb	159	No Gas	21009422.61	2.7	21789053.29	96.42	29.5	120.4	
Tb	159	He	7826638.28	0.3	8552940.43	91.51	29.5	120.4	
Bi	209	No Gas	10935568.83	1.9	10957550.08	99.8	29.5	120.4	

Sample Report

Sample Name	TN0335-012
File Name	200SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:45:18
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.026	ppb	29.6	40.00	100	
11	B	6	No Gas	301.540	ppb	5.0	249337.59	1000	
23	Na	45	He	119014.909	ppb	2.6	12798876.24	200000	
24	Mg	45	He	612.504	ppb	3.0	36212.35	200000	
27	Al	45	He	377.861	ppb	2.5	8444.99	200000	
28	Si	45	H2	9229.397	ppb	0.3	353560.85	10000	
39	K	45	He	1223.675	ppb	4.2	73911.20	200000	
40	Ca	45	H2	3816.084	ppb	0.7	1240668.13	200000	
51	V	89	He	2.593	ppb	5.5	2349.18	1000	
52	Cr	89	He	0.815	ppb	2.3	1419.15	2000	
55	Mn	89	He	12.670	ppb	3.8	5910.85	2000	
56	Fe	89	H2	262.348	ppb	1.1	351891.07	100000	
59	Co	89	He	0.136	ppb	23.4	228.91	1000	
60	Ni	89	He	0.861	ppb	8.6	410.02	1000	
63	Cu	89	He	1.055	ppb	9.1	1475.68	2000	
66	Zn	89	He	2.851	ppb	6.6	513.36	2000	
75	As	89	He	2.148	ppb	5.7	253.03	1000	
78	Se	89	H2	0.356	ppb	16.6	19.50	1000	
88	Sr	89	He	15.748	ppb	4.6	8912.11	2000	
95	Mo	89	He	31.986	ppb	4.5	19749.33	1000	
107	Ag	89	He	0.027	ppb	28.2	94.45	100	
111	Cd	89	He	0.029	ppb	37.1	7.41	1000	
118	Sn	159	He	0.605	ppb	14.1	570.03	1000	
121	Sb	159	No Gas	0.366	ppb	4.3	1585.20	1000	
137	Ba	159	No Gas	24.657	ppb	5.3	37809.19	2000	
182	W	159	No Gas	2.694	ppb	6.2	9380.62	1000	
205	Tl	209	No Gas	0.006	ppb	49.5	280.31	1000	
208	Pb	209	No Gas	0.176	ppb	9.3	4642.24	2000	
232	Th	209	No Gas	0.247	ppb	12.6	2649.91	1000	
238	U	209	No Gas	0.124	ppb	14.7	1164.70	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6042263.45	2.8	6947791.61	86.97	29.5	120.4	
Sc	45	No Gas	9659870.78	2.1	11828674.09	81.66	29.5	120.4	
Sc	45	H2	1229378.41	1.0	1511145.3	81.35	29.5	120.4	
Sc	45	He	318509.60	3.1	392815.69	81.08	29.5	120.4	
Ge	72	No Gas	2026819.17	2.8	2346521.52	86.38	29.5	120.4	
Ge	72	H2	418648.76	0.5	505748.89	82.78	29.5	120.4	
Ge	72	He	201573.62	1.7	240647.81	83.76	29.5	120.4	
Y	89	H2	7201641.49	1.3	8216492.56	87.65	29.5	120.4	
Y	89	He	1726582.93	3.3	2023870.27	85.31	29.5	120.4	
Tb	159	No Gas	21009621.08	2.6	21789053.29	96.42	29.5	120.4	
Tb	159	He	7938675.78	2.2	8552940.43	92.82	29.5	120.4	
Bi	209	No Gas	10855026.52	2.2	10957550.08	99.06	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	201SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:47:59
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.003	ppb	41.2	25.55	100	
11	B	6	No Gas	0.654	ppb	7.1	3303.83	1000	
23	Na	45	He	38.288	ppb	5.3	28289.14	200000	
24	Mg	45	He	0.698	ppb	39.2	268.91	200000	
27	Al	45	He	0.250	ppb	65.1	68.89	200000	
28	Si	45	H2	-0.001	ppb	N/A	553.97	10000	
39	K	45	He	13.223	ppb	18.5	17431.13	200000	
40	Ca	45	H2	3.095	ppb	7.3	8201.56	200000	
51	V	89	He	-0.024	ppb	N/A	243.34	1000	
52	Cr	89	He	-0.016	ppb	N/A	533.92	2000	
55	Mn	89	He	0.025	ppb	34.1	156.64	2000	
56	Fe	89	H2	0.232	ppb	55.6	34483.94	100000	
59	Co	89	He	0.011	ppb	42.1	100.01	1000	
60	Ni	89	He	0.011	ppb	64.2	56.67	1000	
63	Cu	89	He	0.023	ppb	13.1	364.46	2000	
66	Zn	89	He	0.110	ppb	28.2	156.67	2000	
75	As	89	He	-0.004	ppb	N/A	14.33	1000	
78	Se	89	H2	0.004	ppb	54.7	2.33	1000	
88	Sr	89	He	0.028	ppb	29.7	102.23	2000	
95	Mo	89	He	0.020	ppb	33.5	81.11	1000	
107	Ag	89	He	0.003	ppb	61.7	72.23	100	
111	Cd	89	He	0.007	ppb	20.6	9.26	1000	
118	Sn	159	He	0.025	ppb	37.4	306.68	1000	
121	Sb	159	No Gas	0.005	ppb	45.8	243.61	1000	
137	Ba	159	No Gas	0.042	ppb	26.9	413.80	2000	
182	W	159	No Gas	0.007	ppb	51.4	223.58	1000	
205	Tl	209	No Gas	0.000	ppb	N/A	230.26	1000	
208	Pb	209	No Gas	-0.022	ppb	N/A	1852.13	2000	
232	Th	209	No Gas	0.006	ppb	8.4	560.64	1000	
238	U	209	No Gas	0.003	ppb	7.4	166.85	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6132436.96	2.1	6947791.61	88.26	29.5	120.4	
Sc	45	No Gas	9777338.87	1.2	11828674.09	82.66	29.5	120.4	
Sc	45	H2	1250036.36	3.5	1511145.3	82.72	29.5	120.4	
Sc	45	He	319454.04	2.7	392815.69	81.32	29.5	120.4	
Ge	72	No Gas	2039968.41	1.6	2346521.52	86.94	29.5	120.4	
Ge	72	H2	425346.47	3.2	505748.89	84.1	29.5	120.4	
Ge	72	He	203554.91	1.7	240647.81	84.59	29.5	120.4	
Y	89	H2	7286410.95	2.1	8216492.56	88.68	29.5	120.4	
Y	89	He	1744627.51	2.7	2023870.27	86.2	29.5	120.4	
Tb	159	No Gas	20859195.11	1.6	21789053.29	95.73	29.5	120.4	
Tb	159	He	7969076.55	2.8	8552940.43	93.17	29.5	120.4	
Bi	209	No Gas	10865754.75	1.2	10957550.08	99.16	29.5	120.4	

Sample Report

Sample Name	TN0335-013
File Name	202SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:50:35
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.021	ppb	43.7	32.22	100	
11	B	6	No Gas	127.314	ppb	0.1	101473.68	1000	
23	Na	45	He	321021.871	ppb	0.3	33949924.98	200000	
24	Mg	45	He	17785.355	ppb	0.4	1032839.62	200000	
27	Al	45	He	18.439	ppb	7.3	443.36	200000	
28	Si	45	H2	5307.778	ppb	5.3	204166.15	10000	
39	K	45	He	4389.093	ppb	1.1	224836.89	200000	
40	Ca	45	H2	77652.491	ppb	4.9	25263821.29	200000	
51	V	89	He	0.233	ppb	17.1	506.69	1000	
52	Cr	89	He	0.364	ppb	22.9	949.20	2000	
55	Mn	89	He	774.593	ppb	0.9	348345.60	2000	
56	Fe	89	H2	990.337	ppb	5.2	1218711.69	100000	
59	Co	89	He	1.542	ppb	11.0	2400.41	1000	
60	Ni	89	He	1.935	ppb	4.9	862.28	1000	
63	Cu	89	He	1.102	ppb	8.4	1502.37	2000	
66	Zn	89	He	1.583	ppb	4.5	310.01	2000	
75	As	89	He	0.614	ppb	10.4	82.34	1000	
78	Se	89	H2	0.243	ppb	12.0	13.50	1000	
88	Sr	89	He	179.794	ppb	1.6	99483.79	2000	
95	Mo	89	He	1.972	ppb	6.9	1208.99	1000	
107	Ag	89	He	-0.003	ppb	N/A	33.33	100	
111	Cd	89	He	0.022	ppb	34.5	5.56	1000	
118	Sn	159	He	0.371	ppb	13.3	432.24	1000	
121	Sb	159	No Gas	0.093	ppb	7.5	487.22	1000	
137	Ba	159	No Gas	21.509	ppb	2.2	31445.42	2000	
182	W	159	No Gas	0.020	ppb	80.5	173.53	1000	
205	Tl	209	No Gas	0.136	ppb	3.4	1111.29	1000	
208	Pb	209	No Gas	-0.049	ppb	N/A	2326.01	2000	
232	Th	209	No Gas	0.082	ppb	27.1	1011.17	1000	
238	U	209	No Gas	0.612	ppb	3.8	5420.62	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5801285.93	1.4	6947791.61	83.5	29.5	120.4	
Sc	45	No Gas	9367697.05	1.6	11828674.09	79.19	29.5	120.4	
Sc	45	H2	1234946.44	4.5	1511145.3	81.72	29.5	120.4	
Sc	45	He	313174.89	0.5	392815.69	79.73	29.5	120.4	
Ge	72	No Gas	1958684.57	1.4	2346521.52	83.47	29.5	120.4	
Ge	72	H2	407902.26	3.1	505748.89	80.65	29.5	120.4	
Ge	72	He	197969.12	0.2	240647.81	82.27	29.5	120.4	
Y	89	H2	7101322.79	4.6	8216492.56	86.43	29.5	120.4	
Y	89	He	1690503.48	0.4	2023870.27	83.53	29.5	120.4	
Tb	159	No Gas	20003980.81	1.7	21789053.29	91.81	29.5	120.4	
Tb	159	He	7784741.62	0.3	8552940.43	91.02	29.5	120.4	
Bi	209	No Gas	10257837.79	1.3	10957550.08	93.61	29.5	120.4	

Sample Report

Sample Name	TN0335-013A
File Name	203SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:53:19
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	10.690	ppb	1.2	13115.27	100	
11	B	6	No Gas	322.936	ppb	1.1	259719.70	1000	
23	Na	45	He	320076.257	ppb	5.1	34319499.96	200000	
24	Mg	45	He	18039.865	ppb	5.2	1062124.62	200000	
27	Al	45	He	980.729	ppb	3.8	21805.03	200000	
28	Si	45	H2	9997.707	ppb	0.6	377148.83	10000	
39	K	45	He	14154.780	ppb	4.3	703907.46	200000	
40	Ca	45	H2	79549.944	ppb	0.8	25410976.01	200000	
51	V	89	He	48.542	ppb	6.0	37579.92	1000	
52	Cr	89	He	48.453	ppb	4.5	48299.92	2000	
55	Mn	89	He	766.704	ppb	4.7	347829.33	2000	
56	Fe	89	H2	1998.449	ppb	0.7	2390159.45	100000	
59	Co	89	He	11.432	ppb	5.4	17865.94	1000	
60	Ni	89	He	21.879	ppb	5.3	9506.89	1000	
63	Cu	89	He	30.409	ppb	5.1	35823.52	2000	
66	Zn	89	He	97.333	ppb	3.9	15038.57	2000	
75	As	89	He	49.996	ppb	4.5	5453.99	1000	
78	Se	89	H2	49.916	ppb	1.1	2468.94	1000	
88	Sr	89	He	221.192	ppb	4.7	123462.44	2000	
95	Mo	89	He	53.712	ppb	4.3	32780.01	1000	
107	Ag	89	He	10.533	ppb	4.0	20906.79	100	
111	Cd	89	He	10.453	ppb	2.2	2650.29	1000	
118	Sn	159	He	47.199	ppb	4.4	26236.33	1000	
121	Sb	159	No Gas	10.899	ppb	4.1	41122.14	1000	
137	Ba	159	No Gas	42.051	ppb	5.0	61517.14	2000	
182	W	159	No Gas	52.633	ppb	3.1	173112.49	1000	
205	Tl	209	No Gas	10.862	ppb	2.7	71332.04	1000	
208	Pb	209	No Gas	10.831	ppb	1.3	102455.84	2000	
232	Th	209	No Gas	11.103	ppb	1.4	101351.64	1000	
238	U	209	No Gas	11.908	ppb	2.6	105925.63	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5873292.57	2.2	6947791.61	84.53	29.5	120.4	
Sc	45	No Gas	9373922.86	3.5	11828674.09	79.25	29.5	120.4	
Sc	45	H2	1210717.20	0.4	1511145.3	80.12	29.5	120.4	
Sc	45	He	317962.09	4.1	392815.69	80.94	29.5	120.4	
Ge	72	No Gas	1963234.15	2.7	2346521.52	83.67	29.5	120.4	
Ge	72	H2	404415.81	1.3	505748.89	79.96	29.5	120.4	
Ge	72	He	198889.71	2.7	240647.81	82.65	29.5	120.4	
Y	89	H2	6984749.03	1.2	8216492.56	85.01	29.5	120.4	
Y	89	He	1707308.17	3.7	2023870.27	84.36	29.5	120.4	
Tb	159	No Gas	20076224.98	4.5	21789053.29	92.14	29.5	120.4	
Tb	159	He	7894881.48	3.4	8552940.43	92.31	29.5	120.4	
Bi	209	No Gas	10312688.47	3.0	10957550.08	94.11	29.5	120.4	

Sample Report

Sample Name	TN0335-013L
File Name	204SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:55:55
Sample Type	Sample
Total Dilution	25.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.051	ppb	125.3	21.11	100	
11	B	6	No Gas	135.223	ppb	3.0	23260.46	1000	
23	Na	45	He	323206.878	ppb	0.4	6965198.91	200000	
24	Mg	45	He	17960.167	ppb	0.7	212398.91	200000	
27	Al	45	He	31.331	ppb	20.0	180.01	200000	
28	Si	45	H2	5493.718	ppb	0.2	43631.56	10000	
39	K	45	He	4662.848	ppb	1.1	59788.92	200000	
40	Ca	45	H2	78771.508	ppb	0.8	5239485.44	200000	
51	V	89	He	-0.377	ppb	N/A	277.79	1000	
52	Cr	89	He	0.041	ppb	131.9	613.90	2000	
55	Mn	89	He	780.530	ppb	0.4	71666.78	2000	
56	Fe	89	H2	1062.854	ppb	0.2	291925.03	100000	
59	Co	89	He	2.142	ppb	13.5	688.95	1000	
60	Ni	89	He	2.389	ppb	18.8	241.12	1000	
63	Cu	89	He	2.174	ppb	14.9	741.16	2000	
66	Zn	89	He	18.734	ppb	5.8	652.26	2000	
75	As	89	He	0.572	ppb	105.2	29.00	1000	
78	Se	89	H2	0.474	ppb	35.7	6.17	1000	
88	Sr	89	He	180.838	ppb	1.3	20426.93	2000	
95	Mo	89	He	2.501	ppb	9.2	325.57	1000	
107	Ag	89	He	0.042	ppb	65.8	56.67	100	
111	Cd	89	He	0.065	ppb	66.8	3.33	1000	
118	Sn	159	He	0.908	ppb	24.5	334.46	1000	
121	Sb	159	No Gas	0.139	ppb	46.4	253.62	1000	
137	Ba	159	No Gas	22.066	ppb	3.5	6812.74	2000	
182	W	159	No Gas	0.597	ppb	19.2	520.59	1000	
205	Tl	209	No Gas	0.077	ppb	18.3	347.06	1000	
208	Pb	209	No Gas	-0.227	ppb	N/A	2512.92	2000	
232	Th	209	No Gas	0.356	ppb	24.1	977.81	1000	
238	U	209	No Gas	0.573	ppb	10.5	1081.26	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6143153.87	2.1	6947791.61	88.42	29.5	120.4	
Sc	45	No Gas	9785796.49	1.6	11828674.09	82.73	29.5	120.4	
Sc	45	H2	1260025.15	1.2	1511145.3	83.38	29.5	120.4	
Sc	45	He	318810.12	0.8	392815.69	81.16	29.5	120.4	
Ge	72	No Gas	2060478.84	1.9	2346521.52	87.81	29.5	120.4	
Ge	72	H2	428413.89	0.7	505748.89	84.71	29.5	120.4	
Ge	72	He	202944.94	0.9	240647.81	84.33	29.5	120.4	
Y	89	H2	7215919.15	0.5	8216492.56	87.82	29.5	120.4	
Y	89	He	1723872.62	1.1	2023870.27	85.18	29.5	120.4	
Tb	159	No Gas	20878037.74	1.9	21789053.29	95.82	29.5	120.4	
Tb	159	He	7904446.48	0.7	8552940.43	92.42	29.5	120.4	
Bi	209	No Gas	10914219.98	1.8	10957550.08	99.6	29.5	120.4	

Sample Report

Sample Name	TN0335-013P
File Name	205SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 20:58:35
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	49.579	ppb	2.3	62691.94	100	
11	B	6	No Gas	593.518	ppb	2.6	491788.71	1000	
23	Na	45	He	322202.021	ppb	1.1	33875628.60	200000	
24	Mg	45	He	22474.736	ppb	0.7	1297536.41	200000	
27	Al	45	He	2043.659	ppb	1.4	44493.19	200000	
28	Si	45	H2	6308.982	ppb	5.3	244021.05	10000	
39	K	45	He	14371.943	ppb	1.3	700419.49	200000	
40	Ca	45	H2	79017.367	ppb	4.8	25861058.22	200000	
51	V	89	He	497.319	ppb	0.9	377661.48	1000	
52	Cr	89	He	198.605	ppb	1.3	193848.26	2000	
55	Mn	89	He	1244.939	ppb	0.7	558252.95	2000	
56	Fe	89	H2	2007.194	ppb	4.9	2462885.30	100000	
59	Co	89	He	502.966	ppb	1.2	776528.87	1000	
60	Ni	89	He	496.751	ppb	1.3	212711.92	1000	
63	Cu	89	He	248.934	ppb	0.7	288317.14	2000	
66	Zn	89	He	504.234	ppb	0.4	76712.14	2000	
75	As	89	He	101.658	ppb	1.6	10945.49	1000	
78	Se	89	H2	97.957	ppb	2.9	4972.16	1000	
88	Sr	89	He	660.223	ppb	1.2	364238.45	2000	
95	Mo	89	He	105.113	ppb	2.0	63384.33	1000	
107	Ag	89	He	51.499	ppb	0.4	100865.71	100	
111	Cd	89	He	253.841	ppb	0.8	63578.41	1000	
118	Sn	159	He	474.340	ppb	1.2	257699.03	1000	
121	Sb	159	No Gas	101.105	ppb	2.8	386125.08	1000	
137	Ba	159	No Gas	2038.076	ppb	2.1	3023279.22	2000	
182	W	159	No Gas	105.364	ppb	4.6	351550.01	1000	
205	Tl	209	No Gas	104.863	ppb	4.2	693665.96	1000	
208	Pb	209	No Gas	103.660	ppb	2.6	966243.05	2000	
232	Th	209	No Gas	107.245	ppb	3.2	986406.39	1000	
238	U	209	No Gas	107.895	ppb	3.4	969382.27	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6057097.51	1.2	6947791.61	87.18	29.5	120.4	
Sc	45	No Gas	9464533.89	1.2	11828674.09	80.01	29.5	120.4	
Sc	45	H2	1241897.30	3.6	1511145.3	82.18	29.5	120.4	
Sc	45	He	311357.03	0.8	392815.69	79.26	29.5	120.4	
Ge	72	No Gas	1974898.53	0.8	2346521.52	84.16	29.5	120.4	
Ge	72	H2	412514.45	2.2	505748.89	81.57	29.5	120.4	
Ge	72	He	197005.52	0.8	240647.81	81.86	29.5	120.4	
Y	89	H2	7173678.63	3.4	8216492.56	87.31	29.5	120.4	
Y	89	He	1685822.47	0.8	2023870.27	83.3	29.5	120.4	
Tb	159	No Gas	20364796.22	1.8	21789053.29	93.46	29.5	120.4	
Tb	159	He	7771558.91	1.0	8552940.43	90.86	29.5	120.4	
Bi	209	No Gas	10416982.34	1.8	10957550.08	95.07	29.5	120.4	

Sample Report

Sample Name	TN0335-013S
File Name	206SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:01:11
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	48.058	ppb	4.7	61771.25	100	
11	B	6	No Gas	586.008	ppb	4.1	493633.29	1000	
23	Na	45	He	329859.512	ppb	0.3	34622560.09	200000	
24	Mg	45	He	22961.745	ppb	0.3	1323447.19	200000	
27	Al	45	He	2028.357	ppb	1.6	44083.33	200000	
28	Si	45	H2	6354.110	ppb	0.8	244415.25	10000	
39	K	45	He	14534.781	ppb	0.5	706996.27	200000	
40	Ca	45	H2	81221.871	ppb	0.9	26433338.49	200000	
51	V	89	He	498.232	ppb	0.5	377678.86	1000	
52	Cr	89	He	197.752	ppb	0.2	192682.58	2000	
55	Mn	89	He	1265.938	ppb	0.2	566664.21	2000	
56	Fe	89	H2	2001.348	ppb	0.2	2407579.29	100000	
59	Co	89	He	502.531	ppb	0.4	774494.16	1000	
60	Ni	89	He	494.080	ppb	0.4	211196.14	1000	
63	Cu	89	He	248.657	ppb	0.5	287486.08	2000	
66	Zn	89	He	505.006	ppb	0.7	76689.84	2000	
75	As	89	He	100.766	ppb	0.6	10829.73	1000	
78	Se	89	H2	100.253	ppb	1.1	4986.50	1000	
88	Sr	89	He	662.825	ppb	0.6	365027.18	2000	
95	Mo	89	He	105.073	ppb	1.0	63251.05	1000	
107	Ag	89	He	50.697	ppb	0.6	99122.21	100	
111	Cd	89	He	253.991	ppb	0.4	63503.25	1000	
118	Sn	159	He	476.510	ppb	0.5	258329.61	1000	
121	Sb	159	No Gas	98.708	ppb	5.1	383723.97	1000	
137	Ba	159	No Gas	1972.083	ppb	4.9	2977632.58	2000	
182	W	159	No Gas	102.643	ppb	4.5	348707.45	1000	
205	Tl	209	No Gas	102.929	ppb	4.5	692222.17	1000	
208	Pb	209	No Gas	102.045	ppb	4.4	966929.17	2000	
232	Th	209	No Gas	105.327	ppb	4.7	984778.47	1000	
238	U	209	No Gas	105.029	ppb	5.6	959083.50	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6160256.86	2.3	6947791.61	88.66	29.5	120.4	
Sc	45	No Gas	9695367.84	2.6	11828674.09	81.96	29.5	120.4	
Sc	45	H2	1233506.81	0.7	1511145.3	81.63	29.5	120.4	
Sc	45	He	310823.67	0.9	392815.69	79.13	29.5	120.4	
Ge	72	No Gas	2009288.55	2.7	2346521.52	85.63	29.5	120.4	
Ge	72	H2	409508.21	0.9	505748.89	80.97	29.5	120.4	
Ge	72	He	196484.04	0.0	240647.81	81.65	29.5	120.4	
Y	89	H2	7025315.95	0.7	8216492.56	85.5	29.5	120.4	
Y	89	He	1682792.30	0.7	2023870.27	83.15	29.5	120.4	
Tb	159	No Gas	20740835.66	2.6	21789053.29	95.19	29.5	120.4	
Tb	159	He	7754474.68	0.5	8552940.43	90.66	29.5	120.4	
Bi	209	No Gas	10594658.56	3.0	10957550.08	96.69	29.5	120.4	

Sample Report

Sample Name	TN0335-014
File Name	207SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:03:54
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.042	ppb	43.2	60.00	100	
11	B	6	No Gas	214.442	ppb	3.6	175440.45	1000	
23	Na	45	He	841981.359	ppb	0.8	89744242.75	200000	
24	Mg	45	He	5529.530	ppb	1.0	323718.26	200000	
27	Al	45	He	27.007	ppb	6.9	635.59	200000	
28	Si	45	H2	5028.653	ppb	6.6	192743.78	10000	
39	K	45	He	11283.887	ppb	0.2	560615.76	200000	
40	Ca	45	H2	60323.850	ppb	6.8	19550770.68	200000	
51	V	89	He	2.431	ppb	3.3	2170.25	1000	
52	Cr	89	He	0.364	ppb	3.1	945.20	2000	
55	Mn	89	He	50.995	ppb	0.8	22935.13	2000	
56	Fe	89	H2	40.277	ppb	3.8	79677.43	100000	
59	Co	89	He	0.169	ppb	19.4	273.36	1000	
60	Ni	89	He	0.654	ppb	21.4	311.12	1000	
63	Cu	89	He	1.574	ppb	7.3	2041.33	2000	
66	Zn	89	He	1.787	ppb	14.4	340.02	2000	
75	As	89	He	1.015	ppb	7.8	125.01	1000	
78	Se	89	H2	0.321	ppb	25.5	17.33	1000	
88	Sr	89	He	461.968	ppb	0.3	254593.93	2000	
95	Mo	89	He	15.356	ppb	0.3	9264.62	1000	
107	Ag	89	He	0.018	ppb	67.7	74.45	100	
111	Cd	89	He	0.040	ppb	48.1	10.00	1000	
118	Sn	159	He	1.343	ppb	15.2	947.85	1000	
121	Sb	159	No Gas	0.790	ppb	5.4	3177.27	1000	
137	Ba	159	No Gas	70.662	ppb	3.0	105660.40	2000	
182	W	159	No Gas	2.939	ppb	8.7	9981.75	1000	
205	Tl	209	No Gas	0.062	ppb	8.8	627.38	1000	
208	Pb	209	No Gas	0.080	ppb	16.7	3500.78	2000	
232	Th	209	No Gas	1.496	ppb	11.3	13803.18	1000	
238	U	209	No Gas	0.833	ppb	4.9	7357.08	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5969643.08	1.5	6947791.61	85.92	29.5	120.4	
Sc	45	No Gas	9591359.25	0.8	11828674.09	81.09	29.5	120.4	
Sc	45	H2	1230795.45	4.4	1511145.3	81.45	29.5	120.4	
Sc	45	He	315692.51	1.0	392815.69	80.37	29.5	120.4	
Ge	72	No Gas	1978573.33	1.1	2346521.52	84.32	29.5	120.4	
Ge	72	H2	411621.25	1.2	505748.89	81.39	29.5	120.4	
Ge	72	He	198183.13	0.9	240647.81	82.35	29.5	120.4	
Y	89	H2	7026757.92	3.0	8216492.56	85.52	29.5	120.4	
Y	89	He	1683952.39	1.0	2023870.27	83.2	29.5	120.4	
Tb	159	No Gas	20508738.44	1.0	21789053.29	94.12	29.5	120.4	
Tb	159	He	7680765.16	0.6	8552940.43	89.8	29.5	120.4	
Bi	209	No Gas	10231702.49	1.4	10957550.08	93.38	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	208SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:06:30
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.003	ppb	35.9	25.55	100	
11	B	6	No Gas	0.834	ppb	0.7	4166.32	1000	
23	Na	45	He	96.275	ppb	3.6	60420.96	200000	
24	Mg	45	He	0.806	ppb	10.0	304.47	200000	
27	Al	45	He	0.205	ppb	74.0	64.45	200000	
28	Si	45	H2	-0.325	ppb	N/A	500.57	10000	
39	K	45	He	14.417	ppb	1.3	17983.28	200000	
40	Ca	45	H2	4.536	ppb	5.1	10824.49	200000	
51	V	89	He	-0.035	ppb	N/A	203.34	1000	
52	Cr	89	He	-0.009	ppb	N/A	569.91	2000	
55	Mn	89	He	0.046	ppb	15.3	205.96	2000	
56	Fe	89	H2	-0.062	ppb	N/A	33059.21	100000	
59	Co	89	He	0.015	ppb	33.4	131.12	1000	
60	Ni	89	He	0.003	ppb	165.5	40.00	1000	
63	Cu	89	He	0.024	ppb	3.0	373.35	2000	
66	Zn	89	He	0.086	ppb	17.7	138.90	2000	
75	As	89	He	-0.001	ppb	N/A	16.00	1000	
78	Se	89	H2	0.003	ppb	35.2	2.17	1000	
88	Sr	89	He	0.027	ppb	28.0	101.12	2000	
95	Mo	89	He	0.019	ppb	33.1	77.78	1000	
107	Ag	89	He	0.002	ppb	56.1	56.67	100	
111	Cd	89	He	0.007	ppb	43.8	8.89	1000	
118	Sn	159	He	0.047	ppb	12.7	365.57	1000	
121	Sb	159	No Gas	0.005	ppb	25.0	236.94	1000	
137	Ba	159	No Gas	0.049	ppb	13.0	473.87	2000	
182	W	159	No Gas	0.007	ppb	9.4	240.27	1000	
205	Tl	209	No Gas	-0.001	ppb	N/A	210.24	1000	
208	Pb	209	No Gas	-0.024	ppb	N/A	1795.40	2000	
232	Th	209	No Gas	0.007	ppb	18.2	624.05	1000	
238	U	209	No Gas	0.002	ppb	32.0	110.13	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6298889.03	2.5	6947791.61	90.66	29.5	120.4	
Sc	45	No Gas	9923917.95	1.9	11828674.09	83.9	29.5	120.4	
Sc	45	H2	1278394.82	0.9	1511145.3	84.6	29.5	120.4	
Sc	45	He	323958.23	0.4	392815.69	82.47	29.5	120.4	
Ge	72	No Gas	2060650.58	2.5	2346521.52	87.82	29.5	120.4	
Ge	72	H2	429399.77	0.5	505748.89	84.9	29.5	120.4	
Ge	72	He	205608.67	0.4	240647.81	85.44	29.5	120.4	
Y	89	H2	7369702.78	0.0	8216492.56	89.69	29.5	120.4	
Y	89	He	1753103.38	0.5	2023870.27	86.62	29.5	120.4	
Tb	159	No Gas	21030839.55	1.1	21789053.29	96.52	29.5	120.4	
Tb	159	He	7966662.38	0.2	8552940.43	93.15	29.5	120.4	
Bi	209	No Gas	10836856.47	0.7	10957550.08	98.9	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	209_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:09:11
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	23.798	ppb	4.3	150245.15	25	95.19	89.8	110.2	
11	B	6	No Gas	24.205	ppb	3.5	100609.70	25	96.82	89.8	110.2	
23	Na	45	He	5049.450	ppb	1.5	2732792.33	5000	100.99	89.8	110.2	
24	Mg	45	He	5032.941	ppb	1.3	1491880.65	5000	100.66	89.8	110.2	
27	Al	45	He	491.539	ppb	1.6	54936.31	500	98.31	89.8	110.2	
28	Si	45	H2	499.509	ppb	4.5	93371.70	500	99.9	89.8	110.2	
39	K	45	He	4899.157	ppb	1.9	1215826.33	5000	97.98	89.8	110.2	
40	Ca	45	H2	5235.212	ppb	4.0	8255152.31	5000	104.7	89.8	110.2	
51	V	89	He	23.543	ppb	1.3	92356.60	25	94.17	89.8	110.2	
52	Cr	89	He	23.520	ppb	1.1	118514.58	25	94.08	89.8	110.2	
55	Mn	89	He	23.864	ppb	2.0	55211.29	25	95.46	89.8	110.2	
56	Fe	89	H2	5099.637	ppb	5.1	29728154.40	5000	101.99	89.8	110.2	
59	Co	89	He	23.669	ppb	0.7	188266.66	25	94.68	89.8	110.2	
60	Ni	89	He	23.589	ppb	1.0	52062.04	25	94.36	89.8	110.2	
63	Cu	89	He	23.581	ppb	1.3	140812.03	25	94.32	89.8	110.2	
66	Zn	89	He	24.144	ppb	1.6	18974.64	25	96.58	89.8	110.2	
75	As	89	He	23.409	ppb	1.4	12980.45	25	93.64	89.8	110.2	
78	Se	89	H2	25.448	ppb	5.3	6208.93	25	101.79	89.8	110.2	
88	Sr	89	He	23.627	ppb	2.3	67163.67	25	94.51	89.8	110.2	
95	Mo	89	He	24.481	ppb	1.3	76049.68	25	97.92	89.8	110.2	
107	Ag	89	He	25.070	ppb	1.3	252886.69	25	100.28	89.8	110.2	
111	Cd	89	He	25.044	ppb	1.7	32314.81	25	100.18	89.8	110.2	
118	Sn	159	He	23.173	ppb	0.7	64589.86	25	92.69	89.8	110.2	
121	Sb	159	No Gas	24.799	ppb	6.8	472812.89	25	99.2	89.8	110.2	
137	Ba	159	No Gas	24.804	ppb	5.3	183892.62	25	99.22	89.8	110.2	
182	W	159	No Gas	24.956	ppb	6.6	415798.25	25	99.82	89.8	110.2	
205	Tl	209	No Gas	26.139	ppb	6.1	871323.64	25	104.56	89.8	110.2	
208	Pb	209	No Gas	25.629	ppb	5.4	1203257.83	25	102.52	89.8	110.2	
232	Th	209	No Gas	25.707	ppb	4.6	1191927.32	25	102.83	89.8	110.2	
238	U	209	No Gas	25.753	ppb	5.1	1166259.64	25	103.01	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6054054.83	3.8	6947791.61	87.14	29.5	120.4	
Sc	45	No Gas	9563401.08	6.4	11828674.09	80.85	29.5	120.4	
Sc	45	H2	1196632.57	5.1	1511145.3	79.19	29.5	120.4	
Sc	45	He	319746.34	1.5	392815.69	81.4	29.5	120.4	
Ge	72	No Gas	1989328.61	4.0	2346521.52	84.78	29.5	120.4	
Ge	72	H2	413065.73	3.9	505748.89	81.67	29.5	120.4	
Ge	72	He	203109.70	0.5	240647.81	84.4	29.5	120.4	
Y	89	H2	6906181.88	5.7	8216492.56	84.05	29.5	120.4	
Y	89	He	1736965.11	1.3	2023870.27	85.82	29.5	120.4	
Tb	159	No Gas	20385721.78	6.3	21789053.29	93.56	29.5	120.4	
Tb	159	He	7952168.21	1.0	8552940.43	92.98	29.5	120.4	
Bi	209	No Gas	10514015.94	4.8	10957550.08	95.95	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	210_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:11:47
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.013	ppb	34.7	93.34	0.2	
11	B	6	No Gas	0.511	ppb	3.2	2685.90	4	
23	Na	45	He	44.538	ppb	9.8	31700.18	200	
24	Mg	45	He	0.337	ppb	36.5	162.23	20	
27	Al	45	He	-0.057	ppb	N/A	34.45	20	
28	Si	45	H2	-0.622	ppb	N/A	430.49	100	
39	K	45	He	13.245	ppb	23.2	17472.79	200	
40	Ca	45	H2	1.403	ppb	12.7	5449.02	20	
51	V	89	He	-0.047	ppb	N/A	153.34	1	
52	Cr	89	He	-0.017	ppb	N/A	525.25	1	
55	Mn	89	He	0.007	ppb	32.6	113.98	0.4	
56	Fe	89	H2	0.700	ppb	27.3	36816.87	20	
59	Co	89	He	0.006	ppb	53.9	60.00	0.2	
60	Ni	89	He	0.000	ppb	2355.8	33.33	0.4	
63	Cu	89	He	0.009	ppb	138.2	281.12	0.6	
66	Zn	89	He	0.033	ppb	46.5	96.67	2	
75	As	89	He	0.004	ppb	347.5	18.67	1	
78	Se	89	H2	0.031	ppb	35.3	9.17	1	
88	Sr	89	He	0.000	ppb	N/A	22.22	1	
95	Mo	89	He	0.087	ppb	8.5	288.90	1	
107	Ag	89	He	0.005	ppb	26.6	85.56	0.2	
111	Cd	89	He	0.003	ppb	79.8	4.07	0.2	
118	Sn	159	He	0.088	ppb	20.4	480.03	1	
121	Sb	159	No Gas	0.029	ppb	38.7	694.12	0.2	
137	Ba	159	No Gas	0.029	ppb	42.1	317.03	0.4	
182	W	159	No Gas	0.084	ppb	2.3	1528.47	1	
205	Tl	209	No Gas	0.020	ppb	29.8	921.06	0.2	
208	Pb	209	No Gas	-0.017	ppb	N/A	2115.77	0.2	
232	Th	209	No Gas	0.100	ppb	7.6	5046.68	1	
238	U	209	No Gas	0.017	ppb	36.9	784.24	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6091465.83	0.8	6947791.61	87.67	29.5	120.4	
Sc	45	No Gas	9705260.86	2.0	11828674.09	82.05	29.5	120.4	
Sc	45	H2	1259732.41	6.7	1511145.3	83.36	29.5	120.4	
Sc	45	He	320214.79	3.7	392815.69	81.52	29.5	120.4	
Ge	72	No Gas	2003842.96	0.7	2346521.52	85.4	29.5	120.4	
Ge	72	H2	426868.29	3.6	505748.89	84.4	29.5	120.4	
Ge	72	He	202990.47	2.4	240647.81	84.35	29.5	120.4	
Y	89	H2	7168632.08	6.0	8216492.56	87.25	29.5	120.4	
Y	89	He	1741845.83	4.1	2023870.27	86.07	29.5	120.4	
Tb	159	No Gas	20675616.50	2.0	21789053.29	94.89	29.5	120.4	
Tb	159	He	7957566.69	3.7	8552940.43	93.04	29.5	120.4	
Bi	209	No Gas	10794794.21	1.1	10957550.08	98.51	29.5	120.4	

Sample Report

Sample Name	TN0335-015
File Name	211SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:14:27
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.248	ppb	1.2	316.68	100	
11	B	6	No Gas	187.250	ppb	0.8	153395.19	1000	
23	Na	45	He	249938.878	ppb	1.2	26438826.02	200000	
24	Mg	45	He	3751.820	ppb	0.5	217976.09	200000	
27	Al	45	He	84.428	ppb	3.3	1887.98	200000	
28	Si	45	H2	3375.078	ppb	8.2	130838.38	10000	
39	K	45	He	2545.914	ppb	1.3	136283.16	200000	
40	Ca	45	H2	26298.176	ppb	8.2	8610477.86	200000	
51	V	89	He	1.261	ppb	1.8	1296.78	1000	
52	Cr	89	He	0.670	ppb	5.9	1254.50	2000	
55	Mn	89	He	106.844	ppb	1.6	48408.98	2000	
56	Fe	89	H2	1814.987	ppb	8.9	2233694.24	100000	
59	Co	89	He	0.569	ppb	4.8	900.09	1000	
60	Ni	89	He	2.920	ppb	10.7	1293.44	1000	
63	Cu	89	He	1.069	ppb	4.7	1471.25	2000	
66	Zn	89	He	4.831	ppb	10.3	810.06	2000	
75	As	89	He	1.636	ppb	1.6	193.69	1000	
78	Se	89	H2	0.307	ppb	5.8	17.00	1000	
88	Sr	89	He	87.151	ppb	1.5	48513.20	2000	
95	Mo	89	He	9.710	ppb	2.8	5921.51	1000	
107	Ag	89	He	0.034	ppb	31.9	105.56	100	
111	Cd	89	He	0.024	ppb	57.9	5.93	1000	
118	Sn	159	He	1.104	ppb	3.3	833.39	1000	
121	Sb	159	No Gas	0.084	ppb	28.4	463.86	1000	
137	Ba	159	No Gas	22.028	ppb	2.3	32860.48	2000	
182	W	159	No Gas	0.100	ppb	9.3	443.84	1000	
205	Tl	209	No Gas	0.021	ppb	61.0	373.76	1000	
208	Pb	209	No Gas	-0.006	ppb	N/A	2793.24	2000	
232	Th	209	No Gas	0.778	ppb	3.6	7520.69	1000	
238	U	209	No Gas	0.209	ppb	8.9	1908.96	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5972797.80	0.9	6947791.61	85.97	29.5	120.4	
Sc	45	No Gas	9550242.93	2.1	11828674.09	80.74	29.5	120.4	
Sc	45	H2	1245017.94	6.3	1511145.3	82.39	29.5	120.4	
Sc	45	He	313255.72	1.2	392815.69	79.75	29.5	120.4	
Ge	72	No Gas	1989376.06	1.8	2346521.52	84.78	29.5	120.4	
Ge	72	H2	414020.38	3.8	505748.89	81.86	29.5	120.4	
Ge	72	He	198299.98	1.6	240647.81	82.4	29.5	120.4	
Y	89	H2	7205951.69	6.8	8216492.56	87.7	29.5	120.4	
Y	89	He	1700299.96	0.9	2023870.27	84.01	29.5	120.4	
Tb	159	No Gas	20420178.72	1.9	21789053.29	93.72	29.5	120.4	
Tb	159	He	7807216.20	1.4	8552940.43	91.28	29.5	120.4	
Bi	209	No Gas	10536807.79	2.2	10957550.08	96.16	29.5	120.4	

Sample Report

Sample Name	TN0335-016
File Name	212SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:17:03
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.025	ppb	5.2	37.78	100	
11	B	6	No Gas	290.137	ppb	1.6	233664.45	1000	
23	Na	45	He	71251.930	ppb	2.6	7539375.83	200000	
24	Mg	45	He	3925.624	ppb	3.0	227948.29	200000	
27	Al	45	He	13.215	ppb	19.7	328.90	200000	
28	Si	45	H2	17296.136	ppb	5.2	680809.64	10000	
39	K	45	He	2812.481	ppb	2.6	149041.15	200000	
40	Ca	45	H2	45135.212	ppb	5.2	15054912.42	200000	
51	V	89	He	0.640	ppb	16.0	821.16	1000	
52	Cr	89	He	0.347	ppb	11.6	938.53	2000	
55	Mn	89	He	36.288	ppb	4.1	16493.99	2000	
56	Fe	89	H2	121.094	ppb	5.7	182851.77	100000	
59	Co	89	He	0.343	ppb	21.9	546.72	1000	
60	Ni	89	He	3.133	ppb	5.2	1384.57	1000	
63	Cu	89	He	1.047	ppb	1.2	1445.69	2000	
66	Zn	89	He	1.348	ppb	5.4	275.57	2000	
75	As	89	He	1.589	ppb	12.8	188.36	1000	
78	Se	89	H2	0.651	ppb	28.5	35.00	1000	
88	Sr	89	He	129.411	ppb	3.5	71985.69	2000	
95	Mo	89	He	13.482	ppb	4.6	8208.31	1000	
107	Ag	89	He	0.021	ppb	22.6	81.11	100	
111	Cd	89	He	0.029	ppb	28.5	7.41	1000	
118	Sn	159	He	0.776	ppb	9.2	657.82	1000	
121	Sb	159	No Gas	0.135	ppb	12.0	650.75	1000	
137	Ba	159	No Gas	13.788	ppb	3.1	20354.81	2000	
182	W	159	No Gas	1.137	ppb	5.4	3864.87	1000	
205	Tl	209	No Gas	0.078	ppb	10.2	760.89	1000	
208	Pb	209	No Gas	-0.039	ppb	N/A	2499.55	2000	
232	Th	209	No Gas	0.265	ppb	7.0	2760.07	1000	
238	U	209	No Gas	1.222	ppb	1.7	11174.29	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5879530.84	1.2	6947791.61	84.62	29.5	120.4	
Sc	45	No Gas	9337776.51	1.1	11828674.09	78.94	29.5	120.4	
Sc	45	H2	1265669.63	3.7	1511145.3	83.76	29.5	120.4	
Sc	45	He	313240.73	2.7	392815.69	79.74	29.5	120.4	
Ge	72	No Gas	1970005.49	1.1	2346521.52	83.95	29.5	120.4	
Ge	72	H2	421541.19	2.4	505748.89	83.35	29.5	120.4	
Ge	72	He	198939.67	1.7	240647.81	82.67	29.5	120.4	
Y	89	H2	7322177.60	3.5	8216492.56	89.12	29.5	120.4	
Y	89	He	1700506.68	3.1	2023870.27	84.02	29.5	120.4	
Tb	159	No Gas	20171424.28	1.9	21789053.29	92.58	29.5	120.4	
Tb	159	He	7851717.94	2.9	8552940.43	91.8	29.5	120.4	
Bi	209	No Gas	10591180.60	1.1	10957550.08	96.66	29.5	120.4	

Sample Report

Sample Name	TN0335-017
File Name	213SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:19:48
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.020	ppb	9.3	32.22	100	
11	B	6	No Gas	270.927	ppb	2.1	219689.25	1000	
23	Na	45	He	129952.511	ppb	0.7	13638846.91	200000	
24	Mg	45	He	673.471	ppb	1.0	38859.47	200000	
27	Al	45	He	36.168	ppb	3.3	824.52	200000	
28	Si	45	H2	7965.136	ppb	2.5	305712.58	10000	
39	K	45	He	1486.232	ppb	1.1	84662.08	200000	
40	Ca	45	H2	4536.304	ppb	2.0	1476796.11	200000	
51	V	89	He	1.389	ppb	3.4	1382.34	1000	
52	Cr	89	He	2.527	ppb	1.5	3051.78	2000	
55	Mn	89	He	23.345	ppb	0.4	10562.07	2000	
56	Fe	89	H2	124.796	ppb	4.0	181447.61	100000	
59	Co	89	He	0.080	ppb	39.5	135.57	1000	
60	Ni	89	He	0.412	ppb	17.9	207.79	1000	
63	Cu	89	He	0.939	ppb	3.8	1309.00	2000	
66	Zn	89	He	1.523	ppb	6.7	300.01	2000	
75	As	89	He	0.706	ppb	15.6	92.01	1000	
78	Se	89	H2	0.291	ppb	28.7	15.83	1000	
88	Sr	89	He	14.397	ppb	0.6	7964.82	2000	
95	Mo	89	He	35.252	ppb	0.1	21270.49	1000	
107	Ag	89	He	0.015	ppb	66.5	68.89	100	
111	Cd	89	He	0.021	ppb	12.8	5.19	1000	
118	Sn	159	He	0.680	ppb	17.4	603.37	1000	
121	Sb	159	No Gas	0.118	ppb	10.8	590.67	1000	
137	Ba	159	No Gas	20.847	ppb	5.0	30840.32	2000	
182	W	159	No Gas	2.175	ppb	6.4	7320.23	1000	
205	Tl	209	No Gas	-0.008	ppb	N/A	176.87	1000	
208	Pb	209	No Gas	0.008	ppb	354.9	2926.76	2000	
232	Th	209	No Gas	0.175	ppb	7.8	1912.31	1000	
238	U	209	No Gas	0.123	ppb	16.5	1124.65	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5920080.29	2.2	6947791.61	85.21	29.5	120.4	
Sc	45	No Gas	9439931.68	4.5	11828674.09	79.81	29.5	120.4	
Sc	45	H2	1231896.40	2.4	1511145.3	81.52	29.5	120.4	
Sc	45	He	310704.16	1.0	392815.69	79.1	29.5	120.4	
Ge	72	No Gas	1986128.00	2.2	2346521.52	84.64	29.5	120.4	
Ge	72	H2	415931.36	1.4	505748.89	82.24	29.5	120.4	
Ge	72	He	198401.37	0.9	240647.81	82.44	29.5	120.4	
Y	89	H2	7084428.61	2.2	8216492.56	86.22	29.5	120.4	
Y	89	He	1685824.49	0.8	2023870.27	83.3	29.5	120.4	
Tb	159	No Gas	20272373.45	4.7	21789053.29	93.04	29.5	120.4	
Tb	159	He	7823072.31	0.7	8552940.43	91.47	29.5	120.4	
Bi	209	No Gas	10563156.33	3.4	10957550.08	96.4	29.5	120.4	

Sample Report

Sample Name	TN0335-018
File Name	214SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:22:28
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.011	ppb	52.7	21.11	100	
11	B	6	No Gas	124.934	ppb	2.9	102682.21	1000	
23	Na	45	He	310592.038	ppb	1.7	33020850.94	200000	
24	Mg	45	He	17093.688	ppb	2.3	997896.26	200000	
27	Al	45	He	18.125	ppb	10.8	438.92	200000	
28	Si	45	H2	5458.352	ppb	2.4	205162.41	10000	
39	K	45	He	4320.679	ppb	1.6	222717.77	200000	
40	Ca	45	H2	78871.559	ppb	0.6	25073983.79	200000	
51	V	89	He	0.195	ppb	13.0	480.03	1000	
52	Cr	89	He	0.369	ppb	1.2	957.86	2000	
55	Mn	89	He	745.116	ppb	2.1	336488.57	2000	
56	Fe	89	H2	907.080	ppb	1.4	1107098.51	100000	
59	Co	89	He	1.506	ppb	3.4	2353.71	1000	
60	Ni	89	He	2.159	ppb	5.9	962.29	1000	
63	Cu	89	He	1.152	ppb	2.9	1565.70	2000	
66	Zn	89	He	2.374	ppb	5.0	432.25	2000	
75	As	89	He	0.647	ppb	7.5	86.34	1000	
78	Se	89	H2	0.206	ppb	13.6	11.50	1000	
88	Sr	89	He	175.182	ppb	2.7	97331.48	2000	
95	Mo	89	He	2.015	ppb	2.7	1240.10	1000	
107	Ag	89	He	0.009	ppb	27.6	57.78	100	
111	Cd	89	He	0.022	ppb	21.3	5.56	1000	
118	Sn	159	He	0.532	ppb	25.5	522.25	1000	
121	Sb	159	No Gas	0.086	ppb	27.2	480.54	1000	
137	Ba	159	No Gas	20.026	ppb	3.5	30642.91	2000	
182	W	159	No Gas	-0.006	ppb	N/A	93.44	1000	
205	Tl	209	No Gas	0.149	ppb	12.9	1234.78	1000	
208	Pb	209	No Gas	-0.042	ppb	N/A	2466.19	2000	
232	Th	209	No Gas	0.069	ppb	20.9	921.06	1000	
238	U	209	No Gas	0.583	ppb	3.9	5330.44	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5982862.86	1.1	6947791.61	86.11	29.5	120.4	
Sc	45	No Gas	9753330.07	0.5	11828674.09	82.45	29.5	120.4	
Sc	45	H2	1204977.10	1.2	1511145.3	79.74	29.5	120.4	
Sc	45	He	314867.51	1.1	392815.69	80.16	29.5	120.4	
Ge	72	No Gas	2010145.67	0.6	2346521.52	85.66	29.5	120.4	
Ge	72	H2	405415.65	1.4	505748.89	80.16	29.5	120.4	
Ge	72	He	198141.47	1.5	240647.81	82.34	29.5	120.4	
Y	89	H2	7015807.07	0.9	8216492.56	85.39	29.5	120.4	
Y	89	He	1697868.61	1.5	2023870.27	83.89	29.5	120.4	
Tb	159	No Gas	20934560.25	0.4	21789053.29	96.08	29.5	120.4	
Tb	159	He	7829951.97	1.3	8552940.43	91.55	29.5	120.4	
Bi	209	No Gas	10588140.27	1.4	10957550.08	96.63	29.5	120.4	

Sample Report

Sample Name	TN0335-019
File Name	215SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:25:10
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.009	ppb	138.4	18.89	100	
11	B	6	No Gas	3.328	ppb	10.6	3286.04	1000	
23	Na	45	He	274.661	ppb	7.5	36821.69	200000	
24	Mg	45	He	19.637	ppb	3.4	1209.04	200000	
27	Al	45	He	7.716	ppb	12.6	210.01	200000	
28	Si	45	H2	13.274	ppb	19.7	1064.56	10000	
39	K	45	He	51.350	ppb	14.3	16493.74	200000	
40	Ca	45	H2	22.997	ppb	8.6	10630.96	200000	
51	V	89	He	0.055	ppb	15.5	375.58	1000	
52	Cr	89	He	0.155	ppb	27.2	753.22	2000	
55	Mn	89	He	0.418	ppb	13.8	287.29	2000	
56	Fe	89	H2	0.779	ppb	41.1	33547.56	100000	
59	Co	89	He	0.041	ppb	6.2	77.79	1000	
60	Ni	89	He	0.029	ppb	44.0	44.45	1000	
63	Cu	89	He	0.396	ppb	12.1	690.04	2000	
66	Zn	89	He	0.607	ppb	16.1	163.34	2000	
75	As	89	He	0.027	ppb	82.4	19.33	1000	
78	Se	89	H2	0.010	ppb	143.2	1.83	1000	
88	Sr	89	He	0.067	ppb	34.4	60.00	2000	
95	Mo	89	He	0.049	ppb	31.9	46.67	1000	
107	Ag	89	He	0.013	ppb	66.3	64.45	100	
111	Cd	89	He	0.006	ppb	114.0	1.48	1000	
118	Sn	159	He	0.686	ppb	1.7	613.37	1000	
121	Sb	159	No Gas	0.006	ppb	259.1	160.18	1000	
137	Ba	159	No Gas	0.383	ppb	13.7	664.09	2000	
182	W	159	No Gas	0.006	ppb	31.3	130.15	1000	
205	Tl	209	No Gas	-0.020	ppb	N/A	100.11	1000	
208	Pb	209	No Gas	-0.040	ppb	N/A	2512.92	2000	
232	Th	209	No Gas	0.059	ppb	23.7	840.97	1000	
238	U	209	No Gas	0.002	ppb	58.4	20.02	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6020186.59	2.3	6947791.61	86.65	29.5	120.4	
Sc	45	No Gas	9483869.26	5.4	11828674.09	80.18	29.5	120.4	
Sc	45	H2	1244855.07	3.6	1511145.3	82.38	29.5	120.4	
Sc	45	He	315243.54	2.1	392815.69	80.25	29.5	120.4	
Ge	72	No Gas	1977332.42	3.4	2346521.52	84.27	29.5	120.4	
Ge	72	H2	414973.03	2.1	505748.89	82.05	29.5	120.4	
Ge	72	He	198639.32	1.1	240647.81	82.54	29.5	120.4	
Y	89	H2	7185390.45	3.7	8216492.56	87.45	29.5	120.4	
Y	89	He	1710671.85	2.1	2023870.27	84.52	29.5	120.4	
Tb	159	No Gas	20397507.89	5.0	21789053.29	93.61	29.5	120.4	
Tb	159	He	7914131.20	2.1	8552940.43	92.53	29.5	120.4	
Bi	209	No Gas	10686723.85	4.2	10957550.08	97.53	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	216SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:27:46
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	-0.001	ppb	N/A	4.44	100	
11	B	6	No Gas	0.275	ppb	7.9	1711.28	1000	
23	Na	45	He	36.388	ppb	2.9	27052.38	200000	
24	Mg	45	He	0.193	ppb	54.3	117.79	200000	
27	Al	45	He	0.199	ppb	111.3	62.22	200000	
28	Si	45	H2	0.176	ppb	452.7	590.67	10000	
39	K	45	He	11.885	ppb	9.9	16965.88	200000	
40	Ca	45	H2	0.653	ppb	12.7	4207.44	200000	
51	V	89	He	-0.041	ppb	N/A	175.56	1000	
52	Cr	89	He	-0.018	ppb	N/A	516.58	2000	
55	Mn	89	He	0.025	ppb	51.6	155.31	2000	
56	Fe	89	H2	-0.223	ppb	N/A	31306.60	100000	
59	Co	89	He	0.004	ppb	13.8	42.22	1000	
60	Ni	89	He	0.010	ppb	42.0	53.34	1000	
63	Cu	89	He	0.015	ppb	19.2	317.79	2000	
66	Zn	89	He	0.088	ppb	22.3	138.90	2000	
75	As	89	He	-0.012	ppb	N/A	10.00	1000	
78	Se	89	H2	0.003	ppb	178.2	2.17	1000	
88	Sr	89	He	0.003	ppb	74.4	32.22	2000	
95	Mo	89	He	0.008	ppb	38.8	42.23	1000	
107	Ag	89	He	0.001	ppb	86.5	45.56	100	
111	Cd	89	He	0.001	ppb	173.2	0.74	1000	
118	Sn	159	He	0.005	ppb	177.1	246.68	1000	
121	Sb	159	No Gas	0.001	ppb	141.6	166.86	1000	
137	Ba	159	No Gas	0.006	ppb	80.4	143.49	2000	
182	W	159	No Gas	-0.002	ppb	N/A	76.75	1000	
205	Tl	209	No Gas	-0.003	ppb	N/A	126.81	1000	
208	Pb	209	No Gas	-0.024	ppb	N/A	1795.41	2000	
232	Th	209	No Gas	0.002	ppb	5.7	387.11	1000	
238	U	209	No Gas	0.000	ppb	153.1	13.35	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6126385.03	2.0	6947791.61	88.18	29.5	120.4	
Sc	45	No Gas	9730194.23	1.3	11828674.09	82.26	29.5	120.4	
Sc	45	H2	1257525.96	1.1	1511145.3	83.22	29.5	120.4	
Sc	45	He	316723.00	0.6	392815.69	80.63	29.5	120.4	
Ge	72	No Gas	2024205.98	1.5	2346521.52	86.26	29.5	120.4	
Ge	72	H2	427998.17	0.3	505748.89	84.63	29.5	120.4	
Ge	72	He	201455.36	0.2	240647.81	83.71	29.5	120.4	
Y	89	H2	7196640.34	1.0	8216492.56	87.59	29.5	120.4	
Y	89	He	1727571.28	0.4	2023870.27	85.36	29.5	120.4	
Tb	159	No Gas	20915061.77	1.5	21789053.29	95.99	29.5	120.4	
Tb	159	He	7902284.81	0.3	8552940.43	92.39	29.5	120.4	
Bi	209	No Gas	10871080.28	1.3	10957550.08	99.21	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	217SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:30:30
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	N/A	6.67	100	
11	B	6	No Gas	0.188	ppb	1.3	1350.11	1000	
23	Na	45	He	29.704	ppb	4.6	23572.09	200000	
24	Mg	45	He	0.034	ppb	511.2	71.12	200000	
27	Al	45	He	0.116	ppb	137.9	53.33	200000	
28	Si	45	H2	0.187	ppb	416.1	594.01	10000	
39	K	45	He	11.360	ppb	17.6	16905.79	200000	
40	Ca	45	H2	0.581	ppb	8.4	4095.18	200000	
51	V	89	He	-0.040	ppb	N/A	182.23	1000	
52	Cr	89	He	-0.010	ppb	N/A	555.24	2000	
55	Mn	89	He	0.014	ppb	52.1	129.98	2000	
56	Fe	89	H2	-0.204	ppb	N/A	31437.23	100000	
59	Co	89	He	0.006	ppb	34.9	62.23	1000	
60	Ni	89	He	0.003	ppb	77.8	38.89	1000	
63	Cu	89	He	0.011	ppb	51.1	294.46	2000	
66	Zn	89	He	0.097	ppb	10.2	145.56	2000	
75	As	89	He	-0.009	ppb	N/A	11.67	1000	
78	Se	89	H2	0.000	ppb	8218.8	1.33	1000	
88	Sr	89	He	0.000	ppb	1546.6	23.33	2000	
95	Mo	89	He	0.002	ppb	69.3	24.44	1000	
107	Ag	89	He	0.000	ppb	N/A	38.89	100	
111	Cd	89	He	0.001	ppb	173.2	0.74	1000	
118	Sn	159	He	0.013	ppb	13.1	270.01	1000	
121	Sb	159	No Gas	0.001	ppb	187.7	166.85	1000	
137	Ba	159	No Gas	0.014	ppb	54.2	203.57	2000	
182	W	159	No Gas	-0.001	ppb	N/A	90.10	1000	
205	Tl	209	No Gas	-0.004	ppb	N/A	103.45	1000	
208	Pb	209	No Gas	-0.024	ppb	N/A	1748.68	2000	
232	Th	209	No Gas	0.001	ppb	236.1	313.69	1000	
238	U	209	No Gas	0.000	ppb	228.7	13.35	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6126133.47	2.2	6947791.61	88.17	29.5	120.4	
Sc	45	No Gas	9694172.06	2.2	11828674.09	81.95	29.5	120.4	
Sc	45	H2	1259458.41	1.1	1511145.3	83.34	29.5	120.4	
Sc	45	He	318010.92	0.5	392815.69	80.96	29.5	120.4	
Ge	72	No Gas	2016363.44	2.3	2346521.52	85.93	29.5	120.4	
Ge	72	H2	427223.84	0.4	505748.89	84.47	29.5	120.4	
Ge	72	He	201625.59	0.3	240647.81	83.78	29.5	120.4	
Y	89	H2	7199984.52	1.0	8216492.56	87.63	29.5	120.4	
Y	89	He	1727136.40	0.5	2023870.27	85.34	29.5	120.4	
Tb	159	No Gas	20856787.60	2.3	21789053.29	95.72	29.5	120.4	
Tb	159	He	7875018.77	0.6	8552940.43	92.07	29.5	120.4	
Bi	209	No Gas	10829231.35	2.1	10957550.08	98.83	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	218SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:33:10
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	N/A	5.56	100	
11	B	6	No Gas	0.145	ppb	17.8	1173.42	1000	
23	Na	45	He	29.165	ppb	4.0	22977.22	200000	
24	Mg	45	He	0.113	ppb	42.1	93.34	200000	
27	Al	45	He	0.350	ppb	54.5	77.78	200000	
28	Si	45	H2	-0.327	ppb	N/A	510.58	10000	
39	K	45	He	11.144	ppb	23.5	16627.26	200000	
40	Ca	45	H2	0.540	ppb	5.4	4169.66	200000	
51	V	89	He	-0.043	ppb	N/A	167.78	1000	
52	Cr	89	He	-0.013	ppb	N/A	542.58	2000	
55	Mn	89	He	0.012	ppb	26.3	124.65	2000	
56	Fe	89	H2	-0.168	ppb	N/A	32835.14	100000	
59	Co	89	He	0.004	ppb	56.7	46.67	1000	
60	Ni	89	He	0.000	ppb	N/A	32.22	1000	
63	Cu	89	He	0.010	ppb	103.7	283.35	2000	
66	Zn	89	He	0.100	ppb	47.7	146.67	2000	
75	As	89	He	-0.012	ppb	N/A	10.00	1000	
78	Se	89	H2	-0.002	ppb	N/A	0.83	1000	
88	Sr	89	He	-0.001	ppb	N/A	18.89	2000	
95	Mo	89	He	0.005	ppb	65.2	31.11	1000	
107	Ag	89	He	0.000	ppb	410.7	43.34	100	
111	Cd	89	He	0.001	ppb	33.7	1.85	1000	
118	Sn	159	He	0.009	ppb	96.5	258.90	1000	
121	Sb	159	No Gas	0.001	ppb	320.0	163.52	1000	
137	Ba	159	No Gas	0.011	ppb	58.3	186.88	2000	
182	W	159	No Gas	-0.001	ppb	N/A	90.10	1000	
205	Tl	209	No Gas	-0.004	ppb	N/A	113.46	1000	
208	Pb	209	No Gas	-0.029	ppb	N/A	1531.76	2000	
232	Th	209	No Gas	0.002	ppb	55.4	387.11	1000	
238	U	209	No Gas	0.000	ppb	59.2	13.35	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6152588.57	2.5	6947791.61	88.55	29.5	120.4	
Sc	45	No Gas	9857540.42	3.4	11828674.09	83.34	29.5	120.4	
Sc	45	H2	1303948.43	1.9	1511145.3	86.29	29.5	120.4	
Sc	45	He	314008.52	3.9	392815.69	79.94	29.5	120.4	
Ge	72	No Gas	2036901.73	2.5	2346521.52	86.81	29.5	120.4	
Ge	72	H2	434930.08	1.8	505748.89	86	29.5	120.4	
Ge	72	He	201035.27	2.2	240647.81	83.54	29.5	120.4	
Y	89	H2	7470132.26	2.6	8216492.56	90.92	29.5	120.4	
Y	89	He	1722295.41	4.3	2023870.27	85.1	29.5	120.4	
Tb	159	No Gas	21000858.44	3.1	21789053.29	96.38	29.5	120.4	
Tb	159	He	7847505.58	3.7	8552940.43	91.75	29.5	120.4	
Bi	209	No Gas	10875795.72	3.1	10957550.08	99.25	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	219_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:35:54
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	23.809	ppb	2.5	147427.45	25	95.24	89.8	110.2	
11	B	6	No Gas	23.806	ppb	2.0	97036.02	25	95.22	89.8	110.2	
23	Na	45	He	5020.913	ppb	2.0	2695319.21	5000	100.42	89.8	110.2	
24	Mg	45	He	5036.469	ppb	2.6	1480598.17	5000	100.73	89.8	110.2	
27	Al	45	He	485.718	ppb	2.9	53837.76	500	97.14	89.8	110.2	
28	Si	45	H2	450.471	ppb	2.7	88693.54	500	90.09	89.8	110.2	
39	K	45	He	4885.095	ppb	2.1	1202521.29	5000	97.7	89.8	110.2	
40	Ca	45	H2	4863.478	ppb	1.9	8071350.37	5000	97.27	89.8	110.2	
51	V	89	He	23.323	ppb	2.7	90463.81	25	93.29	89.8	110.2	
52	Cr	89	He	23.574	ppb	2.7	117438.51	25	94.3	89.8	110.2	
55	Mn	89	He	23.878	ppb	3.2	54617.71	25	95.51	89.8	110.2	
56	Fe	89	H2	4741.307	ppb	1.7	28891484.22	5000	94.83	89.8	110.2	
59	Co	89	He	23.810	ppb	2.8	187244.17	25	95.24	89.8	110.2	
60	Ni	89	He	23.506	ppb	3.2	51289.34	25	94.02	89.8	110.2	
63	Cu	89	He	23.709	ppb	2.7	139977.74	25	94.84	89.8	110.2	
66	Zn	89	He	24.099	ppb	3.2	18725.39	25	96.4	89.8	110.2	
75	As	89	He	23.435	ppb	2.0	12849.65	25	93.74	89.8	110.2	
78	Se	89	H2	23.905	ppb	2.8	6096.06	25	95.62	89.8	110.2	
88	Sr	89	He	23.872	ppb	2.7	67097.82	25	95.49	89.8	110.2	
95	Mo	89	He	24.624	ppb	3.1	75625.96	25	98.5	89.8	110.2	
107	Ag	89	He	25.314	ppb	1.9	252499.67	25	101.26	89.8	110.2	
111	Cd	89	He	25.075	ppb	2.6	31988.45	25	100.3	89.8	110.2	
118	Sn	159	He	22.858	ppb	2.8	63458.79	25	91.43	89.8	110.2	
121	Sb	159	No Gas	24.815	ppb	2.2	471489.91	25	99.26	89.8	110.2	
137	Ba	159	No Gas	24.720	ppb	2.4	182511.35	25	98.88	89.8	110.2	
182	W	159	No Gas	25.104	ppb	1.9	416842.55	25	100.42	89.8	110.2	
205	Tl	209	No Gas	26.132	ppb	2.9	870219.85	25	104.53	89.8	110.2	
208	Pb	209	No Gas	25.410	ppb	1.4	1191532.93	25	101.64	89.8	110.2	
232	Th	209	No Gas	25.026	ppb	3.4	1158743.13	25	100.1	89.8	110.2	
238	U	209	No Gas	25.545	ppb	2.5	1155383.32	25	102.18	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5931313.66	0.5	6947791.61	85.37	29.5	120.4	
Sc	45	No Gas	9470586.71	1.5	11828674.09	80.06	29.5	120.4	
Sc	45	H2	1257829.20	0.7	1511145.3	83.24	29.5	120.4	
Sc	45	He	317197.24	2.3	392815.69	80.75	29.5	120.4	
Ge	72	No Gas	1972326.24	0.9	2346521.52	84.05	29.5	120.4	
Ge	72	H2	422430.05	0.7	505748.89	83.53	29.5	120.4	
Ge	72	He	200373.98	1.3	240647.81	83.26	29.5	120.4	
Y	89	H2	7205719.63	1.5	8216492.56	87.7	29.5	120.4	
Y	89	He	1717918.01	2.4	2023870.27	84.88	29.5	120.4	
Tb	159	No Gas	20258856.92	1.7	21789053.29	92.98	29.5	120.4	
Tb	159	He	7923336.27	2.4	8552940.43	92.64	29.5	120.4	
Bi	209	No Gas	10483537.02	1.0	10957550.08	95.67	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	220_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:38:31
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.023	ppb	48.1	148.89	0.2	
11	B	6	No Gas	0.356	ppb	6.2	1952.42	4	
23	Na	45	He	24.597	ppb	12.5	20841.59	200	
24	Mg	45	He	0.473	ppb	29.9	200.02	20	
27	Al	45	He	-0.017	ppb	N/A	38.89	20	
28	Si	45	H2	-0.498	ppb	N/A	467.19	100	
39	K	45	He	10.409	ppb	42.1	16692.29	200	
40	Ca	45	H2	1.475	ppb	16.6	5679.13	20	
51	V	89	He	-0.044	ppb	N/A	167.78	1	
52	Cr	89	He	-0.026	ppb	N/A	481.92	1	
55	Mn	89	He	-0.002	ppb	N/A	93.32	0.4	
56	Fe	89	H2	1.398	ppb	8.3	42060.16	20	
59	Co	89	He	0.003	ppb	26.5	40.00	0.2	
60	Ni	89	He	0.006	ppb	82.5	44.45	0.4	
63	Cu	89	He	0.013	ppb	50.2	304.46	0.6	
66	Zn	89	He	0.027	ppb	73.1	92.23	2	
75	As	89	He	-0.012	ppb	N/A	10.00	1	
78	Se	89	H2	0.033	ppb	16.3	9.83	1	
88	Sr	89	He	-0.001	ppb	N/A	18.89	1	
95	Mo	89	He	0.076	ppb	11.7	254.46	1	
107	Ag	89	He	0.004	ppb	78.7	81.11	0.2	
111	Cd	89	He	0.003	ppb	79.7	3.70	0.2	
118	Sn	159	He	0.075	ppb	12.7	444.47	1	
121	Sb	159	No Gas	0.037	ppb	26.3	824.28	0.2	
137	Ba	159	No Gas	0.022	ppb	14.0	250.28	0.4	
182	W	159	No Gas	0.091	ppb	1.1	1578.53	1	
205	Tl	209	No Gas	0.028	ppb	33.9	1124.65	0.2	
208	Pb	209	No Gas	-0.007	ppb	N/A	2486.22	0.2	
232	Th	209	No Gas	0.122	ppb	11.0	5791.18	1	
238	U	209	No Gas	0.025	ppb	40.8	1117.98	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5835176.53	3.5	6947791.61	83.99	29.5	120.4	
Sc	45	No Gas	9162502.08	5.1	11828674.09	77.46	29.5	120.4	
Sc	45	H2	1280421.27	2.6	1511145.3	84.73	29.5	120.4	
Sc	45	He	319018.67	5.1	392815.69	81.21	29.5	120.4	
Ge	72	No Gas	1934658.38	3.4	2346521.52	82.45	29.5	120.4	
Ge	72	H2	433369.19	1.6	505748.89	85.69	29.5	120.4	
Ge	72	He	202714.18	2.8	240647.81	84.24	29.5	120.4	
Y	89	H2	7353146.27	2.7	8216492.56	89.49	29.5	120.4	
Y	89	He	1743153.67	4.8	2023870.27	86.13	29.5	120.4	
Tb	159	No Gas	19765250.12	5.2	21789053.29	90.71	29.5	120.4	
Tb	159	He	7963792.31	4.9	8552940.43	93.11	29.5	120.4	
Bi	209	No Gas	10302534.05	4.3	10957550.08	94.02	29.5	120.4	

Low Level Initial Calibration Verification (LLICV) Report

Sample Name	PQL
File Name	221LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2020\12-Dec\LNL28A.b
Acq Time	12/28/2020 21:41:12
Sample Type	LLICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
9	Be	6	No Gas	0.198	ppb	1.4	1237.87	0.2	99	79.5	120.4	
11	B	6	No Gas	3.991	ppb	2.7	16792.48	4	99.78	79.5	120.4	
23	Na	45	He	234.918	ppb	5.7	131182.35	200	117.46	79.5	120.4	
24	Mg	45	He	20.851	ppb	7.7	6086.16	20	104.25	79.5	120.4	
27	Al	45	He	20.035	ppb	8.0	2221.36	20	100.18	79.5	120.4	
28	Si	45	H2	88.504	ppb	2.3	18205.23	100	88.5	79.5	120.4	
39	K	45	He	218.979	ppb	5.5	66301.17	200	109.49	79.5	120.4	
40	Ca	45	H2	20.201	ppb	2.2	37315.42	20	101.01	79.5	120.4	
51	V	89	He	0.903	ppb	6.0	3778.42	1	90.3	79.5	120.4	
52	Cr	89	He	0.978	ppb	2.8	5388.07	1	97.8	79.5	120.4	
55	Mn	89	He	0.364	ppb	10.6	915.20	0.4	91	79.5	120.4	
56	Fe	89	H2	20.222	ppb	3.1	160167.05	20	101.11	79.5	120.4	
59	Co	89	He	0.211	ppb	4.1	1658.00	0.2	105.5	79.5	120.4	
60	Ni	89	He	0.405	ppb	2.6	904.51	0.4	101.25	79.5	120.4	
63	Cu	89	He	0.594	ppb	8.2	3676.17	0.6	99	79.5	120.4	
66	Zn	89	He	2.027	ppb	6.7	1620.16	2	101.35	79.5	120.4	
75	As	89	He	0.973	ppb	1.3	543.07	1	97.3	79.5	120.4	
78	Se	89	H2	0.956	ppb	2.9	252.16	1	95.6	79.5	120.4	
88	Sr	89	He	0.981	ppb	9.2	2740.38	1	98.1	79.5	120.4	
95	Mo	89	He	1.062	ppb	4.8	3240.52	1	106.2	79.5	120.4	
107	Ag	89	He	0.234	ppb	7.8	2344.73	0.2	117	79.5	120.4	
111	Cd	89	He	0.211	ppb	12.6	265.19	0.2	105.5	79.5	120.4	
118	Sn	159	He	0.954	ppb	3.7	2821.52	1	95.4	79.5	120.4	
121	Sb	159	No Gas	0.221	ppb	3.0	4345.58	0.2	110.5	79.5	120.4	
137	Ba	159	No Gas	0.424	ppb	3.6	3227.36	0.4	106	79.5	120.4	
182	W	159	No Gas	1.110	ppb	6.4	18547.43	1	111	79.5	120.4	
205	Tl	209	No Gas	0.222	ppb	1.7	7717.63	0.2	111	79.5	120.4	
208	Pb	209	No Gas	0.194	ppb	5.7	12039.12	0.2	97	79.5	120.4	
232	Th	209	No Gas	0.238	ppb	3.9	11404.67	0.2	119	79.5	120.4	
238	U	209	No Gas	0.226	ppb	3.7	10332.43	0.2	113	79.5	120.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5957473.57	0.9	6947791.61	85.75	29.5	120.4	
Sc	45	No Gas	9437670.05	1.2	11828674.09	79.79	29.5	120.4	
Sc	45	H2	1281280.79	2.1	1511145.3	84.79	29.5	120.4	
Sc	45	He	312460.30	4.7	392815.69	79.54	29.5	120.4	
Ge	72	No Gas	1972603.03	0.6	2346521.52	84.06	29.5	120.4	
Ge	72	H2	427719.78	2.0	505748.89	84.57	29.5	120.4	
Ge	72	He	198512.65	3.7	240647.81	82.49	29.5	120.4	
Y	89	H2	7409975.76	2.3	8216492.56	90.18	29.5	120.4	
Y	89	He	1698999.63	4.9	2023870.27	83.95	29.5	120.4	
Tb	159	No Gas	20286818.59	1.5	21789053.29	93.11	29.5	120.4	
Tb	159	He	7779614.12	4.8	8552940.43	90.96	29.5	120.4	
Bi	209	No Gas	10604478.79	0.9	10957550.08	96.78	29.5	120.4	

Logbooks and Supporting Documents

Katahdin Analytical Services, Inc.

Metals Preparation Benchsheet

Reagents and Consumables Information:

Method: 3010-MS

HNO3: MSR215 **HCL:** MSR214 **Digestion Vessels:** ML002000000029

1:1 HNO3: MR2911 **1:1 HCL:** MR2919

Pipet	LCS/Spiking Information:
M11	CLPP-SPK-1 (ID/Vol): MS2752 / 0.05 mL
M21	CLPP-SPK-INT1 (ID/Vol): MWI99957 / 0.5 mL
M21	CLPP-SPK-INT2 (ID/Vol): MWI99958 / 0.5 mL
–	– Spike (ID/Vol): – / – mL

Heat Source ID : A
Start Time: 10:01 **/Temp.** 91 **°C**
End Time: 16:57 **/Temp.** 94 **°C**
Thermometer ID/Pos: ALC30 / 16:3

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle	pH <2
LCSWNL22IMW3	NL22IMW3	0.05	L	0.05	L	AQ	IM	SF	12/22/2020	–	✓
PBWNL22IMW3	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	–	
TN0377-001	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	H	
TN0377-002	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	R	
TN0377-002P	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	R	
TN0377-002S	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	R	
TN0377-003	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	H	
TN0377-004	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	H	
TN0377-005	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	H	
TN0377-006	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	H	
TN0377-007	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	P	
TN0377-007P	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	P	
TN0377-007S	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	P	
TN0377-008	NL22IMW3		L		L	AQ	IM	SF	12/22/2020	F	
TN0377-009	NL22IMW3		L		L	AQ	IM	SF	12/22/2020		
TN0377-010	NL22IMW3		L		L	AQ	IM	SF	12/22/2020		
TN0377-011	NL22IMW3		L		L	AQ	IM	SF	12/22/2020		
TN0377-012	NL22IMW3		L		L	AQ	IM	SF	12/22/2020		
TN0377-013	NL22IMW3		L		L	AQ	IM	SF	12/22/2020		

Client IDs verified – SF

REVIEWED
EP 12/23/2020
KATAHDIN ANALYTICAL
METALS SECTION

QA-064-Revision 5 -12/07/2018 **Digestion performed by:** SF **On:** 12/22/20 **Page:** NL114 **Revision:** 00

Katahdin Analytical Services, Inc. **Metals Preparation Benchsheet**

Reagents and Consumables Information: **Method:** 7470

HNO3: MSR213 **H2SO4:** MSR149 **Digestion Vessles:** MP3514

KMNO4: MR2903 **K2S2O8:** MR2890 **NH2OH-HCl:** MR2885

Standards/Spiking Information:

1ppm A : MW19903

1ppm B : MW19213

Pipet	
M11	LCSW = 125uL of 1ppm A to 25mL
M11	Spike(S/P) = 25uL of 1ppm A to 25mL
M21	ICV = 600uL of 1ppm B to 100 mL
M21	S10.0 = 1000uL of 1ppm A to 100 mL

Heat Source ID : C

Start Time: 11:49 /Temp. 92 °C

End Time: 13:49 /Temp. 94 °C

Thermometer ID/Pos: DTG100 / 1.6

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle	pH <2
LCSWNL28HGW1	NL28HGW1	0.025	L	0.025	L	AQ	HG	SF	12/28/2020	—	✓
PBWNL28HGW1	NL28HGW1		L		L	AQ	HG	SF	12/28/2020	—	
TN0377-001	NL28HGW1		L		L	AQ	HG	SF	12/28/2020	H	
TN0377-002	NL28HGW1		L		L	AQ	HG	SF	12/28/2020	P	
TN0377-002P	NL28HGW1		L		L	AQ	HG	SF	12/28/2020	P	
TN0377-002S	NL28HGW1		L		L	AQ	HG	SF	12/28/2020	P	
TN0377-003	NL28HGW1		L		L	AQ	HG	SF	12/28/2020	H	
TN0377-004	NL28HGW1		L		L	AQ	HG	SF	12/28/2020		
TN0377-005	NL28HGW1		L		L	AQ	HG	SF	12/28/2020		
TN0377-006	NL28HGW1		L		L	AQ	HG	SF	12/28/2020		
TN0377-007	NL28HGW1		L		L	AQ	HG	SF	12/28/2020	Q	
TN0377-007P	NL28HGW1		L		L	AQ	HG	SF	12/28/2020	Q	
TN0377-007S	NL28HGW1		L		L	AQ	HG	SF	12/28/2020	Q	
TN0377-008	NL28HGW1		L		L	AQ	HG	SF	12/28/2020	F	
TN0377-009	NL28HGW1		L		L	AQ	HG	SF	12/28/2020		
TN0377-010	NL28HGW1		L		L	AQ	HG	SF	12/28/2020		
TN0377-011	NL28HGW1		L		L	AQ	HG	SF	12/28/2020		
TN0377-012	NL28HGW1		L		L	AQ	HG	SF	12/28/2020		
TN0377-013	NL28HGW1		L		L	AQ	HG	SF	12/28/2020		

Client IDs verified - SF

REVIEWED
ER 12/29/2020
KATAHDIN ANALYTICAL
METALS SECTION

VOLATILE PETROLEUM HYDROCARBON DATA

QC Summary Section

Katahdin
ANALYTICAL SERVICES

Form 2
System Monitoring Compound Recovery

Lab Name: Katahdin Analytical Services **Project:** LO-58 Nike Missile Battery Launch Site **Matrix:** AQ
Lab Code: KAS **SDG:** TN0377

Client Sample ID	Lab Sample ID	Col. ID	DBT-FID #	DBT-PID #
DW-01-EFF-WINTER2020	TN0377-1	B	93.2	92.1
MW-04-WINTER2020	TN0377-10	B	94.8	94.8
MW-05-WINTER2020	TN0377-11	B	91.2	90.4
MW-FD-WINTER2020	TN0377-12	B	90.6	91.6
GW-EB-WINTER2020	TN0377-13	B	92.5	91.4
DW-TB-WINTER2020	TN0377-14	B	95.5	92.4
GW-TB-WINTER2020	TN0377-15	B	94.0	91.7
DW-01-INF-WINTER2020	TN0377-2	B	96.0	94.5
DW-01-MID-WINTER2020	TN0377-3	B	74.1	75.4
DW-02R-EFF-WINTER202	TN0377-4	B	93.6	92.4
DW-02R-INF-WINTER202	TN0377-5	B	98.0	96.6
DW-FD-WINTER2020	TN0377-6	B	94.5	93.0
MW-01-WINTER2020	TN0377-7	B	96.4	95.4
MW-02-WINTER2020	TN0377-8	B	96.5	95.7
MW-03-WINTER2020	TN0377-9	B	94.0	93.7
Method Blank Sample	WG292349-1RA	B	97.3	93.7
Laboratory Control S	WG292349-2RA	B	103.	96.9
Laboratory Control S	WG292349-3	B	100.	95.6
Matrix Spike	WG292349-4	B	96.5	94.4
Matrix Spike Duplica	WG292349-5	B	94.1	90.8
Matrix Spike	WG292349-6	B	93.8	91.3
Matrix Spike Duplica	WG292349-7	B	95.3	90.4

		QC Limits
DBT-FID	2,5-DIBROMOTOLUENE (FID)	70-130
DBT-PID	2,5-DIBROMOTOLUENE (PID)	70-130

= Column to be used to flag recovery limits.
* = Values outside of contract required QC limits.
D= System Monitoring Compound diluted out.

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Katahdin
ANALYTICAL SERVICES

Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Launch Site
Lab File ID : 2NL10108.D
Instrument ID : GC02

SDG : TN0377
Lab Sample ID : WG292349-1RA2
Date Analyzed : 22-DEC-20
Time Analyzed : 14:21
Date Extracted : 22-DEC-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	WG292349-3	2NL10105.	12/22/20	11:47
Laboratory Control S	WG292349-2RA2	2NL10109.	12/22/20	15:03
DW-TB-WINTER2020	TN0377-14	2NL10110.	12/22/20	16:44
GW-TB-WINTER2020	TN0377-15	2NL10111.	12/22/20	17:26
GW-EB-WINTER2020	TN0377-13	2NL10112.	12/22/20	18:09
DW-01-EFF-WINTER2020	TN0377-1	2NL10113.	12/22/20	18:52
DW-01-INF-WINTER2020	TN0377-2	2NL10114.	12/22/20	19:35
DW-01-MID-WINTER2020	TN0377-3	2NL10115.	12/22/20	20:18
DW-02R-EFF-WINTER2020	TN0377-4	2NL10116.	12/22/20	21:02
DW-02R-INF-WINTER2020	TN0377-5	2NL10117.	12/22/20	21:45
DW-FD-WINTER2020	TN0377-6	2NL10118.	12/22/20	22:28
MW-01-WINTER2020	TN0377-7	2NL10119.	12/22/20	23:11
MW-02-WINTER2020	TN0377-8	2NL10120.	12/22/20	23:54
MW-03-WINTER2020	TN0377-9	2NL10121.	12/23/20	00:37
MW-04-WINTER2020	TN0377-10	2NL10122.	12/23/20	01:20
MW-05-WINTER2020	TN0377-11	2NL10123.	12/23/20	02:03
MW-FD-WINTER2020	TN0377-12	2NL10124.	12/23/20	02:47
Matrix Spike	WG292349-4	2NL10125.	12/23/20	03:30
Matrix Spike Duplica	WG292349-5	2NL10126.	12/23/20	04:13
Matrix Spike	WG292349-6	2NL10127.	12/23/20	04:56
Matrix Spike Duplica	WG292349-7	2NL10128.	12/23/20	05:39

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Katahdin
ANALYTICAL SERVICES

Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services **SDG :** TN0377
Project : LO-58 Nike Missile Battery Launch Site
Instrument ID : GC02

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	DBT (FID)	DBT (PID)
Initial Calibration	WG292312-4	12/18/20	10:30		31.065
Initial Calibration	WG292312-4	12/18/20	10:30	31.055	
Initial Calibration	WG292312-1	12/18/20	11:11		31.059
Initial Calibration	WG292312-1	12/18/20	11:11	31.051	
Initial Calibration	WG292312-2	12/18/20	11:52		31.063
Initial Calibration	WG292312-2	12/18/20	11:52	31.052	
Initial Calibration	WG292312-3	12/18/20	12:34		31.063
Initial Calibration	WG292312-3	12/18/20	12:34	31.053	
Initial Calibration	WG292312-5	12/18/20	13:15		31.063
Initial Calibration	WG292312-5	12/18/20	13:15	31.053	
Initial Calibration	WG292312-6	12/18/20	13:56		31.066
Initial Calibration	WG292312-6	12/18/20	13:56	31.056	
Independent Source	WG292312-7	12/18/20	15:39	31.056	31.066
Continuing Calibrati	WG292349-8	12/22/20	08:52	31.076	31.086
Laboratory Control S	WG292349-3	12/22/20	11:47	31.073	31.083
Method Blank Sample	WG292349-1RA2	12/22/20	14:21	31.075	31.084
Laboratory Control S	WG292349-2RA2	12/22/20	15:03	31.074	31.083
DW-TB-WINTER2020	TN0377-14	12/22/20	16:44	31.071	31.08
GW-TB-WINTER2020	TN0377-15	12/22/20	17:26	31.072	31.081
GW-EB-WINTER2020	TN0377-13	12/22/20	18:09	31.079	31.088
DW-01-EFF-WINTER2020	TN0377-1	12/22/20	18:52	31.073	31.082
DW-01-INF-WINTER2020	TN0377-2	12/22/20	19:35	31.072	31.08
DW-01-MID-WINTER2020	TN0377-3	12/22/20	20:18	31.071	31.082
DW-02R-EFF-WINTER202	TN0377-4	12/22/20	21:02	31.071	31.08
DW-02R-INF-WINTER202	TN0377-5	12/22/20	21:45	31.071	31.08
DW-FD-WINTER2020	TN0377-6	12/22/20	22:28	31.069	31.078
MW-01-WINTER2020	TN0377-7	12/22/20	23:11	31.068	31.077
MW-02-WINTER2020	TN0377-8	12/22/20	23:54	31.068	31.077
MW-03-WINTER2020	TN0377-9	12/23/20	00:37	31.072	31.08
MW-04-WINTER2020	TN0377-10	12/23/20	01:20	31.071	31.08
MW-05-WINTER2020	TN0377-11	12/23/20	02:03	31.069	31.075
MW-FD-WINTER2020	TN0377-12	12/23/20	02:47	31.065	31.074
Matrix Spike	WG292349-4	12/23/20	03:30	31.067	31.076
Matrix Spike Duplica	WG292349-5	12/23/20	04:13	31.064	31.074
Matrix Spike	WG292349-6	12/23/20	04:56	31.066	31.075
Matrix Spike Duplica	WG292349-7	12/23/20	05:39	31.058	31.068

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Katahdin
ANALYTICAL SERVICES

Form 8
GC Analytical Sequence

Lab Name : Katahdin Analytical Services **SDG :** TN0377
Project : LO-58 Nike Missile Battery Launch Site
Instrument ID : GC02

Client Sample ID	Lab Sample ID	Date Analyzed	Time Analyzed	DBT (FID)	DBT (PID)
Continuing Calibrati	WG292349-9	12/23/20	06:21	31.054	31.064

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Sample Data Section

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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), 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/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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), 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).

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Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-1
Client ID: DW-01-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10113.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		93.2	%					
2,5-Dibromotoluene (PID)		92.1	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10113.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

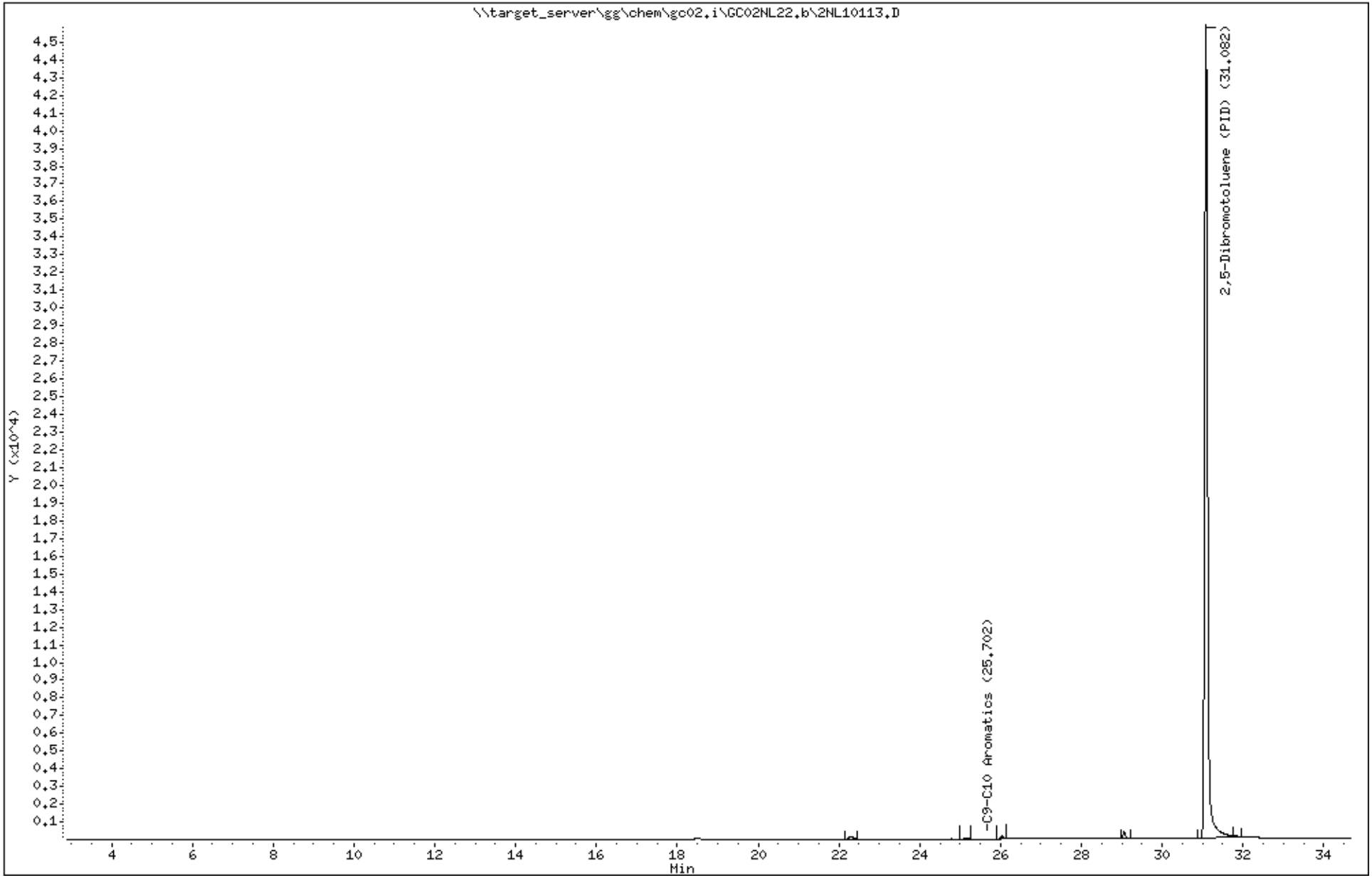
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10113.D
Lab Smp Id: TN0377-1 Client Smp ID: W-01-EFF-WINTER2020
Inj Date : 22-DEC-2020 18:52
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-1
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.082	31.066	0.016	476062	92.0612	92.1	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10113.D
Date : 22-DEC-2020 18:52
Client ID: W-01-EFF-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-1
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000012

Data File: 2NL10113.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

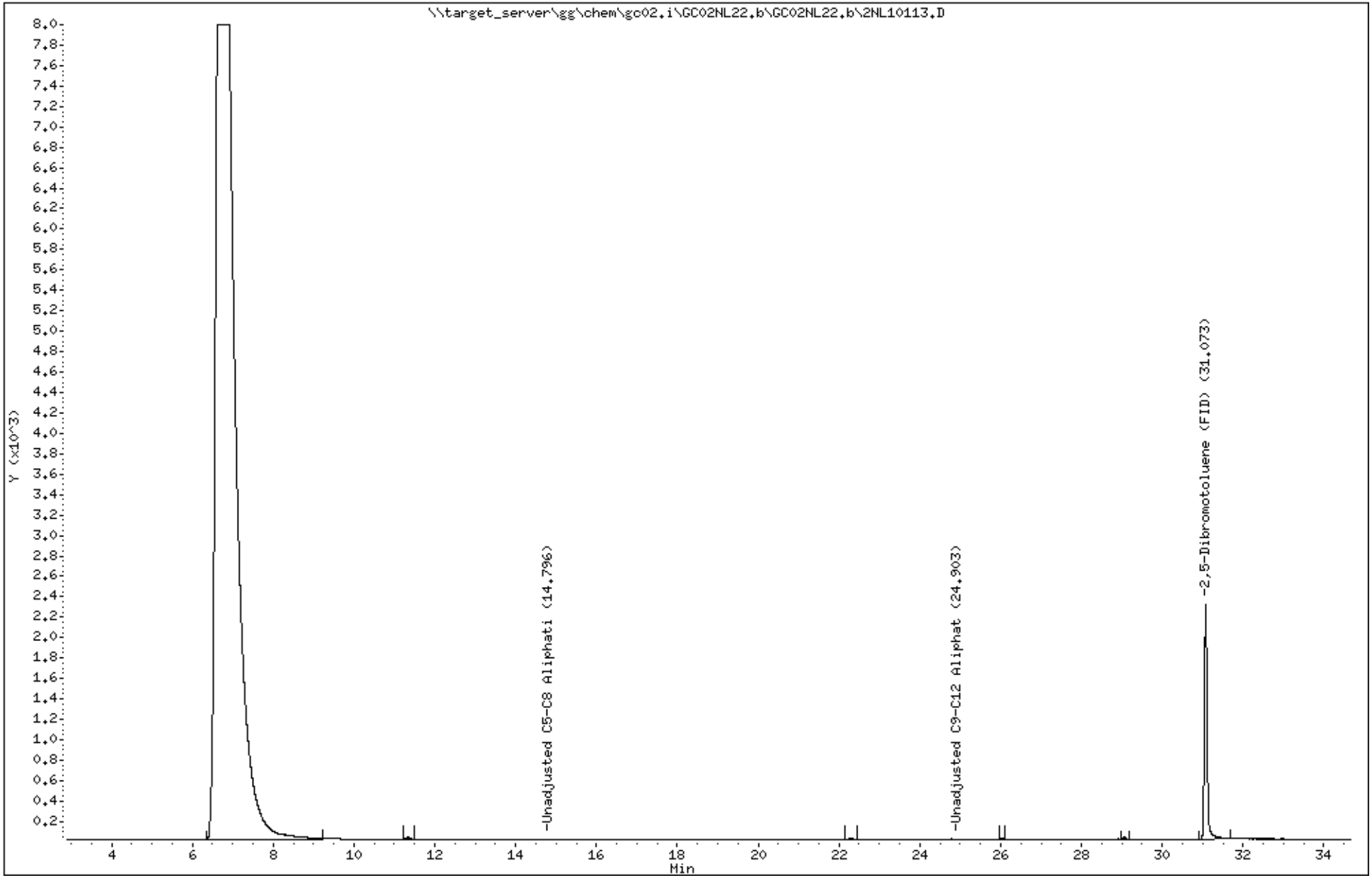
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10113.D
Lab Smp Id: TN0377-1 Client Smp ID: W-01-EFF-WINTER2020
Inj Date : 22-DEC-2020 18:52
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-1
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.073	31.056	0.017	219479	93.2343	93.2	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10113.D
Date : 22-DEC-2020 18:52
Client ID: W-01-EFF-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-1
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000014

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10114.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		96.0	%					
2,5-Dibromotoluene (PID)		94.5	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10114.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

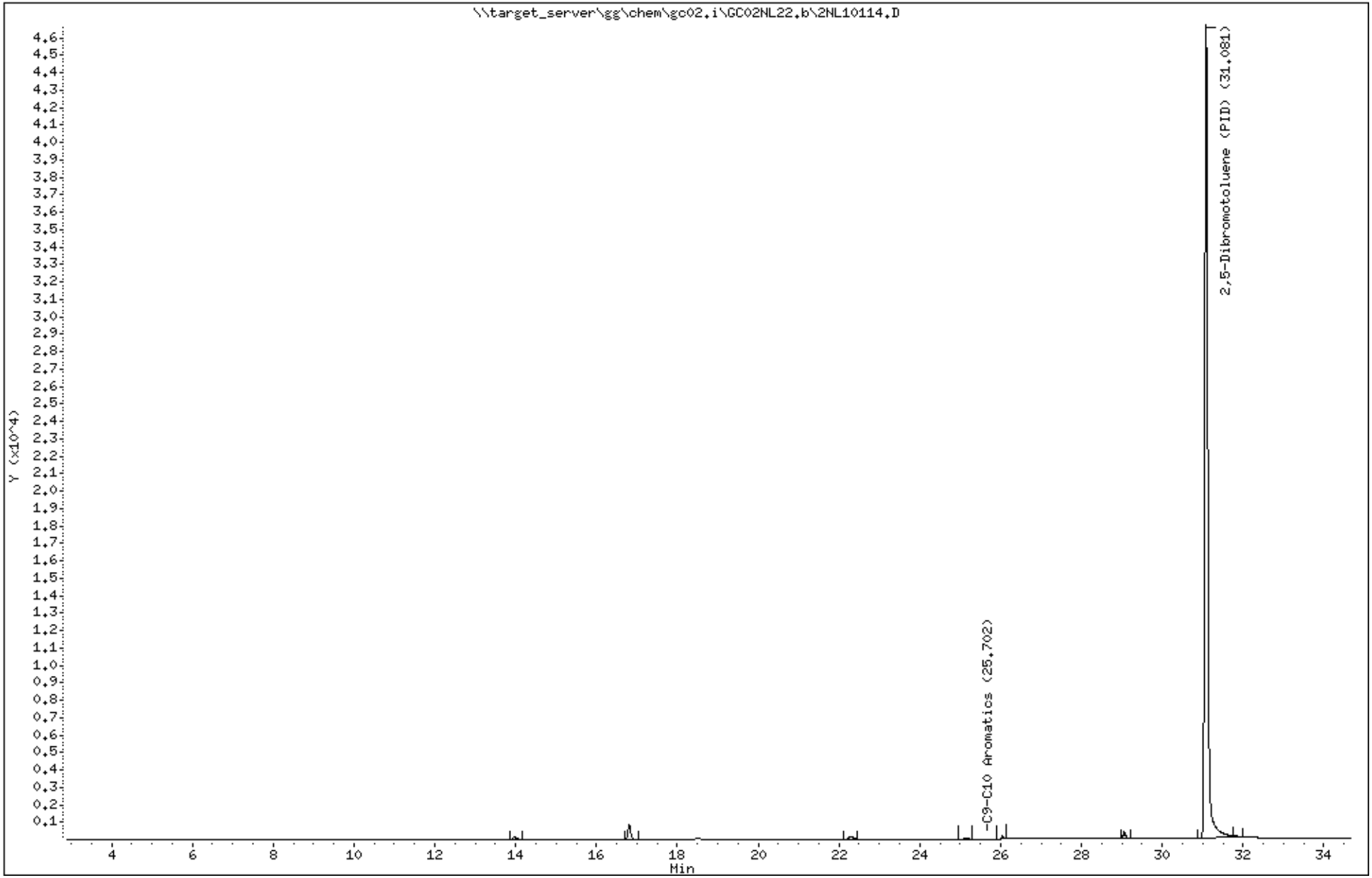
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10114.D
Lab Smp Id: TN0377-2 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 22-DEC-2020 19:35
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-2
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.080	31.066	0.014	488895	94.5429	94.5	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10114.D
Date : 22-DEC-2020 19:35
Client ID: W-01-INF-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-2
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000017

Data File: 2NL10114.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10114.D
Lab Smp Id: TN0377-2 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 22-DEC-2020 19:35
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-2
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

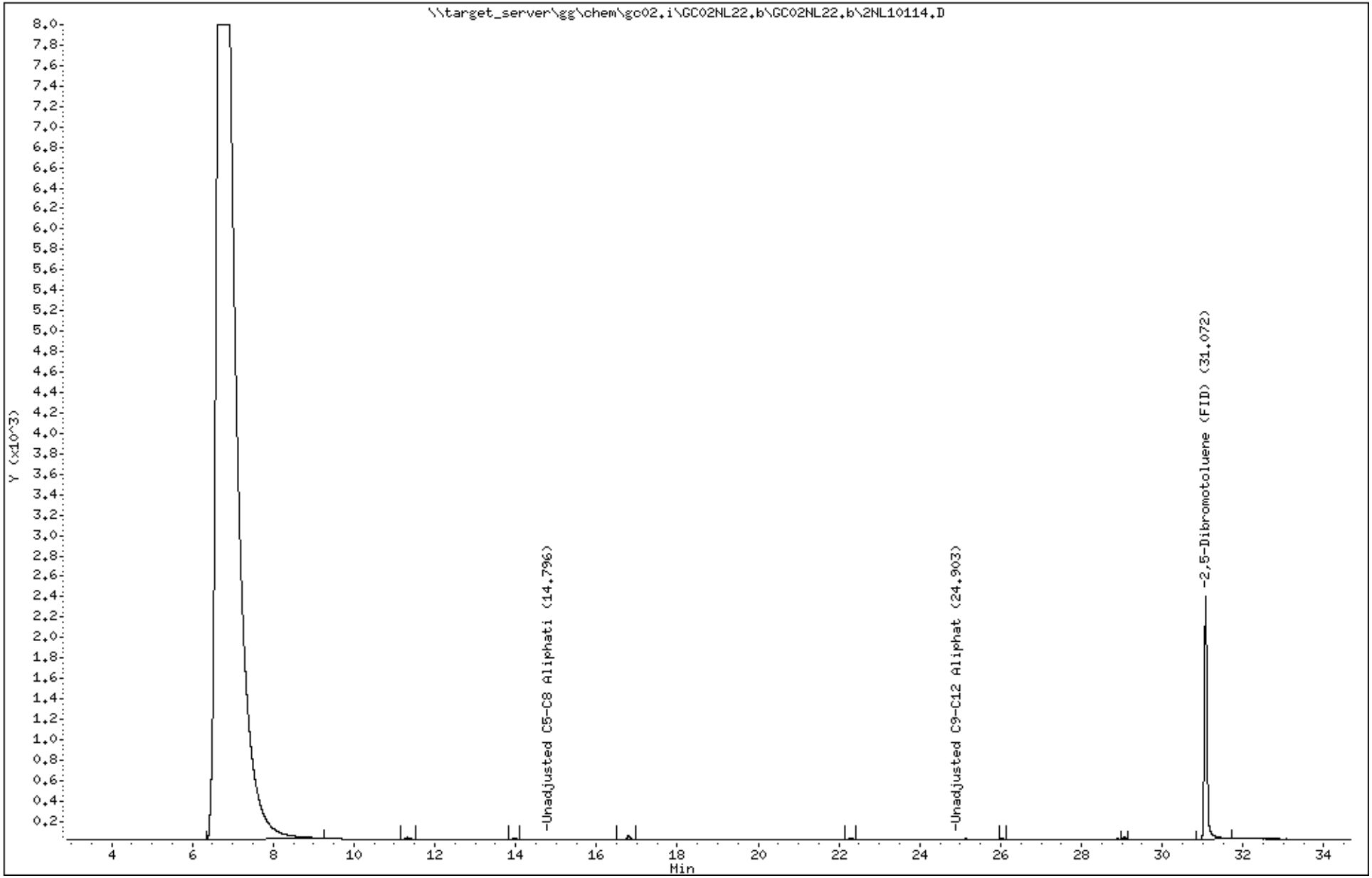
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.072	31.056	0.016	225988	95.9993	96.0	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10114.D
Date : 22-DEC-2020 19:35
Client ID: W-01-INF-WINTER2020
Sample Info: TN0377-2
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000019

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-3
Client ID: DW-01-MID-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10115.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		74.1	%					
2,5-Dibromotoluene (PID)		75.4	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10115.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

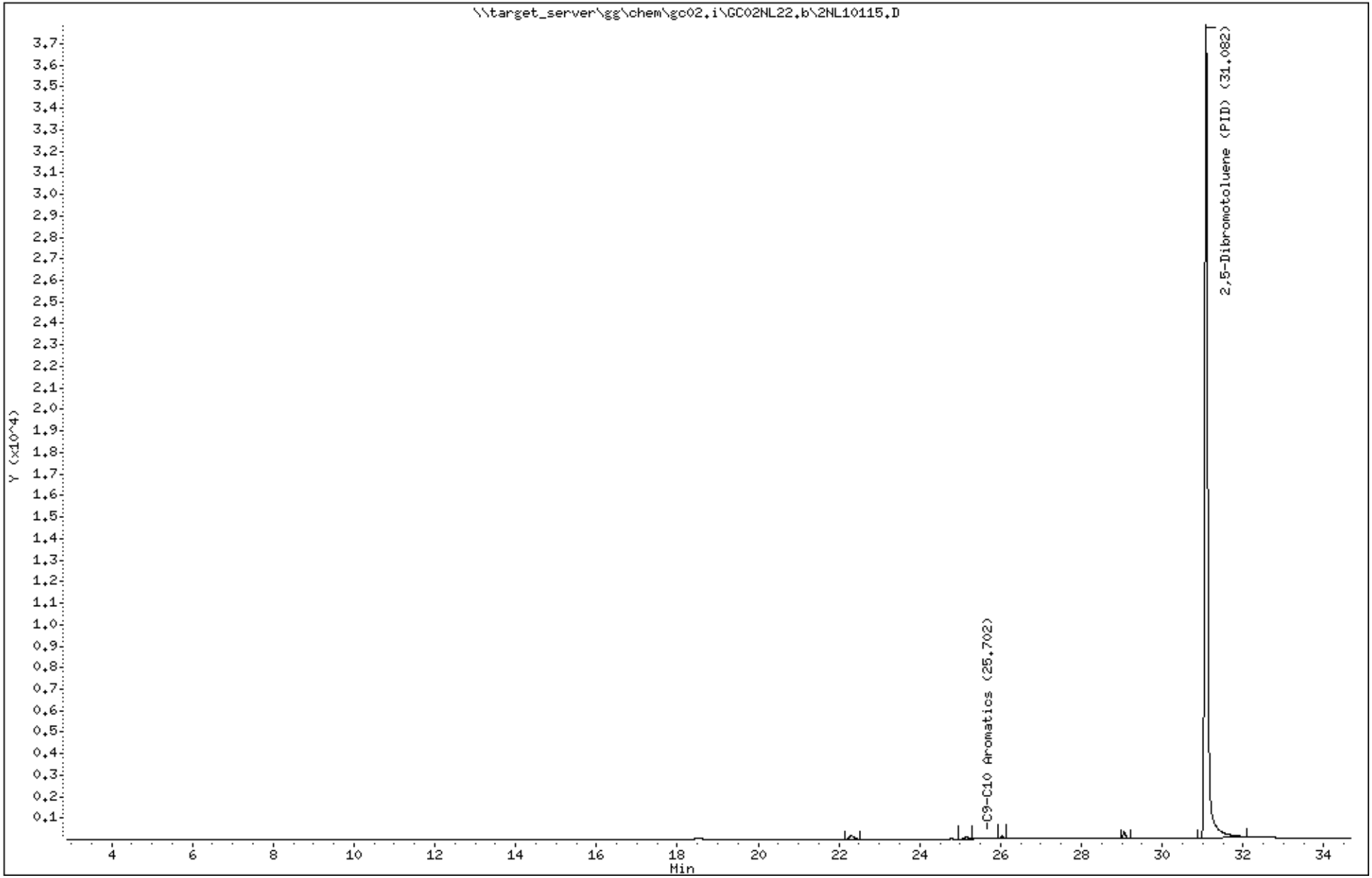
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10115.D
Lab Smp Id: TN0377-3 Client Smp ID: W-01-MID-WINTER2020
Inj Date : 22-DEC-2020 20:18
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-3
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.082	31.066	0.016	389677	75.3560	75.4	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10115.D
Date : 22-DEC-2020 20:18
Client ID: W-01-MID-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-3
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000022

Data File: 2NL10115.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10115.D
Lab Smp Id: TN0377-3 Client Smp ID: W-01-MID-WINTER2020
Inj Date : 22-DEC-2020 20:18
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-3
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

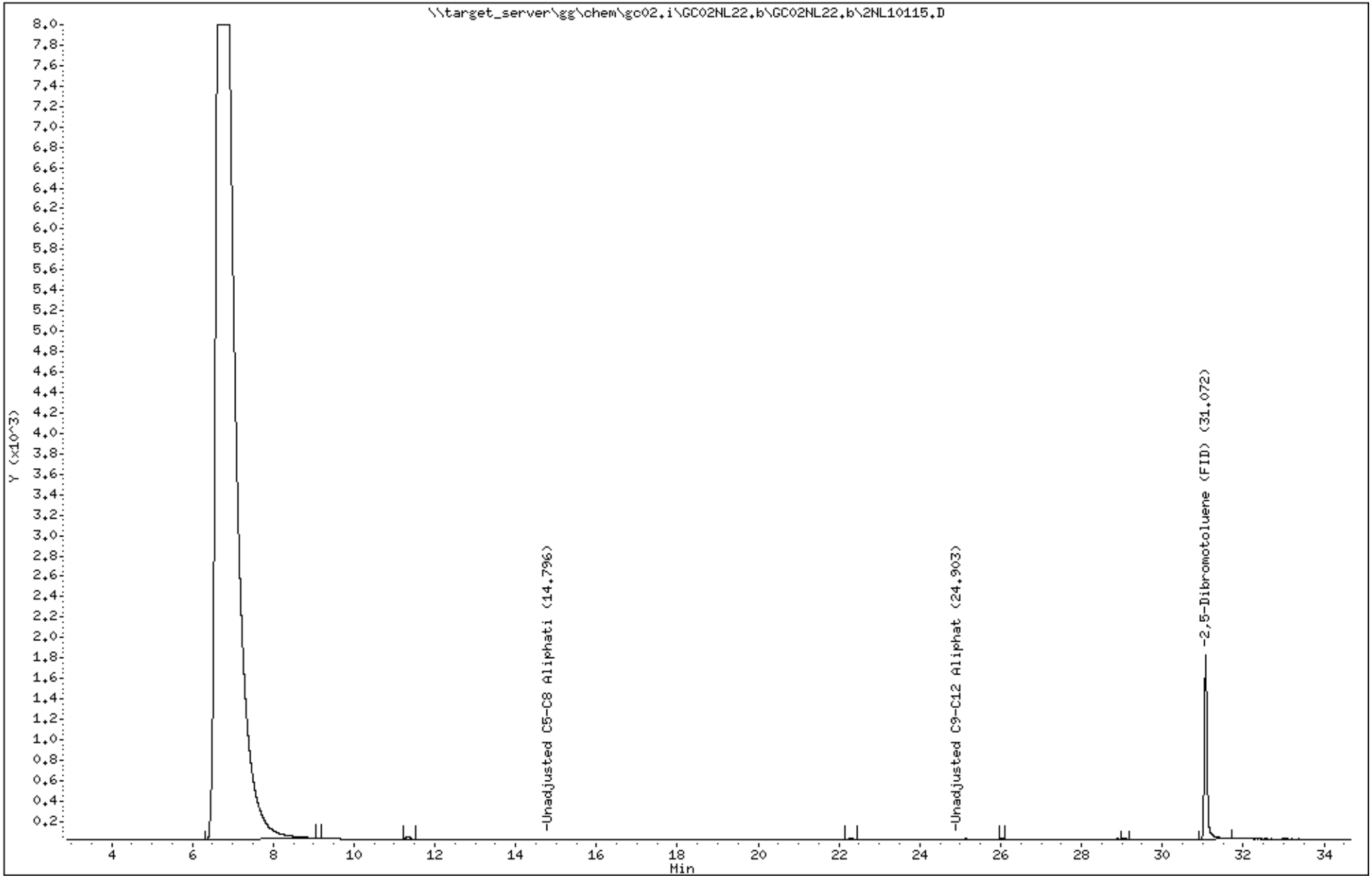
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.071	31.056	0.015	174395	74.0827	74.1	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10115.D
Date : 22-DEC-2020 20:18
Client ID: W-01-MID-WINTER2020
Sample Info: TN0377-3
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000024

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-4
Client ID: DW-02R-EFF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10116.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 05-JAN-21

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		93.6	%					
2,5-Dibromotoluene (PID)		92.4	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10116.D
Report Date: 05-Jan-2021 13:29

Katahdin Analytical Services

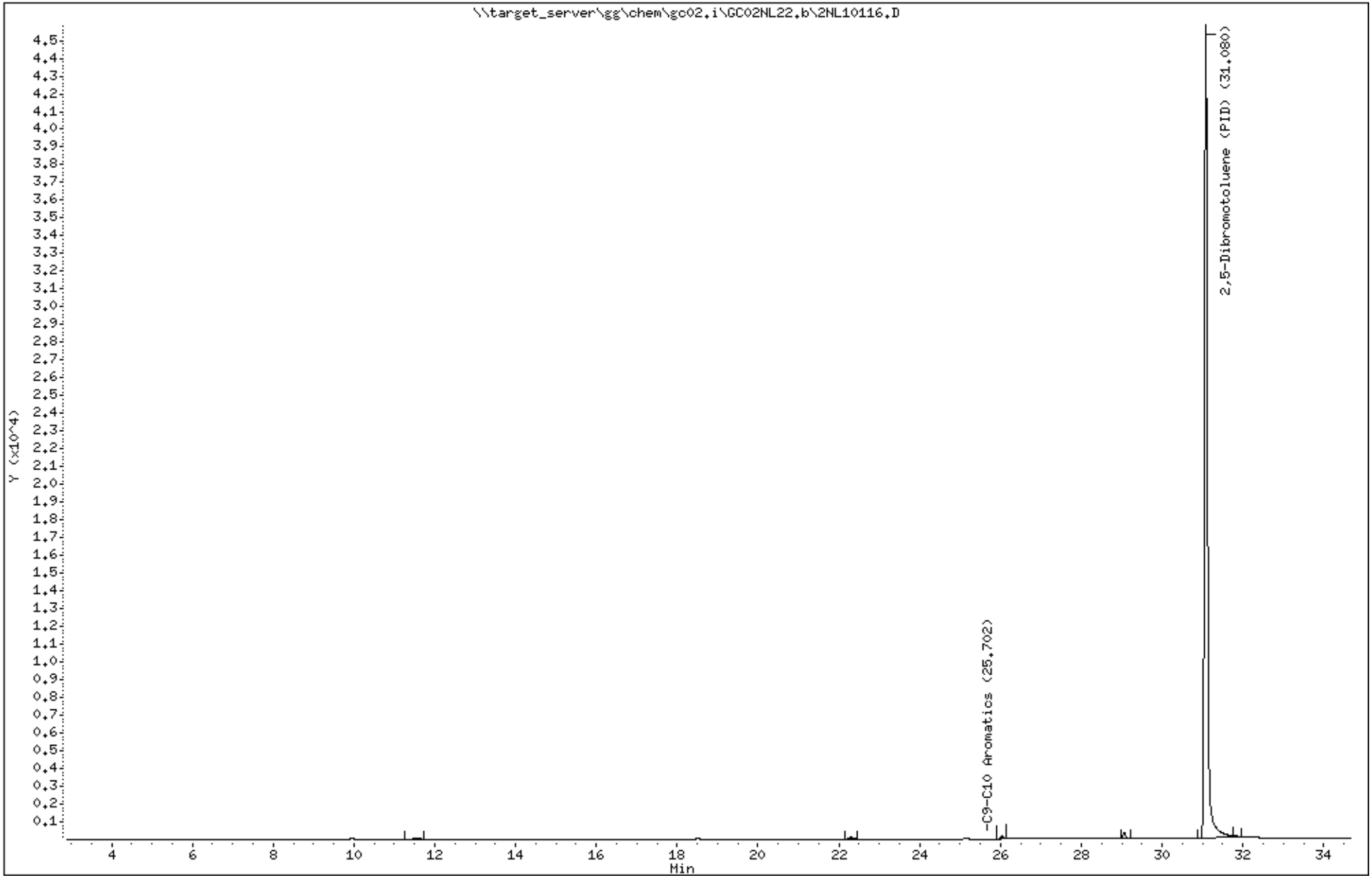
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10116.D
Lab Smp Id: TN0377-4 Client Smp ID: W-02R-EFF-WINTER202
Inj Date : 22-DEC-2020 21:02
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-4
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.080	31.066	0.014	477859	92.4088	92.4	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10116.D
Date : 22-DEC-2020 21:02
Client ID: W-02R-EFF-WINTER202 Instrument: gc02.i
Sample Info: TN0377-4
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000027

Data File: 2NL10116.D
Report Date: 05-Jan-2021 13:29

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10116.D
Lab Smp Id: TN0377-4 Client Smp ID: W-02R-EFF-WINTER202
Inj Date : 22-DEC-2020 21:02
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-4
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

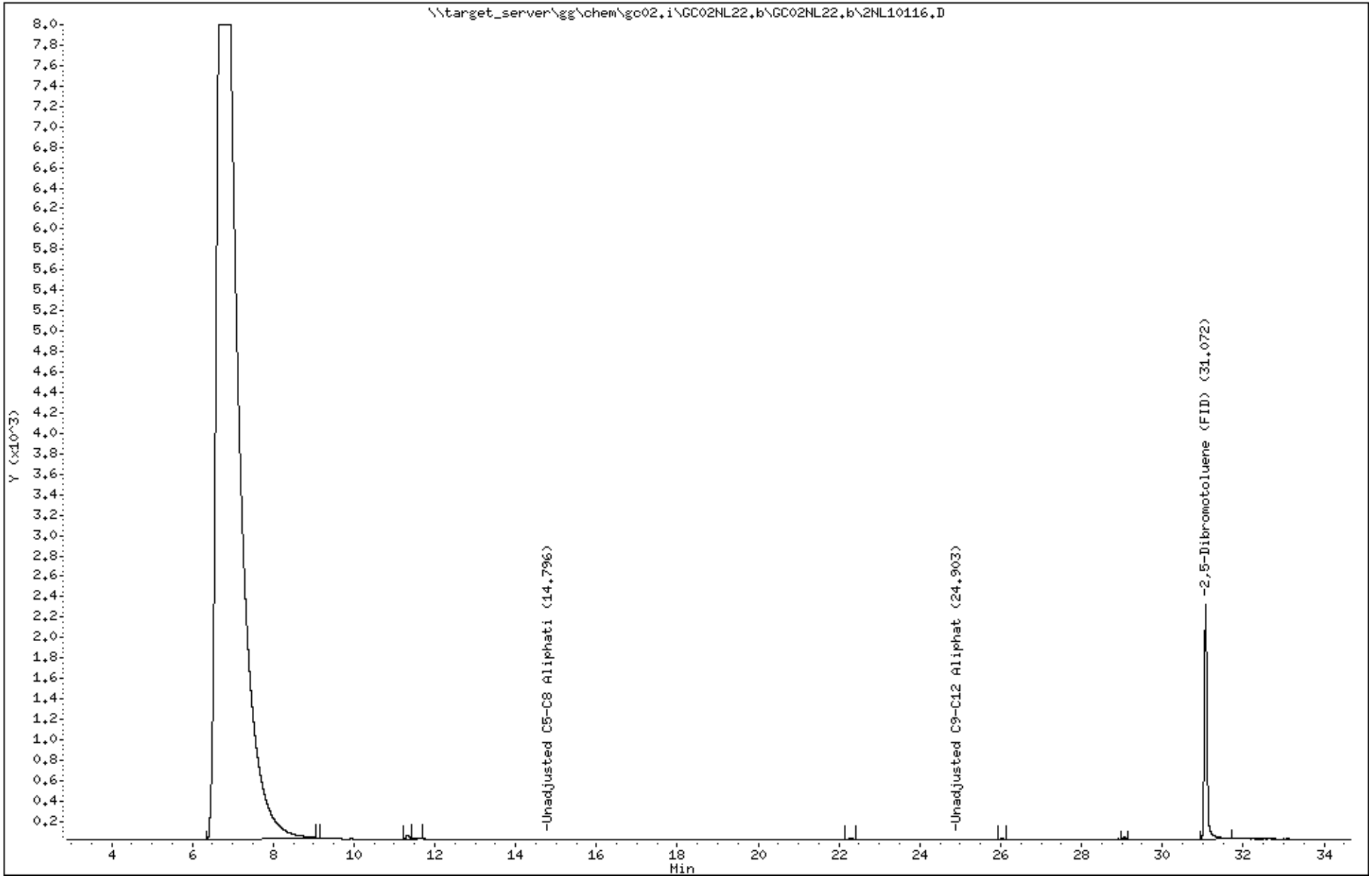
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.071	31.056	0.015	220479	93.6591	93.6	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10116.D
Date : 22-DEC-2020 21:02
Client ID: W-02R-EFF-WINTER202
Sample Info: TN0377-4
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000029

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-5
Client ID: DW-02R-INF-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10117.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		98.0	%					
2,5-Dibromotoluene (PID)		96.6	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10117.D
Report Date: 23-Dec-2020 12:54

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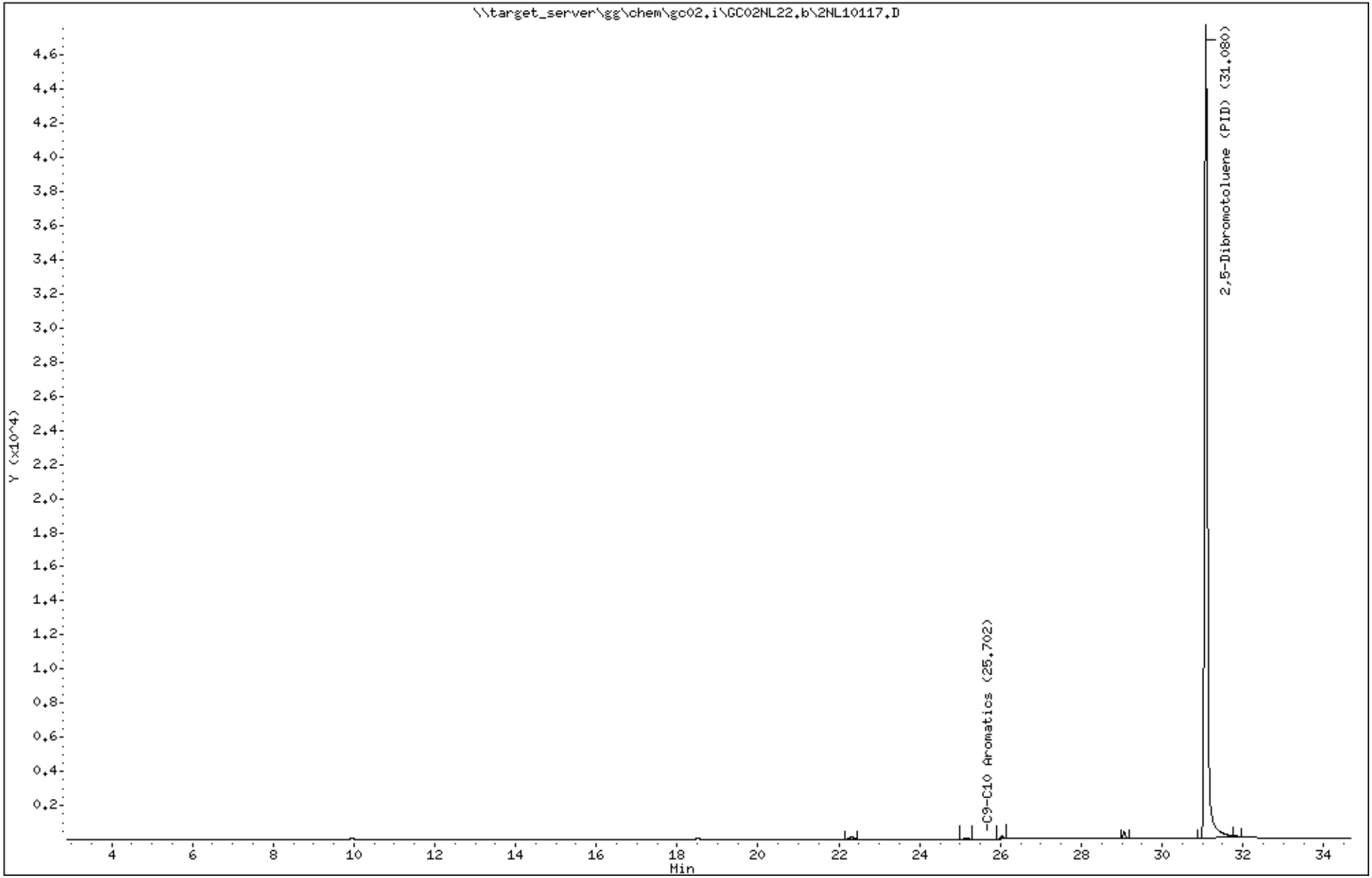
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10117.D
Lab Smp Id: TN0377-5 Client Smp ID: W-02R-INF-WINTER202
Inj Date : 22-DEC-2020 21:45
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-5
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.080	31.066	0.014	499528	96.5991	96.6	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10117.D
Date : 22-DEC-2020 21:45
Client ID: W-02R-INF-WINTER202
Instrument: gc02.i
Sample Info: TN0377-5
Purge Volume: 0.0
Operator: DL
Column phase: RTX-502.2
Column diameter: 0.53



Katahdin Analytical Services 6000032

Data File: 2NL10117.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10117.D
Lab Smp Id: TN0377-5 Client Smp ID: W-02R-INF-WINTER202
Inj Date : 22-DEC-2020 21:45
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-5
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

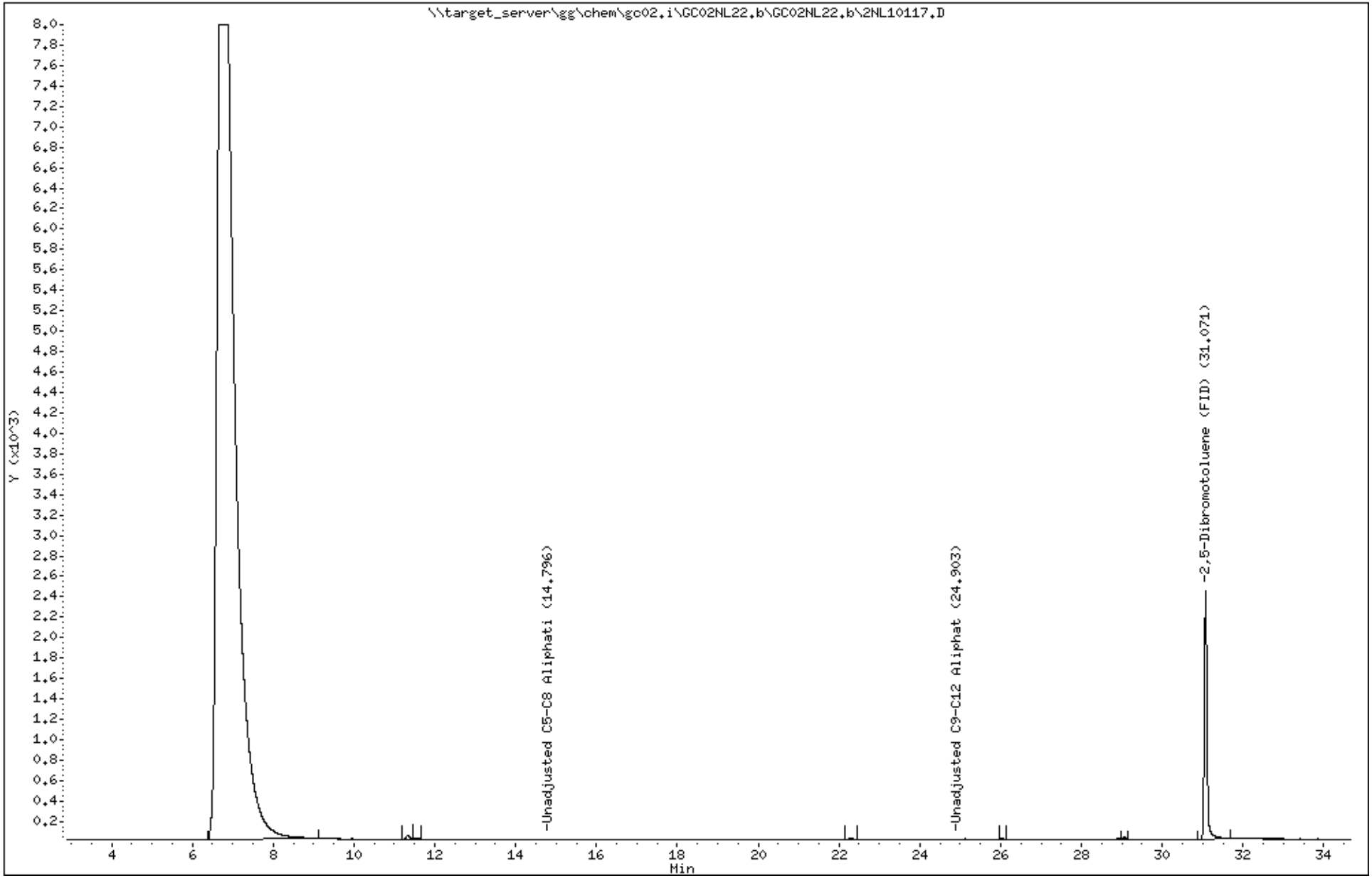
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.071	31.056	0.015	230697	97.9997	98.0	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10117.D
Date : 22-DEC-2020 21:45
Client ID: W-02R-INF-WINTER202
Sample Info: TN0377-5
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000034

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-6
Client ID: DW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10118.D

Sample Date: 16-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		94.5	%					
2,5-Dibromotoluene (PID)		93.0	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10118.D
Report Date: 23-Dec-2020 12:54

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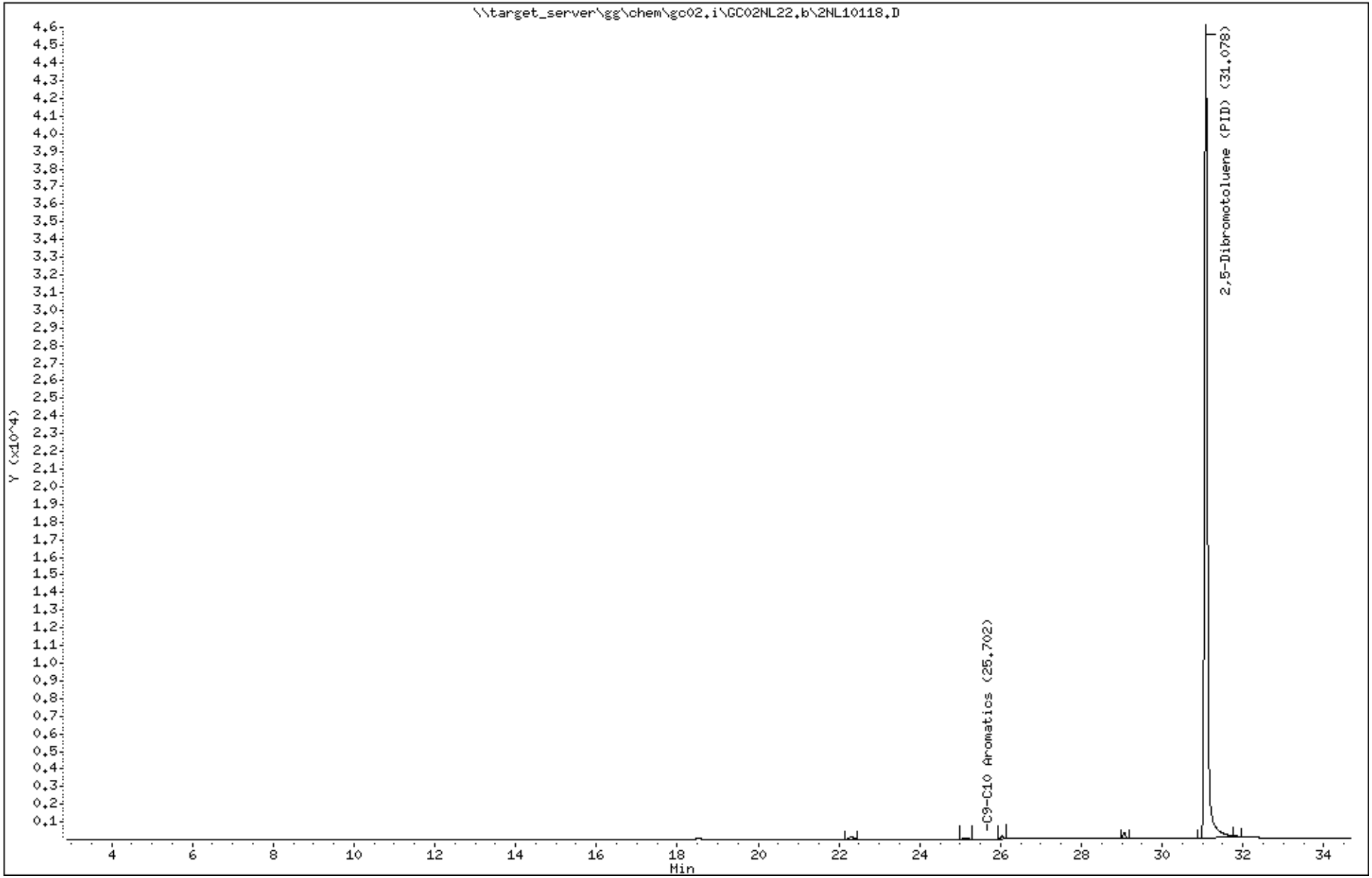
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10118.D
Lab Smp Id: TN0377-6 Client Smp ID: DW-FD-WINTER2020
Inj Date : 22-DEC-2020 22:28
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-6
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.078	31.066	0.012	480874	92.9918	93.0	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10118.D
Date : 22-DEC-2020 22:28
Client ID: DW-FD-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-6
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000037

Data File: 2NL10118.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10118.D
Lab Smp Id: TN0377-6 Client Smp ID: DW-FD-WINTER2020
Inj Date : 22-DEC-2020 22:28
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-6
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

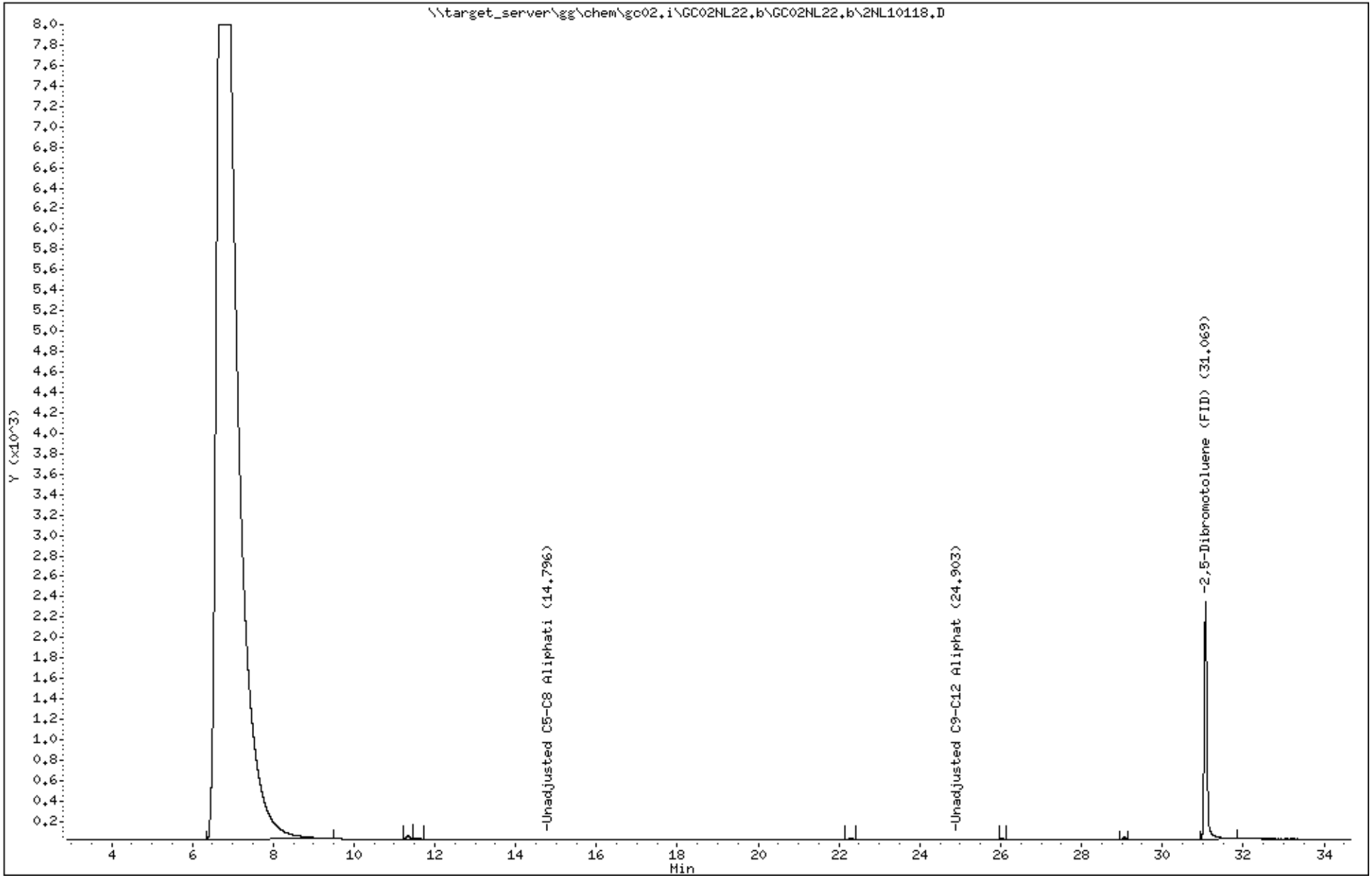
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.069	31.056	0.013	222459	94.5002	94.5	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10118.D
Date : 22-DEC-2020 22:28
Client ID: DW-FD-WINTER2020
Sample Info: TN0377-6
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000039

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-7
Client ID: MW-01-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10119.D

Sample Date: 14-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		96.4	%					
2,5-Dibromotoluene (PID)		95.4	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10119.D
Report Date: 23-Dec-2020 12:54

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Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10119.D
Lab Smp Id: TN0377-7 Client Smp ID: MW-01-WINTER2020
Inj Date : 22-DEC-2020 23:11
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-7
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

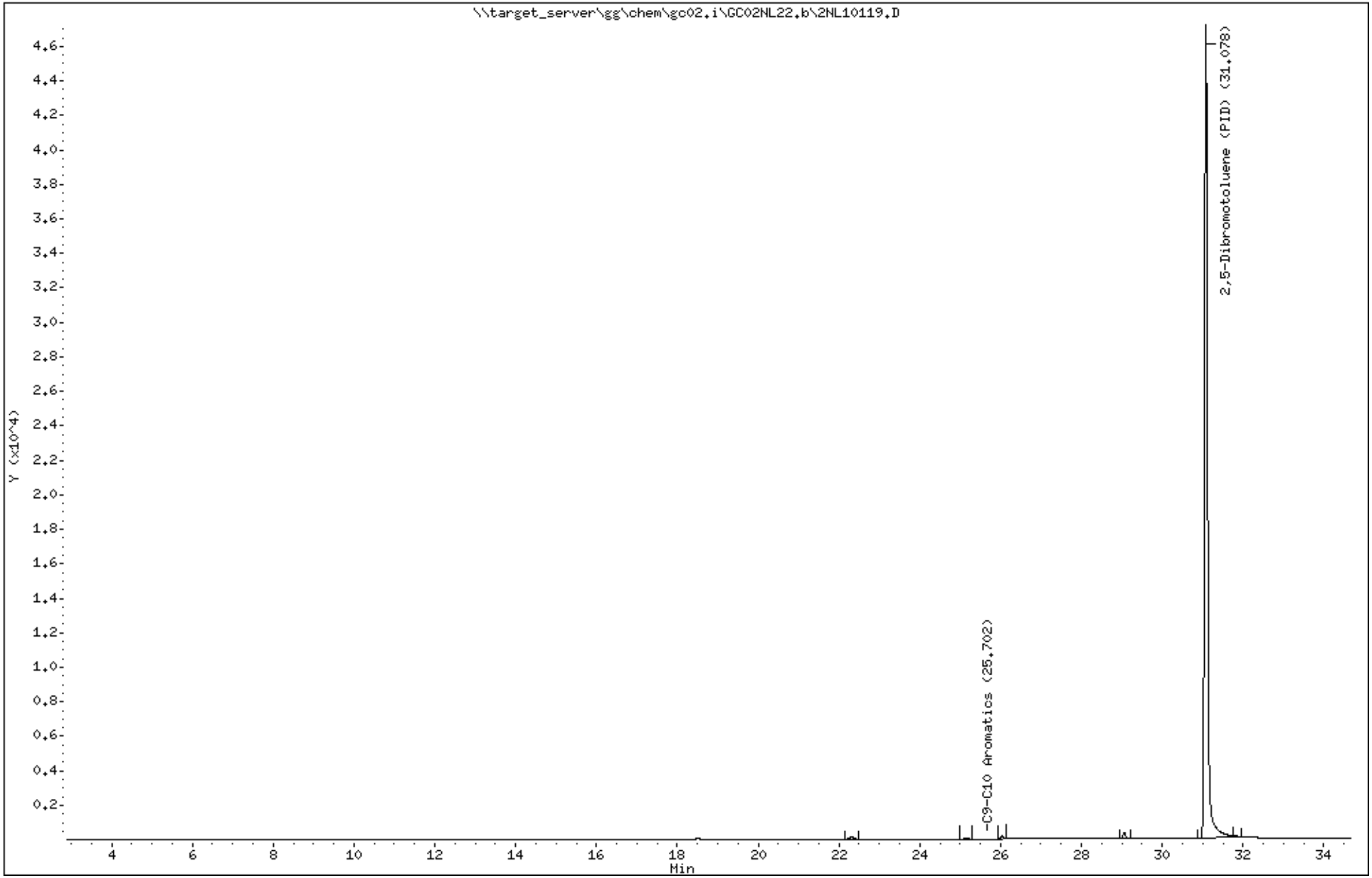
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.077	31.066	0.011	493224	95.3800	95.4	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10119.D
Date : 22-DEC-2020 23:11
Client ID: MW-01-WINTER2020
Sample Info: TN0377-7
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000042

Data File: 2NL10119.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10119.D
Lab Smp Id: TN0377-7 Client Smp ID: MW-01-WINTER2020
Inj Date : 22-DEC-2020 23:11
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-7
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

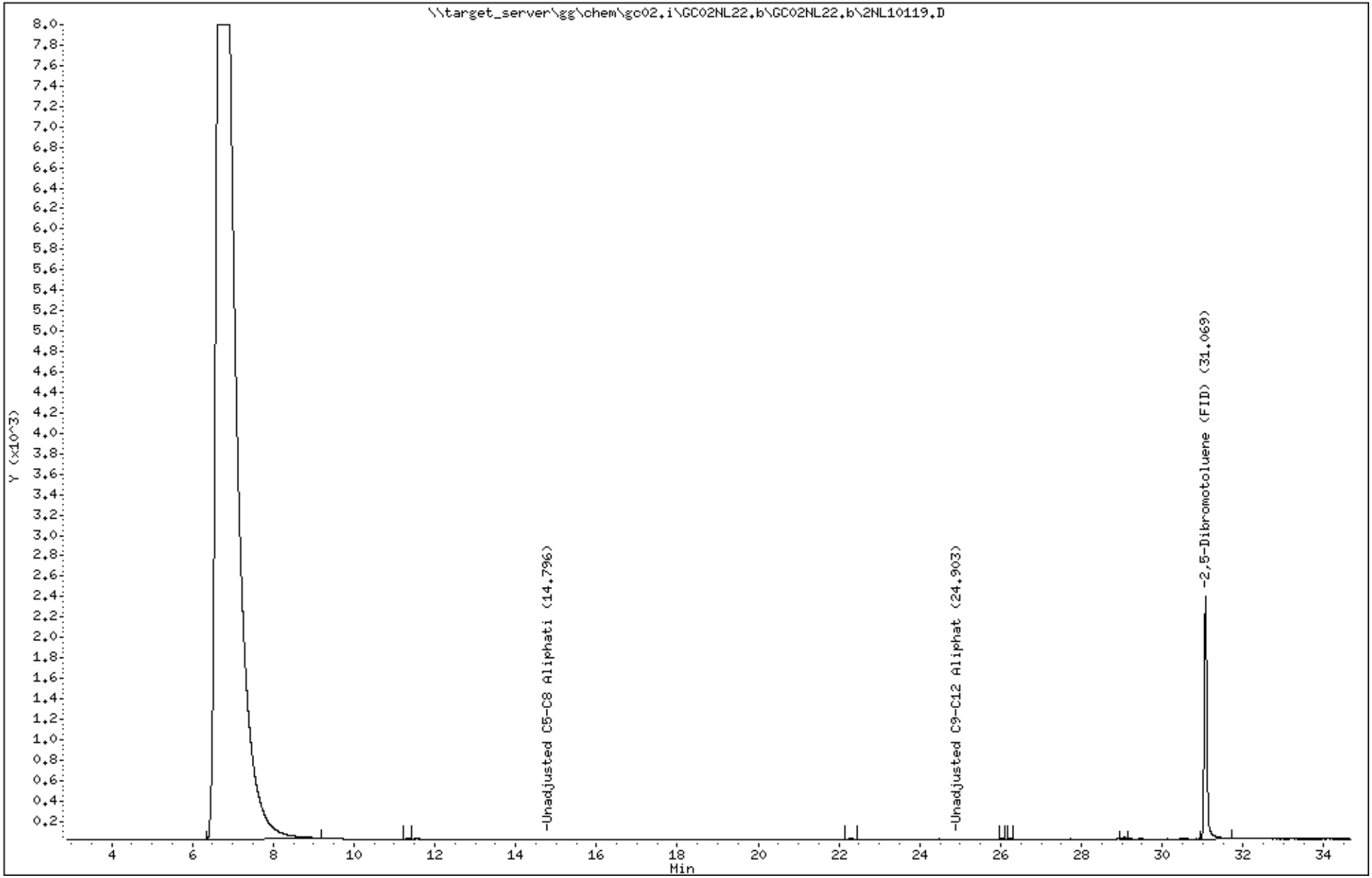
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.068	31.056	0.012	226879	96.3778	96.4	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10119.D
Date : 22-DEC-2020 23:11
Client ID: MW-01-WINTER2020
Sample Info: TN0377-7
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000044

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-8
Client ID: MW-02-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10120.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		96.5	%					
2,5-Dibromotoluene (PID)		95.7	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10120.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10120.D
Lab Smp Id: TN0377-8 Client Smp ID: MW-02-WINTER2020
Inj Date : 22-DEC-2020 23:54
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-8
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

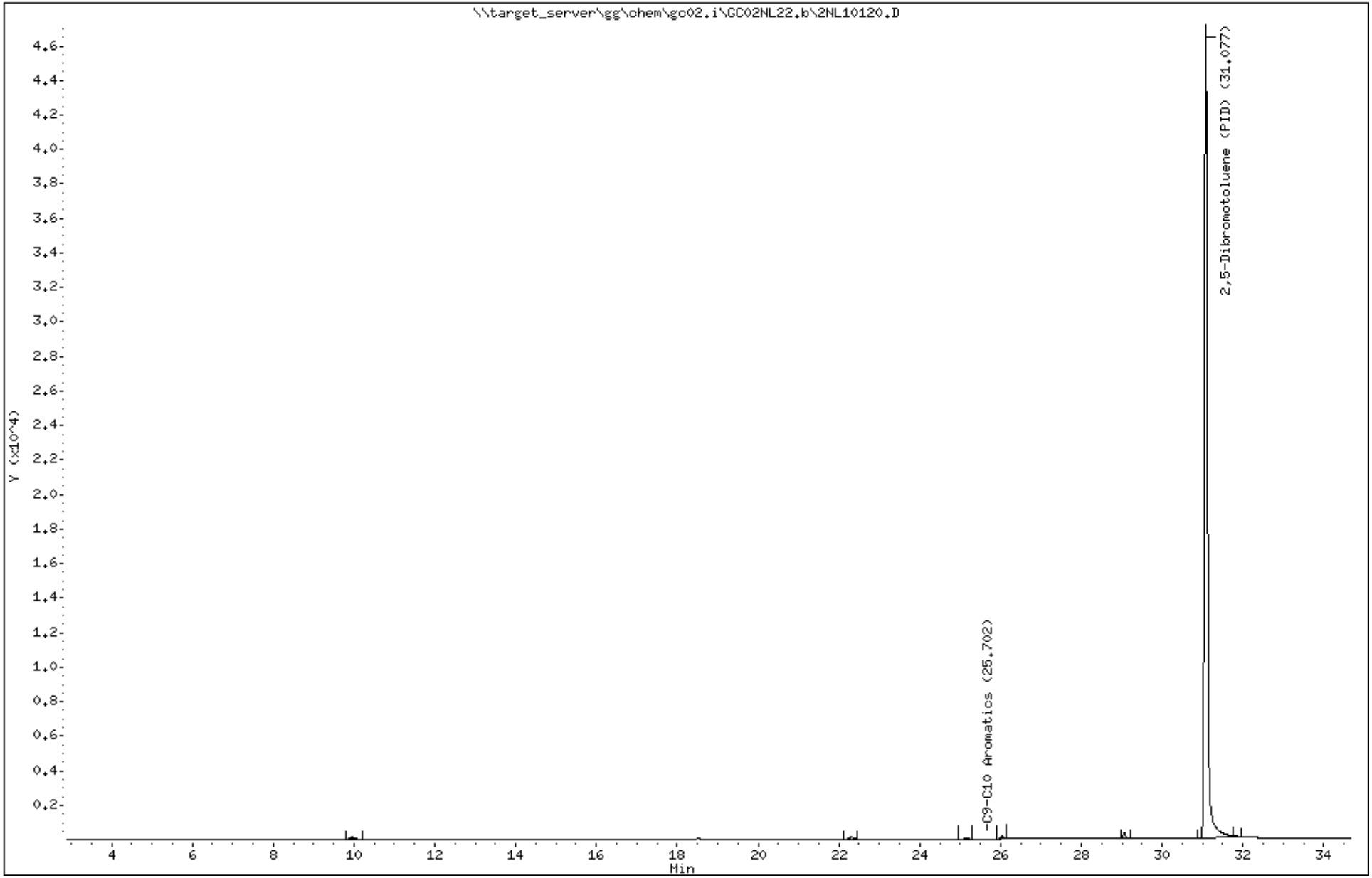
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.077	31.066	0.011	494907	95.7055	95.7	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10120.D
Date : 22-DEC-2020 23:54
Client ID: MW-02-WINTER2020
Sample Info: TN0377-8
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000047

Data File: 2NL10120.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10120.D
Lab Smp Id: TN0377-8 Client Smp ID: MW-02-WINTER2020
Inj Date : 22-DEC-2020 23:54
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-8
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

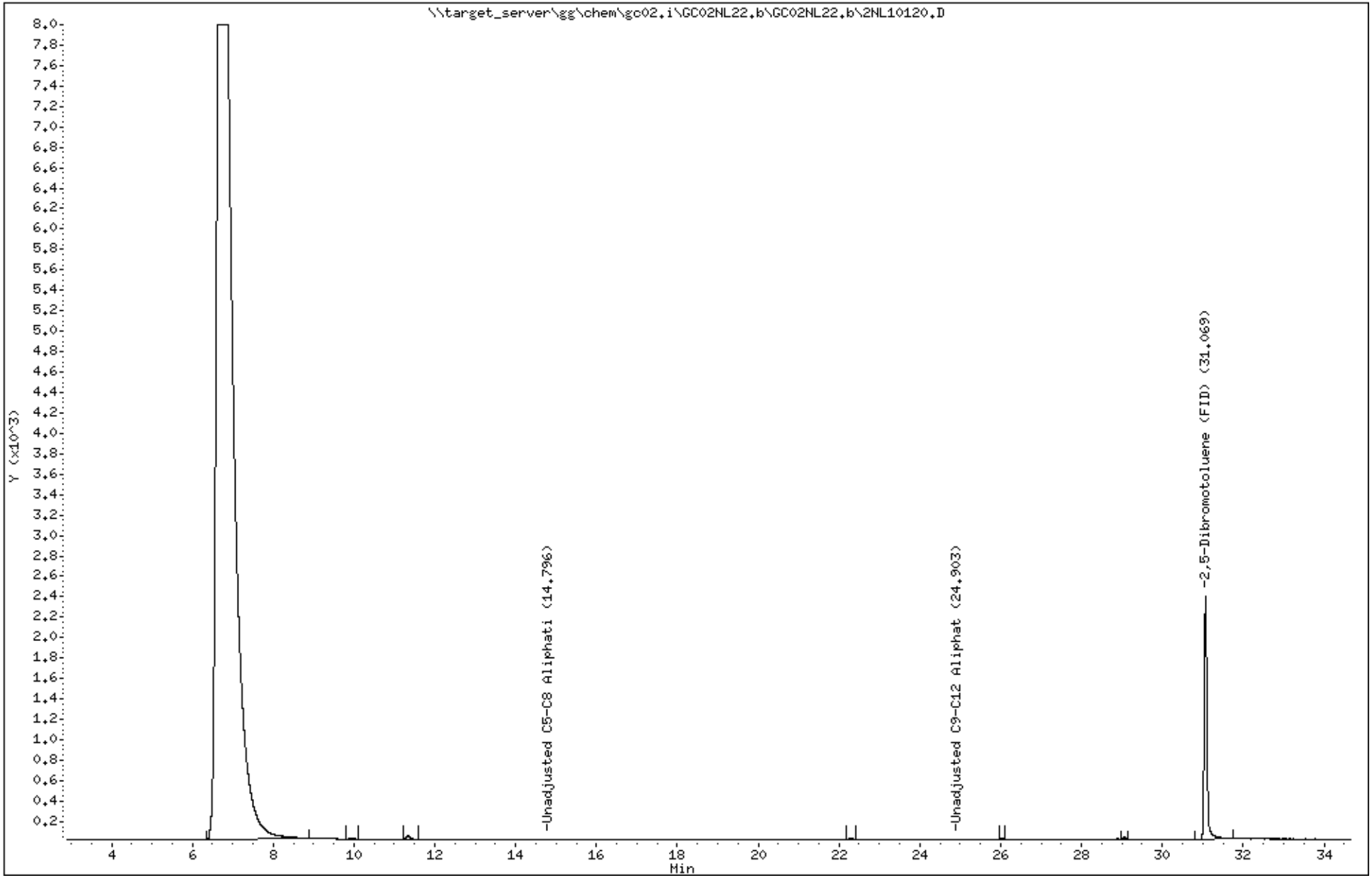
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.068	31.056	0.012	227261	96.5401	96.5	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10120.D
Date : 22-DEC-2020 23:54
Client ID: MW-02-WINTER2020
Sample Info: TN0377-8
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000049

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-9
Client ID: MW-03-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10121.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 23-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		94.0	%					
2,5-Dibromotoluene (PID)		93.7	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10121.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

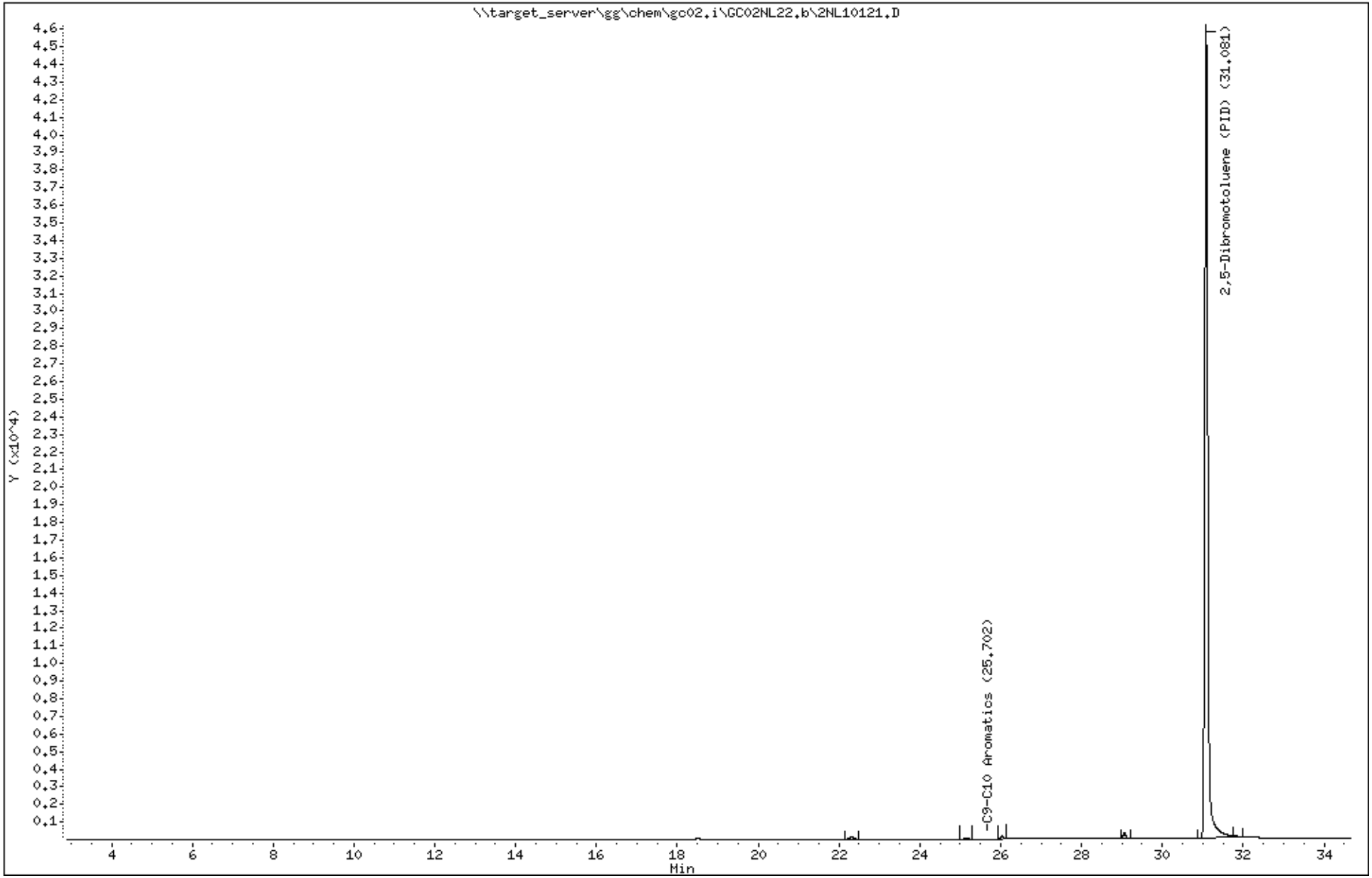
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10121.D
Lab Smp Id: TN0377-9 Client Smp ID: MW-03-WINTER2020
Inj Date : 23-DEC-2020 00:37
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-9
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.080	31.066	0.014	484641	93.7203	93.7	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10121.D
Date : 23-DEC-2020 00:37
Client ID: MW-03-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-9
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000052

Data File: 2NL10121.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10121.D
Lab Smp Id: TN0377-9 Client Smp ID: MW-03-WINTER2020
Inj Date : 23-DEC-2020 00:37
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-9
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

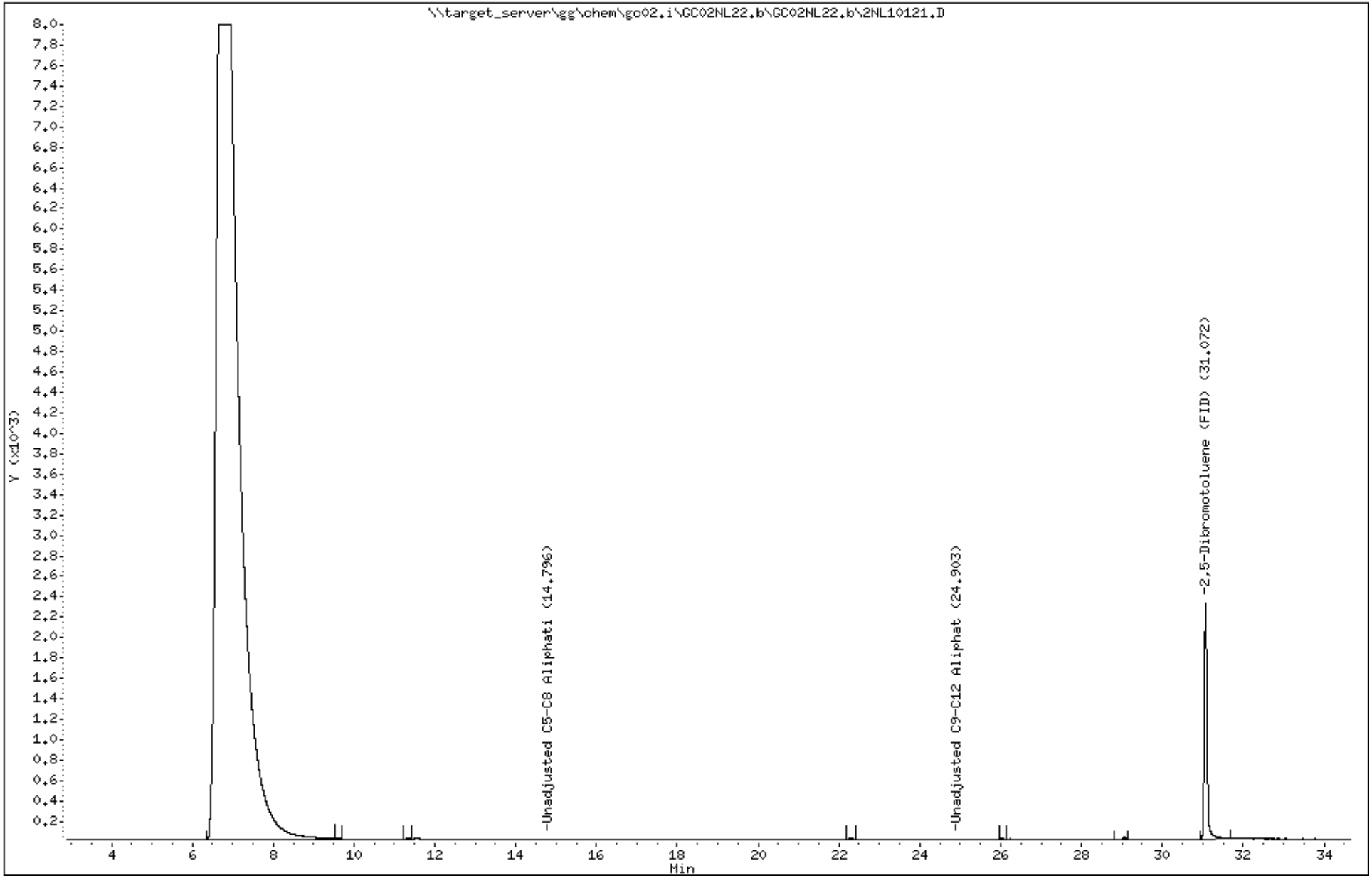
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.072	31.056	0.016	221266	93.9934	94.0	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10121.D
Date : 23-DEC-2020 00:37
Client ID: MW-03-WINTER2020
Sample Info: TN0377-9
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000054

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-10
Client ID: MW-04-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10122.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 23-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		94.8	%					
2,5-Dibromotoluene (PID)		94.8	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10122.D
Report Date: 23-Dec-2020 12:54

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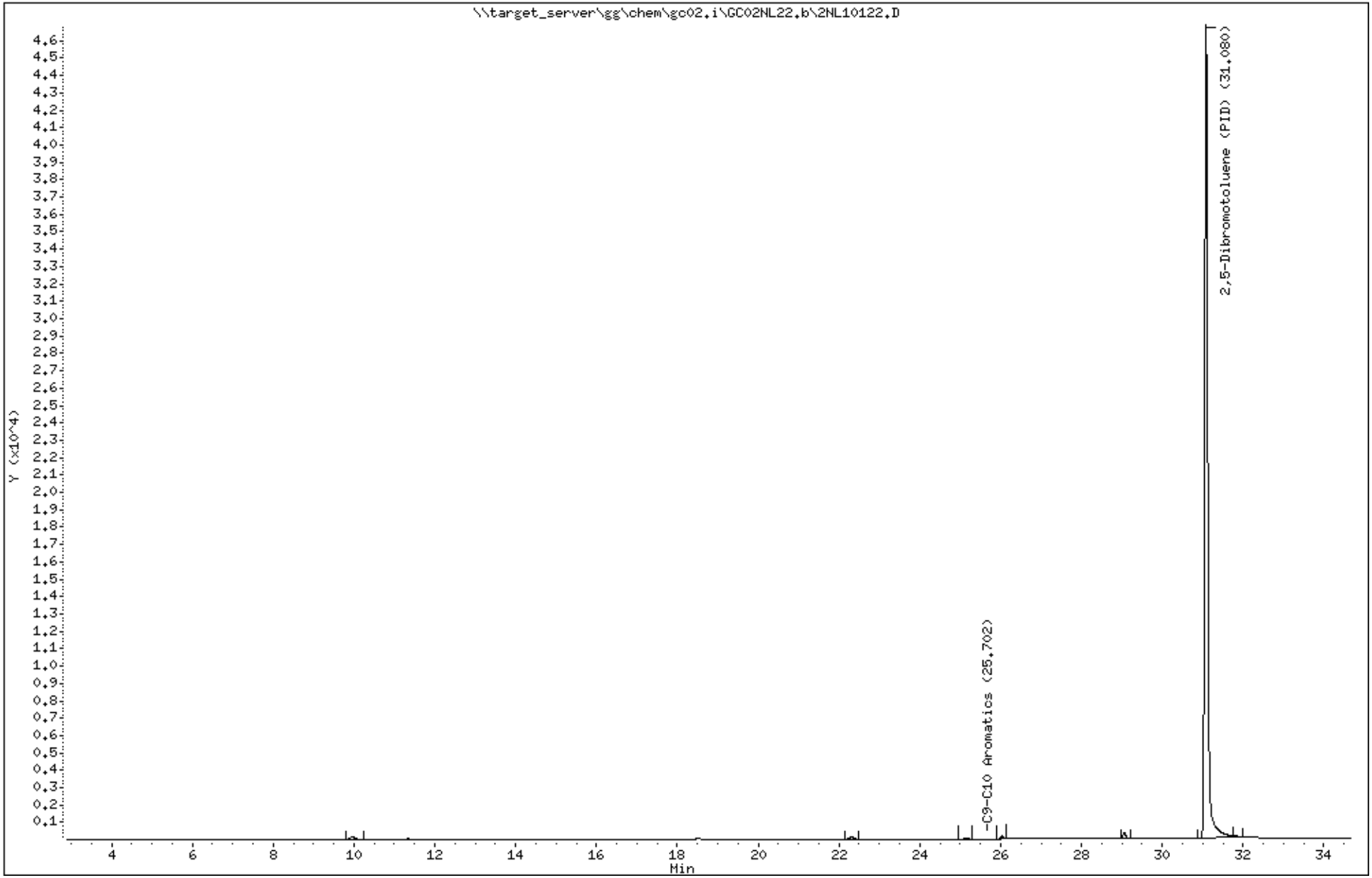
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10122.D
Lab Smp Id: TN0377-10 Client Smp ID: MW-04-WINTER2020
Inj Date : 23-DEC-2020 01:20
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-10
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.080	31.066	0.014	490135	94.7827	94.8	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10122.D
Date : 23-DEC-2020 01:20
Client ID: MW-04-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-10
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000057

Data File: 2NL10122.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10122.D
Lab Smp Id: TN0377-10 Client Smp ID: MW-04-WINTER2020
Inj Date : 23-DEC-2020 01:20
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-10
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

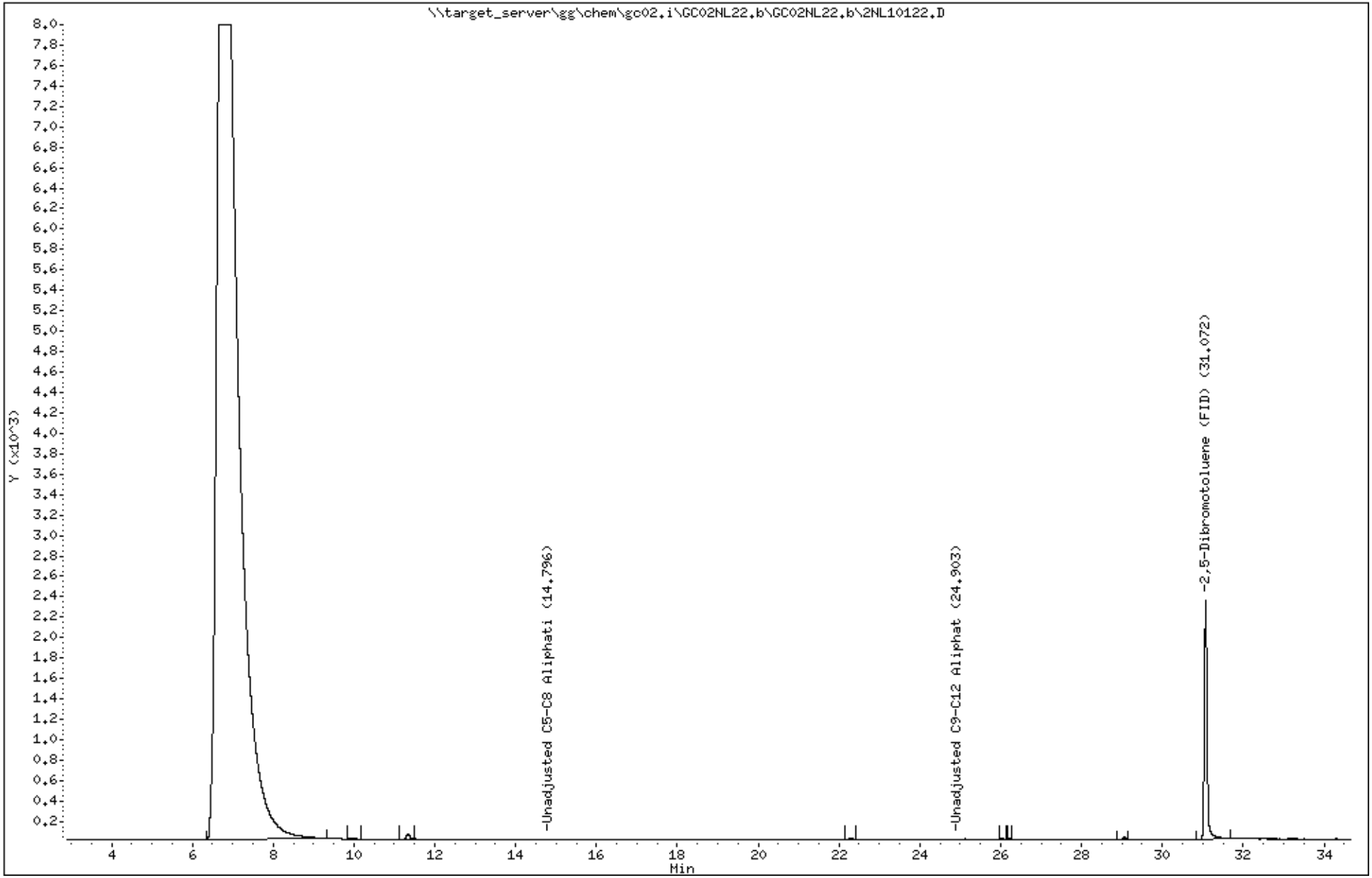
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.071	31.056	0.015	223068	94.7589	94.8	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10122.D
Date : 23-DEC-2020 01:20
Client ID: MW-04-WINTER2020
Sample Info: TN0377-10
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000059

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-11
Client ID: MW-05-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10123.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 23-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	J	58	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		91.2	%					
2,5-Dibromotoluene (PID)		90.4	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10123.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10123.D
Lab Smp Id: TN0377-11 Client Smp ID: MW-05-WINTER2020
Inj Date : 23-DEC-2020 02:03
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-11
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

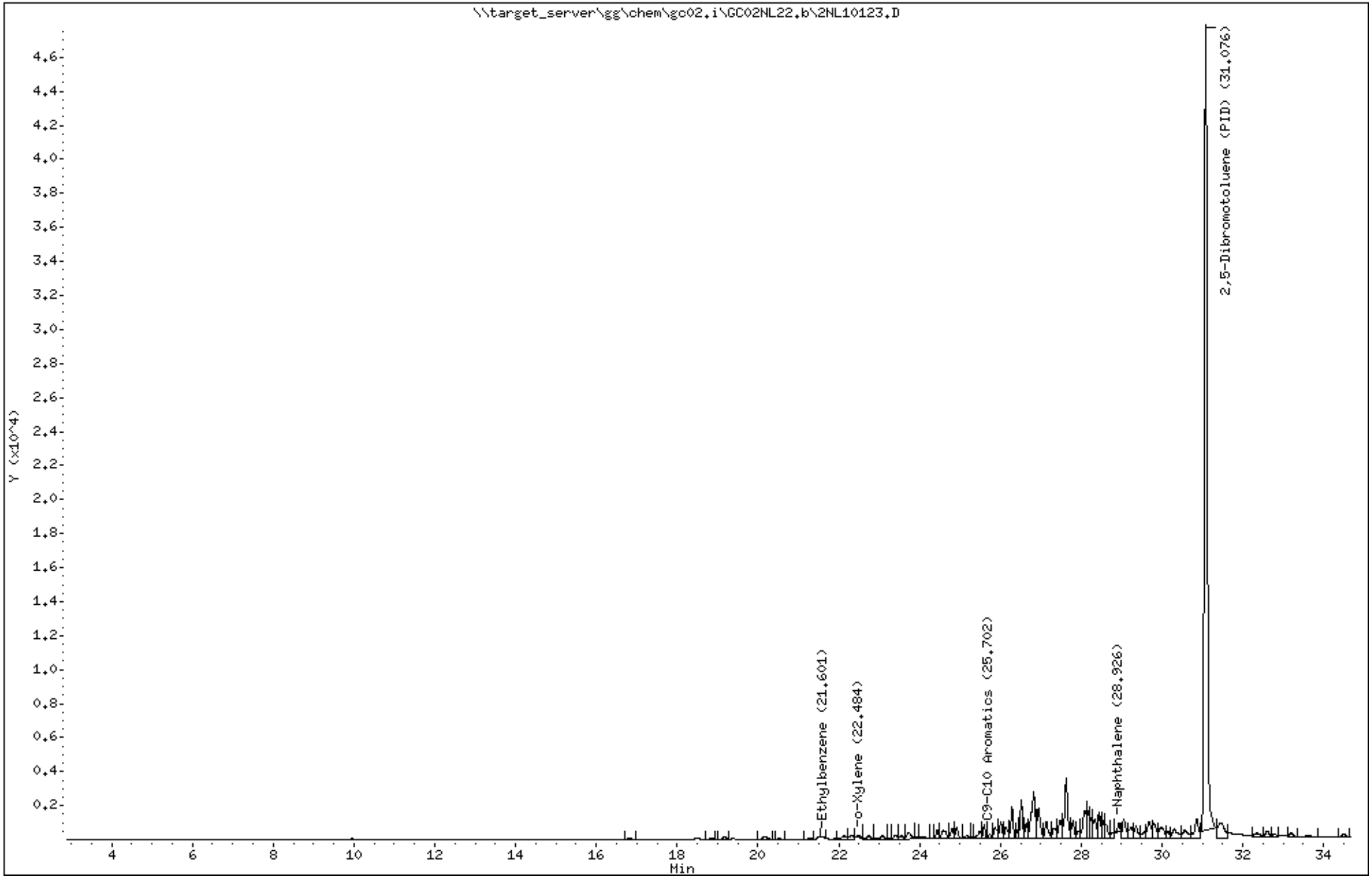
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
S 9 C9-C10 Aromatics	22.600	-28.803		355095	57.9387	57.9(aM)	M9
$ 11 2,5-Dibromotoluene (PID)	31.075	31.066	0.009	467330	90.3726	90.4(M)	M2

DL
2:55 pm, Dec 23, 2020

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10123.D
Date : 23-DEC-2020 02:03
Client ID: MW-05-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-11
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000062

Data File: 2NL10123.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10123.D
Lab Smp Id: TN0377-11 Client Smp ID: MW-05-WINTER2020
Inj Date : 23-DEC-2020 02:03
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-11
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
S 17 Unadjusted C9-C12 Aliphatics	21.013	-28.793		563063	103.278	103(M)	M9
$ 21 2,5-Dibromotoluene (FID)	31.069	31.056	0.013	214637	91.1774	91.2(M)	M2

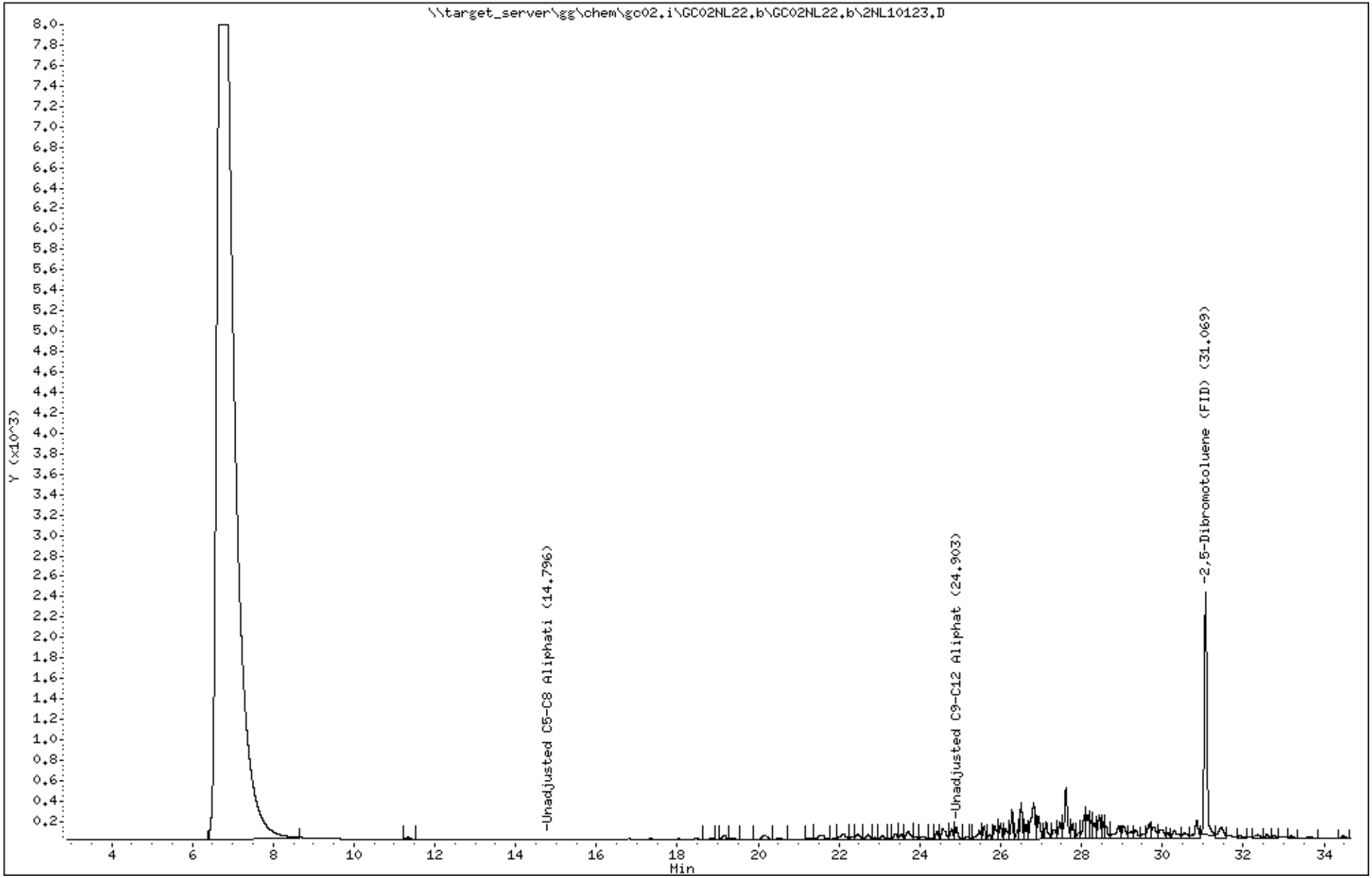
QC Flag Legend

M - Compound response manually integrated.

DL
2:55 pm, Dec 23, 2020

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10123.D
Date : 23-DEC-2020 02:03
Client ID: MW-05-WINTER2020
Sample Info: TN0377-11
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000064

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-12
Client ID: MW-FD-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10124.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 23-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 23-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		90.6	%					
2,5-Dibromotoluene (PID)		91.6	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10124.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

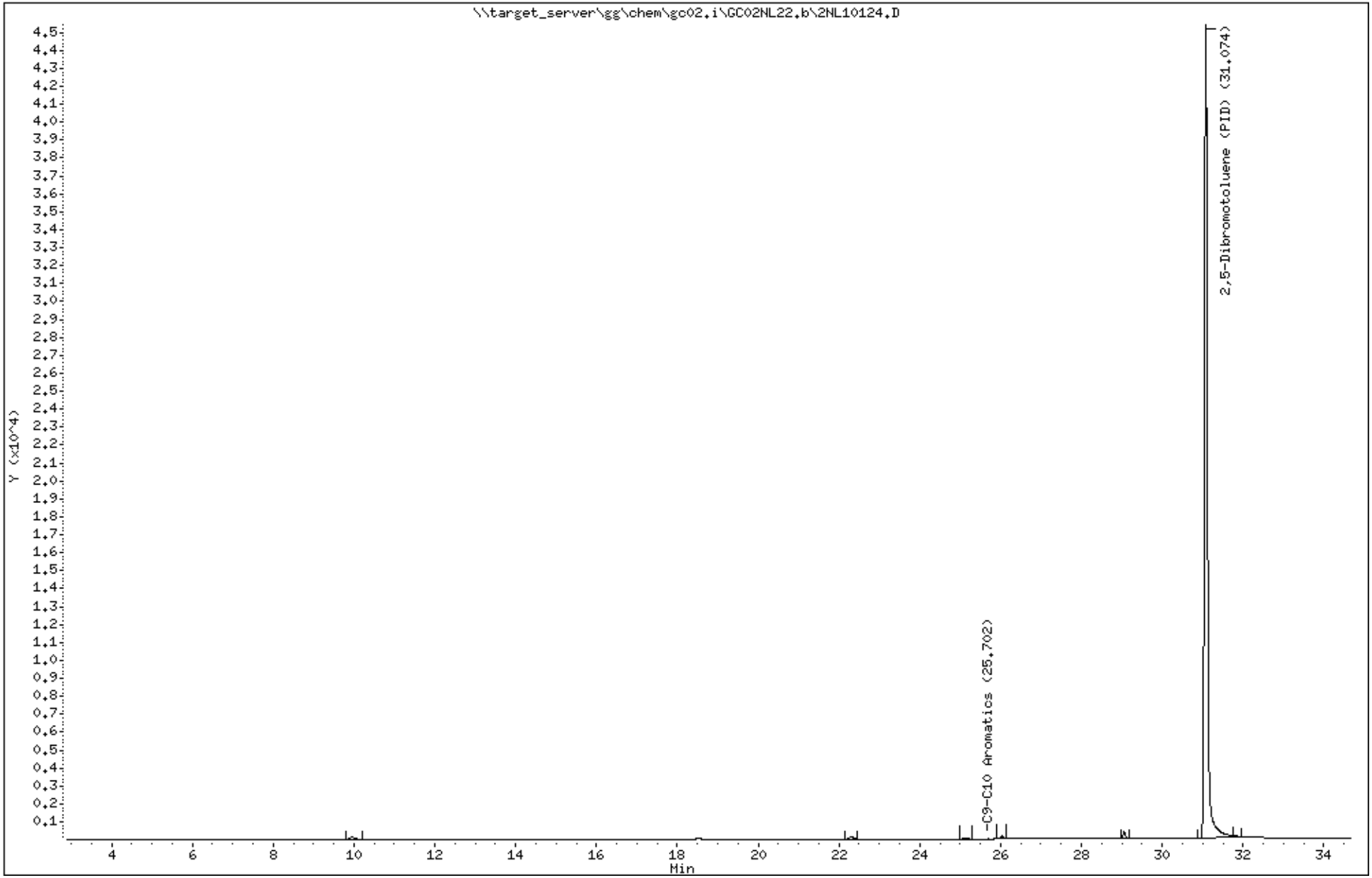
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10124.D
Lab Smp Id: TN0377-12 Client Smp ID: MW-FD-WINTER2020
Inj Date : 23-DEC-2020 02:47
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-12
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.074	31.066	0.008	473759	91.6159	91.6	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10124.D
Date : 23-DEC-2020 02:47
Client ID: MW-FD-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-12
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000067

Data File: 2NL10124.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10124.D
Lab Smp Id: TN0377-12 Client Smp ID: MW-FD-WINTER2020
Inj Date : 23-DEC-2020 02:47
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-12
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

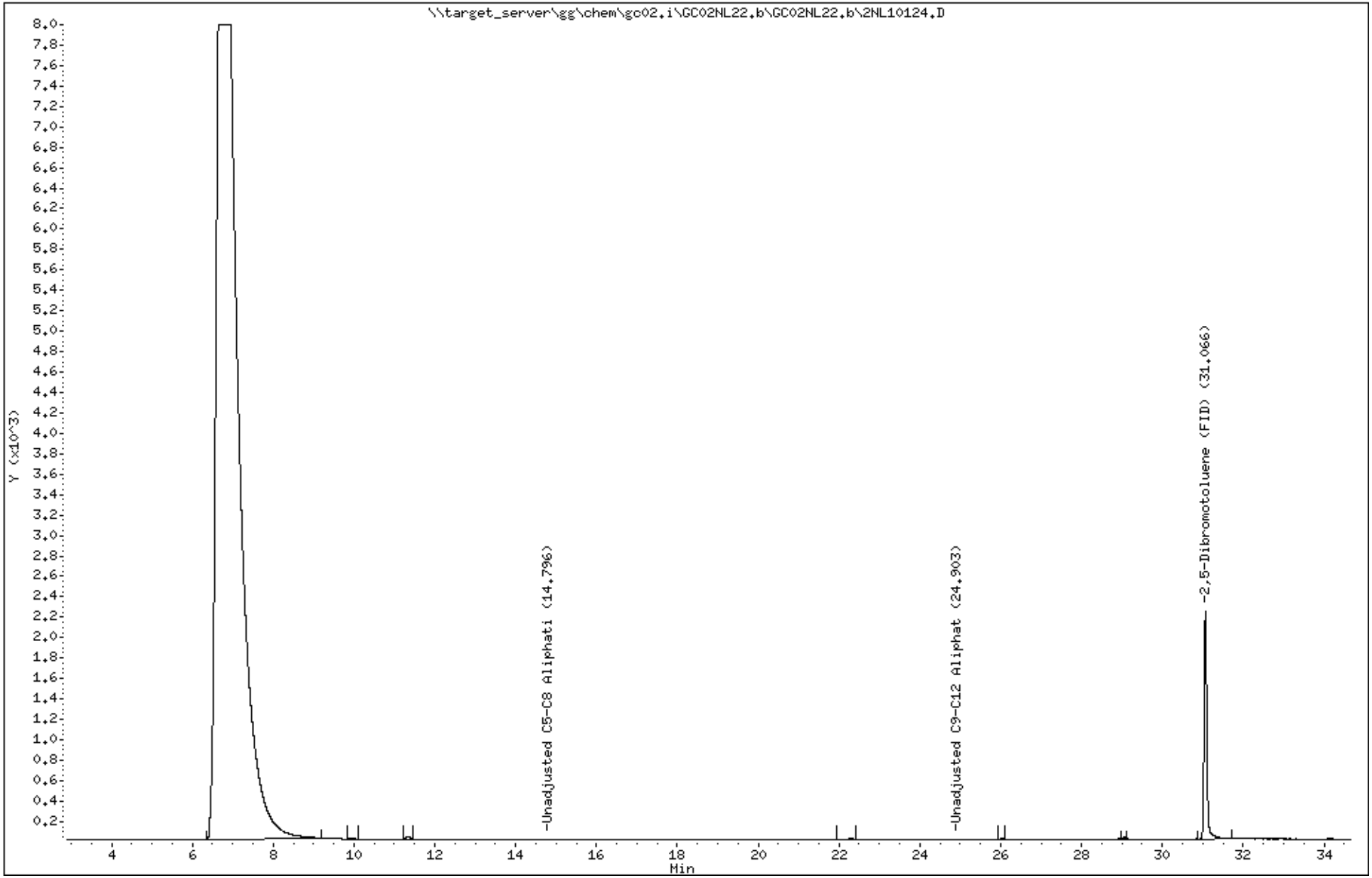
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.065	31.056	0.009	213292	90.6061	90.6	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10124.D
Date : 23-DEC-2020 02:47
Client ID: MW-FD-WINTER2020
Sample Info: TN0377-12
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000069

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-13
Client ID: GW-EB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10112.D

Sample Date: 15-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		92.5	%					
2,5-Dibromotoluene (PID)		91.4	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10112.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

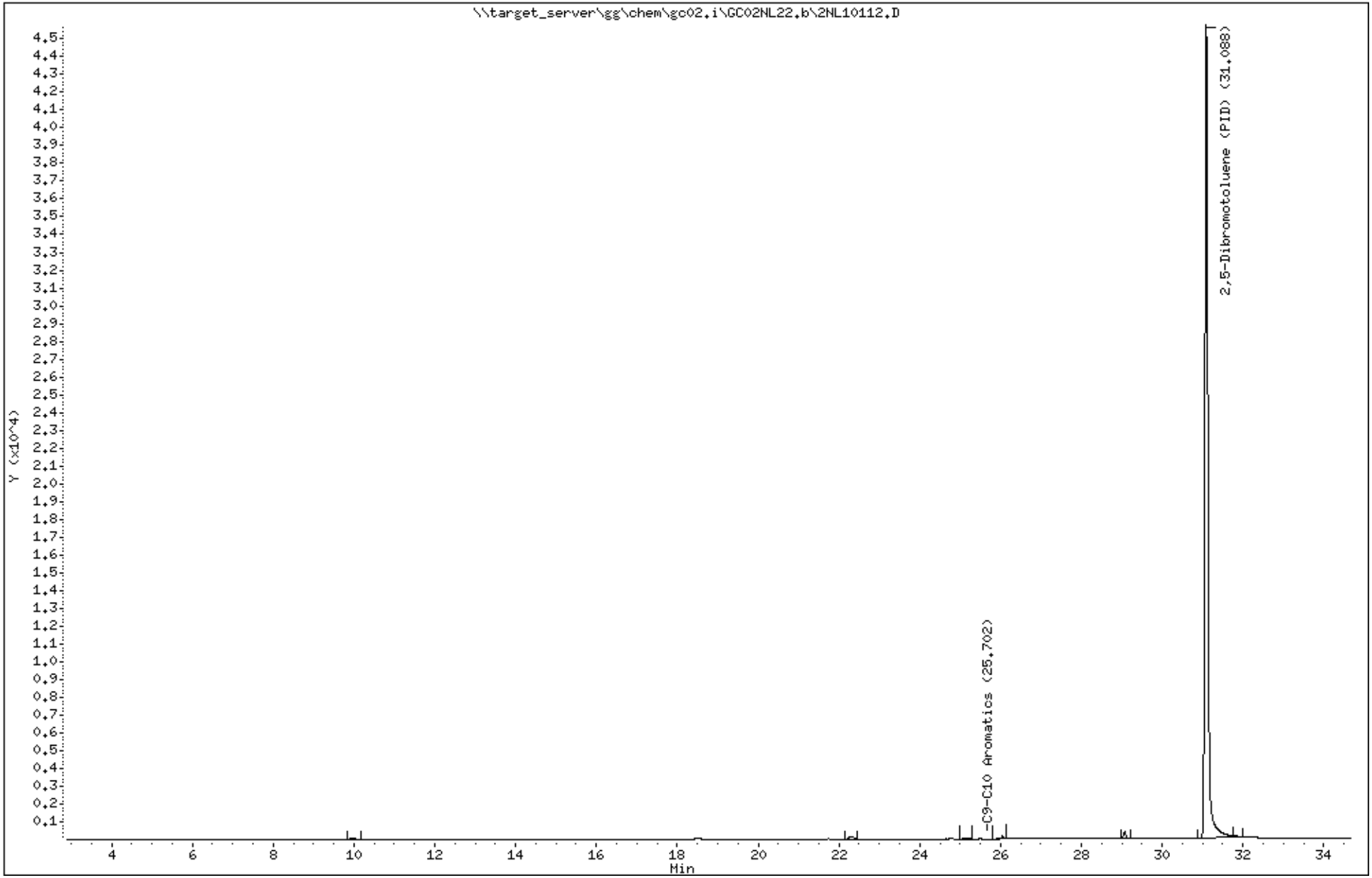
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10112.D
Lab Smp Id: TN0377-13 Client Smp ID: GW-EB-WINTER2020
Inj Date : 22-DEC-2020 18:09
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-13
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.088	31.066	0.022	472945	91.4585	91.4	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10112.D
Date : 22-DEC-2020 18:09
Client ID: GW-EB-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-13
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000072

Data File: 2NL10112.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10112.D
Lab Smp Id: TN0377-13 Client Smp ID: GW-EB-WINTER2020
Inj Date : 22-DEC-2020 18:09
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-13
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

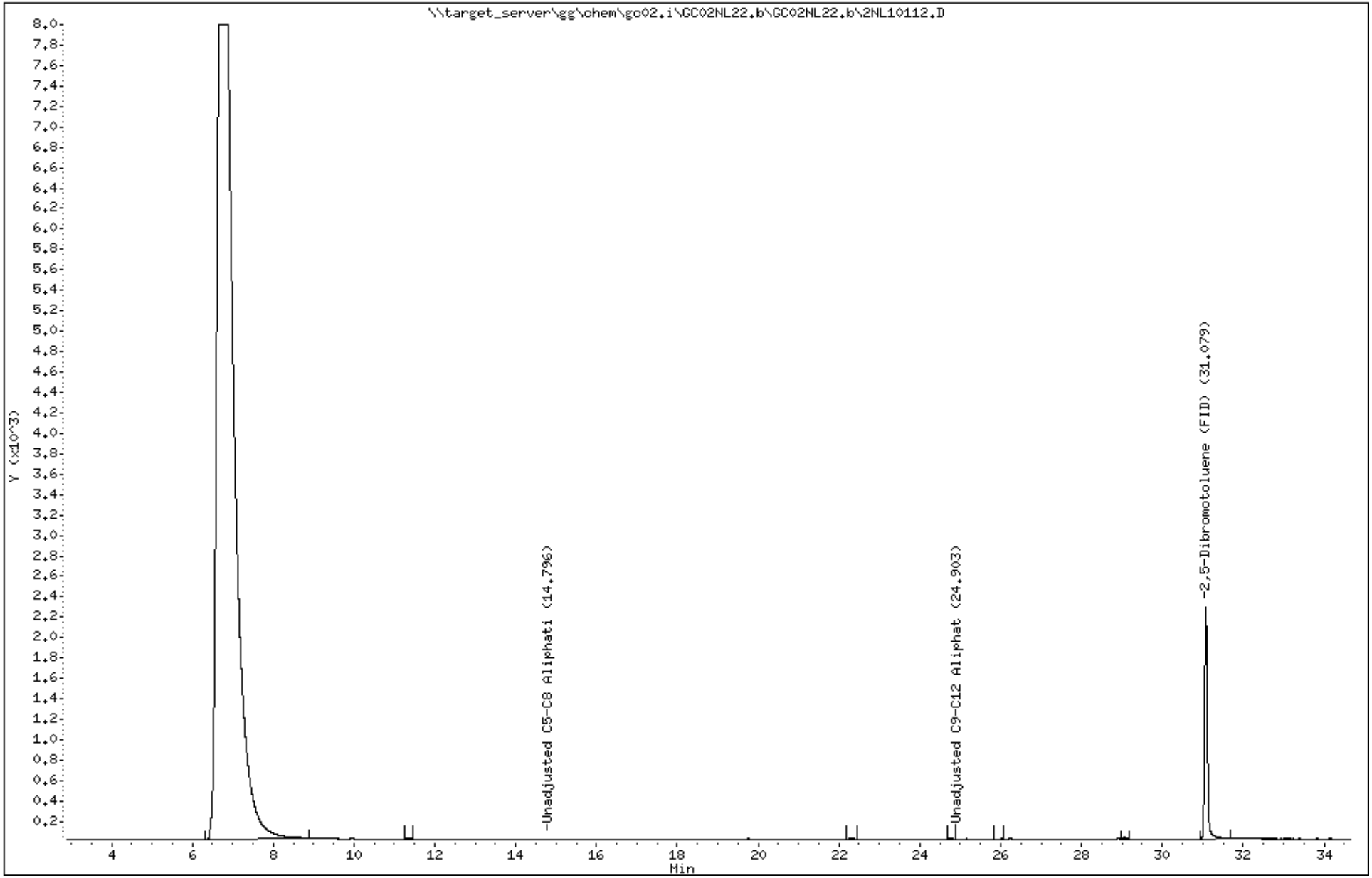
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.079	31.056	0.023	217801	92.5215	92.5	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10112.D
Date : 22-DEC-2020 18:09
Client ID: GW-EB-WINTER2020
Sample Info: TN0377-13
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000074

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-14
Client ID: DW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10110.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		95.5	%					
2,5-Dibromotoluene (PID)		92.4	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10110.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

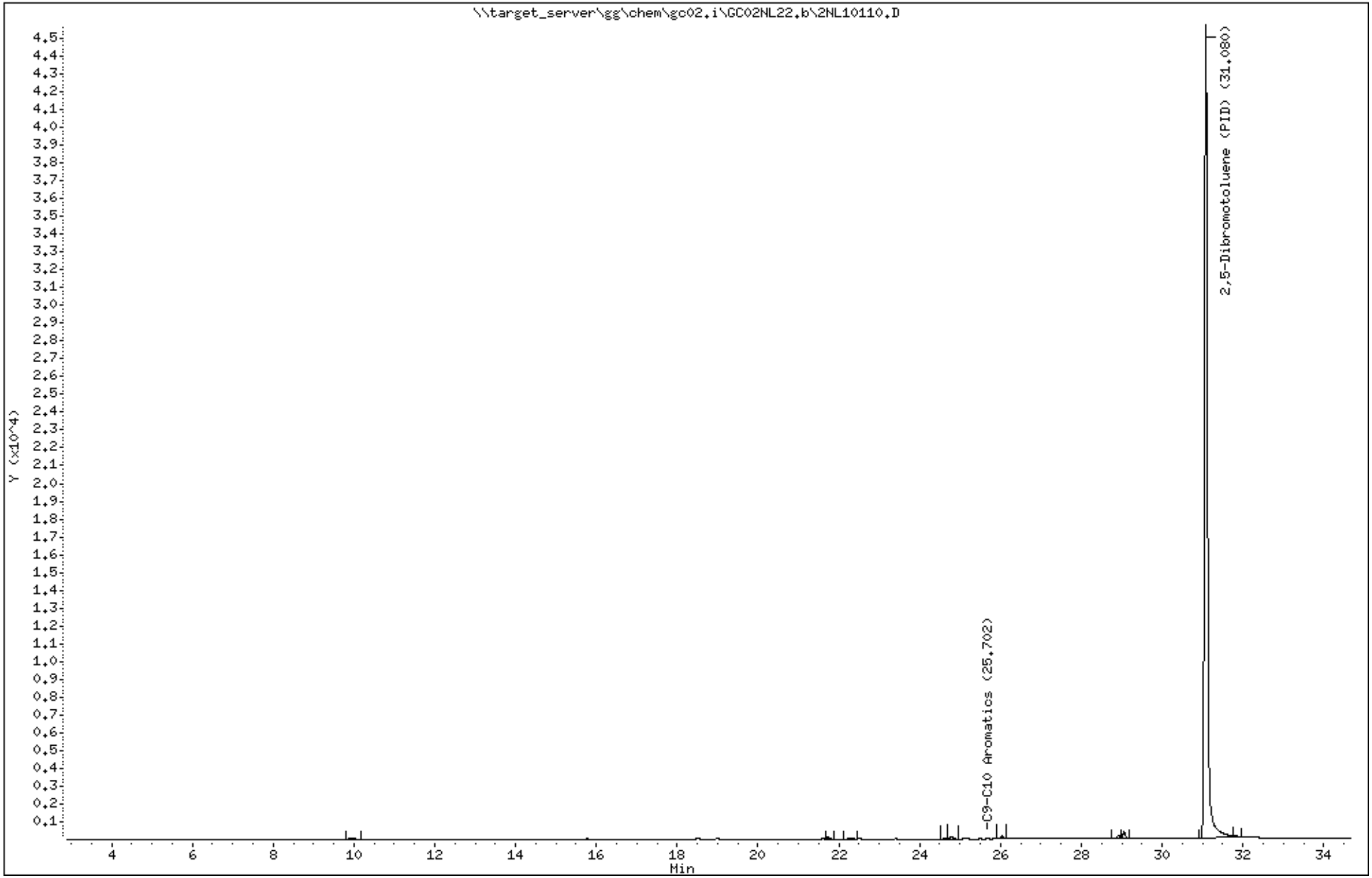
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10110.D
Lab Smp Id: TN0377-14 Client Smp ID: DW-TB-WINTER2020
Inj Date : 22-DEC-2020 16:44
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-14
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.080	31.066	0.014	477637	92.3658	92.4	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10110.D
Date : 22-DEC-2020 16:44
Client ID: DW-TB-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-14
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000077

Data File: 2NL10110.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10110.D
Lab Smp Id: TN0377-14 Client Smp ID: DW-TB-WINTER2020
Inj Date : 22-DEC-2020 16:44
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-14
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

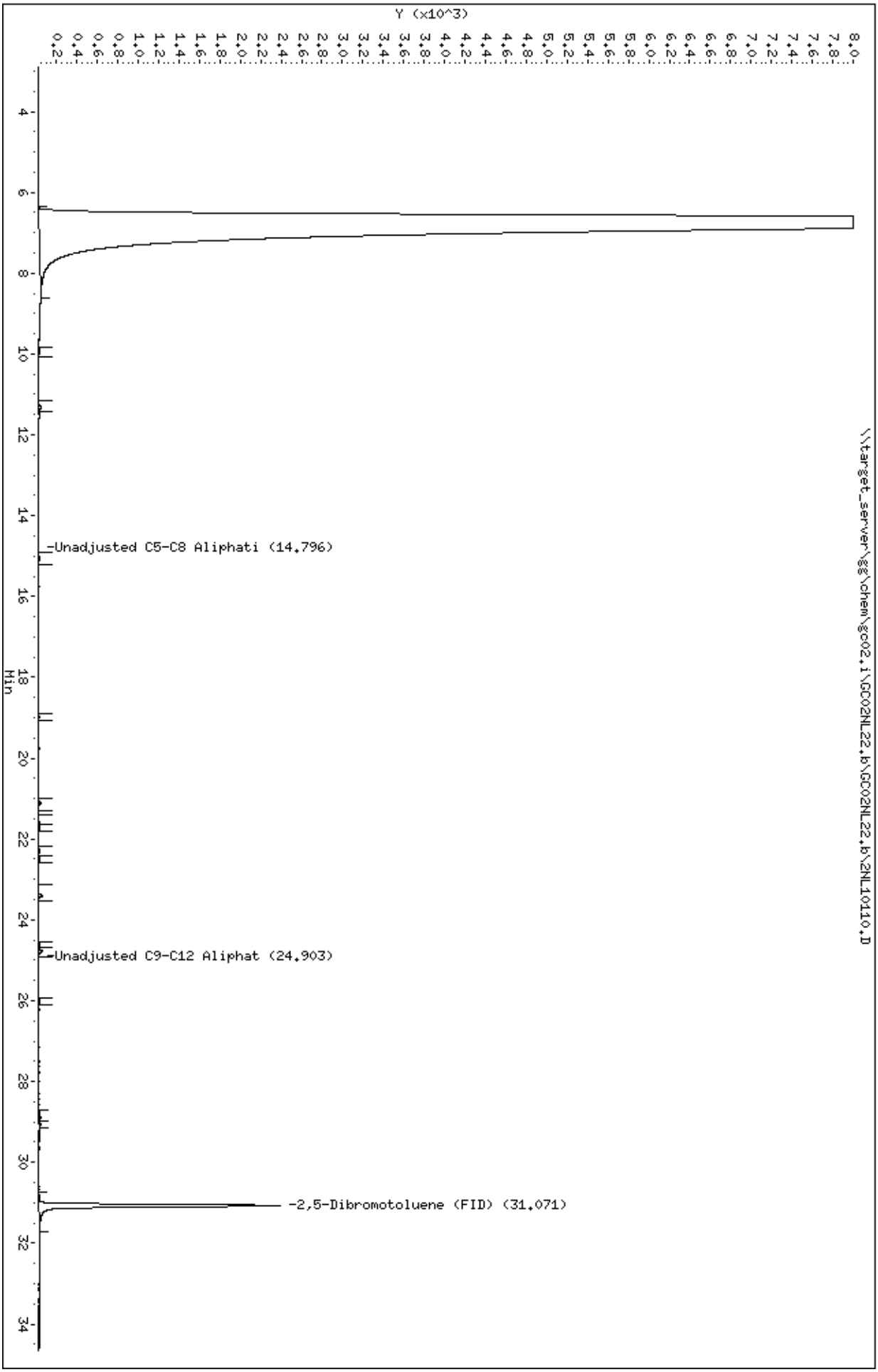
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.071	31.056	0.015	224838	95.5108	95.5	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10110.D
Date : 22-DEC-2020 16:44
Client ID: DW-TB-WINTER2020
Sample Info: TN0377-14
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Verina Consulting Group, LLC
Lab ID: TN0377-15
Client ID: GW-TB-WINTER2020
Project: LO-58 Nike Missile Battery Launch Site
SDG: TN0377
Lab File ID: 2NL10111.D

Sample Date: 18-DEC-20
Received Date: 19-DEC-20
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		94.0	%					
2,5-Dibromotoluene (PID)		91.7	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10111.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

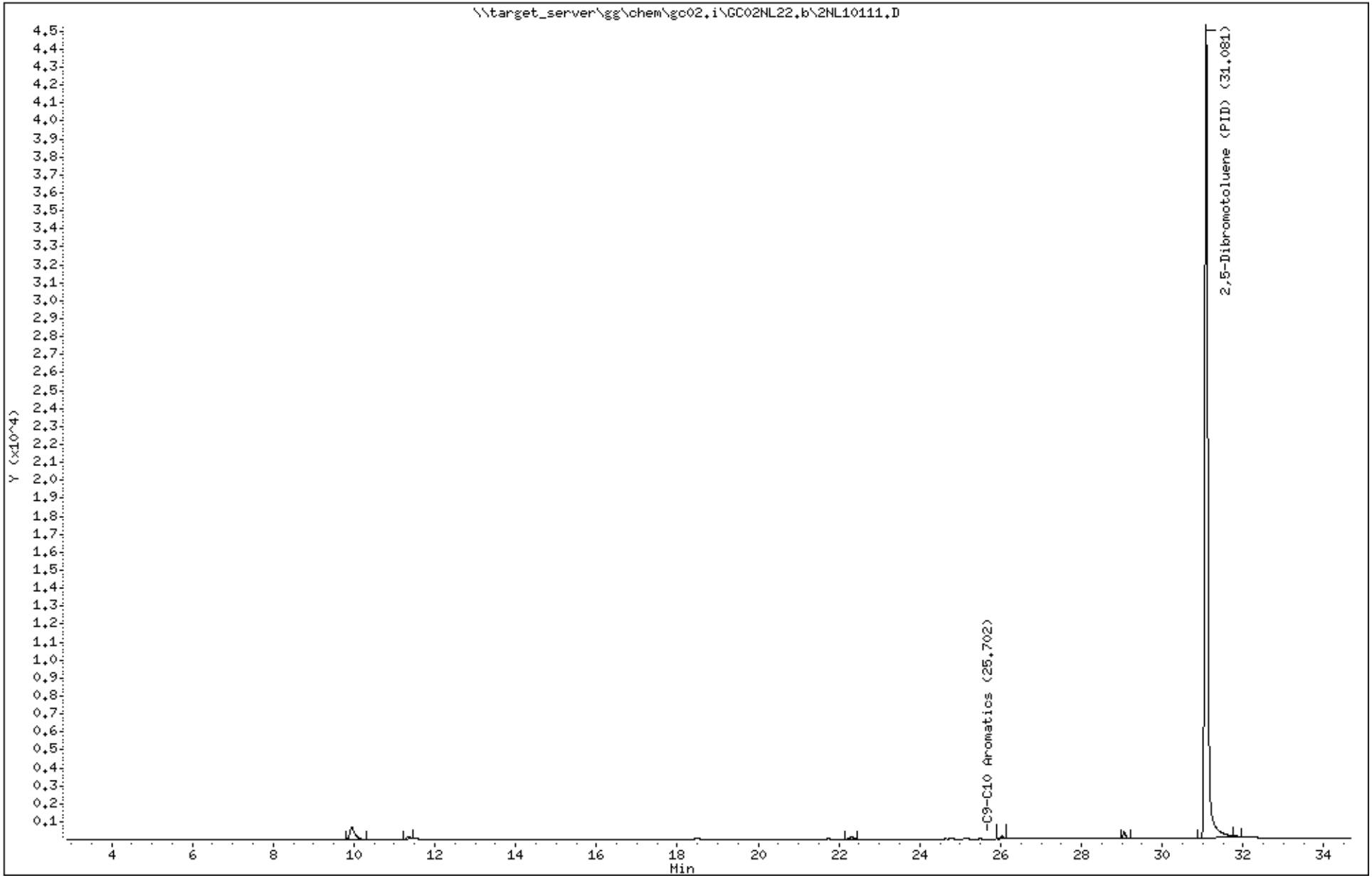
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10111.D
Lab Smp Id: TN0377-15 Client Smp ID: GW-TB-WINTER2020
Inj Date : 22-DEC-2020 17:26
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-15
Misc Info : WG292349,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.081	31.066	0.015	474080	91.6780	91.7	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10111.D
Date : 22-DEC-2020 17:26
Client ID: GW-TB-WINTER2020 Instrument: gc02.i
Sample Info: TN0377-15
Purge Volume: 0.0 Operator: DL
Column phase: RTX-502.2 Column diameter: 0.53



Katahdin Analytical Services 6000082

Data File: 2NL10111.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10111.D
Lab Smp Id: TN0377-15 Client Smp ID: GW-TB-WINTER2020
Inj Date : 22-DEC-2020 17:26
Operator : DL Inst ID: gc02.i
Smp Info : TN0377-15
Misc Info : WG292349,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

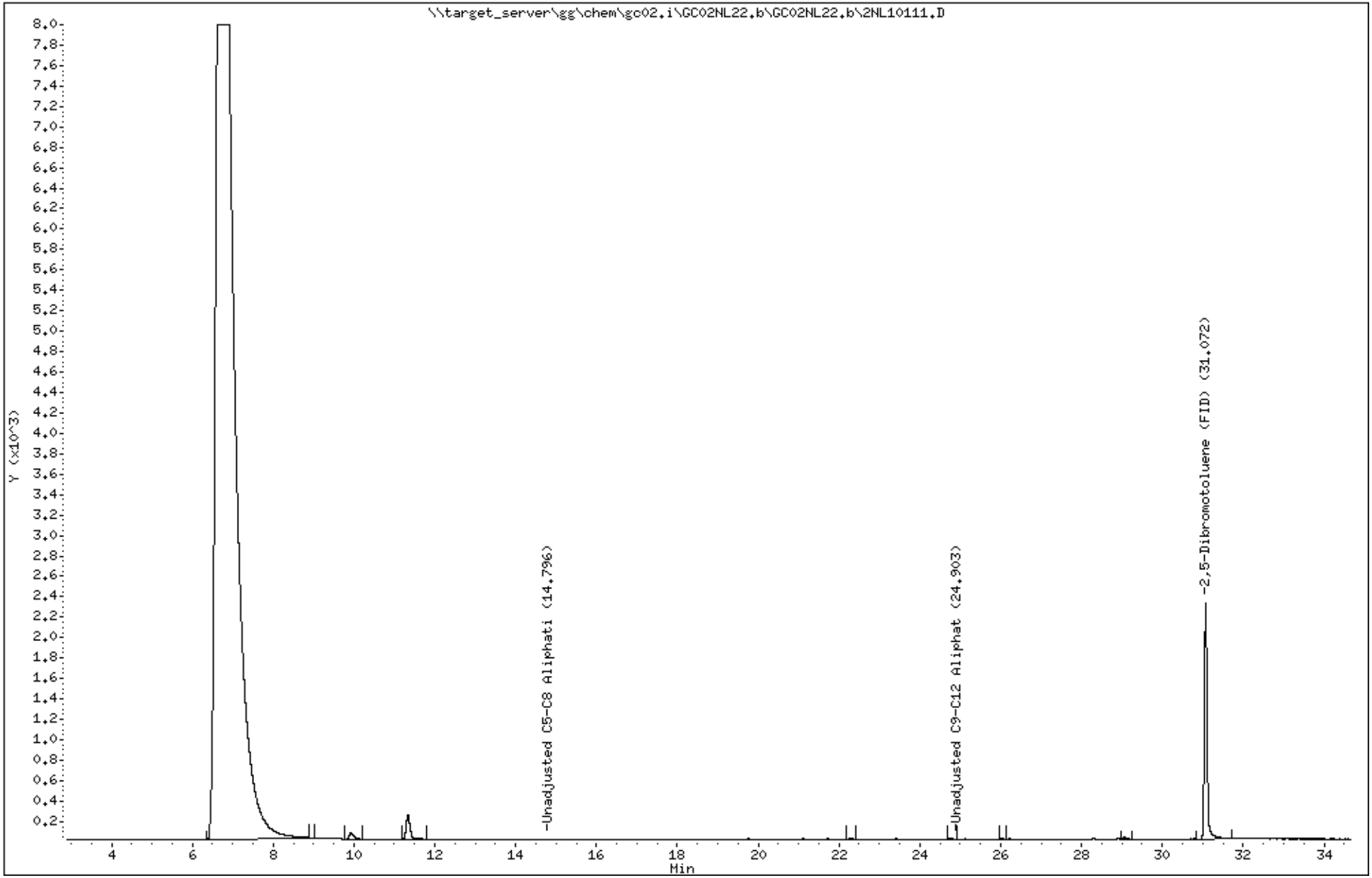
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.072	31.056	0.016	221300	94.0079	94.0	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10111.D
Date : 22-DEC-2020 17:26
Client ID: GW-TB-WINTER2020
Sample Info: TN0377-15
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000084

Standards Data Section

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** TN0377
Project : LO-58 Nike Missile Battery Launch Site **Instrument ID:** GC02
Lab File IDs : 2NL10095.D 2NL10096.D 2NL10097.D 2NL10094.D 2NL10098.D 2NL10099.D **Calibration Date(s):** 18-DEC-20 10:30 18-DEC-20 13:56

	Level 1 1.0000	Level 2 5.0000	Level 3 10.0000	Level 4 50.0000	Level 5 100.0000	Level 6 300.0000	Crv New	b	m1	m2	%RSD	Max %RSD	
C9-C10 Aromatic	5418	5931	6657	6265	6642	5859	AVG		6129		7.92153	25.00000	M (
Methyl tert-butylether	3879	3519	3773	3428	3794	3663	AVG		3676		4.72851	25.00000	O
Benzene	7221	7027	7778	7065	7661	7120	AVG		7312		4.43809	25.00000	O
Toluene	6302	6176	6993	6426	6928	6322	AVG		6525		5.32619	25.00000	O
Ethylbenzene	5269	5377	6200	5698	6136	5531	AVG		5702		6.83424	25.00000	O
m+p-Xylene	6749	6644	7470	6729	6896	5312	AVG		6633		10.7409	25.00000	O
o-Xylene	5681	5765	6370	5848	6149	5421	AVG		5872		5.78157	25.00000	O
1,2,4-trimethylbenzene	5418	5931	6657	6265	6642	5859	AVG		6129		7.92153	25.00000	O
Naphthalene	5756	5835	6630	6487	6918	6175	AVG		6300		7.28683	25.00000	O
2,5-Dibromotoluene (PID)	6149	4705	5290	5480	5414	3989	AVG		5171		14.3133	25.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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Tel:(207) 874-2400 Fax:(207) 775-4029

http://katahdinlab.com
sales@katahdinlab.com

Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10100.D
Report Date: 21-Dec-2020 14:56

Katahdin Analytical Services

RECOVERY REPORT

Client Name:
Client SDG: SDGa01556
Sample Matrix: LIQUID
Fraction: VPH
Lab Smp Id: WG292312-7
Level: LOW
Operator: DL
Data Type: GC DATA
SampleType: INDSOURCE
SpikeList File: ind.spk
Quant Type: ESTD
Sublist File: IND.sub
Method File: \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m
Misc Info: WG292312,WG292312-4

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
2 Methyl tert-butyle	100	94.0	94.03	80-120
3 Benzene	100	103	102.81	80-120
4 Toluene	100	104	104.06	80-120
5 Ethylbenzene	100	106	105.71	80-120
6 m+p-Xylene	200	204	101.95	80-120
7 o-Xylene	100	102	102.41	80-120
8 1,2,4-trimethylben	100	104	104.26	80-120
10 Naphthalene	100	108	107.81	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 11 2,5-Dibromotoluene	100	97.9	97.90	70-130

Katahdin
ANALYTICAL SERVICES

Form 6
Initial Calibration Summary

Lab Name : Katahdin Analytical Services **SDG:** TN0377
Project : LO-58 Nike Missile Battery Launch Site **Instrument ID:** GC02
Lab File IDs : 2NL10095.D 2NL10096.D 2NL10097.D 2NL10094.D 2NL10098.D 2NL10099.D **Calibration Date(s):** 18-DEC-20 10:30 18-DEC-20 13:56

	1.0000 Level 1	5.0000 Level 2	10.0000 Level 3	50.0000 Level 4	100.0000 Level 5	300.0000 Level 6	New Crv	b	m1	m2	%RSD	Max %RSD	
C5-C8 Aliphatic	5557	5603	6146	5652	5940	4778	AVG		5613		8.33214	25.00000	M (
C9-C12 Aliphatic	5567	4861	5282	4864	5976	6162	AVG		5452		10.09968	25.00000	M (
n-Pentane	4943	4871	5628	5162	5451	4294	AVG		5058		9.36281	25.00000	O
2-Methylpentane	5638	5812	6292	5769	6057	4780	AVG		5725		9.04541	25.00000	O
Methyl tert-butylether	5712	4691	4886	4550	4728	4631	AVG		4866		8.81874	25.00000	O
2,2,4-Trimethylpentane	6090	6127	6518	6025	6312	5258	AVG		6055		7.09421	25.00000	O
Benzene	8367	7882	8398	7755	8107	7929	AVG		8073		3.28540	25.00000	O
Toluene	7756	7432	8161	7603	7975	7794	AVG		7787		3.32805	25.00000	O
n-Nonane	4970	4887	5306	5043	5661	5766	AVG		5272		7.03856	25.00000	O
n-Decane	4766	4145	4640	4456	6075	6358	AVG		5073		18.01740	25.00000	O
Ethylbenzene	7111	7118	7861	7427	7782	7600	AVG		7483		4.31213	25.00000	O
m+p-Xylene	7853	7490	8138	7577	7926	7703	AVG		7781		3.07693	25.00000	O
o-Xylene	7941	7701	8244	7694	8068	7858	AVG		7918		2.70759	25.00000	O
1,2,4-trimethylbenzene	7070	7376	8021	7728	8096	7863	AVG		7692		5.16249	25.00000	O
n-Butylcyclohexane	6367	5577	5924	5271	5878	5966	AVG		5830		6.38909	25.00000	O
Naphthalene	4479	5189	5923	5826	6277	6145	AVG		5640		12.09825	25.00000	O
2,5-Dibromotoluene (FID)	2380	2085	2304	2352	2501	2503	AVG		2354		6.56871	25.00000	

Legend: O = Kept Original Curve
Y = Failed Minimum RF
W = Failed %RSD Value

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sales@katahdinlab.com

Data File: 2NL10100.D
Report Date: 21-Dec-2020 14:58

Katahdin Analytical Services

RECOVERY REPORT

Client Name:
Client SDG: SDGa01556
Sample Matrix: LIQUID
Fraction: VPH
Lab Smp Id: WG292312-7
Level: LOW
Operator: DL
Data Type: GC DATA
SampleType: INDSOURCE
SpikeList File: ind.spk
Quant Type: ESTD
Sublist File: IND.sub
Method File: \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m\VPHFIDA3.m
Misc Info: WG292321,WG292312-4

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
5 n-Pentane	100	105	104.94	80-120
6 2-Methylpentane	100	104	103.80	80-120
7 Methyl tert-butyle	100	94.1	94.08	80-120
8 2,2,4-Trimethylpen	100	105	105.40	80-120
9 Benzene	100	99.4	99.41	80-120
11 Toluene	100	100	100.52	80-120
12 n-Nonane	100	108	107.84	80-120
13 n-Decane	100	117	117.20	80-120
14 Ethylbenzene	100	103	102.71	80-120
15 m+p-Xylene	200	200	99.79	80-120
16 o-Xylene	100	100	100.23	80-120
18 1,2,4-trimethylben	100	102	101.57	80-120
19 n-Butylcyclohexane	100	101	101.36	80-120
20 Naphthalene	100	109	109.44	80-120

SURROGATE COMPOUND	AMOUNT ADDED ug/L	AMOUNT RECOVERED ug/L	% RECOVERED	LIMITS
$ 21 2,5-Dibromotoluene	100	101	101.22	70-130

Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10095.D
Report Date: 21-Dec-2020 14:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10095.D
Lab Smp Id: WG292312-1
Inj Date : 18-DEC-2020 11:11
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-1
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m
Meth Date : 21-Dec-2020 14:56 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 11:11 Cal File: 2NL10095.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

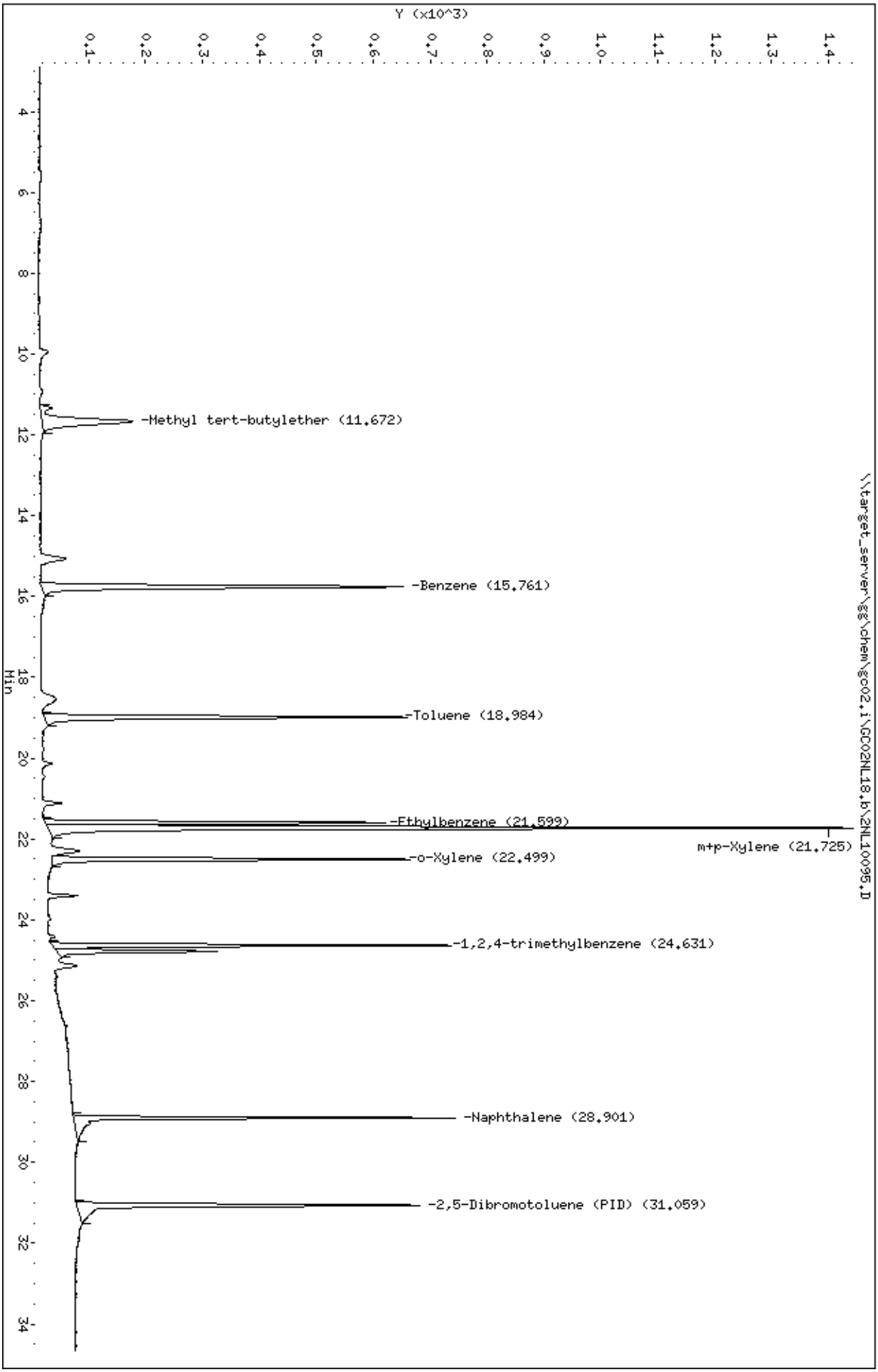
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C9-C10 Aromatic				5418	1.00000	0.927	
2 Methyl tert-butylether	11.671	11.655	0.016	3879	1.00000	1.06	
3 Benzene	15.760	15.759	0.001	7221	1.00000	1.01	
4 Toluene	18.983	18.982	0.001	6302	1.00000	0.990	
5 Ethylbenzene	21.598	21.600	-0.002	5269	1.00000	0.961	
6 m+p-Xylene	21.724	21.728	-0.004	13498	2.00000	2.00	
7 o-Xylene	22.499	22.500	-0.001	5681	1.00000	0.986	
8 1,2,4-trimethylbenzene	24.631	24.633	-0.002	5418	1.00000	0.927	
10 Naphthalene	28.901	28.903	-0.002	5756	1.00000	0.940(M)	M9
$ 11 2,5-Dibromotoluene (PID)	31.059	31.066	-0.007	6149	1.00000	1.06(M)	M9

DL
2:59 pm, Dec 21, 2020

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10095.D
Date : 18-DEC-2020 11:11
Client ID:
Sample Info: WG292312-1
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10095.D
Y (x10^3)
Min
-Methyl tert-butylether (11.672)
-Benzene (15.761)
-Toluene (18.984)
-Ethylbenzene (21.599)
m+p-Xylene (21.725)
-o-Xylene (22.499)
-1,2,4-trimethylbenzene (24.631)
-Naphthalene (28.901)
-2,5-Dibromotoluene (PID) (31.059)

Data File: 2NL10095.D
Report Date: 21-Dec-2020 14:58

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10095.D
Lab Smp Id: WG292312-1
Inj Date : 18-DEC-2020 11:11
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-1
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 18-Dec-2020 15:50 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 11:11 Cal File: 2NL10095.D
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C5-C8 Aliphatic				16671	3.00000	2.97	
M 2 C9-C12 Aliphatic				11133	2.00000	2.13	
5 n-Pentane	8.667	8.679	-0.012	4943	1.00000	0.978(M)	M2
6 2-Methylpentane	10.920	10.920	0.000	5638	1.00000	0.988	
7 Methyl tert-butylether	11.660	11.644	0.016	5712	1.00000	1.11	
8 2,2,4-Trimethylpentane	15.056	15.065	-0.009	6090	1.00000	1.00	
9 Benzene	15.749	15.749	0.000	8367	1.00000	1.04	
11 Toluene	18.972	18.972	0.000	7756	1.00000	1.01	
12 n-Nonane	21.105	21.112	-0.007	4970	1.00000	0.993	
14 Ethylbenzene	21.587	21.590	-0.003	7111	1.00000	0.978	
15 m+p-Xylene	21.714	21.720	-0.006	15706	2.00000	2.04	
16 o-Xylene	22.488	22.489	-0.001	7941	1.00000	1.02	
13 n-Decane	23.391	23.395	-0.004	4766	1.00000	1.03	
18 1,2,4-trimethylbenzene	24.620	24.623	-0.003	7070	1.00000	0.956	
19 n-Butylcyclohexane	24.768	24.771	-0.003	6367	1.00000	1.09	
20 Naphthalene	28.889	28.893	-0.004	4479	1.00000	0.869	
$ 21 2,5-Dibromotoluene (FID)	31.051	31.056	-0.005	2380	1.00000	1.00	

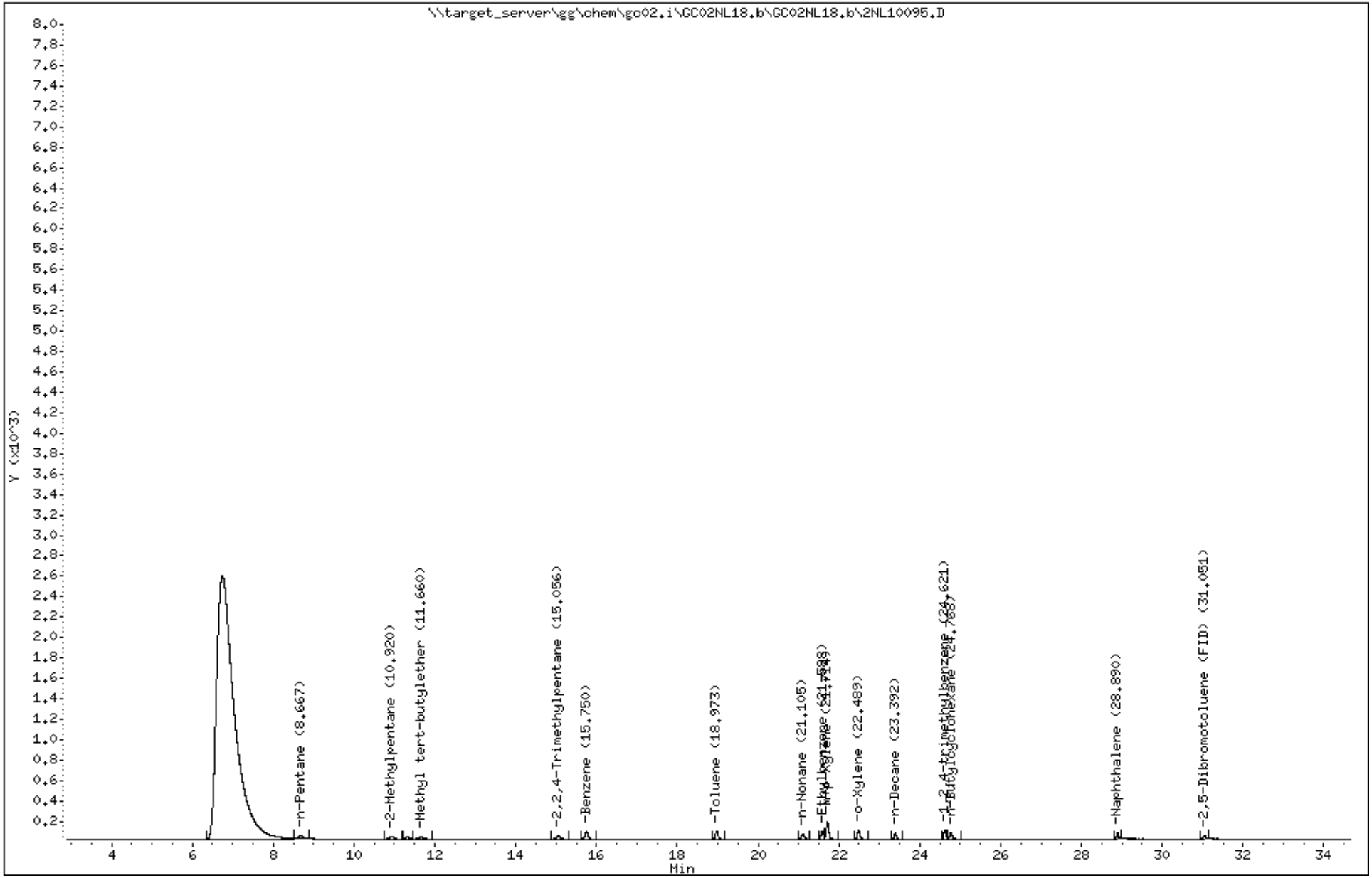
DL
3:00 pm, Dec 21, 2020

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10095.D
Date : 18-DEC-2020 11:11
Client ID:
Sample Info: WG292312-1
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin Analytical Services 6000093

Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10096.D
Report Date: 21-Dec-2020 14:56

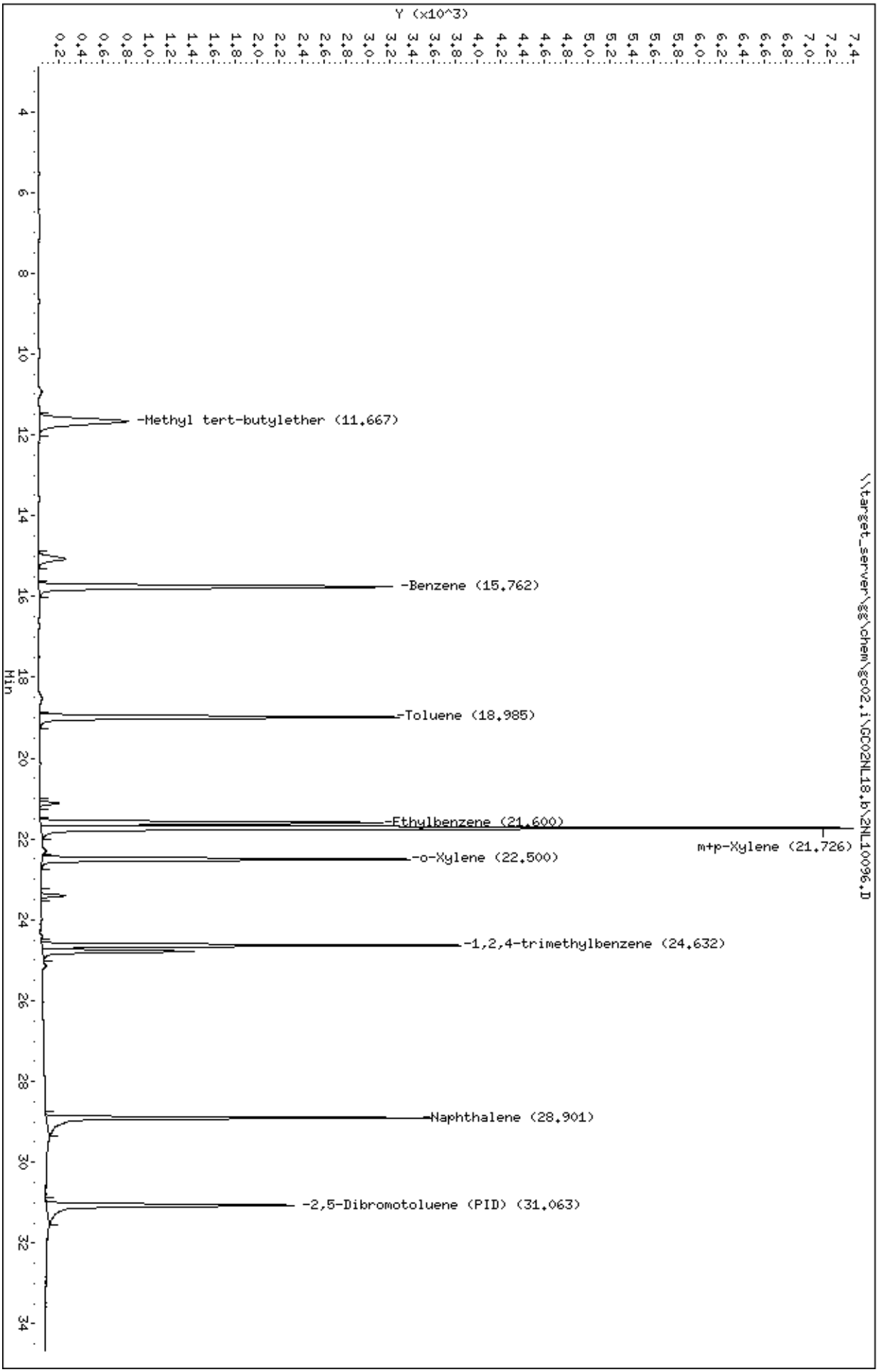
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10096.D
Lab Smp Id: WG292312-2
Inj Date : 18-DEC-2020 11:52
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-2
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m
Meth Date : 21-Dec-2020 14:56 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 11:52 Cal File: 2NL10096.D
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C9-C10 Aromatic				29654	5.00000	5.05	
2 Methyl tert-butylether	11.667	11.655	0.012	17595	5.00000	4.88	
3 Benzene	15.762	15.759	0.003	35136	5.00000	4.94	
4 Toluene	18.984	18.982	0.002	30881	5.00000	4.90	
5 Ethylbenzene	21.599	21.600	-0.001	26886	5.00000	4.93	
6 m+p-Xylene	21.726	21.728	-0.002	66442	10.0000	9.91	
7 o-Xylene	22.499	22.500	-0.001	28825	5.00000	5.00	
8 1,2,4-trimethylbenzene	24.632	24.633	-0.001	29654	5.00000	5.05	
10 Naphthalene	28.900	28.903	-0.003	29174	5.00000	4.84	
$ 11 2,5-Dibromotoluene (PID)	31.063	31.066	-0.003	23525	5.00000	4.32	


Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10096.D
Date : 18-DEC-2020 11:52
Client ID:
Sample Info: WG292312-2
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^3)
Min
-Methyl tert-butylether (11.667)
-Benzene (15.762)
-Toluene (18.985)
-Ethylbenzene (21.600)
m+p-Xylene (21.726)
-o-Xylene (22.500)
-1,2,4-trimethylbenzene (24.632)
Naphthalene (28.901)
-2,5-Dibromotoluene (PID) (31.063)
\\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10096.D

Data File: 2NL10096.D
Report Date: 21-Dec-2020 14:58

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10096.D
Lab Smp Id: WG292312-2
Inj Date : 18-DEC-2020 11:52
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-2
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 18-Dec-2020 15:50 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 11:52 Cal File: 2NL10096.D
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

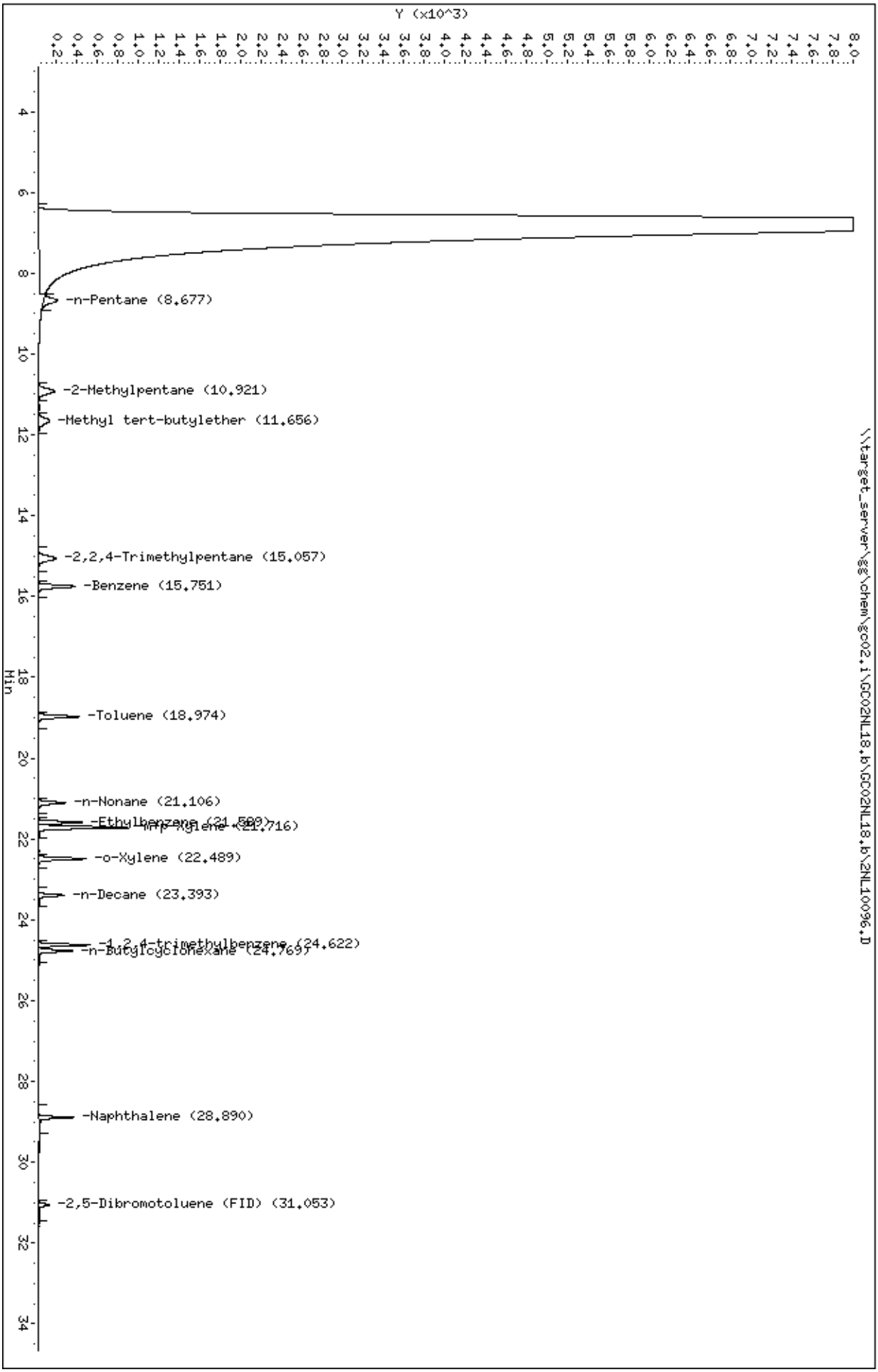
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C5-C8 Aliphatic				84052	15.0000	14.6	
M 2 C9-C12 Aliphatic				48610	10.0000	8.87	
5 n-Pentane	8.677	8.679	-0.002	24357	5.00000	4.44(M)	M2
6 2-Methylpentane	10.921	10.920	0.001	29062	5.00000	5.08	
7 Methyl tert-butylether	11.655	11.644	0.011	23453	5.00000	4.82	
8 2,2,4-Trimethylpentane	15.057	15.065	-0.008	30633	5.00000	5.06	
9 Benzene	15.751	15.749	0.002	39410	5.00000	4.88	
11 Toluene	18.974	18.972	0.002	37160	5.00000	4.77	
12 n-Nonane	21.106	21.112	-0.006	24434	5.00000	4.63	
14 Ethylbenzene	21.588	21.590	-0.002	35589	5.00000	4.76	
15 m+p-Xylene	21.715	21.720	-0.005	74896	10.0000	9.62	
16 o-Xylene	22.489	22.489	0.000	38505	5.00000	4.86	
13 n-Decane	23.393	23.395	-0.002	20725	5.00000	4.08	
18 1,2,4-trimethylbenzene	24.621	24.623	-0.002	36878	5.00000	4.79	
19 n-Butylcyclohexane	24.768	24.771	-0.003	27885	5.00000	4.78	
20 Naphthalene	28.890	28.893	-0.003	25943	5.00000	4.60	
$ 21 2,5-Dibromotoluene (FID)	31.052	31.056	-0.004	10423	5.00000	4.43	

DL
3:00 pm, Dec 21, 2020

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10096.D
Date : 18-DEC-2020 11:52
Client ID:
Sample Info: WG292312-2
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10096.D
Y (x10^3)
Min
-n-Pentane (8.677)
-2-Methylpentane (10.921)
-Methyl tert-butylether (11.656)
-2,2,4-Trimethylpentane (15.057)
-Benzene (15.751)
-Toluene (18.974)
-n-Nonane (21.106)
-Ethylbenzene (21.589)
-m/p-Xylene (21.716)
-o-Xylene (22.489)
-n-Decane (23.393)
-1,2,4-trimethylbenzene (24.622)
-n-Butylcyclohexane (24.769)
-Naphthalene (28.890)
-2,5-Dibromotoluene (FID) (31.053)

Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10097.D
Report Date: 21-Dec-2020 14:56

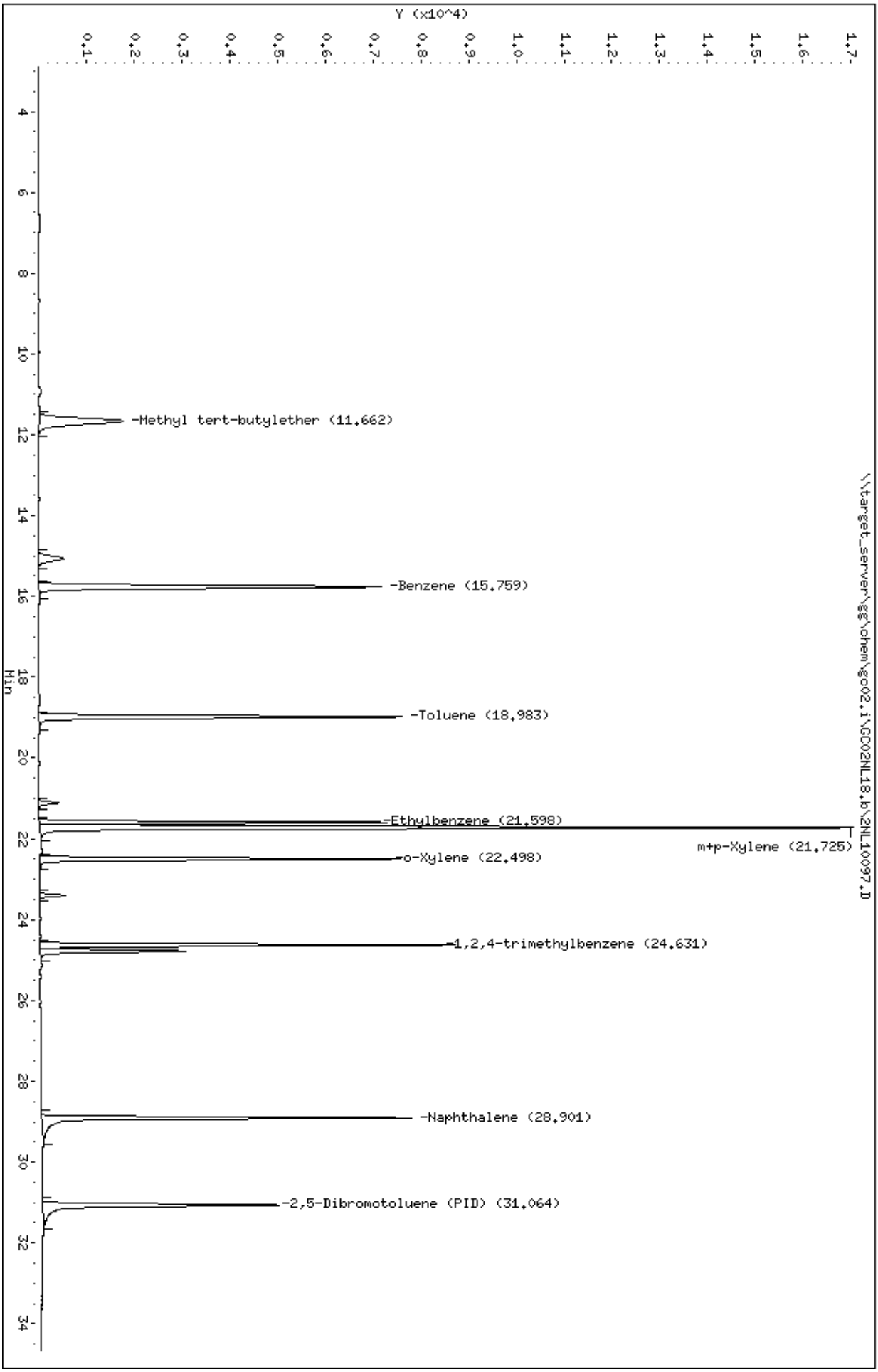
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10097.D
Lab Smp Id: WG292312-3
Inj Date : 18-DEC-2020 12:34
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-3
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m
Meth Date : 21-Dec-2020 14:56 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 12:34 Cal File: 2NL10097.D
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C9-C10 Aromatic				66572	10.0000	11.0	
2 Methyl tert-butylether	11.662	11.655	0.007	37732	10.0000	10.3	
3 Benzene	15.759	15.759	0.000	77784	10.0000	10.7	
4 Toluene	18.982	18.982	0.000	69932	10.0000	10.8	
5 Ethylbenzene	21.598	21.600	-0.002	62004	10.0000	11.0	
6 m+p-Xylene	21.724	21.728	-0.004	149403	20.0000	21.6	
7 o-Xylene	22.498	22.500	-0.002	63697	10.0000	10.8	
8 1,2,4-trimethylbenzene	24.631	24.633	-0.002	66572	10.0000	11.0	
10 Naphthalene	28.901	28.903	-0.002	66303	10.0000	10.7	
$ 11 2,5-Dibromotoluene (PID)	31.063	31.066	-0.003	52897	10.0000	9.78	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Date : 18-DEC-2020 12:34
Client ID:
Sample Info: WG292312-3
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^4)
Min
-Methyl tert-butylether (11.662)
-Benzene (15.759)
-Toluene (18.983)
-Ethylbenzene (21.598)
m+p-Xylene (21.725)
-o-Xylene (22.498)
-1,2,4-trimethylbenzene (24.631)
-Naphthalene (28.901)
-2,5-Dibromotoluene (PID) (31.064)
\\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10097.D

Data File: 2NL10097.D
Report Date: 21-Dec-2020 14:58

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10097.D
Lab Smp Id: WG292312-3
Inj Date : 18-DEC-2020 12:34
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-3
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 18-Dec-2020 15:50 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 12:34 Cal File: 2NL10097.D
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C5-C8 Aliphatic				184386	30.0000	32.7	
M 2 C9-C12 Aliphatic				105639	20.0000	19.3	
5 n-Pentane	8.674	8.679	-0.005	56283	10.0000	11.0(M)	M2
6 2-Methylpentane	10.919	10.920	-0.001	62919	10.0000	11.0	
7 Methyl tert-butylether	11.650	11.644	0.006	48859	10.0000	10.0	
8 2,2,4-Trimethylpentane	15.054	15.065	-0.011	65184	10.0000	10.8	
9 Benzene	15.748	15.749	-0.001	83980	10.0000	10.4	
11 Toluene	18.972	18.972	0.000	81606	10.0000	10.5	
12 n-Nonane	21.105	21.112	-0.007	53055	10.0000	10.1	
14 Ethylbenzene	21.587	21.590	-0.003	78609	10.0000	10.5	
15 m+p-Xylene	21.714	21.720	-0.006	162769	20.0000	20.9	
16 o-Xylene	22.488	22.489	-0.001	82435	10.0000	10.4	
13 n-Decane	23.392	23.395	-0.003	46402	10.0000	9.15	
18 1,2,4-trimethylbenzene	24.621	24.623	-0.002	80209	10.0000	10.4	
19 n-Butylcyclohexane	24.768	24.771	-0.003	59237	10.0000	10.2	
20 Naphthalene	28.890	28.893	-0.003	59232	10.0000	10.5	
$ 21 2,5-Dibromotoluene (FID)	31.053	31.056	-0.003	23041	10.0000	9.79	

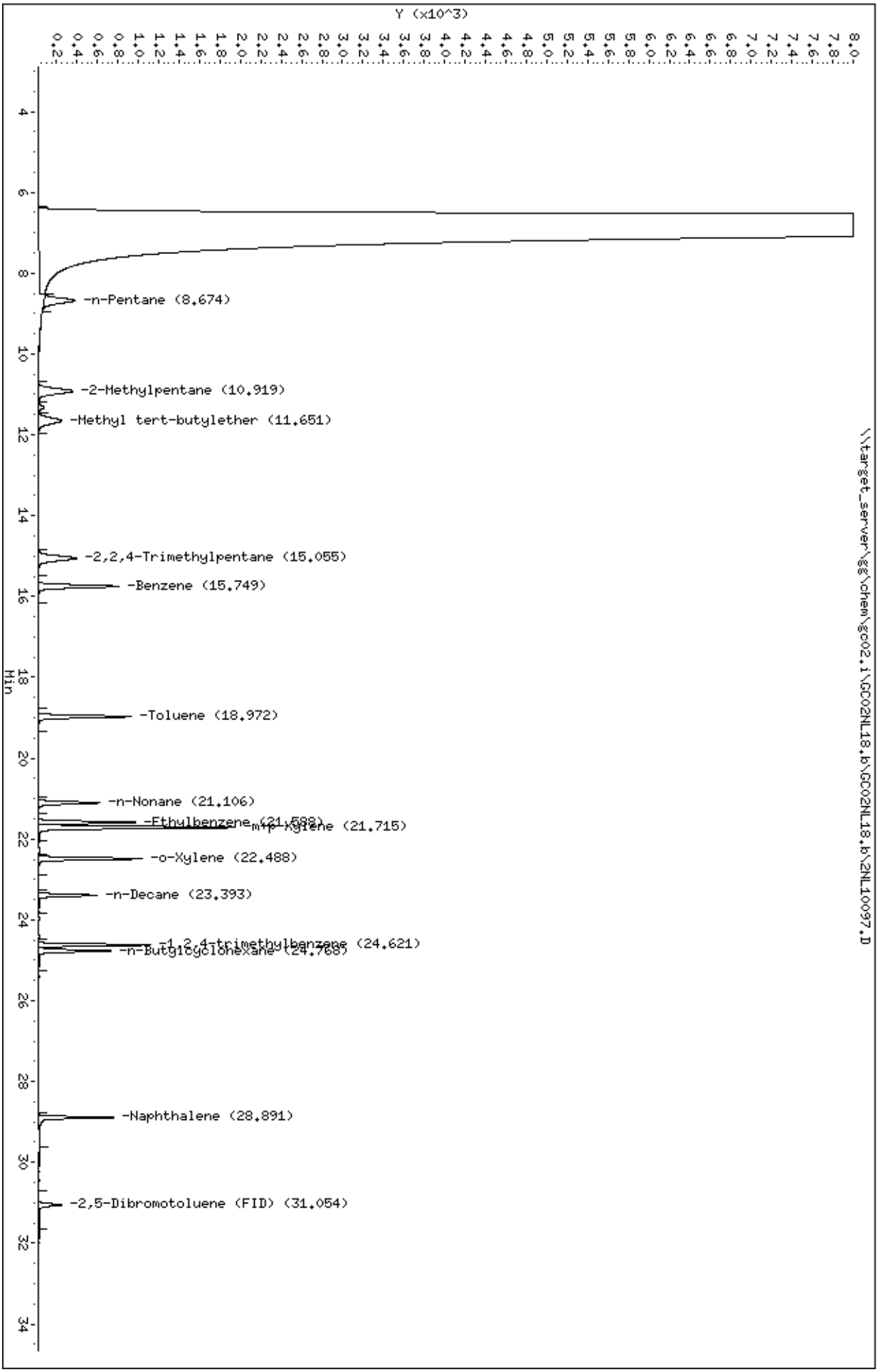
DL
3:00 pm, Dec 21, 2020

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10097.D
Date : 18-DEC-2020 12:34
Client ID:
Sample Info: WG292312-3
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10094.D
Report Date: 21-Dec-2020 14:56

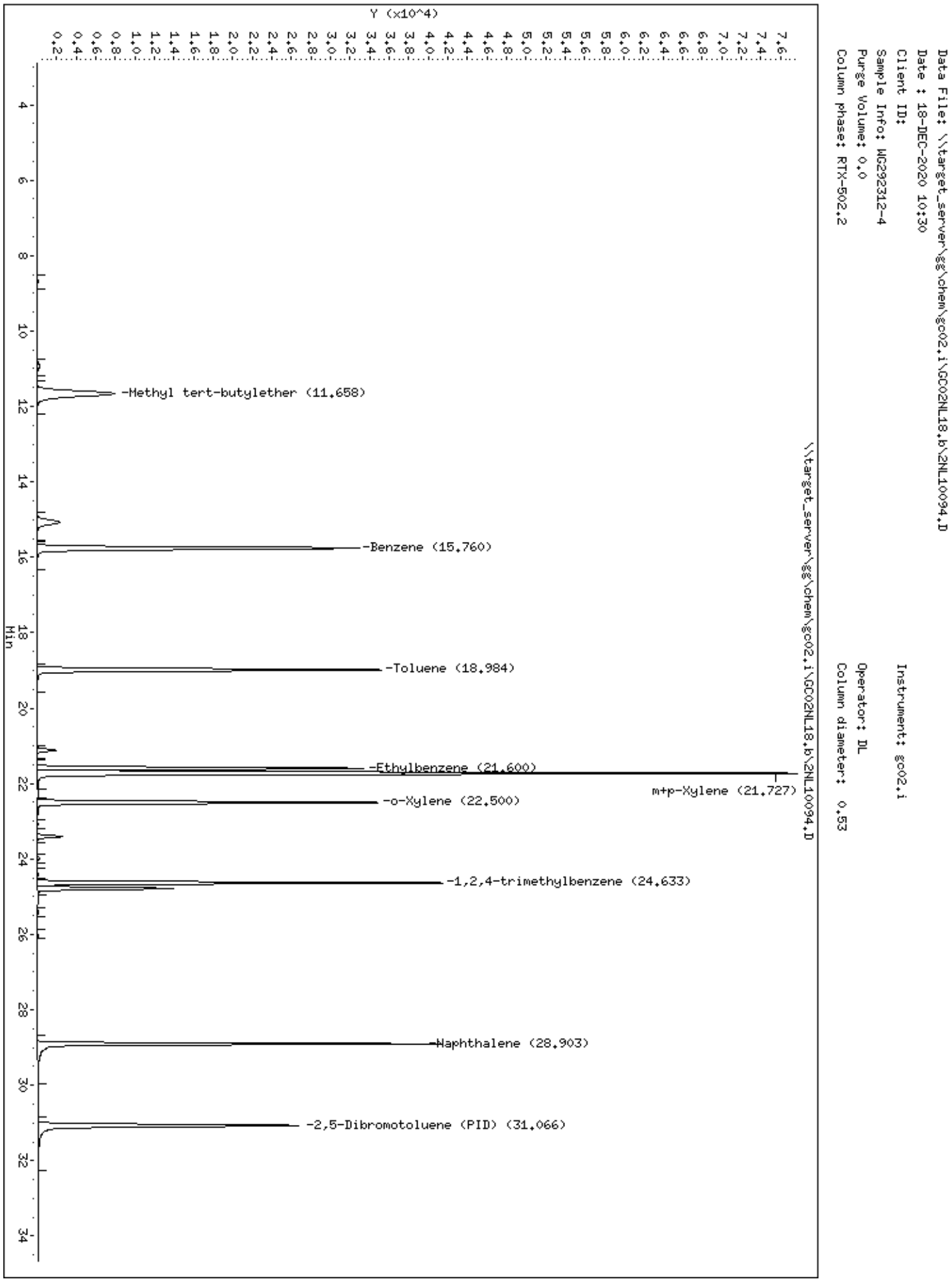
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10094.D
Lab Smp Id: WG292312-4
Inj Date : 18-DEC-2020 10:30
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-4
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m
Meth Date : 21-Dec-2020 14:56 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 10:30 Cal File: 2NL10094.D
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C9-C10 Aromatic				313268	50.0000	50.0	
2 Methyl tert-butylether	11.658	11.655	0.003	171393	50.0000	50.0	
3 Benzene	15.760	15.759	0.001	353260	50.0000	50.0	
4 Toluene	18.983	18.982	0.001	321296	50.0000	50.0	
5 Ethylbenzene	21.599	21.600	-0.001	284908	50.0000	50.0	
6 m+p-Xylene	21.726	21.728	-0.002	672850	100.000	100	
7 o-Xylene	22.499	22.500	-0.001	292388	50.0000	50.0	
8 1,2,4-trimethylbenzene	24.632	24.633	-0.001	313268	50.0000	50.0	
10 Naphthalene	28.902	28.903	-0.001	324349	50.0000	50.0	
$ 11 2,5-Dibromotoluene (PID)	31.065	31.066	-0.001	274004	50.0000	50.0	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Date : 18-DEC-2020 10:30
Client ID:
Sample Info: WG292312-4
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10094.D
Y (x10^4)
Min
-Methyl tert-butylether (11.658)
-Benzene (15.760)
-Toluene (18.984)
-Ethylbenzene (21.600)
m+p-Xylene (21.727)
-o-Xylene (22.500)
-1,2,4-trimethylbenzene (24.633)
-Naphthalene (28.903)
-2,5-Dibromotoluene (PID) (31.066)

Data File: 2NL10094.D
Report Date: 21-Dec-2020 14:57

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Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10094.D
Lab Smp Id: WG292312-4
Inj Date : 18-DEC-2020 10:30
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-4
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 18-Dec-2020 15:50 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 10:30 Cal File: 2NL10094.D
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

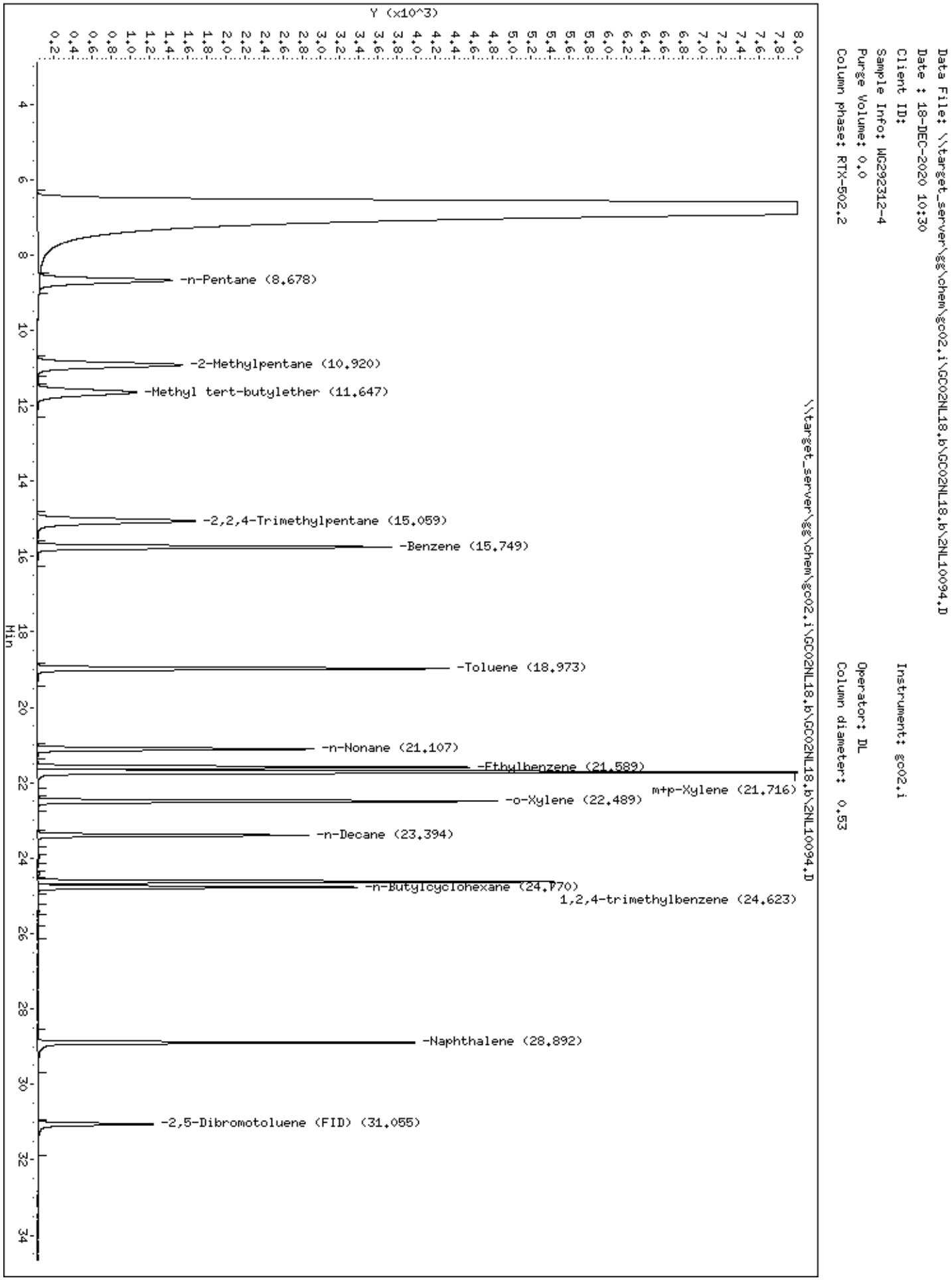
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C5-C8 Aliphatic				847814	150.000	150	
M 2 C9-C12 Aliphatic				486386	100.000	100	
5 n-Pentane	8.678	8.679	-0.001	258107	50.0000	50.0(M)	M2
6 2-Methylpentane	10.920	10.920	0.000	288449	50.0000	50.0	
7 Methyl tert-butylether	11.647	11.644	0.003	227519	50.0000	50.0	
8 2,2,4-Trimethylpentane	15.059	15.065	-0.006	301258	50.0000	50.0	
9 Benzene	15.749	15.749	0.000	387729	50.0000	50.0	
11 Toluene	18.972	18.972	0.000	380133	50.0000	50.0	
12 n-Nonane	21.107	21.112	-0.005	252158	50.0000	50.0	
14 Ethylbenzene	21.589	21.590	-0.001	371368	50.0000	50.0	
15 m+p-Xylene	21.716	21.720	-0.004	757734	100.000	100	
16 o-Xylene	22.489	22.489	0.000	384690	50.0000	50.0	
13 n-Decane	23.394	23.395	-0.001	222814	50.0000	50.0	
18 1,2,4-trimethylbenzene	24.622	24.623	-0.001	386397	50.0000	50.0	
19 n-Butylcyclohexane	24.769	24.771	-0.002	263572	50.0000	50.0	
20 Naphthalene	28.892	28.893	-0.001	291294	50.0000	50.0	
$ 21 2,5-Dibromotoluene (FID)	31.055	31.056	-0.001	117583	50.0000	50.0	

DL
3:00 pm, Dec 21, 2020

QC Flag Legend

M - Compound response manually integrated.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Date : 18-DEC-2020 10:30
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Sample Info: WG292312-4
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
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Y (x10^3)
Min
-n-Pentane (8.678)
-2-Methylpentane (10.920)
-Methyl tert-butylether (11.647)
-2,2,4-Trimethylpentane (15.059)
-Benzene (15.749)
-Toluene (18.973)
-n-Nonane (21.107)
-Ethylbenzene (21.589)
m+p-Xylene (21.716)
-o-Xylene (22.489)
-n-Decane (23.394)
-n-Butylcyclohexane (24.170)
1,2,4-trimethylbenzene (24.623)
-Naphthalene (28.892)
-2,5-Dibromotoluene (FID) (31.055)

Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10098.D
Report Date: 21-Dec-2020 14:56

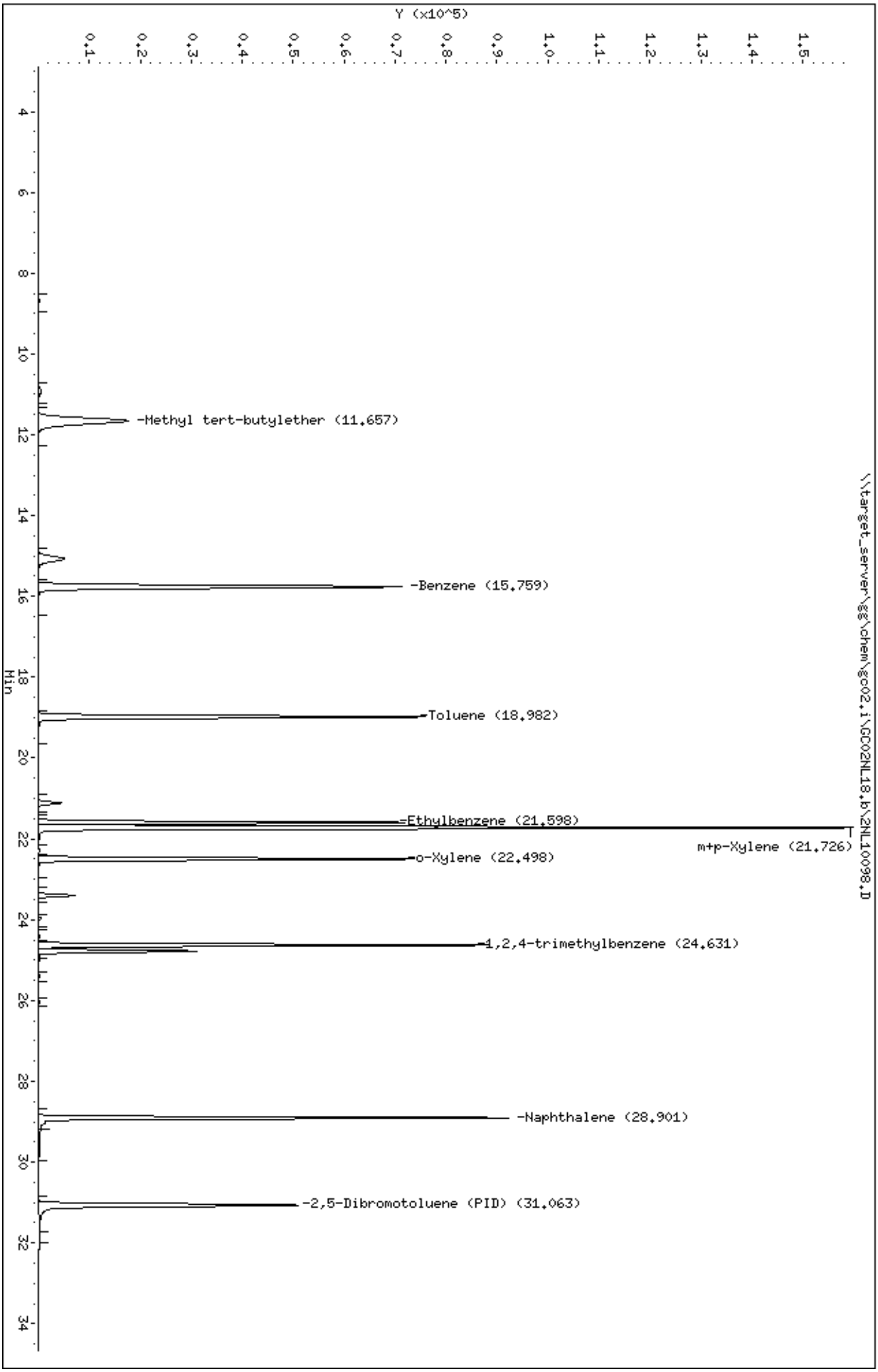
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10098.D
Lab Smp Id: WG292312-5
Inj Date : 18-DEC-2020 13:15
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-5
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m
Meth Date : 21-Dec-2020 14:56 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:15 Cal File: 2NL10098.D
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C9-C10 Aromatic				664220	100.000	107	
2 Methyl tert-butylether	11.656	11.655	0.001	379447	100.000	103	
3 Benzene	15.758	15.759	-0.001	766096	100.000	104	
4 Toluene	18.981	18.982	-0.001	692773	100.000	106	
5 Ethylbenzene	21.597	21.600	-0.003	613649	100.000	107	
6 m+p-Xylene	21.725	21.728	-0.003	1379296	200.000	200	
7 o-Xylene	22.497	22.500	-0.003	614869	100.000	103	
8 1,2,4-trimethylbenzene	24.631	24.633	-0.002	664220	100.000	107	
10 Naphthalene	28.900	28.903	-0.003	691776	100.000	109	
$ 11 2,5-Dibromotoluene (PID)	31.063	31.066	-0.003	541399	100.000	100	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Date : 18-DEC-2020 13:15
Client ID:
Sample Info: WG292312-5
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
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Y (x10^5)
Min
-Methyl tert-butylether (11.657)
-Benzene (15.759)
-Toluene (18.982)
=Ethylbenzene (21.598)
m+p-Xylene (21.726)
-o-Xylene (22.498)
-1,2,4-trimethylbenzene (24.631)
-Naphthalene (28.901)
-2,5-Dibromotoluene (PID) (31.063)

Data File: 2NL10098.D
Report Date: 21-Dec-2020 14:58

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10098.D
Lab Smp Id: WG292312-5
Inj Date : 18-DEC-2020 13:15
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-5
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 18-Dec-2020 15:50 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:15 Cal File: 2NL10098.D
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

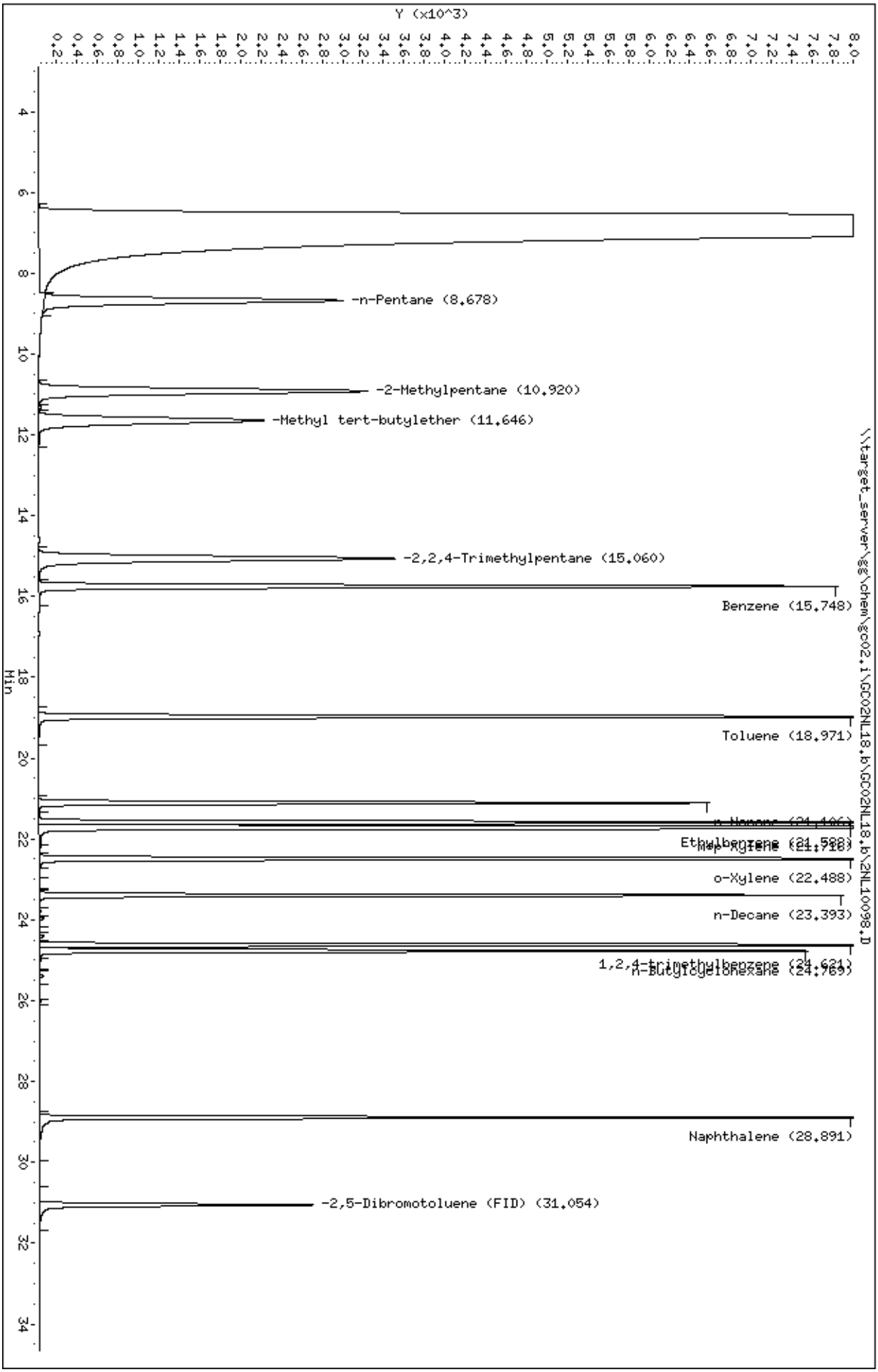
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C5-C8 Aliphatic				1781905	300.000	318	
M 2 C9-C12 Aliphatic				1195283	200.000	220	
5 n-Pentane	8.677	8.679	-0.002	545056	100.000	107(M)	M2
6 2-Methylpentane	10.919	10.920	-0.001	605656	100.000	106	
7 Methyl tert-butylether	11.645	11.644	0.001	472805	100.000	97.2	
8 2,2,4-Trimethylpentane	15.060	15.065	-0.005	631193	100.000	104	
9 Benzene	15.748	15.749	-0.001	810683	100.000	100	
11 Toluene	18.971	18.972	-0.001	797457	100.000	102	
12 n-Nonane	21.106	21.112	-0.006	566060	100.000	107	
14 Ethylbenzene	21.587	21.590	-0.003	778184	100.000	104	
15 m+p-Xylene	21.715	21.720	-0.005	1585298	200.000	204	
16 o-Xylene	22.487	22.489	-0.002	806768	100.000	102	
13 n-Decane	23.392	23.395	-0.003	607491	100.000	120	
18 1,2,4-trimethylbenzene	24.621	24.623	-0.002	809564	100.000	105	
19 n-Butylcyclohexane	24.768	24.771	-0.003	587792	100.000	101	
20 Naphthalene	28.890	28.893	-0.003	627719	100.000	111	
$ 21 2,5-Dibromotoluene (FID)	31.053	31.056	-0.003	250115	100.000	106	

DL
3:00 pm, Dec 21, 2020

QC Flag Legend

M - Compound response manually integrated.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Date : 18-DEC-2020 13:15
Client ID:
Sample Info: WG292312-5
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
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Y (x10^3)
Min
-n-Pentane (8.678)
-2-Methylpentane (10.920)
-Methyl tert-butylether (11.646)
-2,2,4-Trimethylpentane (15.060)
Benzene (15.748)
Toluene (18.971)
n-Hexane (21.196)
Ethylbenzene (21.588)
m&p-Xylene (21.716)
o-Xylene (22.488)
n-Decane (23.393)
1,2,4-trimethylbenzene (24.621)
n-Butylcyclohexane (24.769)
Naphthalene (28.891)
-2,5-Dibromotoluene (FID) (31.054)

Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10099.D
Report Date: 21-Dec-2020 14:56

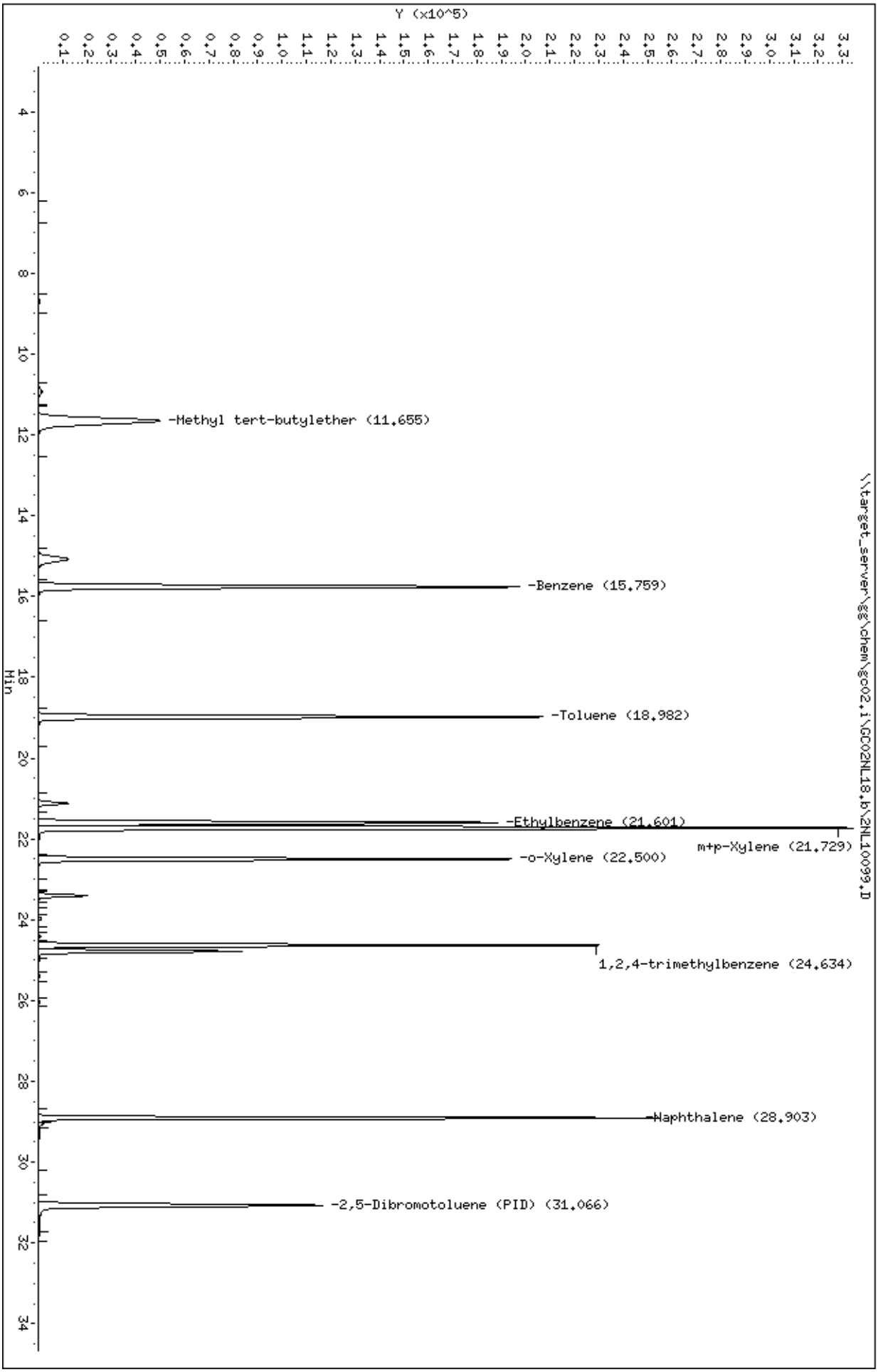
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10099.D
Lab Smp Id: WG292312-6
Inj Date : 18-DEC-2020 13:56
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-6
Misc Info :
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m
Meth Date : 21-Dec-2020 14:56 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C9-C10 Aromatic				1757778	300.000	287	
2 Methyl tert-butylether	11.655	11.655	0.000	1098971	300.000	299	
3 Benzene	15.759	15.759	0.000	2135931	300.000	292	
4 Toluene	18.982	18.982	0.000	1896606	300.000	291	
5 Ethylbenzene	21.600	21.600	0.000	1659399	300.000	291	
6 m+p-Xylene	21.728	21.728	0.000	3187154	600.000	480	
7 o-Xylene	22.499	22.500	-0.001	1626256	300.000	277	
8 1,2,4-trimethylbenzene	24.633	24.633	0.000	1757778	300.000	287	
10 Naphthalene	28.903	28.903	0.000	1852386	300.000	294	
$ 11 2,5-Dibromotoluene (PID)	31.066	31.066	0.000	1196729	300.000	231	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Date : 18-DEC-2020 13:56
Client ID:
Sample Info: WG292312-6
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^5)
\\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10099.D
-Methyl tert-butylether (11.655)
-Benzene (15.759)
-Toluene (18.982)
-Ethylbenzene (21.601)
m+p-Xylene (21.729)
-o-Xylene (22.500)
1,2,4-trimethylbenzene (24.634)
-Naphthalene (28.903)
-2,5-Dibromotoluene (PID) (31.066)
Min

Data File: 2NL10099.D
Report Date: 21-Dec-2020 14:58

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10099.D
Lab Smp Id: WG292312-6
Inj Date : 18-DEC-2020 13:56
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-6
Misc Info :
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 18-Dec-2020 15:50 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Peaks.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

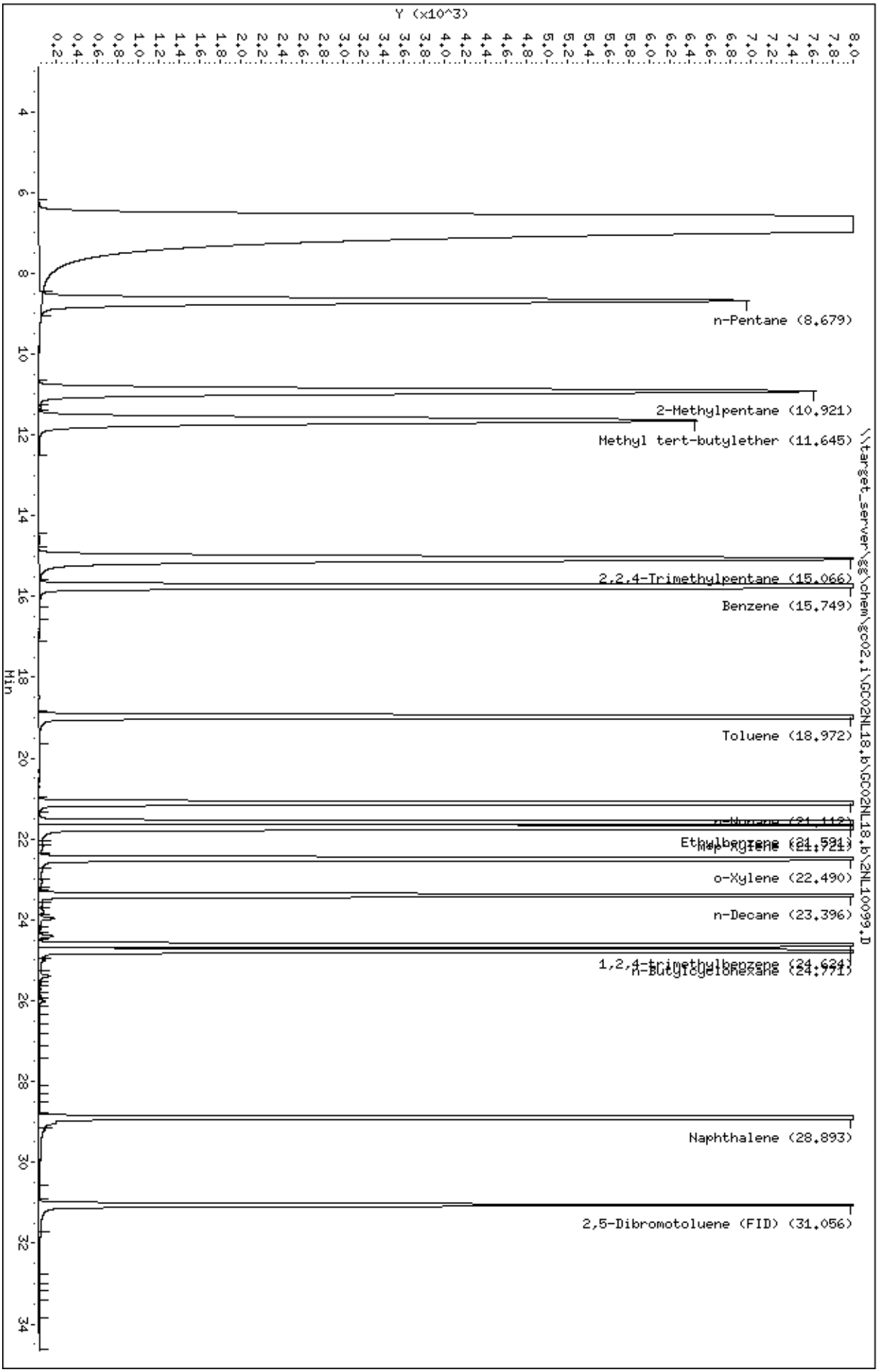
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
M 1 C5-C8 Aliphatic				4299924	900.000	766	
M 2 C9-C12 Aliphatic				3697037	600.000	683	
5 n-Pentane	8.679	8.679	0.000	1288290	300.000	255(M)	M2
6 2-Methylpentane	10.920	10.920	0.000	1434122	300.000	250	
7 Methyl tert-butylether	11.644	11.644	0.000	1389247	300.000	285	
8 2,2,4-Trimethylpentane	15.065	15.065	0.000	1577512	300.000	260	
9 Benzene	15.749	15.749	0.000	2378787	300.000	295	
11 Toluene	18.972	18.972	0.000	2338283	300.000	300	
12 n-Nonane	21.111	21.112	-0.001	1729914	300.000	328	
14 Ethylbenzene	21.590	21.590	0.000	2279956	300.000	305	
15 m+p-Xylene	21.720	21.720	0.000	4621705	600.000	594	
16 o-Xylene	22.489	22.489	0.000	2357534	300.000	298	
13 n-Decane	23.395	23.395	0.000	1907361	300.000	376	
18 1,2,4-trimethylbenzene	24.623	24.623	0.000	2358751	300.000	307	
19 n-Butylcyclohexane	24.771	24.771	0.000	1789676	300.000	307	
20 Naphthalene	28.893	28.893	0.000	1843610	300.000	327	
$ 21 2,5-Dibromotoluene (FID)	31.056	31.056	0.000	750852	300.000	319	

DL
3:00 pm, Dec 21, 2020

QC Flag Legend

M - Compound response manually integrated.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Date : 18-DEC-2020 13:56
Client ID:
Sample Info: WG292312-6
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^3)
Min
n-Pentane (8.679)
2-Methylpentane (10.921)
Methyl tert-butylether (11.645)
2,2,4-Trimethylpentane (15.066)
Benzene (15.749)
Toluene (18.972)
n-Nonane (21.112)
Ethylbenzene (21.591)
m,p-Xylene (21.721)
o-Xylene (22.490)
n-Decane (23.396)
1,2,4-trimethylbenzene (24.634)
n-Butylcyclohexane (24.771)
Naphthalene (28.893)
2,5-Dibromotoluene (FID) (31.056)
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Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10100.D
Report Date: 21-Dec-2020 14:56

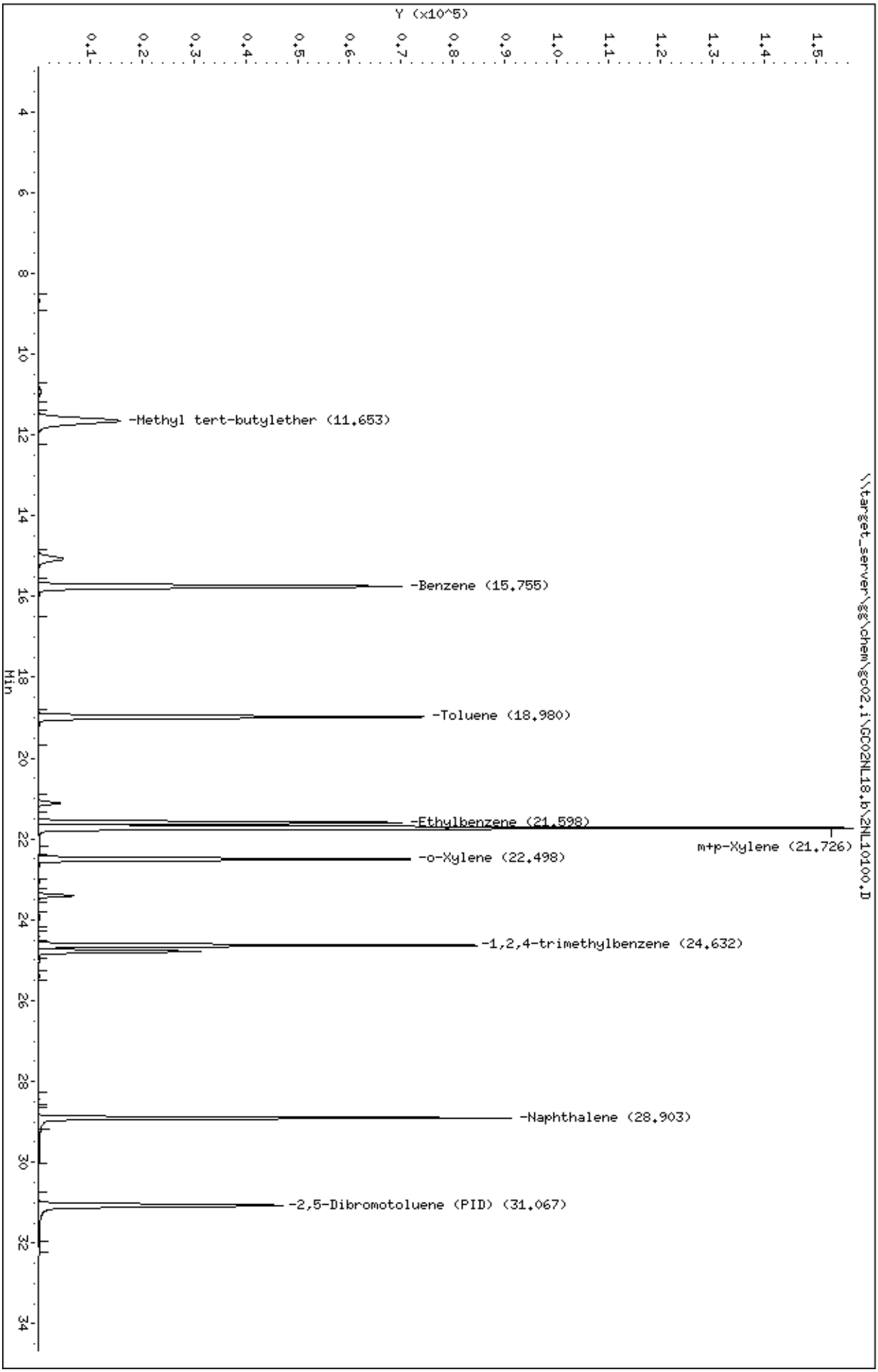
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10100.D
Lab Smp Id: WG292312-7
Inj Date : 18-DEC-2020 15:39
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-7
Misc Info : WG292312,WG292312-4
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m
Meth Date : 21-Dec-2020 14:56 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: INDSOURCE
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: IND.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
2 Methyl tert-butylether	11.653	11.655	-0.002	345653	94.0264	94.0	
3 Benzene	15.755	15.759	-0.004	751781	102.813	103	
4 Toluene	18.980	18.982	-0.002	678961	104.063	104	
5 Ethylbenzene	21.597	21.600	-0.003	602778	105.712	106	
6 m+p-Xylene	21.725	21.728	-0.003	1352592	203.907	204	
7 o-Xylene	22.497	22.500	-0.003	601395	102.414	102	
8 1,2,4-trimethylbenzene	24.632	24.633	-0.001	639005	104.263	104	
10 Naphthalene	28.903	28.903	0.000	679201	107.808	108	
$ 11 2,5-Dibromotoluene (PID)	31.066	31.066	0.000	506240	97.8971	97.9	


Data File: \\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10100.D
Date : 18-DEC-2020 15:39
Client ID:
Sample Info: WG292312-7
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02NL18.b\2NL10100.D
Y (x10^5)
Min
-Methyl tert-butylether (11.653)
-Benzene (15.755)
-Toluene (18.980)
-Ethylbenzene (21.598)
m+p-Xylene (21.726)
-o-Xylene (22.498)
-1,2,4-trimethylbenzene (24.632)
-Naphthalene (28.903)
-2,5-Dibromotoluene (PID) (31.067)

Data File: 2NL10100.D
Report Date: 21-Dec-2020 14:58

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10100.D
Lab Smp Id: WG292312-7
Inj Date : 18-DEC-2020 15:39
Operator : DL Inst ID: gc02.i
Smp Info : WG292312-7
Misc Info : WG292321,WG292312-4
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL18.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 18-Dec-2020 15:50 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: INDSOURCE
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: IND.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

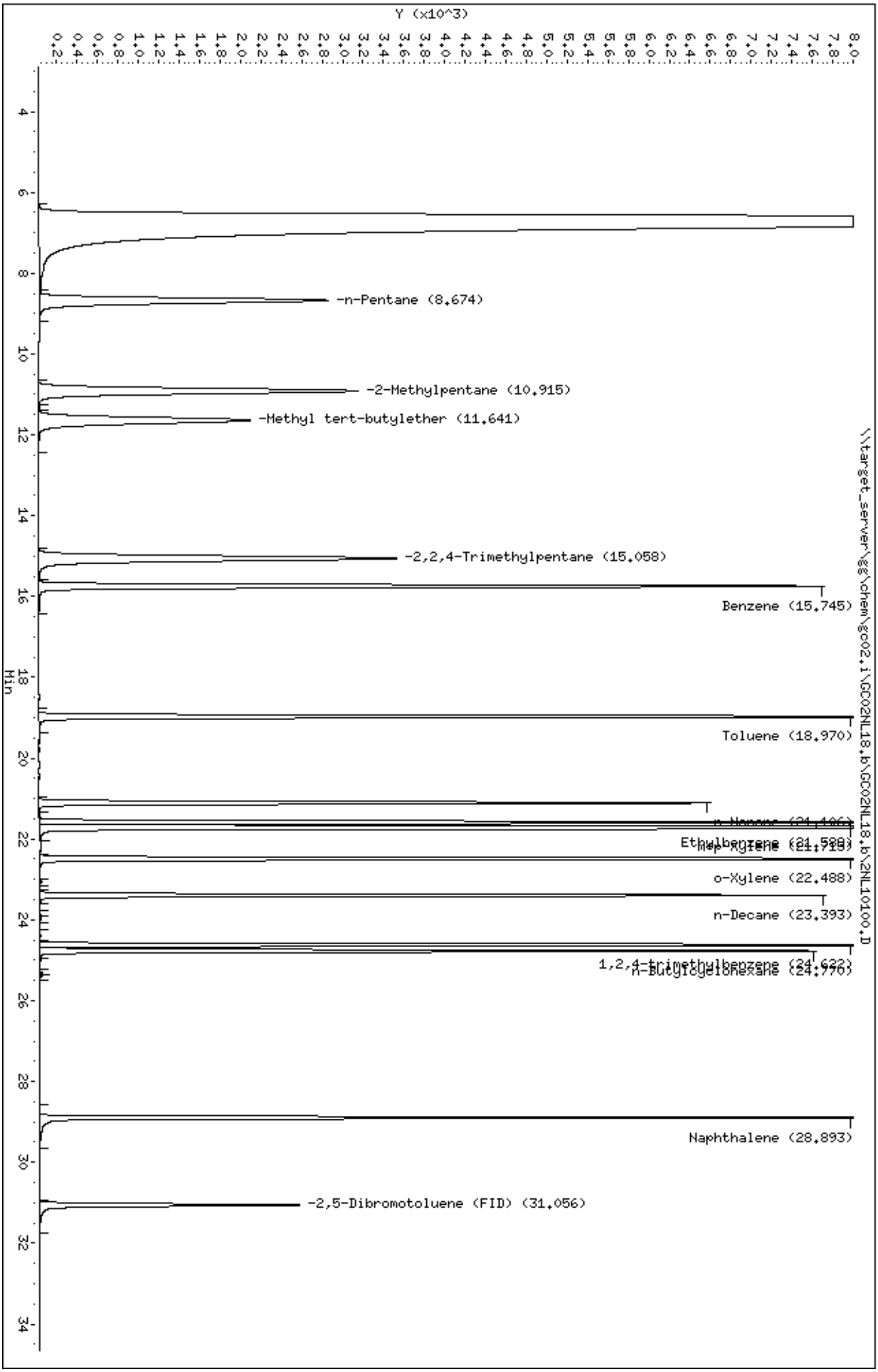
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
5 n-Pentane	8.674	8.679	-0.005	530833	104.943	105(M)	M2
6 2-Methylpentane	10.914	10.920	-0.006	594226	103.800	104	
7 Methyl tert-butylether	11.641	11.644	-0.003	457829	94.0817	94.1	
8 2,2,4-Trimethylpentane	15.057	15.065	-0.008	638219	105.402	105	
9 Benzene	15.744	15.749	-0.005	802500	99.4060	99.4	
11 Toluene	18.969	18.972	-0.003	782690	100.516	100	
12 n-Nonane	21.106	21.112	-0.006	568525	107.837	108	
14 Ethylbenzene	21.587	21.590	-0.003	768604	102.712	103	
15 m+p-Xylene	21.715	21.720	-0.005	1552919	199.571	200	
16 o-Xylene	22.487	22.489	-0.002	793607	100.234	100	
13 n-Decane	23.393	23.395	-0.002	594614	117.203	117	
18 1,2,4-trimethylbenzene	24.622	24.623	-0.001	781290	101.570	102	
19 n-Butylcyclohexane	24.769	24.771	-0.002	590950	101.356	101	
20 Naphthalene	28.892	28.893	-0.001	617223	109.439	109	
$ 21 2,5-Dibromotoluene (FID)	31.056	31.056	0.000	238289	101.225	101	

DL
3:00 pm, Dec 21, 2020

QC Flag Legend

M - Compound response manually integrated.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Date : 18-DEC-2020 15:39
Client ID:
Sample Info: WG292312-7
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^3)
Min
-n-Pentane (8.674)
-2-Methylpentane (10.915)
-Methyl tert-butylether (11.641)
-2,2,4-Trimethylpentane (15.058)
Benzene (15.745)
Toluene (18.970)
n-Nonane (21.196)
Ethylbenzene (21.588)
m&p-Xylene (21.719)
o-Xylene (22.488)
n-Decane (23.393)
1,2,4-trimethylbenzene (24.632)
n-Butylcyclohexane (24.776)
Naphthalene (28.893)
-2,5-Dibromotoluene (FID) (31.056)
\\target_server\gg\chem\gc02.i\GC02NL18.b\GC02NL18.b\2NL10100.D

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292349-8
Lab File ID : 2NL10102.D
Initial Calibration Date(s): 12/18/20 10:30 12/18/20 13:56

SDG: TN0377
Analytical Date: 12/22/20 08:52
Instrument ID: GC02
Column ID: A

	Compound	$\overline{RRF}$/Amount	RF50	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
10	C9-C10 Aromatic	6129	6246	0.100	1.91071	25.00000	Averaged
20	Benzene	7312	7130	0.100	-2.48531	25.00000	Averaged
30	Ethylbenzene	5702	5741	0.100	0.68998	25.00000	Averaged
40	Methyl tert-butylether	3676	3522	0.100	-4.19865	25.00000	Averaged
50	Naphthalene	6300	6542	0.100	3.84667	25.00000	Averaged
60	Toluene	6525	6473	0.100	-0.78338	25.00000	Averaged
70	m+p-Xylene	6633	6740	0.100	1.60694	25.00000	Averaged
80	o-Xylene	5872	5845	0.100	-0.45685	25.00000	Averaged
90	2,5-Dibromotoluene (PID)	5171	5534	0.100	7.02582	25.00000	Averaged
180	1,2,4-trimethylbenzene	6129	6246	0.100	1.91060	25.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10102.D
Report Date: 23-Dec-2020 12:53

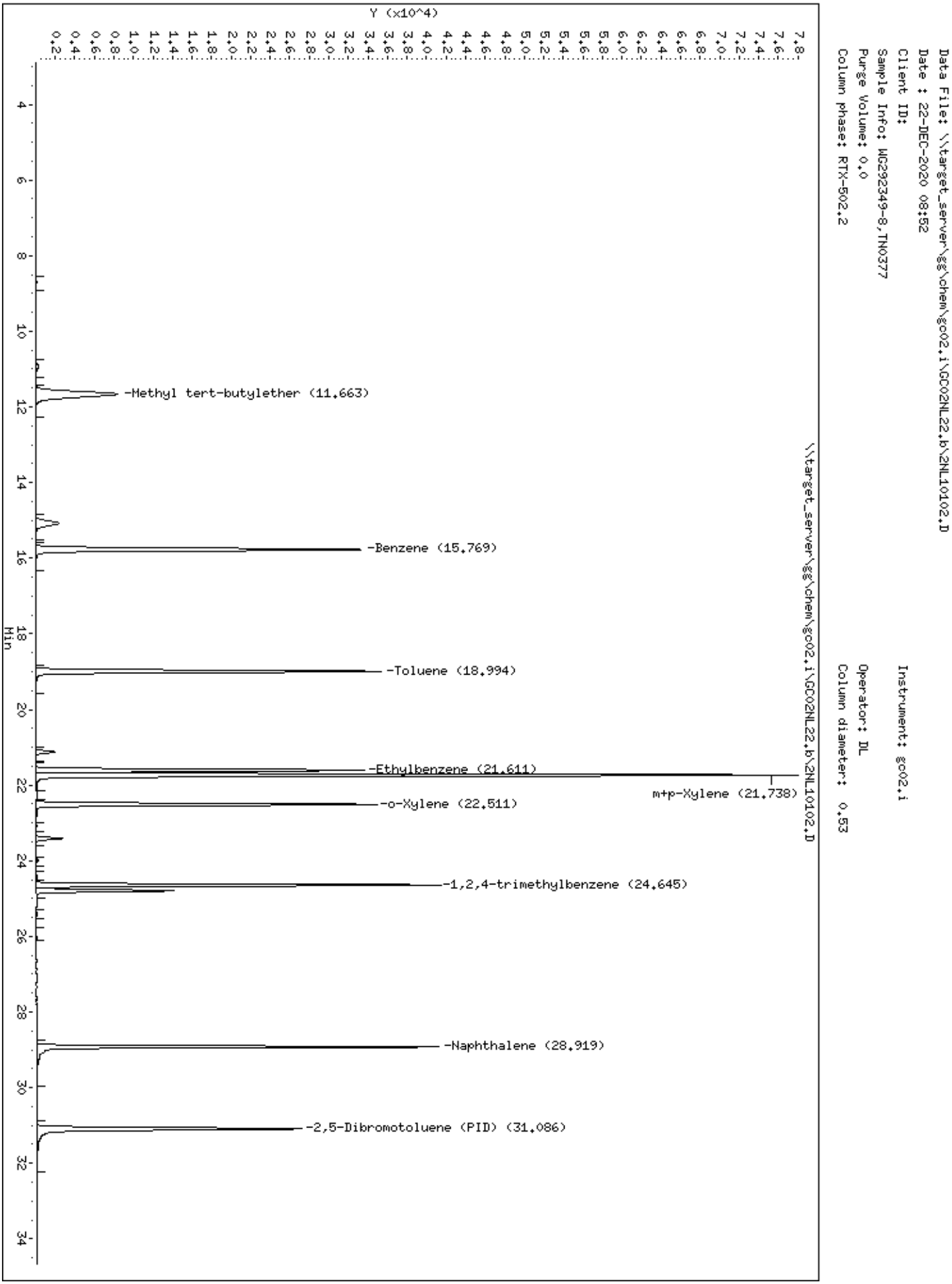
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10102.D
Lab Smp Id: WG292349-8
Inj Date : 22-DEC-2020 08:52
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-8,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
2 Methyl tert-butylether	11.663	11.655	0.008	176089	50.0000	47.9	
3 Benzene	15.768	15.759	0.009	356518	50.0000	48.8	
4 Toluene	18.993	18.982	0.011	323670	50.0000	49.6	
5 Ethylbenzene	21.610	21.600	0.010	287072	50.0000	50.3	
6 m+p-Xylene	21.737	21.728	0.009	673997	100.000	102	
7 o-Xylene	22.511	22.500	0.011	292267	50.0000	49.8	
8 1,2,4-trimethylbenzene	24.644	24.633	0.011	312295	50.0000	51.0	
10 Naphthalene	28.918	28.903	0.015	327121	50.0000	51.9	
M 1 C9-C10 Aromatic				312295	50.0000	51.0	
$ 11 2,5-Dibromotoluene (PID)	31.086	31.066	0.020	276723	50.0000	53.5	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Date : 22-DEC-2020 08:52
Client ID:
Sample Info: WG292349-8,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10102.D
Y (x10^4)
Min
-Methyl tert-butylether (11.663)
-Benzene (15.769)
-Toluene (18.994)
-Ethylbenzene (21.611)
m+p-Xylene (21.738)
-o-Xylene (22.511)
-1,2,4-trimethylbenzene (24.645)
-Naphthalene (28.919)
-2,5-Dibromotoluene (PID) (31.086)

Katahdin
ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292349-8
Lab File ID : 2NL10102.D
Initial Calibration Date(s): 12/18/20 10:30 12/18/20 13:56

SDG: TN0377
Analytical Date: 12/22/20 08:52
Instrument ID: GC02
Column ID: B

Compound	RRF/Amount	RF50	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
30 C5-C8 Aliphatic	5613	5666	0.100	0.95148	25.00000	Averaged
40 C9-C12 Aliphatic	5452	4999	0.100	-8.30716	25.00000	Averaged
60 Benzene	8073	7794	0.100	-3.45388	25.00000	Averaged
70 Ethylbenzene	7483	7468	0.100	-0.20614	25.00000	Averaged
80 Methyl tert-butylether	4866	4557	0.100	-6.35499	25.00000	Averaged
90 Naphthalene	5640	5924	0.100	5.04067	25.00000	Averaged
100 Toluene	7787	7660	0.100	-1.62925	25.00000	Averaged
110 m+p-Xylene	7781	7662	0.100	-1.53197	25.00000	Averaged
120 o-Xylene	7918	7788	0.100	-1.64256	25.00000	Averaged
230 n-Pentane	5058	5124	0.100	1.29247	25.00000	Averaged
240 2-Methylpentane	5725	5790	0.100	1.13285	25.00000	Averaged
250 2,2,4-Trimethylpentane	6055	6085	0.100	0.49517	25.00000	Averaged
260 n-Nonane	5272	5133	0.100	-2.64020	30.00000	Averaged
270 n-Decane	5073	4627	0.100	-8.80472	25.00000	Averaged
280 n-Butylcyclohexane	5830	5371	0.100	-7.87421	25.00000	Averaged
290 1,2,4-trimethylbenzene	7692	7765	0.100	0.94594	25.00000	Averaged
21 2,5-Dibromotoluene (FID)	2354	2378	0.100	0.99920	25.00000	Averaged

*** = Compound out of QC criteria**

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Data File: 2NL10102.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10102.D
Lab Smp Id: WG292349-8
Inj Date : 22-DEC-2020 08:52
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-8,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

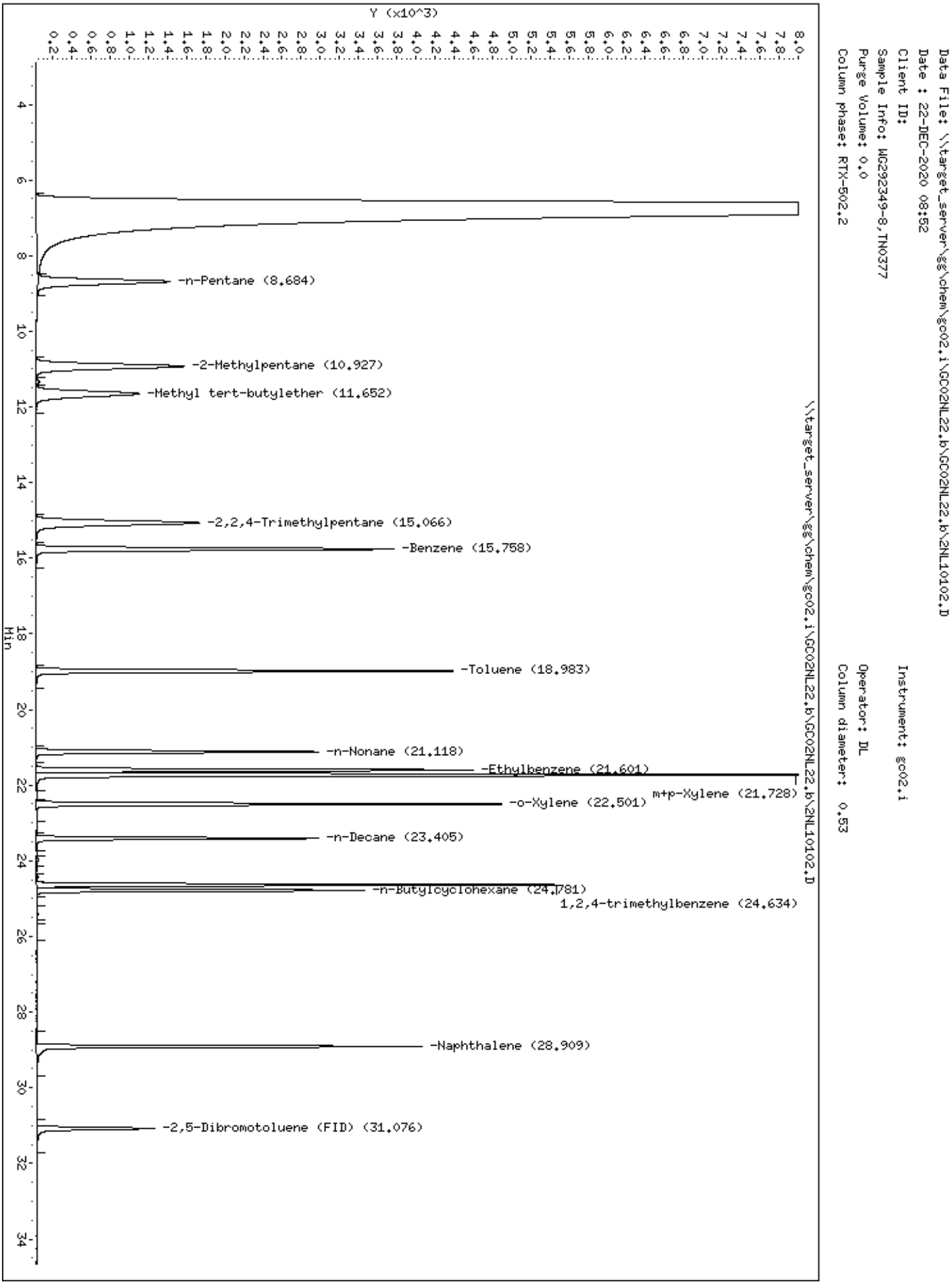
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
5 n-Pentane	8.684	8.679	0.005	256183	50.0000	50.6(M)	M2
6 2-Methylpentane	10.926	10.920	0.006	289478	50.0000	50.6	
7 Methyl tert-butylether	11.651	11.644	0.007	227852	50.0000	46.8	
8 2,2,4-Trimethylpentane	15.066	15.065	0.001	304253	50.0000	50.2	
9 Benzene	15.758	15.749	0.009	389706	50.0000	48.3	
11 Toluene	18.983	18.972	0.011	382991	50.0000	49.2	
12 n-Nonane	21.117	21.112	0.005	256644	50.0000	48.7	
14 Ethylbenzene	21.600	21.590	0.010	373385	50.0000	49.9	
15 m+p-Xylene	21.727	21.720	0.007	766208	100.000	98.5	
16 o-Xylene	22.500	22.489	0.011	389376	50.0000	49.2	
13 n-Decane	23.405	23.395	0.010	231334	50.0000	45.6	
18 1,2,4-trimethylbenzene	24.634	24.623	0.011	388243	50.0000	50.5	
19 n-Butylcyclohexane	24.781	24.771	0.010	268567	50.0000	46.1	
20 Naphthalene	28.908	28.893	0.015	296208	50.0000	52.5	
$ 21 2,5-Dibromotoluene (FID)	31.076	31.056	0.020	118879	50.0000	50.5	

DL
2:54 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10102.D
Date : 22-DEC-2020 08:52
Client ID:
Sample Info: WG292349-8,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10102.D
Y (x10^3)
Min
-n-Pentane (8.684)
-2-Methylpentane (10.927)
-Methyl tert-butylether (11.652)
-2,2,4-Trimethylpentane (15.066)
-Benzene (15.758)
-Toluene (18.983)
-n-Nonane (21.118)
-Ethylbenzene (21.601)
m+p-Xylene (21.728)
-o-Xylene (22.501)
-n-Decane (23.405)
-n-Butylcyclohexane (24.781)
1,2,4-trimethylbenzene (24.634)
-Naphthalene (28.909)
-2,5-Dibromotoluene (FID) (31.076)

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ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292349-9
Lab File ID : 2NL10129.D
Initial Calibration Date(s): 12/18/20 10:30 12/18/20 13:56

SDG: TN0377
Analytical Date: 12/23/20 06:21
Instrument ID: GC02
Column ID: A

	Compound	RRF/Amount	RF50	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type
10	C9-C10 Aromatic	6129	6399	0.100	4.41209	25.00000	Averaged
20	Benzene	7312	7270	0.100	-0.57833	25.00000	Averaged
30	Ethylbenzene	5702	5750	0.100	0.84676	25.00000	Averaged
40	Methyl tert-butylether	3676	3569	0.100	-2.90599	25.00000	Averaged
50	Naphthalene	6300	6763	0.100	7.34885	25.00000	Averaged
60	Toluene	6525	6448	0.100	-1.16686	25.00000	Averaged
70	m+p-Xylene	6633	6756	0.100	1.85583	25.00000	Averaged
80	o-Xylene	5872	5957	0.100	1.44159	25.00000	Averaged
90	2,5-Dibromotoluene (PID)	5171	5227	0.100	1.07279	25.00000	Averaged
180	1,2,4-trimethylbenzene	6129	6399	0.100	4.41190	25.00000	Averaged

*** = Compound out of QC criteria**

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10129.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10129.D
Lab Smp Id: WG292349-9
Inj Date : 23-DEC-2020 06:21
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-9,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12
Processing Host: V200T3

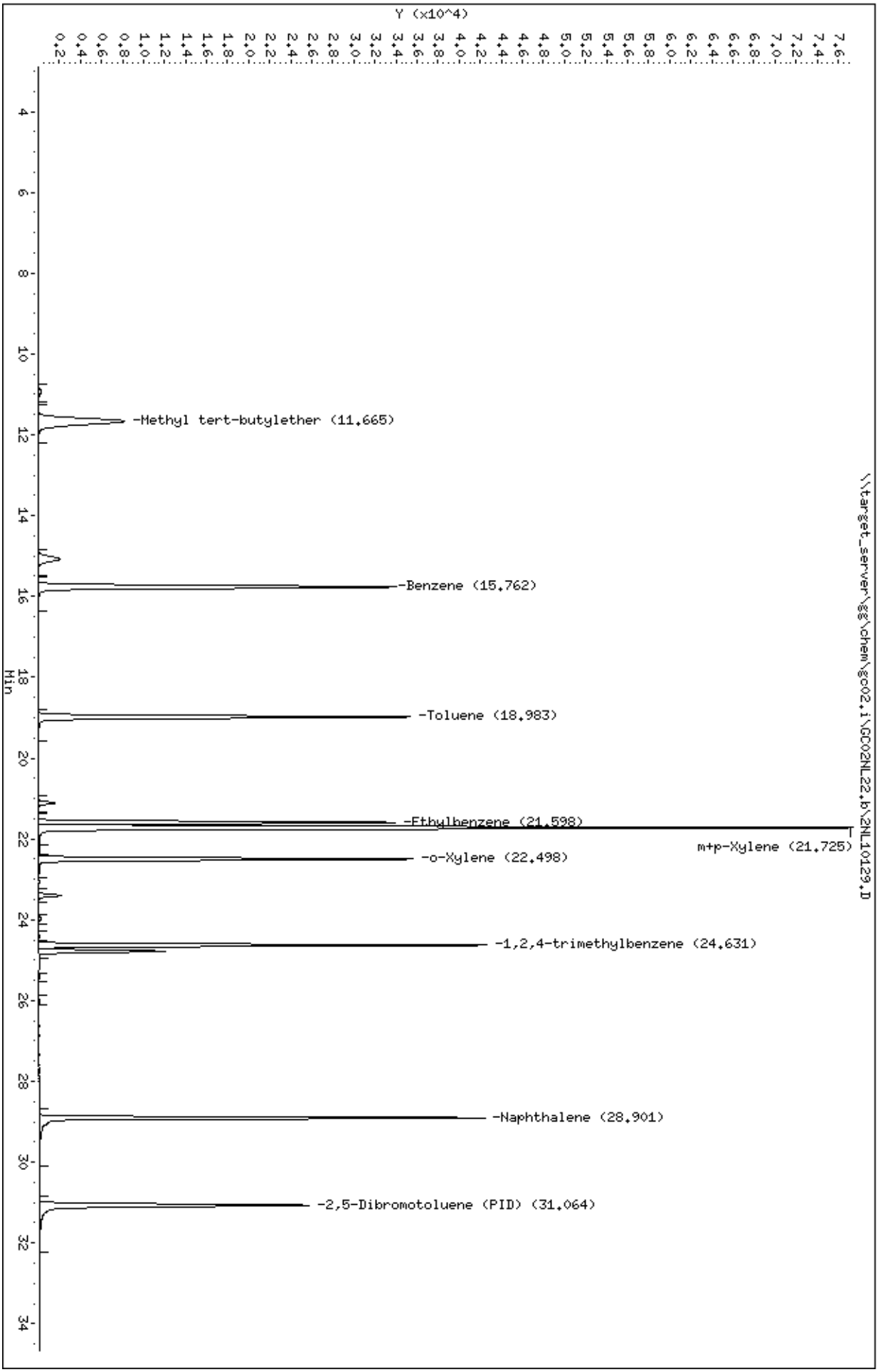
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
2 Methyl tert-butylether	11.664	11.655	0.009	178465	50.0000	48.5	
3 Benzene	15.761	15.759	0.002	363490	50.0000	49.7	
4 Toluene	18.982	18.982	0.000	322419	50.0000	49.4	
5 Ethylbenzene	21.598	21.600	-0.002	287519	50.0000	50.4	
6 m+p-Xylene	21.724	21.728	-0.004	675648	100.000	102	
7 o-Xylene	22.498	22.500	-0.002	297841	50.0000	50.7	
8 1,2,4-trimethylbenzene	24.631	24.633	-0.002	319960	50.0000	52.2	
10 Naphthalene	28.901	28.903	-0.002	338153	50.0000	53.7	
M 1 C9-C10 Aromatic				319960	50.0000	52.2	
$ 11 2,5-Dibromotoluene (PID)	31.064	31.066	-0.002	261331	50.0000	50.5	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10129.D
Date : 23-DEC-2020 06:21
Client ID:
Sample Info: WG292349-9,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



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ANALYTICAL SERVICES

Form 7
Calibration Verification Summary

Lab Name : Katahdin Analytical Services
Project : LO-58 Nike Missile Battery Lau
Lab ID : WG292349-9
Lab File ID : 2NL10129.D
Initial Calibration Date(s): 12/18/20 10:30 12/18/20 13:56

SDG: TN0377
Analytical Date: 12/23/20 06:21
Instrument ID: GC02
Column ID: B

Compound	RRF/Amount	RF50	Min RRF	%D/ %Drift	Max %D/ %Drift	Curve Type	
30 C5-C8 Aliphatic	5613	5077	0.100	-9.54402	25.00000	Averaged	
40 C9-C12 Aliphatic	5452	4059	0.100	-25.54626	25.00000	Averaged	<-
60 Benzene	8073	7770	0.100	-3.75241	25.00000	Averaged	
70 Ethylbenzene	7483	7312	0.100	-2.29243	25.00000	Averaged	
80 Methyl tert-butylether	4866	4689	0.100	-3.63423	25.00000	Averaged	
90 Naphthalene	5640	5986	0.100	6.14388	25.00000	Averaged	
100 Toluene	7787	7444	0.100	-4.40476	25.00000	Averaged	
110 m+p-Xylene	7781	7486	0.100	-3.79162	25.00000	Averaged	
120 o-Xylene	7918	7719	0.100	-2.51025	25.00000	Averaged	
230 n-Pentane	5058	4499	0.100	-11.05718	25.00000	Averaged	
240 2-Methylpentane	5725	5290	0.100	-7.58585	25.00000	Averaged	
250 2,2,4-Trimethylpentane	6055	5442	0.100	-10.13129	25.00000	Averaged	
260 n-Nonane	5272	4063	0.100	-22.93999	30.00000	Averaged	
270 n-Decane	5073	3651	0.100	-28.04043	25.00000	Averaged	<-
280 n-Butylcyclohexane	5830	4468	0.100	-23.37595	25.00000	Averaged	
290 1,2,4-trimethylbenzene	7692	7746	0.100	0.69712	25.00000	Averaged	
21 2,5-Dibromotoluene (FID)	2354	2195	0.100	-6.74997	25.00000	Averaged	

*** = Compound out of QC criteria**

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Data File: 2NL10129.D
Report Date: 23-Dec-2020 12:57

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Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10129.D
Lab Smp Id: WG292349-9
Inj Date : 23-DEC-2020 06:21
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-9,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: cv.sub
Target Version: 4.12

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

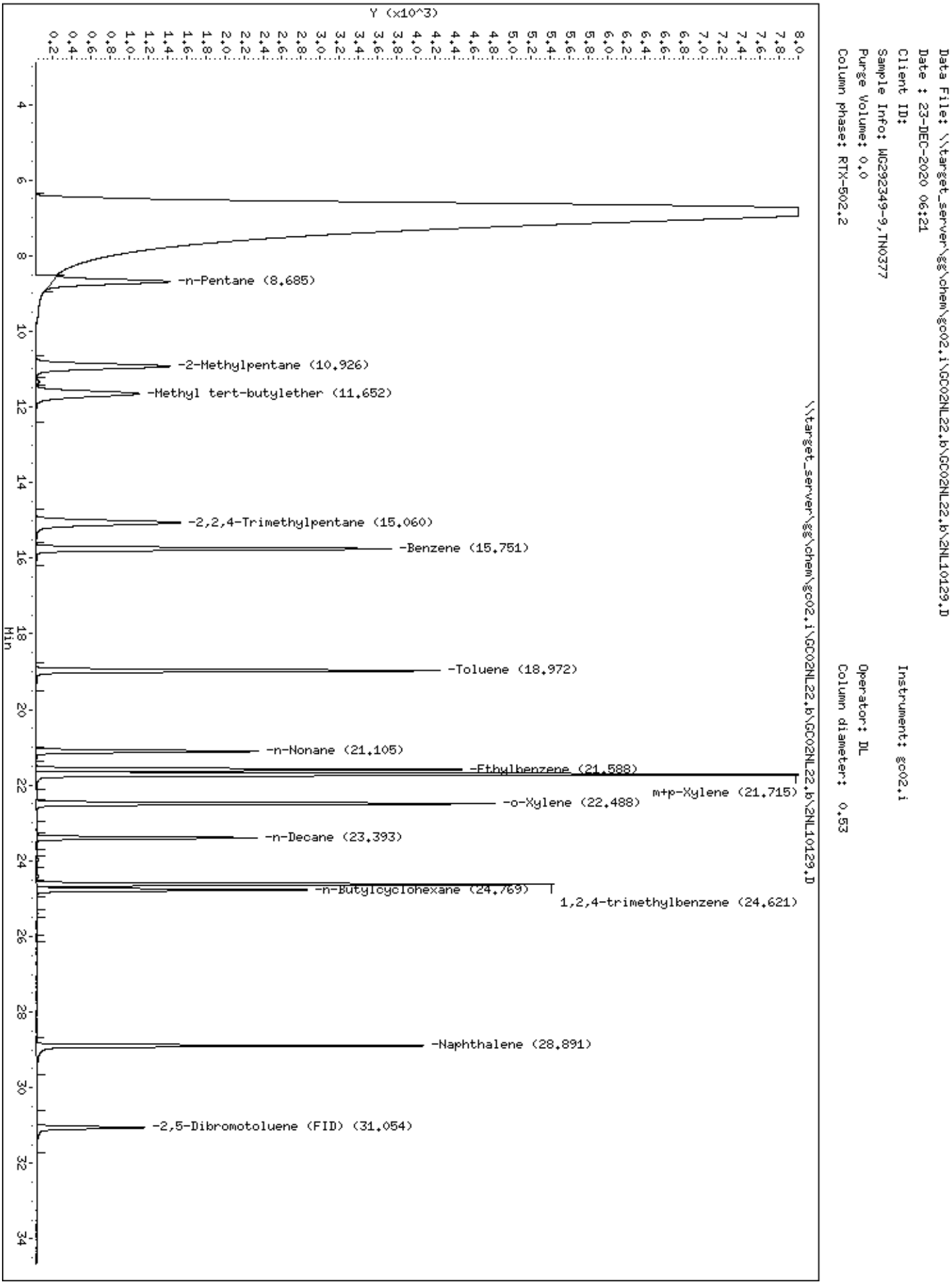
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)	REVIEW CODE
5 n-Pentane	8.685	8.679	0.006	224949	50.0000	44.5(M)	M2
6 2-Methylpentane	10.926	10.920	0.006	264522	50.0000	46.2	
7 Methyl tert-butylether	11.652	11.644	0.008	234472	50.0000	48.2	
8 2,2,4-Trimethylpentane	15.059	15.065	-0.006	272081	50.0000	44.9	
9 Benzene	15.750	15.749	0.001	388501	50.0000	48.1	
11 Toluene	18.972	18.972	0.000	372185	50.0000	47.8	
12 n-Nonane	21.105	21.112	-0.007	203133	50.0000	38.5	
14 Ethylbenzene	21.587	21.590	-0.003	365579	50.0000	48.8	
15 m+p-Xylene	21.714	21.720	-0.006	748625	100.000	96.2	
16 o-Xylene	22.487	22.489	-0.002	385941	50.0000	48.7	
13 n-Decane	23.392	23.395	-0.003	182539	50.0000	36.0	
18 1,2,4-trimethylbenzene	24.621	24.623	-0.002	387286	50.0000	50.3	
19 n-Butylcyclohexane	24.768	24.771	-0.003	223376	50.0000	38.3	
20 Naphthalene	28.890	28.893	-0.003	299319	50.0000	53.1	
$ 21 2,5-Dibromotoluene (FID)	31.054	31.056	-0.002	109758	50.0000	46.6	

DL
2:54 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10129.D
Date : 23-DEC-2020 06:21
Client ID:
Sample Info: WG292349-9,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^3)
Min
-n-Pentane (8.685)
-2-Methylpentane (10.926)
-Methyl tert-butylether (11.652)
-2,2,4-Trimethylpentane (15.060)
-Benzene (15.751)
-Toluene (18.972)
-n-Nonane (21.105)
-Ethylbenzene (21.588)
m+p-Xylene (21.715)
-o-Xylene (22.488)
-n-Decane (23.393)
-n-Butylcyclohexane (24.769)
1,2,4-trimethylbenzene (24.621)
-Naphthalene (28.891)
-2,5-Dibromotoluene (FID) (31.054)
\\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10129.D

Raw QC Data Section

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Report of Analytical Results

Client:
Lab ID: WG292349-1RA2
Client ID: Method Blank Sample
Project:
SDG: TN0377
Lab File ID: 2NL10108.D

Sample Date:
Received Date:
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA
Report Date: 23-DEC-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
C5-C8 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C12 Aliphatics	U	75	ug/L	1	100	100	50.	75.
C9-C10 Aromatics	U	75	ug/L	1	100	100	50.	75.
Benzene	U	2.0	ug/L	1	3	3.0	0.31	2.0
Ethylbenzene	U	3.8	ug/L	1	5	5.0	0.42	3.8
Methyl tert-butylether	U	3.8	ug/L	1	5	5.0	0.31	3.8
Naphthalene	U	3.8	ug/L	1	5	5.0	1.6	3.8
Toluene	U	3.8	ug/L	1	5	5.0	0.34	3.8
m+p-Xylenes	U	7.5	ug/L	1	10	10.	0.92	7.5
o-Xylene	U	3.8	ug/L	1	5	5.0	0.47	3.8
2,5-Dibromotoluene (FID)		97.3	%					
2,5-Dibromotoluene (PID)		93.7	%					

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10108.D
Report Date: 23-Dec-2020 12:54

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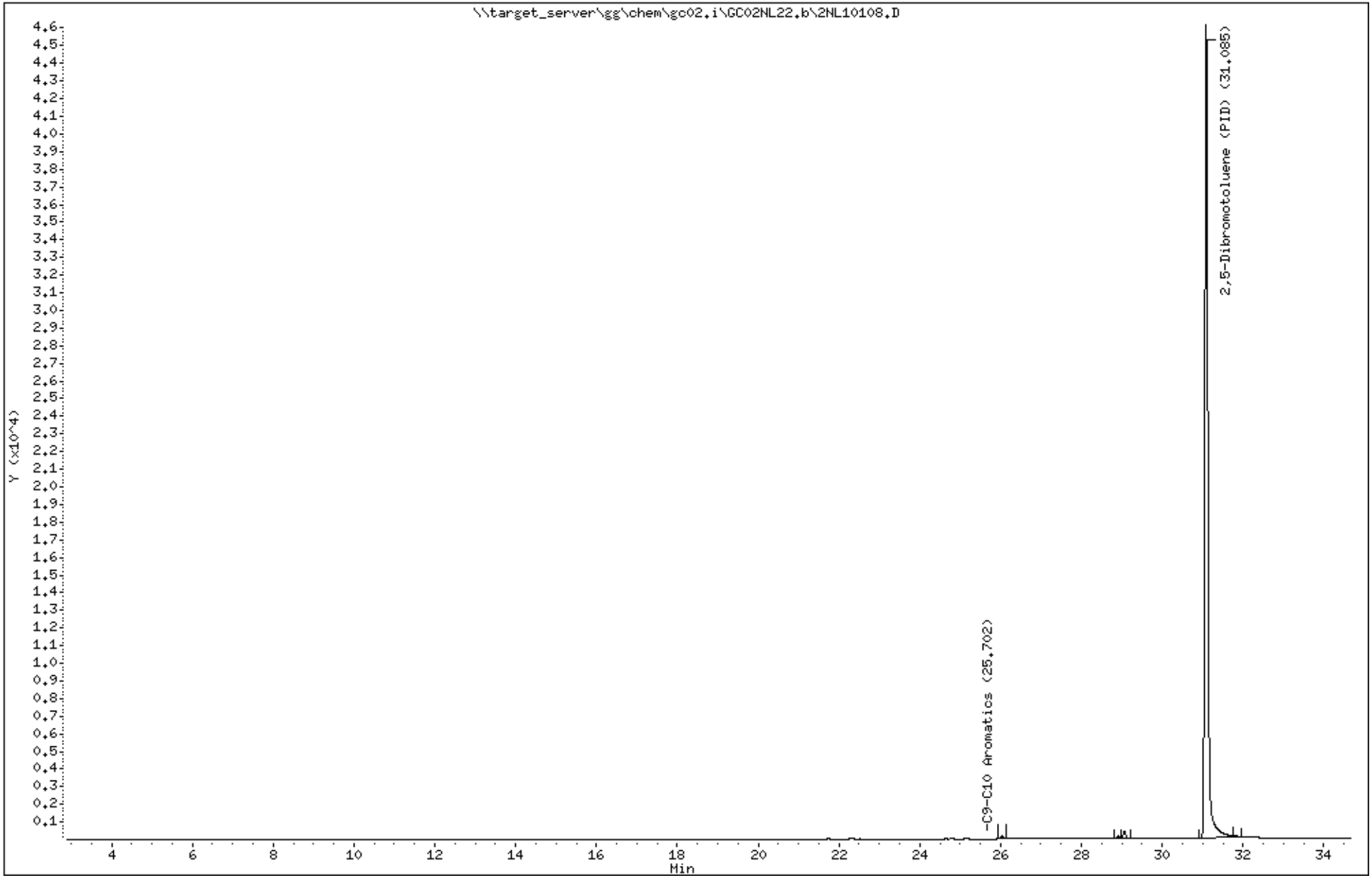
Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10108.D
Lab Smp Id: WG292349-1RA2 Client Smp ID: WG292349-Blank
Inj Date : 22-DEC-2020 14:21
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-1RA2,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 11 2,5-Dibromotoluene (PID)	31.084	31.066	0.018	484341	93.6622	93.7	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10108.D
Date : 22-DEC-2020 14:21
Client ID: WG292349-Blank
Instrument: gc02.i
Sample Info: WG292349-1RA2,TN0377
Purge Volume: 0.0
Operator: DL
Column phase: RTX-502.2
Column diameter: 0.53



Katahdin Analytical Services 6000133

Data File: 2NL10108.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10108.D
Lab Smp Id: WG292349-1RA2 Client Smp ID: WG292349-Blank
Inj Date : 22-DEC-2020 14:21
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-1RA2,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: MA-VPH-LOD.sub
Target Version: 4.12
Processing Host: V200T3

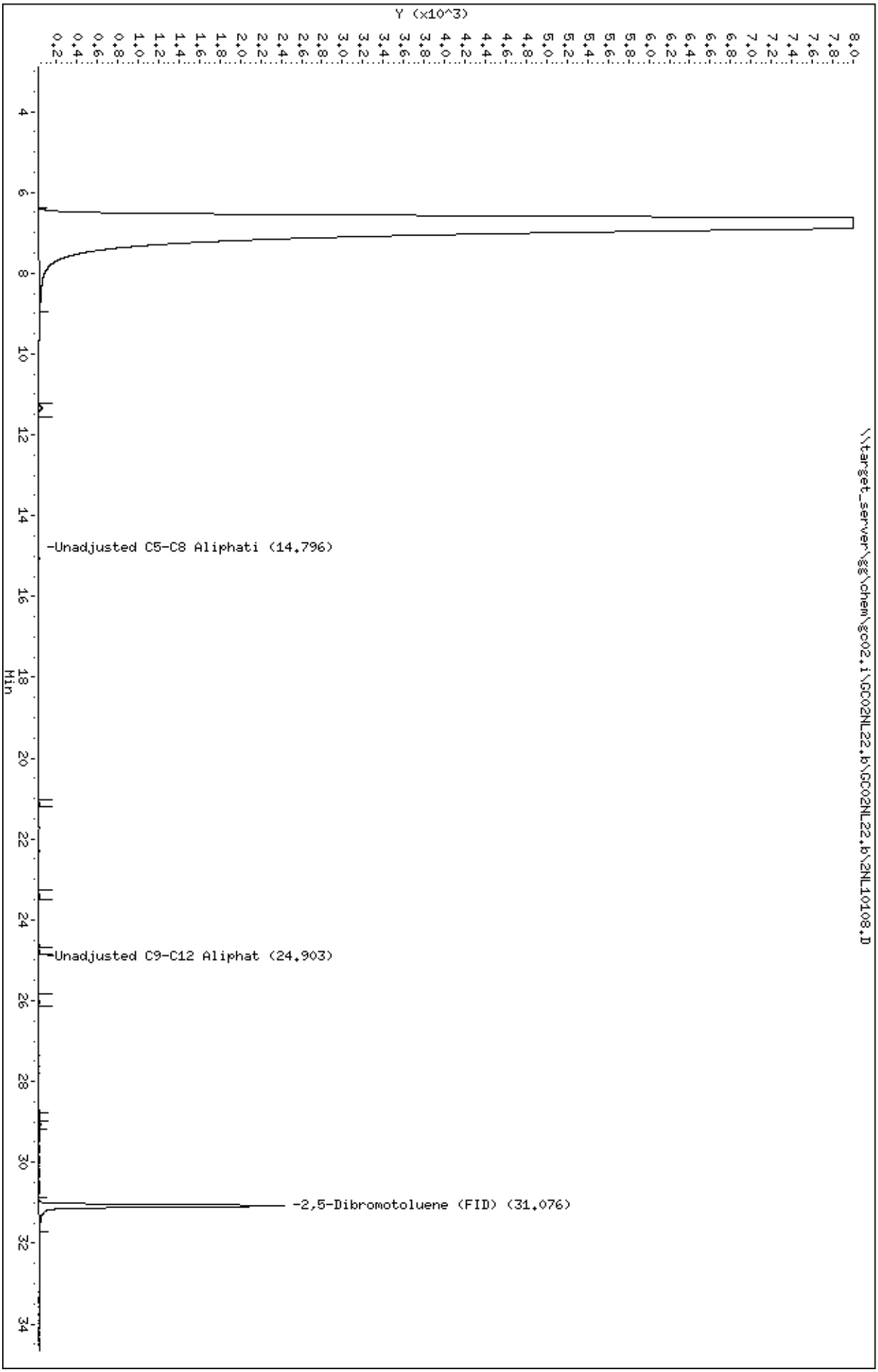
Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
$ 21 2,5-Dibromotoluene (FID)	31.075	31.056	0.019	229146	97.3408	97.3	

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10108.D
Date : 22-DEC-2020 14:21
Client ID: WG292349-Blank
Sample Info: WG292349-1RA2,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



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ANALYTICAL SERVICES

LCS/LCSD Recovery Report

LCS ID: WG292349-2RA2
LCSD ID: WG292349-3
Project:
SDG: TN0377
Report Date: 23-DEC-20
LCS File ID: 2NL10109.D

Received Date:
Extract Date: 22-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349
LCSD File ID: 2NL10105.D

Analysis Date: 22-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA

Compound	Spike Amt	LCS Conc	LCS Rec (%)	LCSD Conc	LCSD Rec (%)	Conc Units	RPD (%)	RPD Limit	Limits
C5-C8 Aliphatics	300.	291.	97.0	309.	103.	ug/L	6	25	70-130
C9-C12 Aliphatics	200.	213.	106.	216.	108.	ug/L	1	25	70-130
C9-C10 Aromatics	100.	101.	101.	102.	102.	ug/L	1	25	70-130
Benzene	100.	98.7	98.7	101.	101.	ug/L	2	25	70-130
Ethylbenzene	100.	102.	102.	104.	104.	ug/L	2	25	70-130
Methyl tert-butylether	100.	95.4	95.4	97.0	97.0	ug/L	2	25	70-130
Naphthalene	100.	105.	105.	106.	106.	ug/L	1	25	70-130
Toluene	100.	99.9	99.9	102.	102.	ug/L	2	25	70-130
m+p-Xylenes	200.	196.	98.0	199.	99.5	ug/L	2	25	70-130
o-Xylene	100.	98.7	98.7	100.	100.	ug/L	1	25	70-130
2,5-Dibromotoluene (FID)			103.		100.				70-130
2,5-Dibromotoluene (PID)			96.9		95.6				70-130

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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10109.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10109.D
Lab Smp Id: WG292349-2RA2 Client Smp ID: WG292349-LCS
Inj Date : 22-DEC-2020 15:03
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-2RA2,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

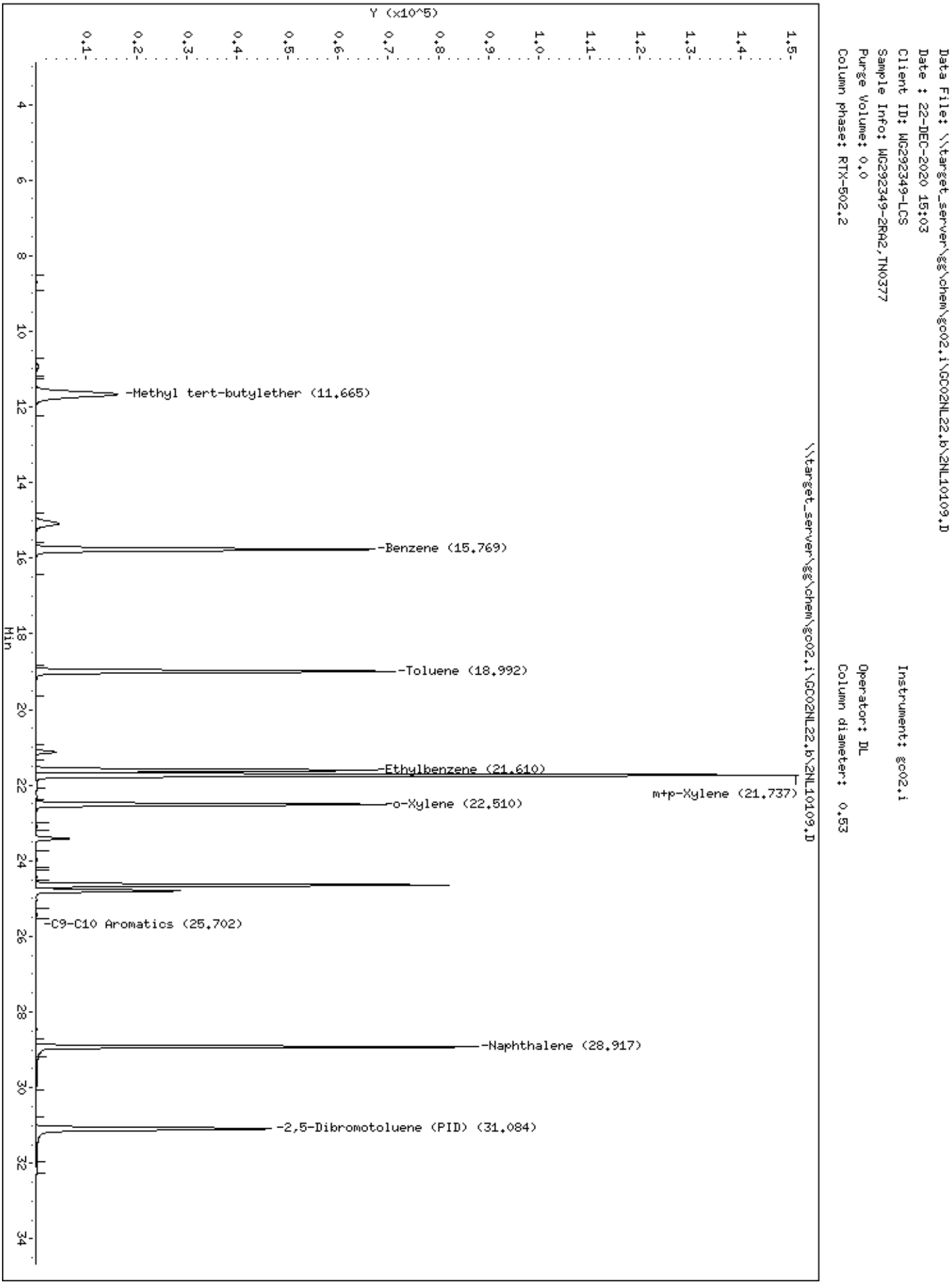
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.665	11.655	0.010	350625	95.3789	95.4	
	3 Benzene	15.768	15.759	0.009	721982	98.7381	98.7	
	4 Toluene	18.992	18.982	0.010	651706	99.8858	99.9	
	5 Ethylbenzene	21.609	21.600	0.009	579555	101.639	102	
	6 m+p-Xylene	21.737	21.728	0.009	1300140	196.000	196	
	7 o-Xylene	22.509	22.500	0.009	579783	98.7341	98.7	
S	9 C9-C10 Aromatics	22.600	-28.803		619640	101.103	101(M)	M3
	10 Naphthalene	28.916	28.903	0.013	660348	104.816	105	
$	11 2,5-Dibromotoluene (PID)	31.083	31.066	0.017	500892	96.8629	96.9	

DL
2:57 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10109.D
Date : 22-DEC-2020 15:03
Client ID: WG292349-LCS
Sample Info: WG292349-2RA2,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^5)
Min
-Methyl tert-butylether (11.665)
-Benzene (15.769)
-Toluene (18.992)
-Ethylbenzene (21.610)
m+p-Xylene (21.737)
-o-Xylene (22.510)
-C9-C10 Aromatics (25.702)
-Naphthalene (28.917)
-2,5-Dibromotoluene (PID) (31.084)
\\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10109.D

Data File: 2NL10109.D
Report Date: 23-Dec-2020 12:56

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Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10109.D
Lab Smp Id: WG292349-2RA2 Client Smp ID: WG292349-LCS
Inj Date : 22-DEC-2020 15:03
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-2RA2,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

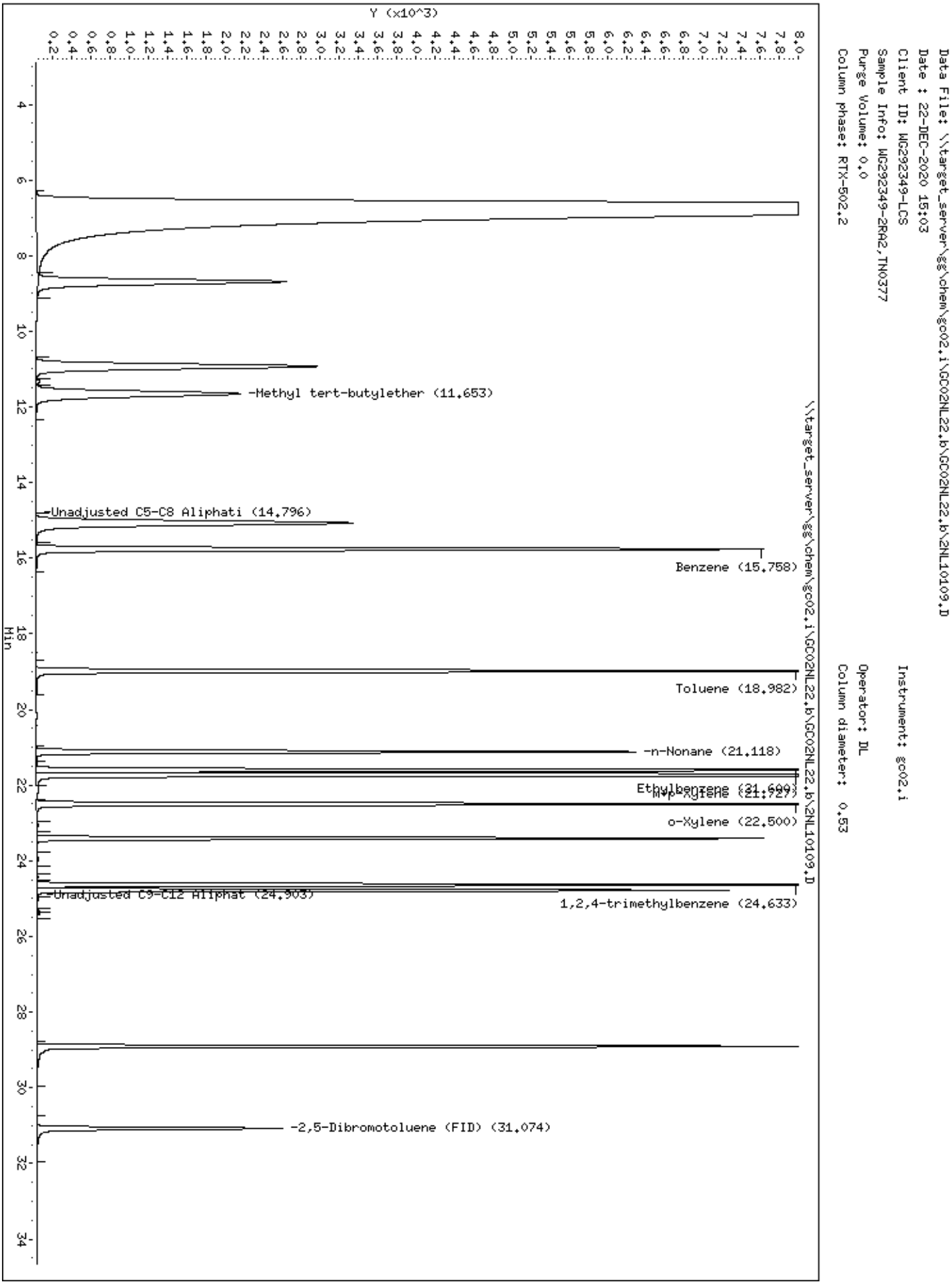
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7 Methyl tert-butylether	11.652	11.644	0.008	457933	94.1031	94.1	
	9 Benzene	15.758	15.749	0.009	788873	97.7181	97.7	
	11 Toluene	18.982	18.972	0.010	773287	99.3089	99.3	
	12 n-Nonane	21.117	21.112	0.005	541039	102.624	103	
	14 Ethylbenzene	21.599	21.590	0.009	758013	101.296	101	
	15 m+p-Xylene	21.727	21.720	0.007	1537094	197.537	198	
	16 o-Xylene	22.499	22.489	0.010	787838	99.5050	99.5	
	18 1,2,4-trimethylbenzene	24.633	24.623	0.010	772210	100.390	100	
S	10 Unadjusted C5-C8 Aliphatics	8.579	-21.012		1634722	291.255	291(M)	M2
S	17 Unadjusted C9-C12 Aliphatics	21.013	-28.793		1163548	213.420	213(M)	M2
$	21 2,5-Dibromotoluene (FID)	31.074	31.056	0.018	241945	102.778	103	

DL

2:57 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.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Date : 22-DEC-2020 15:03
Client ID: WG292349-LCS
Sample Info: WG292349-2RA2,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^3)
Min
-Methyl tert-butylether (11.653)
Unadjusted C5-C8 Aliphati (14.796)
Benzene (15.758)
Toluene (18.982)
-n-Nonane (21.118)
Ethylbenzene (21.699)
m+p-Xylene (21.727)
o-Xylene (22.500)
Unadjusted C9-C12 Aliphat (24.903)
1,2,4-trimethylbenzene (24.633)
-2,5-Dibromotoluene (FID) (31.074)
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Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10105.D
Report Date: 23-Dec-2020 12:53

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10105.D
Lab Smp Id: WG292349-3 Client Smp ID: WG292349-LCSD
Inj Date : 22-DEC-2020 11:47
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-3,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

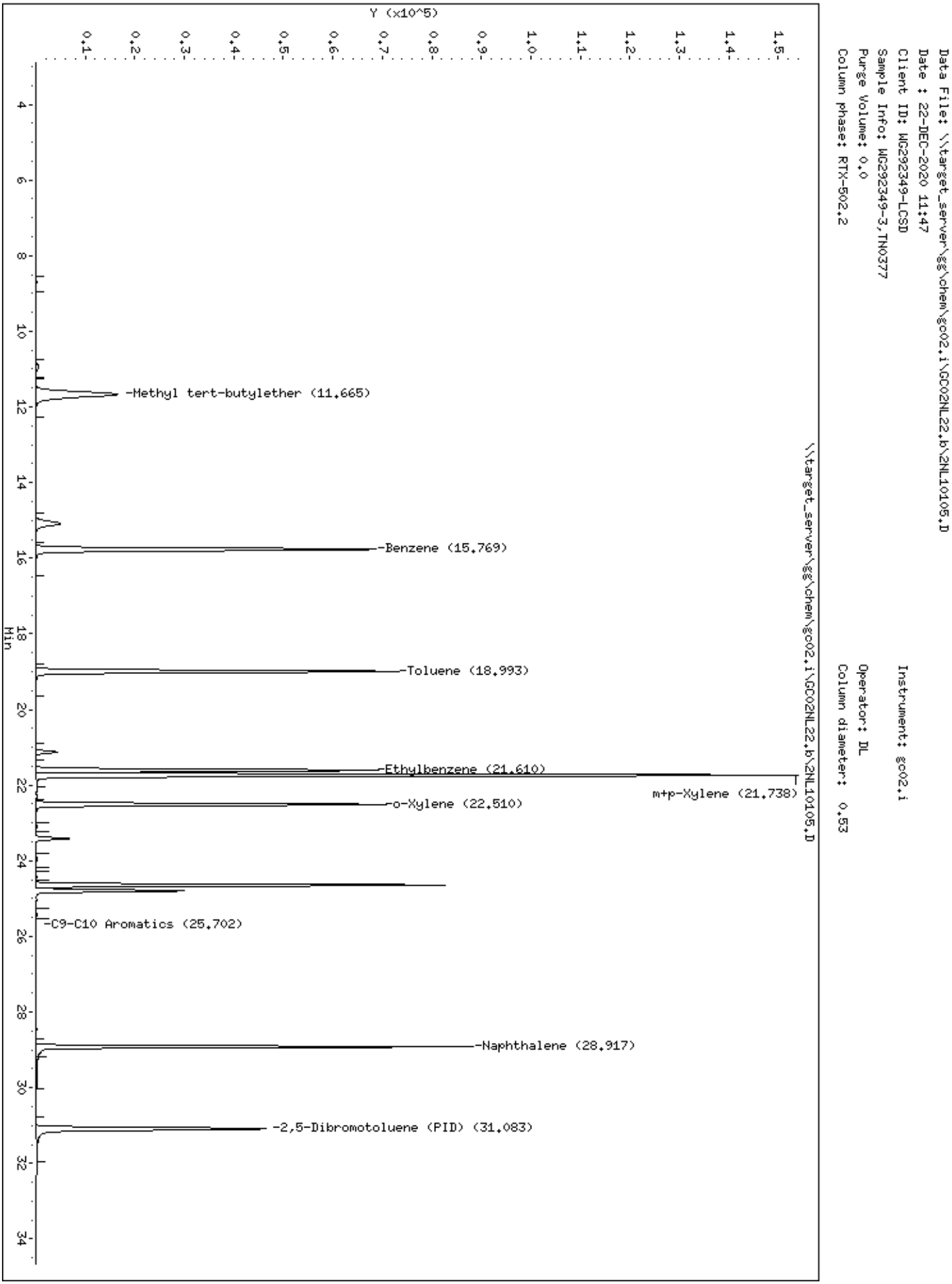
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
2 Methyl tert-butylether	11.665	11.655	0.010	356415	96.9539	97.0	
3 Benzene	15.768	15.759	0.009	736365	100.705	101	
4 Toluene	18.992	18.982	0.010	668492	102.459	102	
5 Ethylbenzene	21.610	21.600	0.010	592020	103.825	104	
6 m+p-Xylene	21.737	21.728	0.009	1320957	199.138	199	
7 o-Xylene	22.509	22.500	0.009	587305	100.015	100	
S 9 C9-C10 Aromatics	22.600	28.803		625670	102.087	102(M)	M3
10 Naphthalene	28.916	28.903	0.013	664834	105.528	106	
$ 11 2,5-Dibromotoluene (PID)	31.083	31.066	0.017	494371	95.6019	95.6	

DL
2:57 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10105.D
Date : 22-DEC-2020 11:47
Client ID: WG292349-LCSD
Sample Info: WG292349-3,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10105.D
Y (x10^5)
Min
-Methyl tert-butylether (11.665)
-Benzene (15.769)
-Toluene (18.993)
-Ethylbenzene (21.610)
m+p-Xylene (21.738)
-o-Xylene (22.510)
-C9-C10 Aromatics (25.702)
-Naphthalene (28.917)
-2,5-Dibromotoluene (PID) (31.083)

Data File: 2NL10105.D
Report Date: 23-Dec-2020 12:56

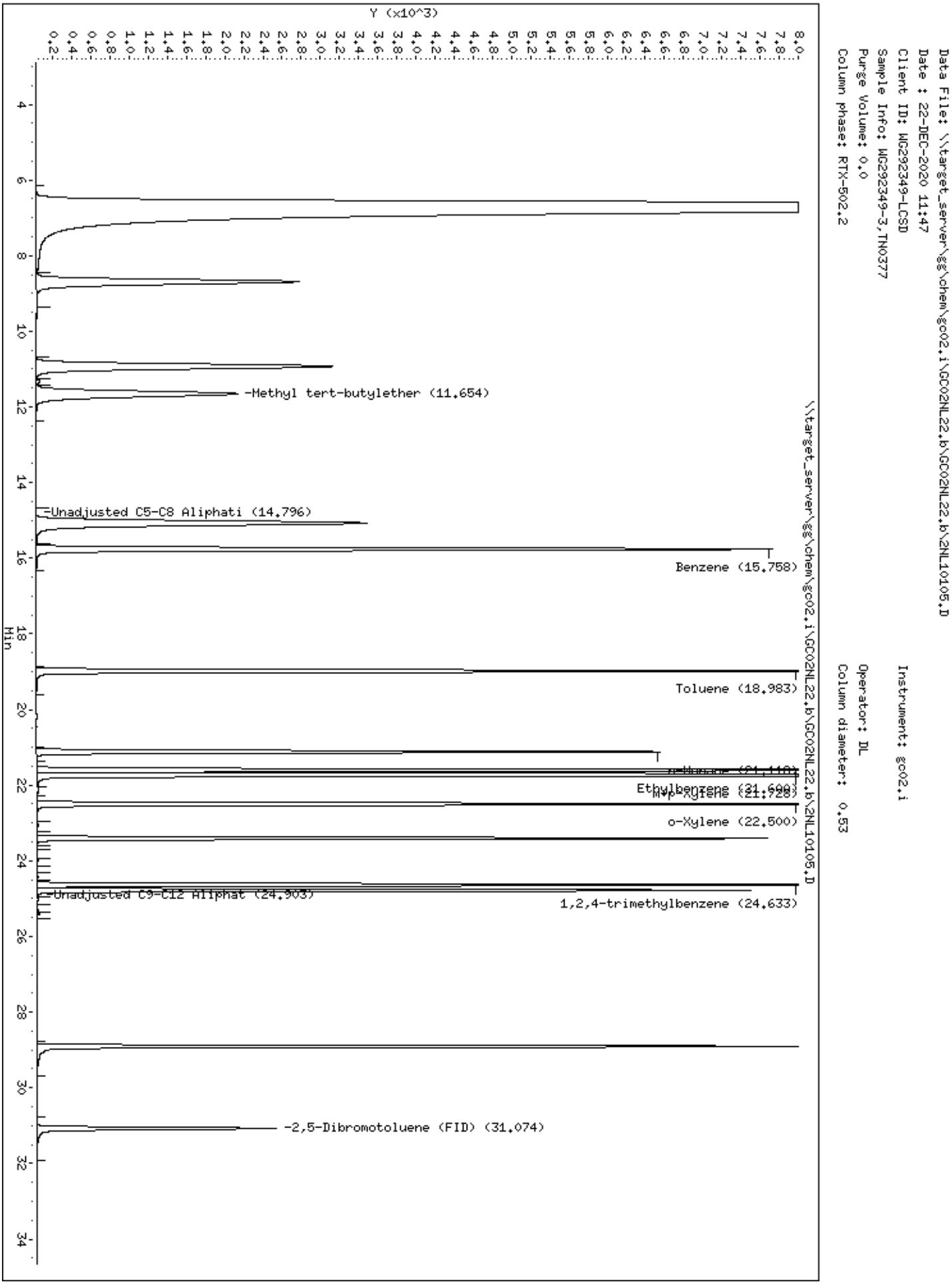
Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10105.D
Lab Smp Id: WG292349-3 Client Smp ID: WG292349-LCSD
Inj Date : 22-DEC-2020 11:47
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-3,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

						CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
Compounds		RT	EXP RT	DLT RT	RESPONSE			
7	Methyl tert-butylether	11.653	11.644	0.009	457857	94.0874	94.1	
9	Benzene	15.758	15.749	0.009	799822	99.0743	99.1	
11	Toluene	18.982	18.972	0.010	789691	101.416	101	
12	n-Nonane	21.117	21.112	0.005	562139	106.626	107	
14	Ethylbenzene	21.599	21.590	0.009	772384	103.217	103	
15	m+p-Xylene	21.727	21.720	0.007	1555594	199.915	200	
16	o-Xylene	22.499	22.489	0.010	790853	99.8858	99.9	
18	1,2,4-trimethylbenzene	24.633	24.623	0.010	775802	100.857	101	
S 10	Unadjusted C5-C8 Aliphatics	8.579	-21.012		1736449	309.379	309	
S 17	Unadjusted C9-C12 Aliphatics	21.013	-28.793		1178567	216.175	216	
$ 21	2,5-Dibromotoluene (FID)	31.073	31.056	0.017	235490	100.036	100	


Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10105.D
Date : 22-DEC-2020 11:47
Client ID: WG292349-LCSD
Sample Info: WG292349-3,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^3)
Min
-Methyl tert-butylether (11.654)
Unadjusted C5-C8 Aliphati (14.796)
Benzene (15.758)
Toluene (18.983)
Ethylbenzene (21.690)
m+p-Xylene (21.728)
o-Xylene (22.500)
Unadjusted C9-C12 Aliphat (24.903)
1,2,4-trimethylbenzene (24.633)
-2,5-Dibromotoluene (FID) (31.074)
\\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10105.D

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ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG292349-4
MSD ID: WG292349-5
Sample ID: TN0377-2
Client ID: DW-01-INF-WINTER2020
Project:
SDG: TN0377
MS File ID: 2NL10125.D

Received Date:
Extract Date: 23-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349
Report Date: 23-DEC-20
MSD File ID: 2NL10126.D

Analysis Date: 23-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
C5-C8 Aliphatics	300.	300.	ug/L	U75	320	315	107.	105.	2	50	70-130
C9-C12 Aliphatics	200.	200.	ug/L	U75	204	189	102.	94.5	4	50	70-130
C9-C10 Aromatics	100.	100.	ug/L	U75	101	100	101.	100.	1	50	70-130
Benzene	100.	100.	ug/L	U2.0	101	100	101.	100.	1	50	70-130
Ethylbenzene	100.	100.	ug/L	U3.8	104	103	104.	103.	3	50	70-130
Methyl tert-butylether	100.	100.	ug/L	U3.8	95.2	93.9	95.2	93.9	1	50	70-130
Naphthalene	100.	100.	ug/L	U3.8	104	102	104.	102.	1	50	70-130
Toluene	100.	100.	ug/L	U3.8	102	102	102.	102.	4	50	70-130
m+p-Xylenes	200.	200.	ug/L	U7.5	199	197	99.5	98.5	3	50	70-130
o-Xylene	100.	100.	ug/L	U3.8	99.8	98.8	99.8	98.8	2	50	70-130
2,5-Dibromotoluene (FID)							96.5	94.1			70-130
2,5-Dibromotoluene (PID)							94.4	90.8			70-130

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10125.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10125.D
Lab Smp Id: WG292349-4 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 23-DEC-2020 03:30
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-4,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

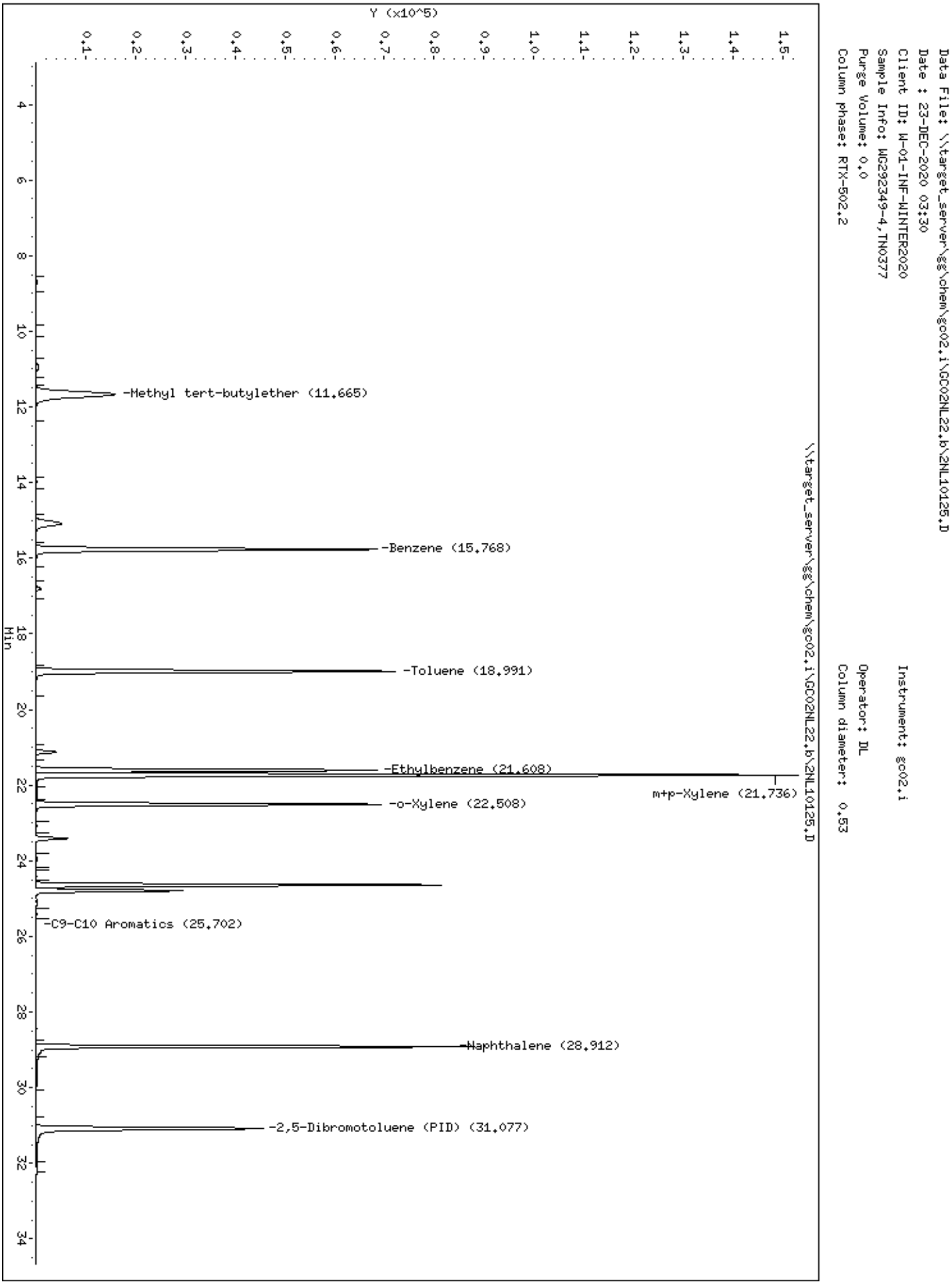
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.665	11.655	0.010	349883	95.1771	95.2	
	3 Benzene	15.767	15.759	0.008	736507	100.725	101	
	4 Toluene	18.991	18.982	0.009	665189	101.952	102	
	5 Ethylbenzene	21.608	21.600	0.008	591656	103.761	104	
	6 m+p-Xylene	21.735	21.728	0.007	1317844	198.669	199	
	7 o-Xylene	22.507	22.500	0.007	585942	99.7829	99.8	
S	9 C9-C10 Aromatics	22.600	-28.803		620646	101.267	101(M)	M3
	10 Naphthalene	28.911	28.903	0.008	658603	104.539	104	
$	11 2,5-Dibromotoluene (PID)	31.076	31.066	0.010	488262	94.4205	94.4	

DL
2:56 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10125.D
Date : 23-DEC-2020 03:30
Client ID: W-01-INF-WINTER2020
Sample Info: WG292349-4,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
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Y (x10^5)
Min
-Methyl tert-butylether (11.665)
-Benzene (15.768)
-Toluene (18.991)
-Ethylbenzene (21.608)
m+p-Xylene (21.736)
-o-Xylene (22.508)
-C9-C10 Aromatics (25.702)
-Naphthalene (28.912)
-2,5-Dibromotoluene (PID) (31.077)

Data File: 2NL10125.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10125.D
Lab Smp Id: WG292349-4 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 23-DEC-2020 03:30
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-4,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
	7 Methyl tert-butylether	11.654	11.644	0.010	442084	90.8462	90.8	
	9 Benzene	15.757	15.749	0.008	789466	97.7915	97.8	
	11 Toluene	18.980	18.972	0.008	773920	99.3902	99.4	
	12 n-Nonane	21.116	21.112	0.004	534573	101.397	101	
	14 Ethylbenzene	21.598	21.590	0.008	757853	101.275	101	
	15 m+p-Xylene	21.725	21.720	0.005	1521896	195.584	196	
	16 o-Xylene	22.497	22.489	0.008	770875	97.3626	97.4	
	18 1,2,4-trimethylbenzene	24.630	24.623	0.007	756733	98.3780	98.4	
S	10 Unadjusted C5-C8 Aliphatics	8.579-21.012			1794527	319.727	320(M)	M2
S	17 Unadjusted C9-C12 Aliphatics	21.013-28.793			1112062	203.977	204(M)	M2
$	21 2,5-Dibromotoluene (FID)	31.067	31.056	0.011	227276	96.5465	96.5	

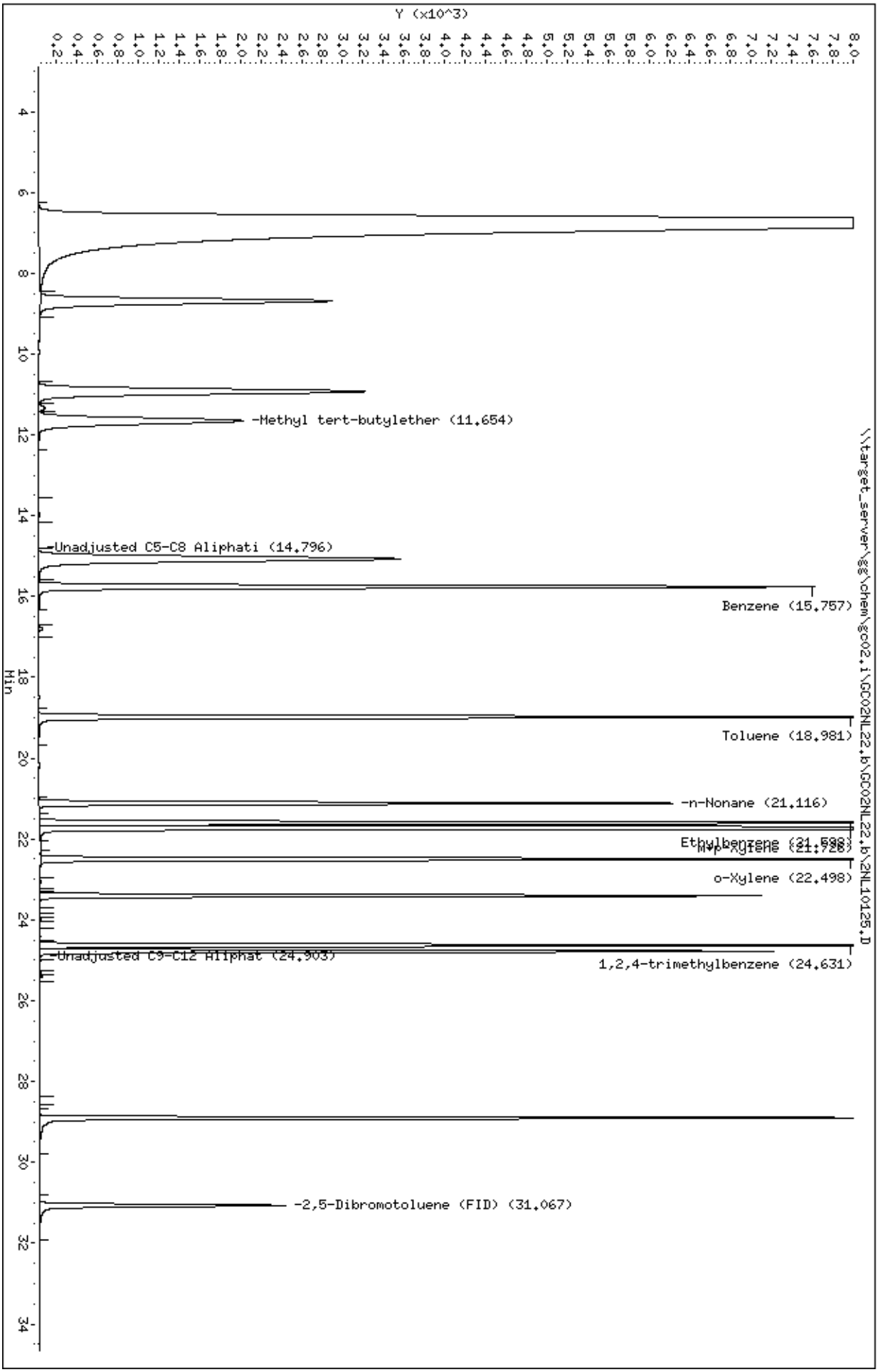
DL
2:56 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10125.D
Date : 23-DEC-2020 03:30
Client ID: W-01-INF-WINTER2020
Sample Info: WG292349-4,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10126.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10126.D
Lab Smp Id: WG292349-5 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 23-DEC-2020 04:13
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-5,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

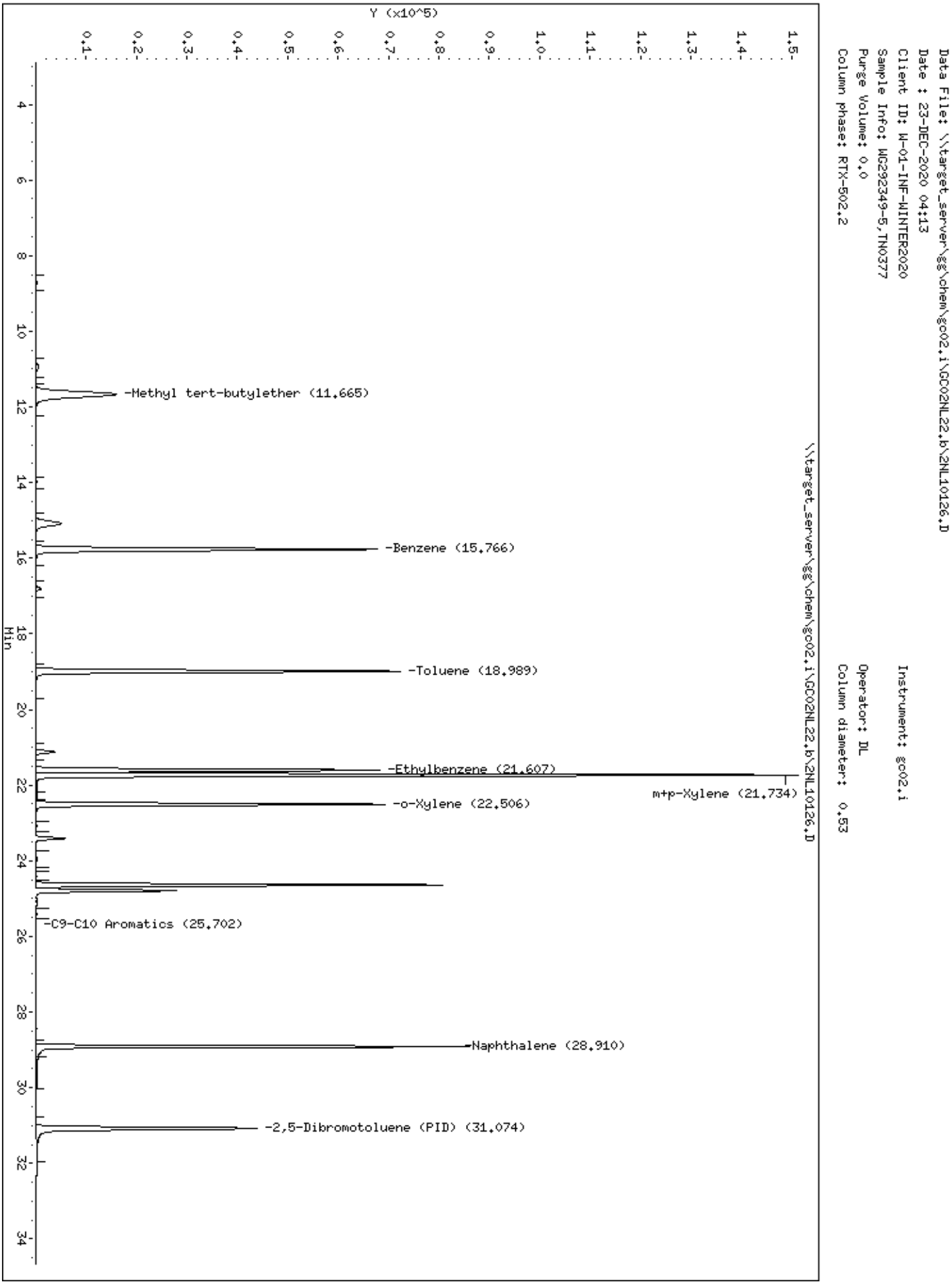
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.664	11.655	0.009	345106	93.8776	93.9	
	3 Benzene	15.765	15.759	0.006	733466	100.309	100	
	4 Toluene	18.989	18.982	0.007	663024	101.620	102	
	5 Ethylbenzene	21.606	21.600	0.006	588005	103.121	103	
	6 m+p-Xylene	21.734	21.728	0.006	1308591	197.274	197	
	7 o-Xylene	22.506	22.500	0.006	580430	98.8443	98.8	
S	9 C9-C10 Aromatics	22.600	-28.803		613274	100.064	100(M)	M3
	10 Naphthalene	28.909	28.903	0.006	645057	102.389	102	
$	11 2,5-Dibromotoluene (PID)	31.074	31.066	0.008	469501	90.7925	90.8	

DL

2:56 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10126.D
Date : 23-DEC-2020 04:13
Client ID: W-01-INF-WINTER2020
Sample Info: WG292349-5,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
\\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10126.D
Y (x10^5)
Min
-Methyl tert-butylether (11.665)
-Benzene (15.766)
-Toluene (18.989)
-Ethylbenzene (21.607)
m+p-Xylene (21.734)
-o-Xylene (22.506)
-C9-C10 Aromatics (25.702)
-Naphthalene (28.910)
-2,5-Dibromotoluene (PID) (31.074)

Data File: 2NL10126.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10126.D
Lab Smp Id: WG292349-5 Client Smp ID: W-01-INF-WINTER2020
Inj Date : 23-DEC-2020 04:13
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-5,TN0377
Misc Info : WG292349,WG292312-4,TN0377-2
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7 Methyl tert-butylether	11.653	11.644	0.009	436268	89.6510	89.6	
	9 Benzene	15.755	15.749	0.006	785287	97.2739	97.3	
	11 Toluene	18.979	18.972	0.007	769909	98.8751	98.9	
	12 n-Nonane	21.114	21.112	0.002	504398	95.6736	95.7	
	14 Ethylbenzene	21.596	21.590	0.006	753583	100.704	101	
	15 m+p-Xylene	21.724	21.720	0.004	1520082	195.351	195	
	16 o-Xylene	22.496	22.489	0.007	771858	97.4867	97.5	
	18 1,2,4-trimethylbenzene	24.629	24.623	0.006	750624	97.5838	97.6	
S	10 Unadjusted C5-C8 Aliphatics	8.579-21.012			1767090	314.838	315(M)	M2
S	17 Unadjusted C9-C12 Aliphatics	21.013-28.793			1032796	189.438	189(M)	M2
$	21 2,5-Dibromotoluene (FID)	31.064	31.056	0.008	221572	94.1234	94.1	

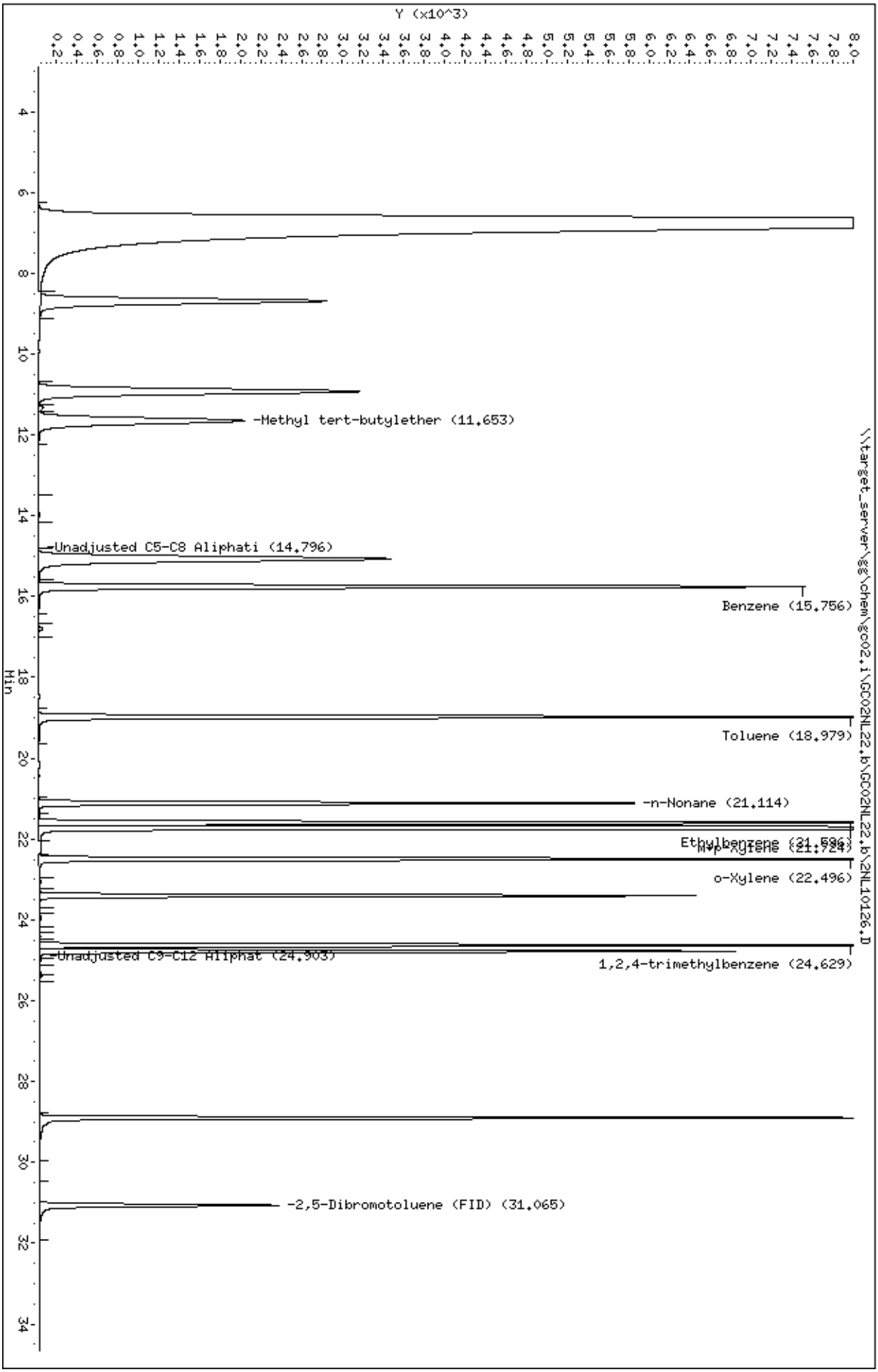
DL
2:56 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10126.D
Date : 23-DEC-2020 04:13
Client ID: W-01-INF-WINTER2020
Sample Info: WG292349-5,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Katahdin
ANALYTICAL SERVICES

MS/MSD Recovery Report

MS ID: WG292349-6
MSD ID: WG292349-7
Sample ID: TN0377-7
Client ID: MW-01-WINTER2020
Project:
SDG: TN0377
MS File ID: 2NL10127.D

Received Date:
Extract Date: 23-DEC-20
Extracted By: DL
Extraction Method: MA-VPH
Lab Prep Batch: WG292349
Report Date: 23-DEC-20
MSD File ID: 2NL10128.D

Analysis Date: 23-DEC-20
Analyst: DL
Analysis Method: MA DEP VPH 04-1.1
Matrix: AQ
% Solids: NA

Compound	MS Spike	MSD Spike	Conc Units	Samp Conc	MS Conc	MSD Conc	MS Rec (%)	MSD Rec (%)	RPD (%)	RPD Limit	Limits
C5-C8 Aliphatics	300.	300.	ug/L	U75	310	288	103.	96.0	7	50	70-130
C9-C12 Aliphatics	200.	200.	ug/L	U75	181	159	90.5	79.5	13	50	70-130
C9-C10 Aromatics	100.	100.	ug/L	U75	99.2	100	99.2	100.	1	50	70-130
Benzene	100.	100.	ug/L	U2.0	98.8	100	98.8	100.	1	50	70-130
Ethylbenzene	100.	100.	ug/L	U3.8	99.5	102	99.5	102.	2	50	70-130
Methyl tert-butylether	100.	100.	ug/L	U3.8	93.2	94.9	93.2	94.9	2	50	70-130
Naphthalene	100.	100.	ug/L	U3.8	103	103	103.	103.	0	50	70-130
Toluene	100.	100.	ug/L	U3.8	97.5	99.8	97.5	99.8	2	50	70-130
m+p-Xylenes	200.	200.	ug/L	U7.5	191	195	95.5	97.5	2	50	70-130
o-Xylene	100.	100.	ug/L	U3.8	96.4	97.9	96.4	97.9	2	50	70-130
2,5-Dibromotoluene (FID)							93.8	95.3			70-130
2,5-Dibromotoluene (PID)							91.3	90.4			70-130

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10127.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10127.D
Lab Smp Id: WG292349-6 Client Smp ID: MW-01-WINTER2020MS
Inj Date : 23-DEC-2020 04:56
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-6,TN0377
Misc Info : WG292349,WG292312-4,TN0377-7
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

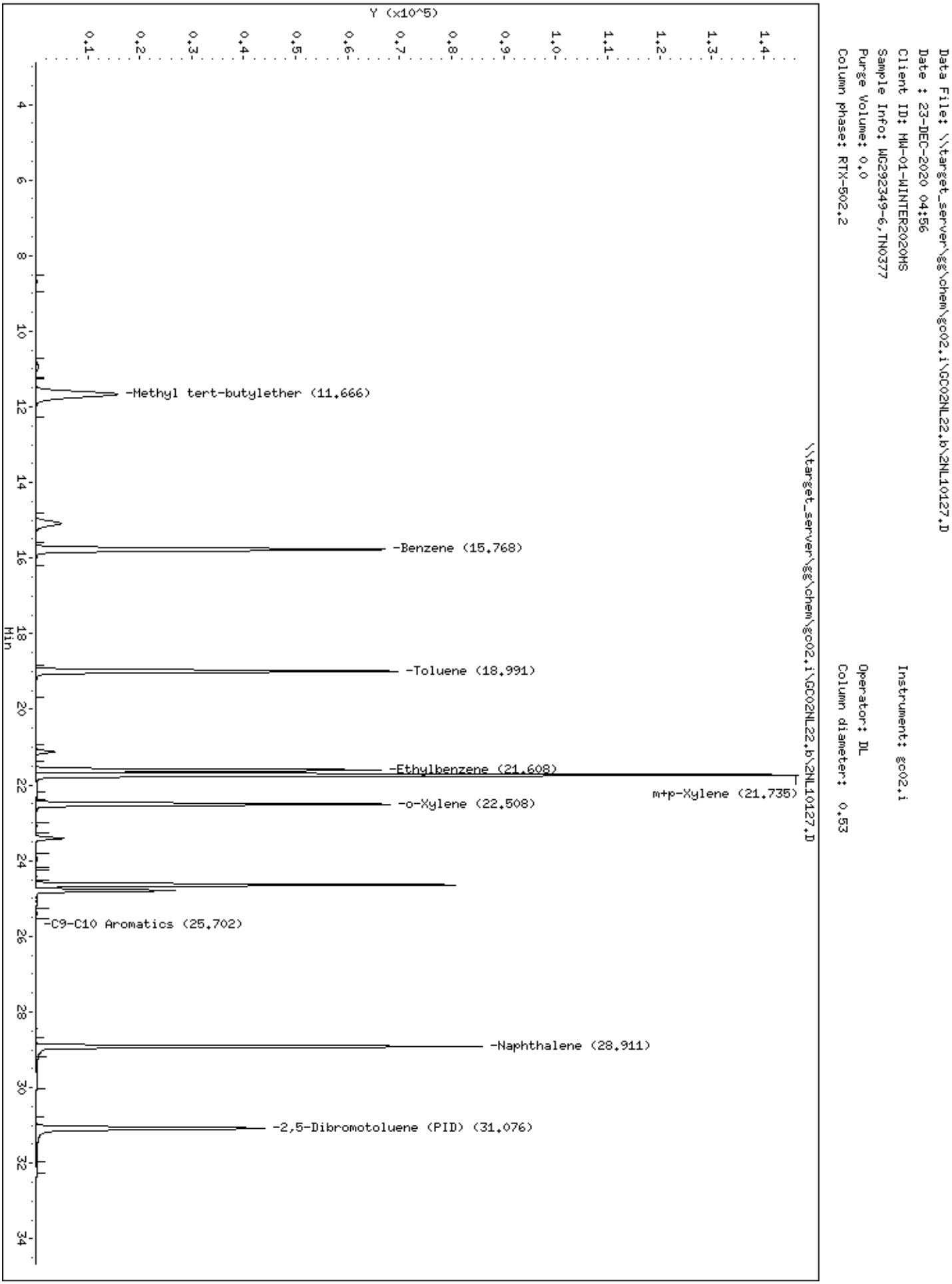
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.666	11.655	0.011	342825	93.2571	93.2	
	3 Benzene	15.767	15.759	0.008	722197	98.7675	98.8	
	4 Toluene	18.991	18.982	0.009	636025	97.4824	97.5	
	5 Ethylbenzene	21.607	21.600	0.007	567276	99.4855	99.5	
	6 m+p-Xylene	21.735	21.728	0.007	1267457	191.073	191	
	7 o-Xylene	22.507	22.500	0.007	566274	96.4336	96.4	
S	9 C9-C10 Aromatics	22.600	-28.803		608193	99.2352	99.2(aM)	M3
	10 Naphthalene	28.911	28.903	0.008	646719	102.653	103	
$	11 2,5-Dibromotoluene (PID)	31.075	31.066	0.009	471984	91.2726	91.3	

DL
2:56 pm, Dec 23, 2020

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10127.D
Date : 23-DEC-2020 04:56
Client ID: MW-01-WINTER2020HS
Sample Info: WG292349-6,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^5)
Min
-Methyl tert-butylether (11.666)
-Benzene (15.768)
-Toluene (18.991)
-Ethylbenzene (21.608)
m+p-Xylene (21.735)
-o-Xylene (22.508)
-C9-C10 Aromatics (25.702)
-Naphthalene (28.911)
-2,5-Dibromotoluene (PID) (31.076)
\\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10127.D

Data File: 2NL10127.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10127.D
Lab Smp Id: WG292349-6 Client Smp ID: MW-01-WINTER2020MS
Inj Date : 23-DEC-2020 04:56
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-6,TN0377
Misc Info : WG292349,WG292312-4,TN0377-7
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

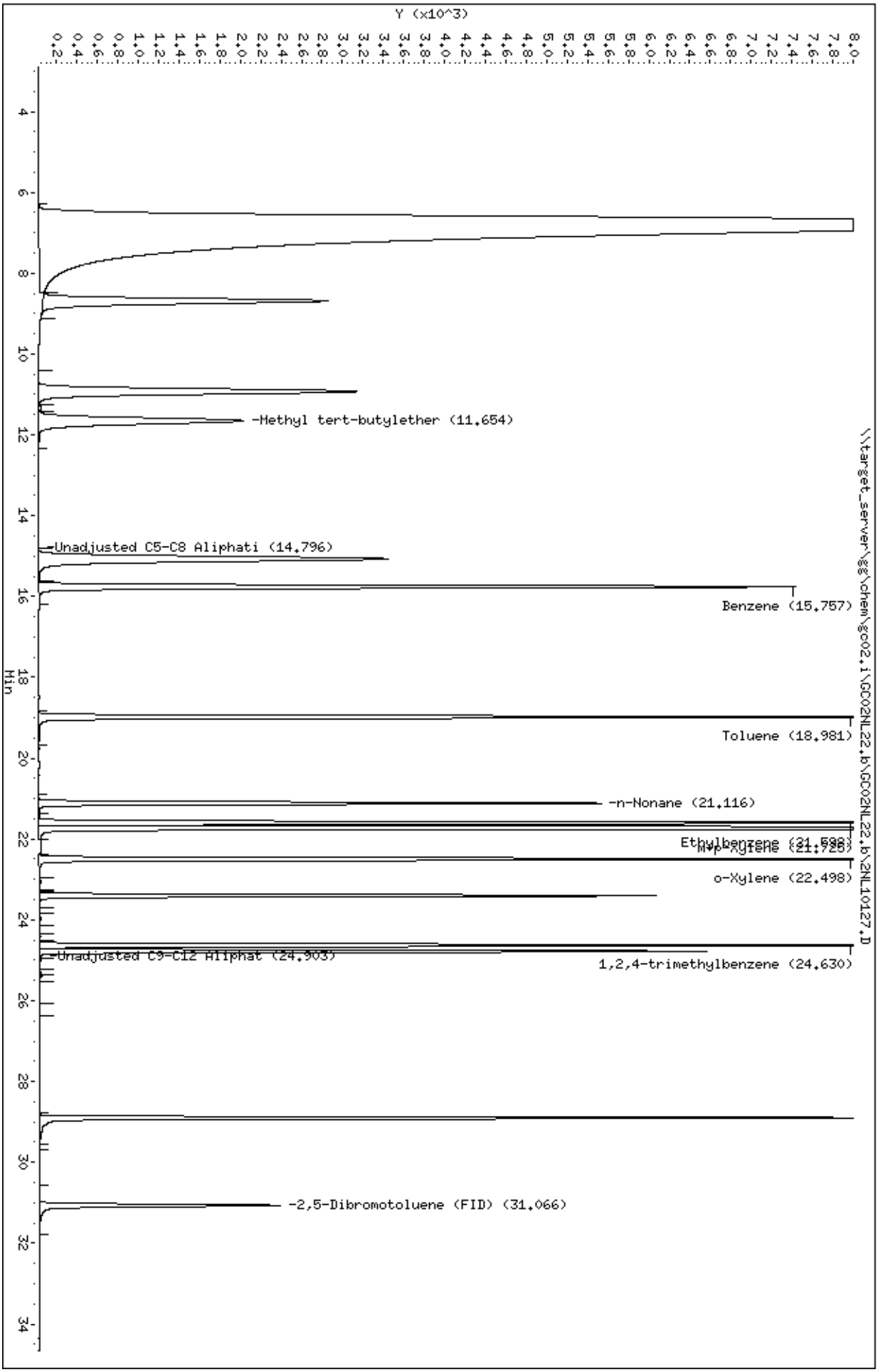
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
7	Methyl tert-butylether	11.653	11.644	0.009	437549	89.9142	89.9	
9	Benzene	15.757	15.749	0.008	772759	95.7220	95.7	
11	Toluene	18.981	18.972	0.009	740549	95.1045	95.1	
12	n-Nonane	21.115	21.112	0.003	476859	90.4500	90.4	
14	Ethylbenzene	21.597	21.590	0.007	730009	97.5540	97.6	
15	m+p-Xylene	21.725	21.720	0.005	1470948	189.037	189	
16	o-Xylene	22.497	22.489	0.008	757217	95.6375	95.6	
18	1,2,4-trimethylbenzene	24.630	24.623	0.007	745395	96.9040	96.9	
S 10	Unadjusted C5-C8 Aliphatics	8.579-21.012			1740945	310.180	310(M)	M2
S 17	Unadjusted C9-C12 Aliphatics	21.013-28.793			986176	180.886	181(M)	M2
$ 21	2,5-Dibromotoluene (FID)	31.066	31.056	0.010	220894	93.8354	93.8	

DL
2:56 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10127.D
Date : 23-DEC-2020 04:56
Client ID: MW-01-WINTER2020HS
Sample Info: WG292349-6,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^3)
Min
-Methyl tert-butylether (11.654)
Unadjusted C5-C8 Aliphati (14.796)
Benzene (15.757)
Toluene (18.981)
-n-Nonane (21.116)
Ethylbenzene (21.598)
m+p-Xylene (21.725)
o-Xylene (22.498)
Unadjusted C9-C12 Aliphat (24.903)
1,2,4-trimethylbenzene (24.630)
-2,5-Dibromotoluene (FID) (31.066)
\\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10127.D

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10128.D
Report Date: 23-Dec-2020 12:54

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10128.D
Lab Smp Id: WG292349-7 Client Smp ID: MW-01-WINTER2020MSD
Inj Date : 23-DEC-2020 05:39
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-7,TN0377
Misc Info : WG292349,WG292312-4,TN0377-7
Comment : AROMATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m
Meth Date : 23-Dec-2020 08:07 dlewry Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

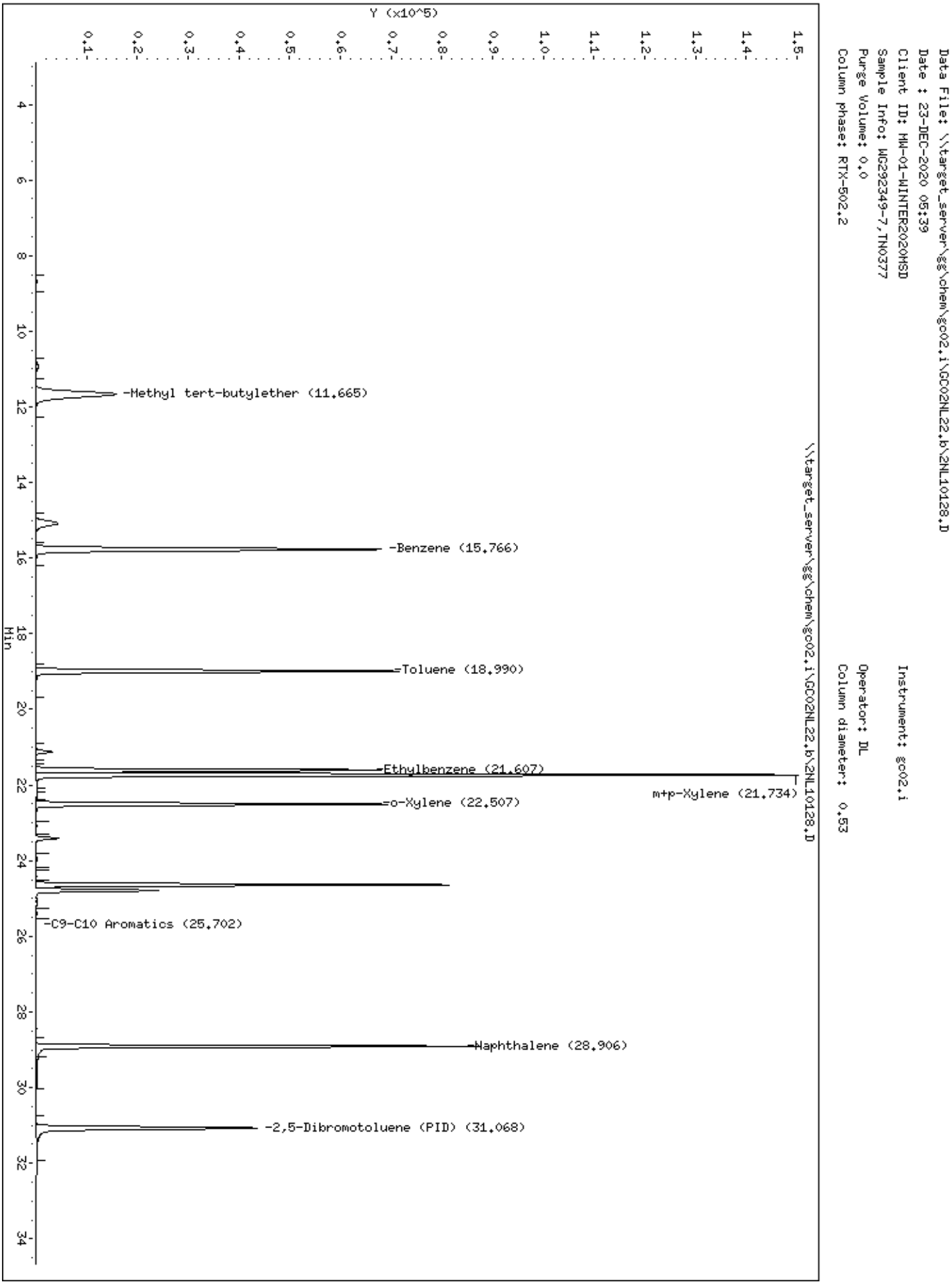
Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)	REVIEW CODE
	2 Methyl tert-butylether	11.664	11.655	0.009	349027	94.9442	94.9	
	3 Benzene	15.766	15.759	0.007	731343	100.018	100	
	4 Toluene	18.990	18.982	0.008	651474	99.8502	99.8	
	5 Ethylbenzene	21.606	21.600	0.006	579942	101.707	102	
	6 m+p-Xylene	21.734	21.728	0.006	1291795	194.742	195	
	7 o-Xylene	22.506	22.500	0.006	575128	97.9414	97.9	
S	9 C9-C10 Aromatics	22.600	-28.803		613828	100.155	100(M)	M3
	10 Naphthalene	28.906	28.903	0.003	651929	103.480	103	
$	11 2,5-Dibromotoluene (PID)	31.068	31.066	0.002	467558	90.4167	90.4	

DL
2:56 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.


Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10128.D
Date : 23-DEC-2020 05:39
Client ID: MW-01-WINTER2020HSD
Sample Info: WG292349-7,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2
Instrument: gc02.i
Operator: DL
Column diameter: 0.53
Y (x10^5)
Min
-Methyl tert-butylether (11.665)
-Benzene (15.766)
-Toluene (18.990)
-Ethylbenzene (21.607)
m+p-Xylene (21.734)
-o-Xylene (22.507)
-C9-C10 Aromatics (25.702)
-Naphthalene (28.906)
-2,5-Dibromotoluene (PID) (31.068)
\\target_server\gg\chem\gc02.i\GC02NL22.b\2NL10128.D

Data File: 2NL10128.D
Report Date: 23-Dec-2020 12:56

Katahdin Analytical Services

Data file : \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10128.D
Lab Smp Id: WG292349-7 Client Smp ID: MW-01-WINTER2020MSD
Inj Date : 23-DEC-2020 05:39
Operator : DL Inst ID: gc02.i
Smp Info : WG292349-7,TN0377
Misc Info : WG292349,WG292312-4,TN0377-7
Comment : ALIPHATIC
Method : \\target_server\gg\chem\gc02.i\GC02NL22.b\VPHPIDA3.m\VPHFIDA3.m
Meth Date : 23-Dec-2020 08:19 gc02.i Quant Type: ESTD
Cal Date : 18-DEC-2020 13:56 Cal File: 2NL10099.D
Als bottle: 1 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: LCS-MS.sub
Target Version: 4.12
Processing Host: V200T3

Concentration Formula: Amt * DF * 0.005/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	0.00500	Sample Volume (L)
Cpnd Variable		Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)	REVIEW CODE
	7 Methyl tert-butylether	11.652	11.644	0.008	449043	92.2762	92.3	
	9 Benzene	15.755	15.749	0.006	785461	97.2954	97.3	
	11 Toluene	18.979	18.972	0.007	758548	97.4160	97.4	
	12 n-Nonane	21.114	21.112	0.002	427053	81.0029	81.0	
	14 Ethylbenzene	21.596	21.590	0.006	747527	99.8950	99.9	
	15 m+p-Xylene	21.724	21.720	0.004	1505367	193.460	193	
	16 o-Xylene	22.496	22.489	0.007	770526	97.3185	97.3	
	18 1,2,4-trimethylbenzene	24.629	24.623	0.006	755196	98.1782	98.2	
S	10 Unadjusted C5-C8 Aliphatics	8.579	-21.012		1613993	287.561	288(M)	M2
S	17 Unadjusted C9-C12 Aliphatics	21.013	-28.793		867031	159.033	159(M)	M2
$	21 2,5-Dibromotoluene (FID)	31.058	31.056	0.002	224439	95.3413	95.3	

DL

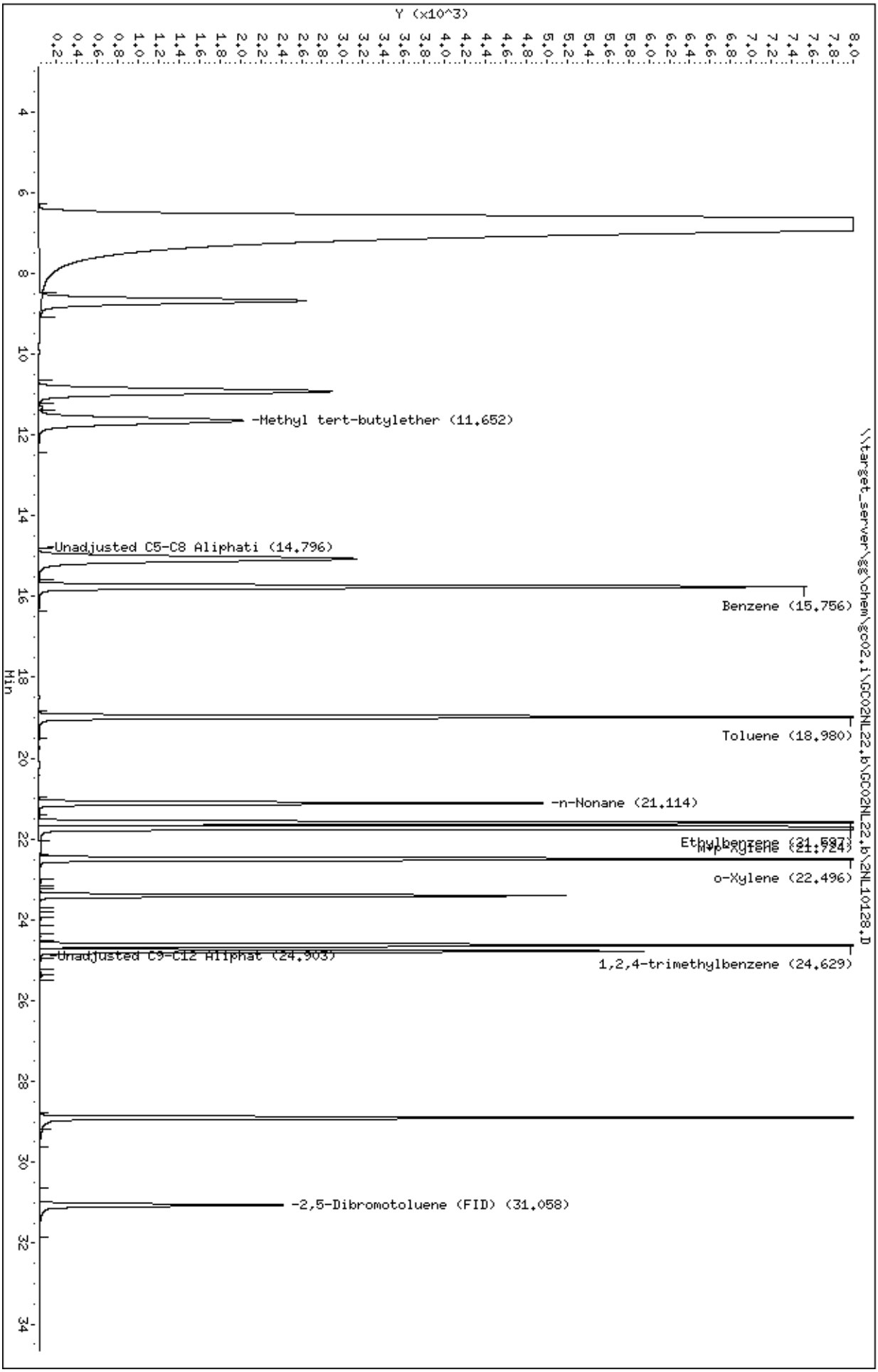
2:56 pm, Dec 23, 2020

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target_server\gg\chem\gc02.i\GC02NL22.b\GC02NL22.b\2NL10128.D
Date : 23-DEC-2020 05:39
Client ID: MW-01-WINTER2020HSD
Sample Info: WG292349-7,TN0377
Purge Volume: 0.0
Column phase: RTX-502.2

Instrument: gc02.i
Operator: DL
Column diameter: 0.53



Logbooks and Supporting Documents

Katahdin Analytical Services
GC Laboratory Instrument Runlog

Instrument: GC02

Method (Circle): MADEP-VPH-98-1 MEDEP 4.2.17 SW846 8015(M)

Date	Init.	Sample Name	Amt. Purged	SP. #	Result File	Dil.	Y/N	Method	pH	Comments
12-17-20	PL	LCS	5mL	7	2NL10089	1	N	VPHPIDFIDA2	—	
				8	90		N			
		CV50		9	91		N			
				10	92		N			
12-18-20	PL	Rinse	5mL	1	2NL10093	1	N	VPHPIDFIDA3	—	
		ICC150	50uL	2	94		Y			WG292312-4
		1	10	3	95		Y			-1
		5	50	4	96		Y			-2
		10	100	5	97		Y			-3
		100	100	6	98		Y			-5
		300	60	7	99		Y			-6
		IND	50	8	2NL10100		Y			-7
12-22-20	PL	Rinse	5mL	1	2NL10101	1	N	VPHPIDFIDA3	—	
		CV50		2	102		Y			WG292349-8
		WG292349-1		3	103		N			Run Interrupted
		-2		4	104		N			C9-C10↑
		-3		5	105		Y			
		-2RA		6	106		N			no recovery
		-1RA		7	107		N			*PL 12-22-20 SS↑ LCS analyte recoveries
		-1RA2		8	108		Y			
		-2RA2		9	109		Y			
		TN0377-14D		10	110		Y		<2	
		-15D		11	111		Y			
		-13D		12	112		Y			
		-1F		13	113		Y			
		-2J		14	114		Y			
		-3F		15	115		Y			
		-4F		16	116		Y			
		-5F		17	117		Y			

*PL 12-18-20

PL 12-21-20

	Std. Name	Conc.	Std. Code	Std. Code
1	VPH Cal mix	50 ug/ml	GCV 4529	GCV
2	VPH Surr. mix	100 ug/ml	GCV ~~4533~~	GCV 4530
3	VPH LCS mix	100 ug/ml	GCV 4523	GCV 4533
4	GRO Cal mix	250 ug/mL Total	GCV	GCV
5	GRO Surr. Mix	50 ug/mL	GCV	GCV
6	GRO LCS mix	250 ug/mL Total	GCV	GCV
7	VPHCC/L	5ug/mL	GCV 4531	
8	VPHCC/H	~~500~~ 250ug/mL	GCV 4532	

PL 12-18-20

VPH CC = 50uL Std. 1
VPH LCS = 50uL Std. 3
VPH Samples = 50uL Std. 2

GRO CC = 20uL Std. 4
GRO LCS = 20uL Std. 5 and 6
GRO Samples = 20uL Std. 5

PH1 ~~A~~ C003003

Katahdin Analytical Services
GC Laboratory Instrument Runlog

Instrument: GC02

Method (Circle): MADEP-VPH-98-1 MEDEP 4.2.17 SW846 8015(M)

Date	Init.	Sample Name	Amt. Purged	SP. #	Result File	Dil.	Y/N	Method	pH	Comments
12-22-20	DL	TN0377-6F	5mL	18	2NL10118	1	Y	VPHPIDFIDA3	2	
		-7S		19	119		Y			
		-8D		20	120		Y			
12-23-20		-9D		21	121		Y			
		-10D		22	122		Y			
		-11D		23	123		Y			
		-12D		24	124		Y			
		WG-292349-4		25	125		Y			MS TN0377-7K
		-5		26	126		Y			MSD -7L
		-6		27	127		Y			MS -7K
		-7		28	128		Y			MSD -7L
		CVS0		29	129		Y		—	CS-L2W WG-292349-9
12-23-20	DL	RInse	5mL	1	2NL10130	1	N	VPHPIDFIDA3	—	~~WG-292349-9 DL~~ ~~A-DCW0192 L2D~~
		CVS0		2	131					

	Std. Name	Conc.	Std. Code	Std. Code
1	VPH Cal mix	50 ug/ml	GCV 4529	GCV
2	VPH Surr. mix	100 ug/ml	GCV 4530	GCV
3	VPH LCS mix	100 ug/ml	GCV 4533	GCV
4	GRO Cal mix	250 ug/mL Total	GCV	GCV
5	GRO Surr. Mix	50 ug/mL	GCV	GCV
6	GRO LCS mix	250 ug/mL Total	GCV	GCV
7				
8				

VPH CC = 50uL Std. 1
VPH LCS = 50uL Std. 3
VPH Samples = 50uL Std. 2

GRO CC = 20uL Std. 4
GRO LCS = 20uL Std. 5 and 6
GRO Samples = 20uL Std. 5

PH 1022
6000003

VERNIA CONSULTING GROUP, LLC
LO-58 NIKE MISSILE BATTERY
LAUNCH SITE
SO1108

KATAHDIN ANALYTICAL SERVICES, LLC
600 TECHNOLOGY WAY
SCARBOROUGH, ME 04074

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SAMPLE DATA PACKAGE

NARRATIVE
KATAHDIN ANALYTICAL SERVICES
VERINA CONSULTING GROUP, LLC
LO-58 NIKE MISSILE BATTERY LAUNCH SITE
SO1108

Sample Receipt

The following samples were received February 27, 2021 and were logged in under Katahdin Analytical Services work order number SO1108 for a hardcopy due date of March 11, 2021.

KATAHDIN Sample No.	VERINA CONSULTING Sample Identification
SO1108-1	DW-01-EFF-FEBRUARY2021
SO1108-2	DW-01-INF-FEBRUARY2021
SO1108-3	DW-01-MID-FEBRUARY2021
SO1108-4	DW-FD-FEBRUARY2021

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 17025:2017 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.

Metals Analysis

The samples associated with Katahdin Work Order SO1108 were prepared and analyzed for metals in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA publication SW846, 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.

Inductively-Coupled Plasma Mass Spectrometric Analysis (ICP-MS)

Aqueous-matrix Katahdin Sample Numbers SO1108-(1-4) were digested for ICP-MS analysis on 03/01/21 (QC Batch OC01IMW2) in accordance with USEPA Method 3010A. Per client request Katahdin Sample Number SO1108-1 was prepared with duplicate matrix spiked aliquots.

ICP-MS analyses of Katahdin Work Order SO1108 sample digestates were performed using an Agilent 7800 ICP-MS spectrometer in accordance with USEPA Method 6020A. Results for all standards and samples are reported using the mean of 3 replicate measurements. All sample digestates were diluted by a factor of 5 during analysis to reduce mass interferences from chlorine, which is present in the digestates from the hydrochloric acid used in digesting the samples. All samples were analyzed within holding times and all analytical run QC criteria were met.

Internal standard recoveries for ICP-MS analyses can be found in the raw data section of the accompanying data package. The following table indicates which analytes are associated with each internal standard element.

Internal Standard Element	Associated Analytes
Lithium	Beryllium, Boron
Scandium	Sodium, Magnesium, Aluminum, Potassium, Calcium
Germanium or Yttrium	Vanadium, Chromium, Manganese, Iron, Cobalt, Nickel, Copper, Zinc, Arsenic, Selenium, Silver, Cadmium, Strontium, Molybdenum
Terbium	Antimony, Barium, Tin, Tungsten
Bismuth	Lead, Thallium, Thorium, Uranium

Instrument tuning information can also be found in the raw data section in the reports labeled "USEPA Method Tune Report". For Method 6020A, the relative standard deviation was determined from 5 replicate measurements and the peak width was measured at 10% of the peak height.

Matrix QC Summary

The measured recoveries in both matrix-spiked aliquots of Katahdin Sample Number SO1108-1 are within the laboratory acceptance criteria for all analytes.

The relative percent difference between the duplicate matrix-spike analyses of Katahdin Sample Number SO1108-1 are within project acceptance criteria (<20% relative difference between duplicate sample aliquots) for all analytes.

The measured recoveries in the post-digestion spiked aliquot of Katahdin Sample Number SO1108-1 are within project acceptance criteria (80%-120% recovery of the added element) for all analytes.

The serial dilution analysis of Katahdin Sample Number SO1108-1 are within project acceptance criteria (<10% relative percent difference, if the concentration in the original sample is greater than 50 times the LOD) for all analytes.

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 adjusted LOD 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.

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

Leslie Dimond 030321
Quality Assurance Officer

Katahdin Analytical Services, Inc.

Manual Integration Codes For GC/MS, GC, HPLC and/or IC

M1	Peak splitting.
M2	Well defined peaks on the shoulders of the other peaks.
M3	There is additional area due to a coeluting interferant.
M4	There are negative spikes in the baseline.
M5	There are rising or falling baselines.
M6	The software has failed to detect a peak or misidentified a peak.
M7	Excessive peak tailing.
M8	Analysis such as GRO, DRO and TPH require a baseline hold.
M9	Peak was not completely integrated as in GC/MS.
M10	Primary ion was correctly integrated, but secondary or tertiary ion needed manual integration as in GC/MS.
M11	For GC analysis, when a sample is diluted by 1:10 or more, the surrogate is set to undetected and then the area under the surrogate is manually integrated.
M12	Manual integration saved in method due to TurboChrom floating point error.

Katahdin Analytical Services, LLC. **Sample Receipt Condition Report**

Client: Nobis / Yurina	KAS PM: HHM	Sampled By: Client
Project:	KIMS Entry By: JCB	Delivered By: Client
KAS Work Order#: 50 1108	KIMS Review By:	Received By:
	Labeled By: JCB	
SDG #:	Cooler: 1 of 1	Date/Time Rec. 2/27/21 2/27/21 1310

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	X				
2. Chain of Custody present in cooler?	X				
3. Chain of Custody signed by client?	X				
4. Chain of Custody matches samples?	X				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.		X			Temp (°C): 6.9 — Thermometer ID: IR-1
Samples received at <6 °C w/o freezing?		X			Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	X				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?		X			
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?	X				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?	/				
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.

CHAIN-OF-CUSTODY RECORD

Verina Consulting Group, LLC, Bridgewater, NJ
Robert Gan
1011 US-22, Bridgewater Township, NJ 08807
(908) 864-4400, RGan@vcg-llc.com

SO 1108

COC # 02272021

Project Name: D01ME0077-02, Nike 58 - SI in Launch Area	Laboratory: Katahdin Analytical Services, Scarborough, ME	Event: Nike 58 February 2021 Sampling
Project Number: D01ME0077-02	POC: Heather Manz, (207) 874-2400, hmanz@katahdinlab.com	
WBS Code:	Ship to: 600 Technology Way, Scarborough, ME 04074	

Comments:
SW6020A (A) = Arsenic, Antimony

24-HR TURN AROUND TIME

Equipment:

Code	Matrix
WP	Drinking Water

Code	Container/Preservative
13	1x 250 mL PTFE, plastic, HNO3 to pH < 2

Event: Nike 58 February 2021 Sampling

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: SW6020A (A)										Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						13															
1	DW-01-EFF-FEBRUARY2021	WP	02/27/2021	8:15	RPW	X										DW-01-EFF	N1	0.00	0.00	1	
2	DW-01-EFF-FEBRUARY2021-MS	WP	02/27/2021	8:20	↓	X										DW-01-EFF	MS1	0.00	0.00	1	
3	DW-01-EFF-FEBRUARY2021-MSD	WP	02/27/2021	8:25	↓	X										DW-01-EFF	SD1	0.00	0.00	1	
4	DW-01-INF-FEBRUARY2021	WP	02/27/2021	8:35	↓	X										DW-01-INF	N1	0.00	0.00	1	
5	DW-01-MID-FEBRUARY2021	WP	02/27/2021	8:30	↓	X										DW-01-MID	N1	0.00	0.00	1	
6	DW-FD-FEBRUARY2021	WP	02/27/2021	8:40	↓	X											FD1	0.00	0.00	1	
7																					
8																					

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
			[signature]	2/27/21	1340

Shipping Date / Carrier / Airbill Number
Shipping Date: 2/27/2021

Received by Laboratory: *(Signature, Date, Time)* **& condition**

00000007

Katahdin
ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Mar. 01, 2021
09:18 AM

Quote/Incoming: VERINA-LO58-NIKE

Login Number: SO1108

Account: VERINA001 NoWeb
Verina Consulting Group, LLC

Project: VERINA-LO58-NIKE
LO-58 Nike Battery Launch Site, Caribou,

Primary Report Address:
Michael Hansen
Verina Consulting
1011 US Highway 22
Suite 302
Bridgewater,NJ 08807
mhansen@vcg-llc.com

Primary Invoice Address:
Michael Hansen
Verina Consulting
1011 US Highway 22
Suite 302
Bridgewater,NJ 08807

Report CC Addresses:
Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	DOD 5.3, ND to LOD with J flags
CHECK NO.	:	
CLIENT PO#	:	2102.0104-Katahdin-04272020
CLIENT PROJECT MANAGEI	:	Robert Gan
CONTRACT	:	W912WJ19C0019
COOLER TEMPERATURE	:	6.9
DELIVERY SERVICES	:	Client
EDD FORMAT	:	FUDSCHEM
LOGIN INITIALS	:	JCB
PM	:	HHM
PROJECT NAME	:	LO-58 Nike Missile Battery Launch Site
QC LEVEL	:	IV
REPORT INSTRUCTIONS	:	Email PDF, EDD and invoice to mhansen@vcg-llc.com. Invoice monthly
SDG ID	:	
SDG STATUS	:	
VERBAL TAT	:	

HHM

10:53 am, Mar 03, 2021

Katahdin ANALYTICAL SERVICES

Katahdin Analytical Services

Login Chain of Custody Report (lno1)

Mar. 01, 2021
09:18 AM

Login Number: SO1108

Quote/Incoming: VERINA-LO58-NIKE

Account: VERINA001 NoWeb
Verina Consulting Group, LLC

Project: VERINA-LO58-NIKE
LO-58 Nike Battery Launch Site, Caribou,

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SO1108-1	DW-01-EFF-FEBRUARY2021	27-FEB-21 08:15	27-FEB-21		**02-MAR-21**	11-MAR-21	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	TAL-MET-SW846-ICPMS				**MS/MSD**
SW3010MS-PREP		SW6020-ANTIMONY		SW6020-ARSENIC		
Service	S	WASTE-DISPOSAL				

SO1108-2	DW-01-INF-FEBRUARY2021	27-FEB-21 08:35	27-FEB-21		**02-MAR-21**	11-MAR-21	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	TAL-MET-SW846-ICPMS				
SW3010MS-PREP		SW6020-ANTIMONY		SW6020-ARSENIC		
Service	S	WASTE-DISPOSAL				

SO1108-3	DW-01-MID-FEBRUARY2021	27-FEB-21 08:30	27-FEB-21		**02-MAR-21**	11-MAR-21	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	TAL-MET-SW846-ICPMS				
SW3010MS-PREP		SW6020-ANTIMONY		SW6020-ARSENIC		
Service	S	WASTE-DISPOSAL				

SO1108-4	DW-FD-FEBRUARY2021	27-FEB-21 08:40	27-FEB-21		**02-MAR-21**	11-MAR-21	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	TAL-MET-SW846-ICPMS				
SW3010MS-PREP		SW6020-ANTIMONY		SW6020-ARSENIC		
Service	S	WASTE-DISPOSAL				

SO1108-5	MS CHARGE	27-FEB-21 08:15	27-FEB-21		**02-MAR-21**	11-MAR-21	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	TAL-MET-SW846-ICPMS				

SO1108-6	MSD CHARGE	27-FEB-21 08:15	27-FEB-21		**02-MAR-21**	11-MAR-21	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	P	TAL-MET-SW846-ICPMS				

Total Samples: 6 ***Total Analyses: 10***

10:53 am, Mar 03, 2021

SAMPLE DATA SUMMARY PACKAGE

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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Level (PQL)), 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/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 Limit of Quantitation (LOQ)(previously called Practical Quantitation Limit (PQL)), 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).

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-EFF-FEBRUARY2021

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.24	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0

Comments:

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-INF-FEBRUARY2021

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.16	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-MID-FEBRUARY2021

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.11	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0

Comments:

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-FD-FEBRUARY2021

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.070	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0

Comments:

FORM I - IN

METALS DATA

Sample Data Section

METALS SAMPLE FLAGGING

FLAG	SPECIFIED MEANING
E	The reported value is estimated because of the presence of interference (as indicated by serial dilution).
N	The pre-digestion spiked sample recovery is not within control limits.
*	The duplicate sample analysis relative percent difference (RPD) is not within control limits.
B	Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.
A	The post-digestion spiked sample recovery is not within control limits.
•	Analytical run QC sample (e.g. ICV, CCV, ICB, CCB, ICSA, ICSAB) not within control limits.
U	The analyte was 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%.
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).
Q	One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Katahdin Analytical Services

SDG Name: SO1108 **SOW No.** SW846

Client Field ID	Lab Sample ID
DW-01-EFF-FEBRUARY2021	SO1108-001
DW-01-EFF-FEBRUARY2021P	SO1108-001P
DW-01-EFF-FEBRUARY2021S	SO1108-001S
DW-01-INF-FEBRUARY2021	SO1108-002
DW-01-MID-FEBRUARY2021	SO1108-003
DW-FD-FEBRUARY2021	SO1108-004

Were ICP interelement corrections applied ?	Yes
Were ICP background corrections applied ?	Yes
If yes - were raw data generated before application of background corrections ?	No

Comments:

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 in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Kayla C Name: Kayla Croteau

Date: 3/2/21 Title: Analyst

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-EFF-FEBRUARY2021

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.24	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0

Comments:

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-INF-FEBRUARY2021

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.16	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-MID-FEBRUARY2021

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.11	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0

Comments:

FORM I - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-FD-FEBRUARY2021

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	LOQ	ADJUSTED MDL	LOD
7440-36-0	ANTIMONY, TOTAL	0.070	J		MS	5	1.0	0.055	0.50
7440-38-2	ARSENIC, TOTAL	4.0	U		MS	5	5.0	2.3	4.0

Comments:

QC Summary Section

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SO1108

Concentration Units: ug/L

SAMPLE: ICV

File: LOC01A Mar 01, 2021 17:32

Analyte	True	Found	%R (1)
ALUMINUM	400.0	398.78	99.7
ANTIMONY	20.0	19.79	98.9
ARSENIC	20.0	19.85	99.3
CALCIUM	4000.0	3991.32	99.8
IRON	4000.0	3968.87	99.2
MAGNESIUM	4000.0	3849.32	96.2
MOLYBDENUM	40.0	38.13	95.3
POTASSIUM	4000.0	3882.24	97.1
SODIUM	4000.0	3889.12	97.2

SAMPLE: CCV

File: LOC01A Mar 01, 2021 17:56

Analyte	True	Found	%R (1)
ALUMINUM	500.0	492.89	98.6
ANTIMONY	25.0	24.19	96.8
ARSENIC	25.0	24.32	97.3
CALCIUM	5000.0	5084.16	101.7
IRON	5000.0	5026.10	100.5
MAGNESIUM	5000.0	5050.65	101.0
MOLYBDENUM	25.0	24.73	98.9
POTASSIUM	5000.0	4928.61	98.6
SODIUM	5000.0	5091.45	101.8

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Katahdin Analytical Services **SDG Name:** SO1108

Concentration Units: ug/L

SAMPLE: CCV

File: LOC01A Mar 01, 2021 18:28

Analyte	True	Found	%R (1)
ALUMINUM	500.0	483.43	96.7
ANTIMONY	25.0	24.10	96.4
ARSENIC	25.0	24.08	96.3
CALCIUM	5000.0	4990.52	99.8
IRON	5000.0	4943.79	98.9
MAGNESIUM	5000.0	5013.87	100.3
MOLYBDENUM	25.0	24.32	97.3
POTASSIUM	5000.0	4901.23	98.0
SODIUM	5000.0	5074.96	101.5

(1) Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (Part 1) - IN

2C

PQL STANDARD FOR AA AND ICP

Lab Name: Katahdin Analytical Services **SDG Name:** SO1108

Concentration Units: ug/L

SAMPLE: PQL

File: LOC01A Mar 01, 2021 17:37

Analyte	TRUE	FOUND	% R
ALUMINUM	20.0	20.24	101.2
ANTIMONY	0.2	0.22	110.0
ARSENIC	1.0	0.99	99.0
CALCIUM	20.0	21.04	105.2
IRON	20.0	22.91	114.6
MAGNESIUM	20.0	20.45	102.3
MOLYBDENUM	1.0	1.01	101.0
POTASSIUM	200.0	202.13	101.1
SODIUM	200.0	207.33	103.7

3A

INITIAL AND CONTINUING CALIBRATION BLANKS

Lab Name: Katahdin Analytical Services **SDG Name:** SO1108

Concentration Units: ug/L

SAMPLE: ICB

File: LOC01A Mar 01, 2021 17:34

Analyte	Result	C
ALUMINUM	0.330	U
ANTIMONY	0.061	U
ARSENIC	0.250	U
CALCIUM	6.800	U
IRON	6.400	U
MAGNESIUM	0.596	J
MOLYBDENUM	0.146	J
POTASSIUM	12.000	U
SODIUM	6.600	U

SAMPLE: CCB

File: LOC01A Mar 01, 2021 17:59

Analyte	Result	C
ALUMINUM	1.554	J
ANTIMONY	0.061	U
ARSENIC	0.250	U
CALCIUM	6.800	U
IRON	6.400	U
MAGNESIUM	2.384	J
MOLYBDENUM	0.175	J
POTASSIUM	12.000	U
SODIUM	14.034	J

SAMPLE: CCB

File: LOC01A Mar 01, 2021 18:31

Analyte	Result	C
ALUMINUM	0.522	J
ANTIMONY	0.061	U
ARSENIC	0.250	U
CALCIUM	6.800	U
IRON	6.400	U
MAGNESIUM	1.229	J
MOLYBDENUM	0.084	J
POTASSIUM	12.000	U
SODIUM	11.002	J

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWOC01IMW2

Matrix: WATER **SDG Name:** SO1108

QC Batch ID: OC01IMW2

Concentration Units : ug/L

Analyte	RESULT	C
ANTIMONY	0.11	J
ARSENIC	4.0	U

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Katahdin Analytical Services **SDG Name:** SO1108

Concentration Units: ug/L

SAMPLE: ICSA

File: LOC01A Mar 01, 2021 17:40

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	94792.43	94.8
ANTIMONY	0.02	0.02	
ARSENIC	0	0.07	
CALCIUM	100000.00	99439.99	99.4
IRON	100000.00	96370.33	96.4
MAGNESIUM	100000.00	93027.34	93.0
MOLYBDENUM	2000.00	1937.53	96.9
POTASSIUM	100000.00	94314.79	94.3
SODIUM	100000.00	94259.09	94.3

SAMPLE: ICSAB

File: LOC01A Mar 01, 2021 17:42

Analyte	TRUE	FOUND	% R
ALUMINUM	100000.00	93636.04	93.6
ANTIMONY	20.00	20.20	100.0
ARSENIC	20.00	20.12	100.0
CALCIUM	100000.00	99055.74	99.1
IRON	100000.00	96176.88	96.2
MAGNESIUM	100000.00	92912.99	92.9
MOLYBDENUM	2000.00	1935.98	96.8
POTASSIUM	100000.00	93255.74	93.3
SODIUM	100000.00	94592.74	94.6

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-EFF-FEBRUARY2021P

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-001P

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ANTIMONY, TOTAL	99.6		0.24	J	100	99.3		85	117	MS
ARSENIC, TOTAL	103		4.0	U	100	103.4		84	116	MS

Comments:

5A

SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-EFF-FEBRUARY2021S

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-001S

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ANTIMONY, TOTAL	97.9		0.24	J	100	97.6		85	117	MS
ARSENIC, TOTAL	101		4.0	U	100	101.0		84	116	MS

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-EFF-FEBRUARY2021A

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-001A

Concentration Units : ug/L

Analyte	Spiked Sample Result	C	Sample Result	C	Spike Added	%R	Q	Control Limits (%R) Low	High	M
ANTIMONY, TOTAL	2.21		0.047	J	2	108.1		80	120	MS
ARSENIC, TOTAL	10.1		0.45	U	10	101.3		80	120	MS

Comments:

5D

SPIKE DUPLICATES

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-EFF-FEBRUARY2021

Matrix: WATER **SDG Name:** SO1108

Percent Solids: 0.00 **Lab Sample ID:** SO1108-001

Concentration Units : ug/L

Analyte	Control Limits	Spike Result	C	Spike Dup. Result	C	RPD	Q	M
ANTIMONY, TOTAL		97.9		99.6		1.7		MS
ARSENIC, TOTAL		101		103		2.4		MS

Comments:

FORM VD - IN

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWOC01IMW2

Matrix: WATER **SDG Name:** SO1108

QC Batch ID: OC01IMW2

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ANTIMONY	100	99.1	99.2	85	117
ARSENIC	100	100	100.0	84	116

ICP SERIAL DILUTION

Lab Name: Katahdin Analytical Services **Client Field ID:** DW-01-EFF-FEBRUARY2021L

Matrix: WATER **SDG Name:** SO1108

Lab Sample ID: SO1108-001L

Concentration Units: ug/L

Analyte	Sample Result	C	Dilution Result	C	% Difference	Q	M
ANTIMONY, TOTAL	0.047	J	0.058	J	23.4		MS
ARSENIC, TOTAL	0.45	U	2.3	U			MS

INSTRUMENT DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** L

Instrument Name: AGILENT 7800 ICP-MS **Date:** 06/11/2018

Concentration Units: ug/L

Analyte	PQL/LOQ	IDL	M
ALUMINUM	20	0.33	MS
ANTIMONY	0.20	0.061	MS
ARSENIC	1.0	0.25	MS
CALCIUM	20	6.8	MS
IRON	20	6.4	MS
MAGNESIUM	20	0.35	MS
MOLYBDENUM	1.0	0.020	MS
POTASSIUM	200	12	MS
SODIUM	200	6.6	MS

LIMITS of DETECTION

Lab Name: Katahdin Analytical Services **Instrument Code:** L

Instrument Name: AGILENT 7800 ICP-MS **Date:** 06/11/2010

Analyte	LOD	Units	M	EPA Prep./Anal. Method
ANTIMONY	0.10	ug/L	MS	SW846 3010A / SW846 6020A
ARSENIC	0.80	ug/L	MS	SW846 3010A / SW846 6020A

METHOD DETECTION LIMITS

Lab Name: Katahdin Analytical Services **Instrument Code:** L

Instrument Name: AGILENT 7800 ICP-MS **Date:** 01/25/2011

Analyte	MDL	Units	M	EPA Prep./Anal. Method
ANTIMONY	0.011	ug/L	MS	SW846 3010A / SW846 6020A
ARSENIC	0.45	ug/L	MS	SW846 3010A / SW846 6020A

ICP LINEAR RANGES

Lab Name: Katahdin Analytical Services **Instrument Code:** L

Instrument Name: AGILENT 7800 ICP-MS **Date:** 12/05/2020

Concentration Units: ug/L

Analyte	Integration Time (sec)	Linear Range	M
ALUMINUM	0.01	200000	MS
ANTIMONY	0.10	1000	MS
ARSENIC	0.30	1000	MS
CALCIUM	0.03	200000	MS
IRON	0.03	100000	MS
MAGNESIUM	0.05	200000	MS
MOLYBDENUM	0.10	1000	MS
POTASSIUM	0.01	200000	MS
SODIUM	0.01	200000	MS

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** OC01IMW2

Matrix: WATER **SDG Name:** SO1108

Method: MS **Prep Date:** 03/01/2021

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWOC01IMW2	LCSWOC01IMW2	0.05	0.05	
PBWOC01IMW2	PBWOC01IMW2	0.05	0.05	
DW-01-EFF-FEBRUARY2021	SO1108-001	0.05	0.05	C
DW-01-EFF-FEBRUARY2021P	SO1108-001P	0.05	0.05	C
DW-01-EFF-FEBRUARY2021S	SO1108-001S	0.05	0.05	C
DW-01-INF-FEBRUARY2021	SO1108-002	0.05	0.05	A
DW-01-MID-FEBRUARY2021	SO1108-003	0.05	0.05	A
DW-FD-FEBRUARY2021	SO1108-004	0.05	0.05	A

ANALYSIS RUN LOG

Lab Name: Katahdin Analytical Services **SDG Name:** SO1108

Instrument ID: AGILENT 7800 ICP-MS **File Name:** LOC01A

Date: 03/01/2021 **Method:** MS

Lab Sample ID	Client ID	D.F.	Time	Elements								
CalBlank		1	17:25	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na
CalStd		1	17:28	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na
ICV		1	17:32	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na
ICB		1	17:34	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na
PQL		1	17:37	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na
ICSA		1	17:40	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na
ICSAB		1	17:42	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na
ZZZZZZ		1	17:45									
ZZZZZZ		1	17:48									
ZZZZZZ		1	17:51									
ZZZZZZ		1	17:53									
CCV		1	17:56	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na
CCB		1	17:59	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na
PBWOC01IMW2		5	18:01		Sb	As						
LCSWOC01IMW2		5	18:04		Sb	As						
SO1108-001	DW-01-EFF-FEBRUARY2021	5	18:07		Sb	As						
SO1108-001A	DW-01-EFF-FEBRUARY2021A	5	18:09		Sb	As						
SO1108-001L	DW-01-EFF-FEBRUARY2021L	25	18:12		Sb	As						
SO1108-001P	DW-01-EFF-FEBRUARY2021P	5	18:15		Sb	As						
SO1108-001S	DW-01-EFF-FEBRUARY2021S	5	18:17		Sb	As						
SO1108-002	DW-01-INF-FEBRUARY2021	5	18:20		Sb	As						
SO1108-003	DW-01-MID-FEBRUARY2021	5	18:23		Sb	As						
SO1108-004	DW-FD-FEBRUARY2021	5	18:25		Sb	As						
CCV		1	18:28	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na
CCB		1	18:31	Al	Sb	As	Ca	Fe	Mg	Mo	K	Na

FORM XIV - IN

Raw Data Section

KATAHDIN ANALYTICAL SERVICES, LLC
METALS ANALYSIS RUN INFORMATION SHEET

INSTR. ID: L (Agilent 7800) **ANALYST**: KC **ANALYSIS DATE**: 03/01/2021

METHOD: **ICP-MS** **FILE NAME**: LOC01A

- ☑ 200.8
- ☑ 6020
- ☑ DOD

The pHs of all samples that were tested by direct analysis in this analytical run were checked just prior to analysis and confirmed
to be <2. The time of preservation of these samples was checked in the "Measured Turbidity and Preservation of Incoming Samples" logbook to verify that they had been preserved at least 16 hours prior to analysis. These verifications were performed by
_____ (initials) on _____ (date).

STANDARDS USED:

Standard Name	Standard ID	Prep Date	Expiration Date	Standard Conc.
Cal. Blk/ICB/CCB	MW20042	02/18/21	02/18/22	0 ug/L
Standard 1	MW20064	03/01/21	04/20/21	Varies by Element
ICV	MW20039	02/16/21	04/27/21	Varies by Element
PQL	MW20060	02/23/21	04/20/21	Varies by Element
LRS1	MW20019	02/04/21	05/04/21	Varies by Element
LRS2	MW20018	02/04/21	05/04/21	Varies by Element
ICSA	MW20062	03/01/21	03/08/21	Varies by Element
ICSAB	MW20063	03/01/21	03/08/21	Varies by Element
CCV	MW20058	02/22/21	04/20/21	Varies by Element
ternal Standard (ISTD)	MW20038	02/16/21	05/16/21	0.4 mg/L (Li,Sc,Ge/Y,Tb,Bi)

Additional Comments and Notes:

ICSA (17:40) failed high for Zn (3.637 ug/L).

LRS2 failed for Ca. CCV (19:55) failed for Sn.

REVIEWED
SF 3/2/21
KATAHDIN ANALYTICAL
METALS SECTION

For high failing ICB/ICSA/CCBs/PQLs, reported samples less than ½ PQL or >10x detected concentrations of failed analytes.

For low failing CCBs/PQLs, reported samples greater than 10x absolute value of failures, or greater than 10x LOQ, whichever is greater, or < ½ LOD.

ME-019 – Revision 2 – 04/24/2019

INSTRUMENT RUNLOG

Instrument: AGILENT 7800

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
CalBlank	1	LOC01A	03/01/2021	17:25	KC
CalStd	1	LOC01A	03/01/2021	17:28	KC
ICV	1	LOC01A	03/01/2021	17:32	KC
ICB	1	LOC01A	03/01/2021	17:34	KC
PQL	1	LOC01A	03/01/2021	17:37	KC
ICSA	1	LOC01A	03/01/2021	17:40	KC
ICSAB	1	LOC01A	03/01/2021	17:42	KC
LRS1	1	LOC01A	03/01/2021	17:45	KC
LRS2	1	LOC01A	03/01/2021	17:48	KC
RINSE	1	LOC01A	03/01/2021	17:51	KC
RINSE	1	LOC01A	03/01/2021	17:53	KC
CCV	1	LOC01A	03/01/2021	17:56	KC
CCB	1	LOC01A	03/01/2021	17:59	KC
PBWOC01IMW2	5	LOC01A	03/01/2021	18:01	KC
LCSWOC01IMW2	5	LOC01A	03/01/2021	18:04	KC
SO1108-001	5	LOC01A	03/01/2021	18:07	KC
SO1108-001A	5	LOC01A	03/01/2021	18:09	KC
SO1108-001L	25	LOC01A	03/01/2021	18:12	KC
SO1108-001P	5	LOC01A	03/01/2021	18:15	KC
SO1108-001S	5	LOC01A	03/01/2021	18:17	KC
SO1108-002	5	LOC01A	03/01/2021	18:20	KC
SO1108-003	5	LOC01A	03/01/2021	18:23	KC
SO1108-004	5	LOC01A	03/01/2021	18:25	KC
CCV	1	LOC01A	03/01/2021	18:28	KC
CCB	1	LOC01A	03/01/2021	18:31	KC
SO1083-001	5	LOC01A	03/01/2021	18:33	KC
SO1083-002	5	LOC01A	03/01/2021	18:36	KC
RINSE	1	LOC01A	03/01/2021	18:39	KC
RINSE	1	LOC01A	03/01/2021	18:41	KC
PBWOC01IMW1	1	LOC01A	03/01/2021	18:44	KC
LCSWOC01IMW1	1	LOC01A	03/01/2021	18:47	KC
SO1001-001R	1	LOC01A	03/01/2021	18:49	KC
SO1001-002R	1	LOC01A	03/01/2021	18:52	KC
SO1001-003R	1	LOC01A	03/01/2021	18:55	KC
SO1005-004R	1	LOC01A	03/01/2021	18:57	KC
CCV	1	LOC01A	03/01/2021	19:00	KC
CCB	1	LOC01A	03/01/2021	19:03	KC
RINSE	1	LOC01A	03/01/2021	19:05	KC
SO1019-001	1	LOC01A	03/01/2021	19:08	KC
SO1020-001	1	LOC01A	03/01/2021	19:11	KC
RINSE	1	LOC01A	03/01/2021	19:13	KC
SO1022-001	1	LOC01A	03/01/2021	19:16	KC
SO1031-001	1	LOC01A	03/01/2021	19:19	KC
RINSE	1	LOC01A	03/01/2021	19:21	KC

SAMPLE ID	DF	FILE	DATE	TIME	ANALYST
SO1031-004	1	LOC01A	03/01/2021	19:24	KC
SO1040-001	1	LOC01A	03/01/2021	19:27	KC
RINSE	1	LOC01A	03/01/2021	19:30	KC
CCV	1	LOC01A	03/01/2021	19:32	KC
CCB	1	LOC01A	03/01/2021	19:35	KC
SO1041-001	1	LOC01A	03/01/2021	19:37	KC
SO1055-001	1	LOC01A	03/01/2021	19:40	KC
SO1094-001	1	LOC01A	03/01/2021	19:43	KC
RINSE	1	LOC01A	03/01/2021	19:45	KC
RINSE	1	LOC01A	03/01/2021	19:48	KC
RINSE	1	LOC01A	03/01/2021	19:50	KC
RINSE	1	LOC01A	03/01/2021	19:53	KC
CCV	1	LOC01A	03/01/2021	19:55	KC
CCB	1	LOC01A	03/01/2021	19:58	KC
PQL	1	LOC01A	03/01/2021	20:01	KC
RINSE	1	LOC01A	03/01/2021	20:03	KC
RINSE	1	LOC01A	03/01/2021	20:06	KC

US EPA Tune Check Report

Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq. Date-Time	3/1/2021 17:08:26
Report Comment	---
Instrument Name	G8421A SG18503526

[No Gas]

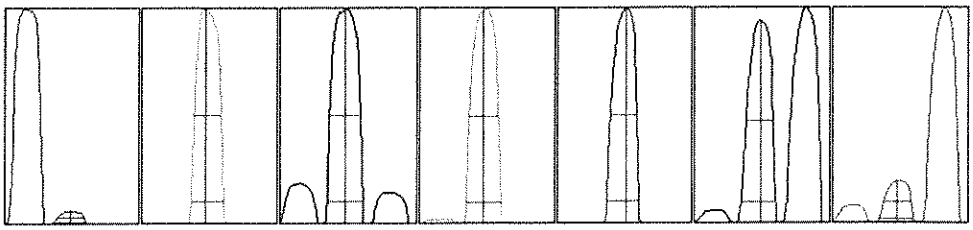
Sensitivity

Mass	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
7	10656	106559.05	0.745	5.000	
9	5120	51195.79	0.778	5.000	
24	159065	1590647.97	0.253	5.000	
59	29801	298009.80	0.260	5.000	
115	386982	3869822.55	0.302	5.000	
205	25291	252905.95	1.316	5.000	
208	57227	572267.21	0.733	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	10521	10679	10656	10704	10719
9	5083	5135	5150	5159	5072
24	158593	158695	159334	159514	159188
59	29729	29793	29735	29830	29918
115	385807	386337	386455	387601	388711
205	24830	25058	25414	25567	25584
208	56625	56978	57388	57666	57477

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	18212.41	7.00	6.90 - 7.10	
9	8588.64	8.95	8.90 - 9.10	
24	240727.69	23.95	23.90 - 24.10	
59	47092.72	58.95	58.90 - 59.10	
115	672281.59	115.05	114.90 - 115.10	
205	44235.33	205.00	204.90 - 205.10	
208	98579.60	207.95	207.90 - 208.10	

Katahdin Analytical Services 4000032

US EPA Tune Check Report

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.60	0.693	0.900	
9	0.62	0.727	0.900	
24	0.69	0.780	0.900	
59	0.66	0.774	0.900	
115	0.60	0.725	0.900	
205	0.60	0.766	0.900	
208	0.60	0.739	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	247
Y Axis	Linear

US EPA Tune Check Report

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.02 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	12.4 V
Extract 2	-170.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.5 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	121	Axis Gain	0.9984	QP Bias	-2.5 V
Mass Offset	125	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	-0.3 mm	Torch V	0.9 mm

EM

Discriminator	3.3 mV	Analog HV	2602 V	Pulse HV	1271 V

[H2]

Sensitivity

Mass	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
59	2063	20634.09	0.449	5.000	
89	204480	2044796.48	0.843	5.000	
205	21056	210560.84	0.312	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	2051	2070	2075	2060	2061
89	201563	204406	205135	205966	205329
205	21110	21124	21060	21024	20963

Integration Time [sec] 0.1

US EPA Tune Check Report

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.02 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	1.6 V
Extract 2	-170.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.5 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	121	Axis Gain	0.9984	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	-0.3 mm	Torch V	0.9 mm

EM

Discriminator	3.3 mV	Analog HV	2602 V	Pulse HV	1271 V

[He]

Sensitivity

Mass	Count	CPS	RSD%	RSD% (Required)	RSD% (Flag)
59	6020	60204.82	1.528	5.000	
89	50560	505604.82	1.663	5.000	
205	11987	119865.94	0.811	5.000	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
59	5905	5973	5996	6108	6121
89	49341	50124	50772	51456	51109
205	11853	11918	12052	12082	12028

Integration Time [sec] 0.1

US EPA Tune Check Report

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.02 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.4 V	Deflect	1.2 V
Extract 2	-170.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	4.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	121	Axis Gain	0.9984	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	0.05		

Hardware Settings

Torch

Torch H	-0.3 mm	Torch V	0.9 mm

EM

Discriminator	3.3 mV	Analog HV	2602 V	Pulse HV	1271 V

Calibration Blank Report

Sample Name	CalBlank
File Name	006CALB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:25:28
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	CPS	RSD
9	Be	6	No Gas	12.22	15.7
11	B	6	No Gas	291.13	10.3
23	Na	45	He	10475.52	7.0
24	Mg	45	He	115.57	27.3
27	Al	45	He	28.89	24.0
28	Si	45	H2	487.22	11.3
39	K	45	He	17339.43	2.1
40	Ca	45	H2	2453.64	2.3
51	V	89	He	298.90	27.7
52	Cr	89	He	337.28	17.0
55	Mn	89	He	136.65	4.2
56	Fe	89	H2	3697.94	0.8
59	Co	89	He	8.89	43.3
60	Ni	89	He	22.22	22.9
63	Cu	89	He	887.84	6.6
66	Zn	89	He	383.35	5.7
75	As	89	He	10.33	20.1
78	Se	89	H2	0.17	173.2
88	Sr	89	He	18.89	53.9
95	Mo	89	He	14.45	26.7
107	Ag	89	He	21.11	24.1
111	Cd	89	He	0.74	86.6
118	Sn	159	He	214.45	10.3
121	Sb	159	No Gas	100.12	43.6
137	Ba	159	No Gas	66.74	22.9
182	W	159	No Gas	83.43	27.7
205	Tl	209	No Gas	961.11	18.8
208	Pb	209	No Gas	1371.58	4.4
232	Th	209	No Gas	240.27	27.3
238	U	209	No Gas	6.67	86.6

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	5944934.10	1.4
Sc	45	No Gas	10076516.58	0.4
Sc	45	H2	1161144.50	0.4
Sc	45	He	315280.57	0.4
Ge	72	No Gas	1945701.64	0.7
Ge	72	H2	397826.96	0.3
Ge	72	He	191383.40	0.5
Y	89	H2	6409151.48	1.2
Y	89	He	1642682.20	0.5
Tb	159	No Gas	18061819.73	0.3
Tb	159	He	7050233.92	0.5
Bi	209	No Gas	9028324.88	0.3

Calibration Standard Report

Sample Name	CalStd
File Name	007CALS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:28:56
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	CPS	RSD
9	Be	6	No Gas	322089.59	1.1
11	B	6	No Gas	204444.80	1.0
23	Na	45	He	5119764.17	0.4
24	Mg	45	He	2903148.08	0.6
27	Al	45	He	108173.49	0.1
28	Si	45	H2	183966.84	1.2
39	K	45	He	2521601.23	0.7
40	Ca	45	H2	15972796.01	0.2
51	V	89	He	187734.95	0.4
52	Cr	89	He	236571.10	0.6
55	Mn	89	He	110535.31	1.3
56	Fe	89	H2	55267432.15	0.5
59	Co	89	He	372105.34	0.7
60	Ni	89	He	101987.23	1.0
63	Cu	89	He	274331.12	0.5
66	Zn	89	He	37740.79	0.6
75	As	89	He	27109.26	0.1
78	Se	89	H2	12180.60	0.7
88	Sr	89	He	138925.14	0.8
95	Mo	89	He	149808.65	0.3
107	Ag	89	He	475687.23	0.7
111	Cd	89	He	63390.32	0.4
118	Sn	159	He	126593.71	0.9
121	Sb	159	No Gas	928676.32	1.0
137	Ba	159	No Gas	365824.26	2.1
182	W	159	No Gas	769782.34	1.0
205	Tl	209	No Gas	1512108.19	1.1
208	Pb	209	No Gas	2134719.59	1.1
232	Th	209	No Gas	2071764.22	3.2
238	U	209	No Gas	2088074.70	2.0

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5826692.06	0.9	5944934.1	98.01	29.5	120.4	
Sc	45	No Gas	9878573.64	1.3	10076516.58	98.04	29.5	120.4	
Sc	45	H2	1125342.49	1.0	1161144.5	96.92	29.5	120.4	
Sc	45	He	297841.33	4.5	315280.57	94.47	29.5	120.4	
Ge	72	No Gas	1915056.64	1.1	1945701.64	98.42	29.5	120.4	
Ge	72	H2	374692.36	1.5	397826.96	94.18	29.5	120.4	
Ge	72	He	180349.55	5.0	191383.4	94.23	29.5	120.4	
Y	89	H2	6188003.31	0.6	6409151.48	96.55	29.5	120.4	
Y	89	He	1561022.62	4.7	1642682.2	95.03	29.5	120.4	
Tb	159	No Gas	17804921.54	0.5	18061819.73	98.58	29.5	120.4	
Tb	159	He	6755187.88	4.7	7050233.92	95.82	29.5	120.4	
Bi	209	No Gas	8848550.22	0.4	9028324.88	98.01	29.5	120.4	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	008_ICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:32:01
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	19.530	ppb	4.5	130789.30	20	97.65	89.6	110.4	
11	B	6	No Gas	19.545	ppb	3.7	83267.39	20	97.72	89.6	110.4	
23	Na	45	He	3889.122	ppb	0.8	2074735.45	4000	97.23	89.6	110.4	
24	Mg	45	He	3849.319	ppb	1.0	1161022.92	4000	96.23	89.6	110.4	
27	Al	45	He	398.777	ppb	0.6	44827.74	400	99.69	89.6	110.4	
28	Si	45	H2	440.257	ppb	1.1	82783.96	400	110.06	89.6	110.4	
39	K	45	He	3882.237	ppb	0.4	1027429.07	4000	97.06	89.6	110.4	
40	Ca	45	H2	3991.319	ppb	0.1	6496492.75	4000	99.78	89.6	110.4	
51	V	89	He	19.359	ppb	0.4	75784.45	20	96.8	89.6	110.4	
52	Cr	89	He	19.606	ppb	0.9	96681.07	20	98.03	89.6	110.4	
55	Mn	89	He	19.792	ppb	0.2	45597.01	20	98.96	89.6	110.4	
56	Fe	89	H2	3968.871	ppb	0.1	22338657.66	4000	99.22	89.6	110.4	
59	Co	89	He	19.866	ppb	1.2	153780.90	20	99.33	89.6	110.4	
60	Ni	89	He	19.912	ppb	1.2	42250.15	20	99.56	89.6	110.4	
63	Cu	89	He	19.668	ppb	1.1	112741.90	20	98.34	89.6	110.4	
66	Zn	89	He	19.346	ppb	1.5	15415.68	20	96.73	89.6	110.4	
75	As	89	He	19.852	ppb	0.8	11200.06	20	99.26	89.6	110.4	
78	Se	89	H2	20.421	ppb	1.0	5065.85	20	102.1	89.6	110.4	
88	Sr	89	He	19.377	ppb	1.2	56000.41	20	96.88	89.6	110.4	
95	Mo	89	He	38.129	ppb	0.9	118822.27	40	95.32	89.6	110.4	
107	Ag	89	He	19.678	ppb	0.3	194760.01	20	98.39	89.6	110.4	
111	Cd	89	He	19.465	ppb	0.5	25663.59	20	97.32	89.6	110.4	
118	Sn	159	He	19.537	ppb	1.5	51392.20	20	97.68	89.6	110.4	
121	Sb	159	No Gas	19.789	ppb	2.7	374178.71	20	98.94	89.6	110.4	
137	Ba	159	No Gas	20.048	ppb	3.5	149337.68	20	100.24	89.6	110.4	
182	W	159	No Gas	19.849	ppb	4.4	311047.54	20	99.24	89.6	110.4	
205	Tl	209	No Gas	20.729	ppb	4.4	643973.15	20	103.64	89.6	110.4	
208	Pb	209	No Gas	20.323	ppb	4.0	891374.00	20	101.62	89.6	110.4	
232	Th	209	No Gas	20.980	ppb	3.4	892518.17	20	104.9	89.6	110.4	
238	U	209	No Gas	19.667	ppb	4.9	842922.32	20	98.34	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6059716.80	1.9	5944934.1	101.93	29.5	120.4	
Sc	45	No Gas	10130685.33	1.3	10076516.58	100.54	29.5	120.4	
Sc	45	H2	1146418.93	0.4	1161144.5	98.73	29.5	120.4	
Sc	45	He	308968.04	0.4	315280.57	98	29.5	120.4	
Ge	72	No Gas	1955510.93	1.5	1945701.64	100.5	29.5	120.4	
Ge	72	H2	387552.80	0.5	397826.96	97.42	29.5	120.4	
Ge	72	He	187476.92	0.5	191383.4	97.96	29.5	120.4	
Y	89	H2	6301257.29	0.7	6409151.48	98.32	29.5	120.4	
Y	89	He	1621025.46	0.4	1642682.2	98.68	29.5	120.4	
Tb	159	No Gas	18127078.76	1.4	18061819.73	100.36	29.5	120.4	
Tb	159	He	6989498.37	0.3	7050233.92	99.14	29.5	120.4	
Bi	209	No Gas	9087090.31	2.3	9028324.88	100.65	29.5	120.4	

Initial Calibration Blank (ICB) Report

Sample Name	ICB
File Name	009_ICB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:34:40
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.009	ppb	14.9	74.45	0.2	
11	B	6	No Gas	0.246	ppb	10.6	1359.00	4	
23	Na	45	He	2.561	ppb	25.6	11807.97	200	
24	Mg	45	He	0.596	ppb	43.3	297.80	20	
27	Al	45	He	0.030	ppb	242.1	32.22	20	
28	Si	45	H2	0.521	ppb	54.6	583.99	100	
39	K	45	He	3.865	ppb	55.9	18276.86	200	
40	Ca	45	H2	1.524	ppb	44.0	4949.97	20	
51	V	89	He	-0.019	ppb	N/A	223.34	1	
52	Cr	89	He	0.007	ppb	67.2	373.94	1	
55	Mn	89	He	-0.006	ppb	N/A	123.98	0.4	
56	Fe	89	H2	2.532	ppb	26.1	18145.78	20	
59	Co	89	He	0.002	ppb	137.8	24.45	0.2	
60	Ni	89	He	0.003	ppb	104.4	28.89	0.4	
63	Cu	89	He	0.016	ppb	9.5	980.07	0.6	
66	Zn	89	He	-0.048	ppb	N/A	346.68	2	
75	As	89	He	0.013	ppb	21.6	17.67	1	
78	Se	89	H2	0.042	ppb	7.7	10.67	1	
88	Sr	89	He	-0.001	ppb	N/A	16.67	1	
95	Mo	89	He	0.146	ppb	5.4	477.80	1	
107	Ag	89	He	0.005	ppb	10.6	67.78	0.2	
111	Cd	89	He	0.004	ppb	89.1	5.92	0.2	
118	Sn	159	He	0.088	ppb	6.2	447.80	1	
121	Sb	159	No Gas	0.022	ppb	7.7	517.25	0.2	
137	Ba	159	No Gas	0.005	ppb	55.2	100.11	0.4	
182	W	159	No Gas	0.087	ppb	10.0	1435.02	1	
205	Tl	209	No Gas	0.032	ppb	23.2	1959.01	0.2	
208	Pb	209	No Gas	0.010	ppb	53.7	1812.07	0.2	
232	Th	209	No Gas	0.077	ppb	5.3	3487.72	1	
238	U	209	No Gas	0.022	ppb	15.1	957.78	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6139085.90	1.9	5944934.1	103.27	29.5	120.4	
Sc	45	No Gas	10195529.34	1.1	10076516.58	101.18	29.5	120.4	
Sc	45	H2	1157089.60	0.4	1161144.5	99.65	29.5	120.4	
Sc	45	He	313749.03	0.7	315280.57	99.51	29.5	120.4	
Ge	72	No Gas	1970780.88	1.8	1945701.64	101.29	29.5	120.4	
Ge	72	H2	391556.78	0.4	397826.96	98.42	29.5	120.4	
Ge	72	He	189844.97	0.4	191383.4	99.2	29.5	120.4	
Y	89	H2	6390971.06	0.6	6409151.48	99.72	29.5	120.4	
Y	89	He	1646374.61	0.4	1642682.2	100.22	29.5	120.4	
Tb	159	No Gas	17991994.60	1.7	18061819.73	99.61	29.5	120.4	
Tb	159	He	7051975.24	0.7	7050233.92	100.02	29.5	120.4	
Bi	209	No Gas	9033913.07	1.3	9028324.88	100.06	29.5	120.4	

Low Level Initial Calibration Verification (LLICV) Report

Sample Name	PQL
File Name	010LICV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:37:20
Sample Type	LLICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High
9	Be	6	No Gas	0.191	ppb	2.2	1332.33	0.2	95.5	79.5	120.4
11	B	6	No Gas	3.969	ppb	4.2	17656.83	4	99.22	79.5	120.4
23	Na	45	He	207.335	ppb	1.2	122419.73	200	103.67	79.5	120.4
24	Mg	45	He	20.452	ppb	3.2	6390.79	20	102.26	79.5	120.4
27	Al	45	He	20.238	ppb	5.5	2341.38	20	101.19	79.5	120.4
28	Si	45	H2	101.538	ppb	1.7	19886.02	100	101.54	79.5	120.4
39	K	45	He	202.128	ppb	0.8	70815.19	200	101.06	79.5	120.4
40	Ca	45	H2	21.038	ppb	1.0	37450.34	20	105.19	79.5	120.4
51	V	89	He	0.948	ppb	4.0	4056.29	1	94.8	79.5	120.4
52	Cr	89	He	1.036	ppb	3.5	5514.09	1	103.6	79.5	120.4
55	Mn	89	He	0.394	ppb	7.6	1056.52	0.4	98.5	79.5	120.4
56	Fe	89	H2	22.911	ppb	0.8	134386.78	20	114.56	79.5	120.4
59	Co	89	He	0.194	ppb	4.8	1535.76	0.2	97	79.5	120.4
60	Ni	89	He	0.423	ppb	8.0	934.51	0.4	105.75	79.5	120.4
63	Cu	89	He	0.590	ppb	2.9	4300.81	0.6	98.33	79.5	120.4
66	Zn	89	He	2.211	ppb	7.5	2131.36	2	110.55	79.5	120.4
75	As	89	He	0.986	ppb	3.5	575.08	1	98.6	79.5	120.4
78	Se	89	H2	1.000	ppb	5.2	251.66	1	100	79.5	120.4
88	Sr	89	He	0.981	ppb	5.9	2900.41	1	98.1	79.5	120.4
95	Mo	89	He	1.006	ppb	0.6	3201.60	1	100.6	79.5	120.4
107	Ag	89	He	0.215	ppb	6.7	2186.93	0.2	107.5	79.5	120.4
111	Cd	89	He	0.215	ppb	3.0	289.27	0.2	107.5	79.5	120.4
118	Sn	159	He	1.000	ppb	2.3	2864.85	1	100	79.5	120.4
121	Sb	159	No Gas	0.220	ppb	4.2	4272.15	0.2	110	79.5	120.4
137	Ba	159	No Gas	0.409	ppb	7.3	3123.84	0.4	102.25	79.5	120.4
182	W	159	No Gas	0.971	ppb	5.2	15366.51	1	97.1	79.5	120.4
205	Tl	209	No Gas	0.209	ppb	5.3	7533.97	0.2	104.5	79.5	120.4
208	Pb	209	No Gas	0.221	ppb	6.8	11174.38	0.2	110.5	79.5	120.4
232	Th	209	No Gas	0.288	ppb	2.9	12643.81	0.2	144	79.5	120.4
238	U	209	No Gas	0.204	ppb	2.0	8863.15	0.2	102	79.5	120.4

QC Flag

Low Level Initial Calibration Verification (LLICV) Report

QC Flag
Failed DoD □ Failed 6020/EPA

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6240622.02	2.1	5944934.1	104.97	29.5	120.4	
Sc	45	No Gas	10340082.11	1.8	10076516.58	102.62	29.5	120.4	
Sc	45	H2	1171450.73	1.1	1161144.5	100.89	29.5	120.4	
Sc	45	He	314347.50	0.7	315280.57	99.7	29.5	120.4	
Ge	72	No Gas	2000716.64	2.0	1945701.64	102.83	29.5	120.4	
Ge	72	H2	393446.14	1.0	397826.96	98.9	29.5	120.4	
Ge	72	He	189224.70	0.5	191383.4	98.87	29.5	120.4	
Y	89	H2	6387824.84	0.3	6409151.48	99.67	29.5	120.4	
Y	89	He	1647745.93	0.6	1642682.2	100.31	29.5	120.4	
Tb	159	No Gas	18214975.70	1.9	18061819.73	100.85	29.5	120.4	
Tb	159	He	7066834.06	0.3	7050233.92	100.24	29.5	120.4	
Bi	209	No Gas	9182593.73	2.1	9028324.88	101.71	29.5	120.4	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	011ICSA.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:40:00
Sample Type	ICSA
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Be	9	6	No Gas	0.000	ppb	N/A	11.11	0.2	-50	50	
B	11	6	No Gas	0.397	ppb	4.7	1785.73	4	-50	100	
Na	23	45	He	94259.091	ppb	0.6	46730390.41	100000	80	120	
Mg	24	45	He	93027.339	ppb	0.5	26197611.55	100000	80	120	
Al	27	45	He	94792.429	ppb	0.5	9943742.56	100000	80	120	
Si	28	45	H2	3.151	ppb	42.6	997.84	100	-50	50	
K	39	45	He	94314.791	ppb	0.2	22937436.62	100000	80	120	
Ca	40	45	H2	99439.993	ppb	0.7	151333528.85	100000	80	120	
V	51	89	He	-0.015	ppb	N/A	222.23	1	-50	100	
Cr	52	89	He	0.900	ppb	3.5	4492.59	0.4404	-100	100	
Mn	55	89	He	0.221	ppb	7.7	607.90	0.0826	100	100	
Fe	56	89	H2	96370.327	ppb	0.3	514218964.18	100000	80	120	
Co	59	89	He	0.178	ppb	4.5	1313.50	0.09288	-50	100	
Ni	60	89	He	0.218	ppb	10.3	457.80	0.114	100	100	
Cu	63	89	He	0.229	ppb	4.3	2060.23	-0.043	100	100	
Zn	66	89	He	3.637	ppb	0.7	3029.33	-0.7632	100	100	DoD□ 6020/EPA
As	75	89	He	0.075	ppb	18.3	49.34	1	-50	100	
Se	78	89	H2	0.069	ppb	15.5	16.33	1	-50	100	
Sr	88	89	He	0.853	ppb	3.3	2346.95	0.0578	100	100	
Mo	95	89	He	1937.534	ppb	0.2	5705723.87	2000	80	120	
Ag	107	89	He	0.016	ppb	12.6	165.56	0.2	-50	50	
Cd	111	89	He	0.341	ppb	4.8	425.94	0.268	100	100	
Sn	118	159	He	0.044	ppb	6.0	312.24	-0.24	100	100	
Sb	121	159	No Gas	0.024	ppb	4.2	527.26	-0.0814	100	100	
Ba	137	159	No Gas	0.033	ppb	30.2	303.68	-0.0794	100	100	
W	182	159	No Gas	0.144	ppb	2.1	2262.75	0.32	-100	100	
Tl	205	209	No Gas	-0.007	ppb	N/A	684.12	0.2	-50	50	
Pb	208	209	No Gas	0.034	ppb	10.9	2639.73	-0.06745	100	100	
Th	232	209	No Gas	0.460	ppb	4.8	18176.99	0.2	-50	50	DoD□ 6020/EPA
U	238	209	No Gas	0.004	ppb	24.6	180.20	0.2	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5456067.85	2.0	5944934.1	91.78	29.5	120.4	
Sc	45	No Gas	9520752.50	2.0	10076516.58	94.48	29.5	120.4	
Sc	45	H2	1072365.37	2.1	1161144.5	92.35	29.5	120.4	
Sc	45	He	288504.44	1.0	315280.57	91.51	29.5	120.4	
Ge	72	No Gas	1845027.90	2.2	1945701.64	94.83	29.5	120.4	
Ge	72	H2	353784.00	2.1	397826.96	88.93	29.5	120.4	
Ge	72	He	174308.61	0.4	191383.4	91.08	29.5	120.4	
Y	89	H2	5974777.17	1.7	6409151.48	93.22	29.5	120.4	
Y	89	He	1531951.05	0.4	1642682.2	93.26	29.5	120.4	
Tb	159	No Gas	17472284.74	2.0	18061819.73	96.74	29.5	120.4	
Tb	159	He	6676933.93	0.1	7050233.92	94.71	29.5	120.4	
Bi	209	No Gas	8339345.30	2.3	9028324.88	92.37	29.5	120.4	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	012ICSB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:42:52
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
9	Be	6	No Gas	20.352	ppb	11.5	116363.02	20	79.5	120.4	
11	B	6	No Gas	20.759	ppb	10.5	75524.35	20	79.5	120.4	
23	Na	45	He	94592.743	ppb	0.4	47335661.50	100000	79.5	120.4	
24	Mg	45	He	92912.991	ppb	0.3	26410658.22	100000	79.5	120.4	
27	Al	45	He	93636.041	ppb	0.3	9914470.96	100000	79.5	120.4	
28	Si	45	H2	483.728	ppb	0.6	85449.16	500	79.5	120.4	
39	K	45	He	93255.737	ppb	0.4	22892042.02	100000	79.5	120.4	
40	Ca	45	H2	99055.738	ppb	0.3	151485738.86	100000	79.5	120.4	
51	V	89	He	19.183	ppb	0.5	71275.39	20	79.5	120.4	
52	Cr	89	He	19.923	ppb	1.1	93242.86	20	79.5	120.4	
55	Mn	89	He	19.252	ppb	0.5	42098.92	20	79.5	120.4	
56	Fe	89	H2	96176.879	ppb	0.4	515955023.51	100000	79.5	120.4	
59	Co	89	He	19.076	ppb	1.1	140147.80	20	79.5	120.4	
60	Ni	89	He	18.917	ppb	0.5	38099.43	20	79.5	120.4	
63	Cu	89	He	18.626	ppb	0.8	101380.27	20	79.5	120.4	
66	Zn	89	He	18.995	ppb	1.1	14372.35	20	79.5	120.4	
75	As	89	He	20.117	ppb	0.8	10771.34	20	79.5	120.4	
78	Se	89	H2	20.654	ppb	0.9	4884.30	20	79.5	120.4	
88	Sr	89	He	20.054	ppb	0.7	55008.84	20	79.5	120.4	
95	Mo	89	He	1935.984	ppb	0.5	5725595.89	2000	79.5	120.4	
107	Ag	89	He	18.112	ppb	0.8	170131.77	20	79.5	120.4	
111	Cd	89	He	18.902	ppb	1.4	23653.31	20	79.5	120.4	
118	Sn	159	He	19.353	ppb	0.4	48169.22	20	79.5	120.4	
121	Sb	159	No Gas	20.203	ppb	11.4	357639.73	20	79.5	120.4	
137	Ba	159	No Gas	20.517	ppb	11.7	143061.95	20	79.5	120.4	
182	W	159	No Gas	20.807	ppb	12.4	305162.25	20	79.5	120.4	
205	Tl	209	No Gas	21.426	ppb	11.5	590722.33	20	79.5	120.4	
208	Pb	209	No Gas	21.246	ppb	10.7	827319.84	20	79.5	120.4	
232	Th	209	No Gas	23.123	ppb	12.1	872647.31	20	79.5	120.4	
238	U	209	No Gas	21.855	ppb	11.6	831344.08	20	79.5	120.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5202470.04	8.0	5944934.1	87.51	29.5	120.4	
Sc	45	No Gas	9246014.13	7.1	10076516.58	91.76	29.5	120.4	
Sc	45	H2	1077519.98	0.5	1161144.5	92.8	29.5	120.4	
Sc	45	He	291197.19	0.4	315280.57	92.36	29.5	120.4	
Ge	72	No Gas	1800792.29	7.6	1945701.64	92.55	29.5	120.4	
Ge	72	H2	350836.75	0.4	397826.96	88.19	29.5	120.4	
Ge	72	He	175852.04	0.8	191383.4	91.88	29.5	120.4	
Y	89	H2	6006948.56	0.8	6409151.48	93.72	29.5	120.4	
Y	89	He	1538552.09	0.8	1642682.2	93.66	29.5	120.4	
Tb	159	No Gas	17064526.83	7.6	18061819.73	94.48	29.5	120.4	
Tb	159	He	6612976.36	0.1	7050233.92	93.8	29.5	120.4	
Bi	209	No Gas	8107651.85	7.7	9028324.88	89.8	29.5	120.4	

Linear Range Sample (LRS) Report

Sample Name	LRS1
File Name	013_LRS.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:45:38
Sample Type	LRS
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
9	Be	6	No Gas	100.525	ppb	3.0	606193.80	100	100.52	89.5	110.4	
11	B	6	No Gas	475.359	ppb	2.8	1817340.22	500	95.07	89.5	110.4	
51	V	89	He	931.265	ppb	0.6	3192137.59	1000	93.13	89.5	110.4	
52	Cr	89	He	1837.395	ppb	0.4	7937092.32	2000	91.87	89.5	110.4	
55	Mn	89	He	1814.638	ppb	0.2	3663874.06	2000	90.73	89.5	110.4	
59	Co	89	He	950.182	ppb	0.2	6464843.66	1000	95.02	89.5	110.4	
60	Ni	89	He	959.809	ppb	0.3	1789228.90	1000	95.98	89.5	110.4	
63	Cu	89	He	1872.602	ppb	0.4	9362592.29	2000	93.63	89.5	110.4	
66	Zn	89	He	1843.821	ppb	0.1	1260109.25	2000	92.19	89.5	110.4	
75	As	89	He	967.740	ppb	0.2	479467.83	1000	96.77	89.5	110.4	
78	Se	89	H2	989.526	ppb	0.3	221932.74	1000	98.95	89.5	110.4	
88	Sr	89	He	1837.988	ppb	0.3	4667499.51	2000	91.9	89.5	110.4	
95	Mo	89	He	997.459	ppb	0.3	2731982.63	1000	99.75	89.5	110.4	
107	Ag	89	He	108.688	ppb	0.7	945410.04	100	108.69	89.5	110.4	
111	Cd	89	He	982.738	ppb	0.3	1138836.91	1000	98.27	89.5	110.4	
118	Sn	159	He	945.715	ppb	0.5	2324342.20	1000	94.57	89.5	110.4	
121	Sb	159	No Gas	955.685	ppb	2.4	18263895.54	1000	95.57	89.5	110.4	
137	Ba	159	No Gas	1854.029	ppb	2.7	13956384.12	2000	92.7	89.5	110.4	
182	W	159	No Gas	981.923	ppb	3.3	15553551.86	1000	98.19	89.5	110.4	
205	Tl	209	No Gas	1009.815	ppb	2.0	32498290.06	1000	100.98	89.5	110.4	
208	Pb	209	No Gas	1903.956	ppb	3.1	86491780.61	2000	95.2	89.5	110.4	
232	Th	209	No Gas	1013.981	ppb	3.3	44728169.09	1000	101.4	89.5	110.4	
238	U	209	No Gas	959.066	ppb	3.5	42641416.58	1000	95.91	89.5	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5456162.64	2.0	5944934.1	91.78	29.5	120.4	
Sc	45	No Gas	9485851.46	2.2	10076516.58	94.14	29.5	120.4	
Ge	72	No Gas	1885220.88	2.8	1945701.64	96.89	29.5	120.4	
Tb	159	No Gas	18325609.03	1.4	18061819.73	101.46	29.5	120.4	
Bi	209	No Gas	9423099.85	1.4	9028324.88	104.37	29.5	120.4	
Sc	45	H2	995574.23	0.9	1161144.5	85.74	29.5	120.4	
Ge	72	H2	334609.95	0.8	397826.96	84.11	29.5	120.4	
Y	89	H2	5696978.18	0.6	6409151.48	88.89	29.5	120.4	
Sc	45	He	259832.68	0.5	315280.57	82.41	29.5	120.4	
Ge	72	He	164594.75	0.4	191383.4	86	29.5	120.4	
Y	89	He	1424845.05	0.7	1642682.2	86.74	29.5	120.4	
Tb	159	He	6556870.94	0.3	7050233.92	93	29.5	120.4	

Sample Report

Sample Name	LRS2
File Name	014SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:48:18
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.041	ppb	15.6	247.79	100	
11	B	6	No Gas	5.317	ppb	8.4	19578.29	1000	
23	Na	45	He	190356.136	ppb	0.6	97300076.65	200000	
24	Mg	45	He	188538.764	ppb	0.3	54747799.18	200000	
27	Al	45	He	195655.119	ppb	0.3	21163298.16	200000	
28	Si	45	H2	9094.009	ppb	1.0	1623005.90	10000	
39	K	45	He	191677.739	ppb	0.6	48050627.14	200000	
40	Ca	45	H2	200363.362	ppb	1.1	311140144.25	200000	>LDR
51	V	89	He	0.165	ppb	12.0	903.41	1000	
52	Cr	89	He	0.566	ppb	11.5	2995.15	2000	
55	Mn	89	He	1.255	ppb	8.1	2901.80	2000	
56	Fe	89	H2	96767.119	ppb	0.5	513656935.51	100000	
59	Co	89	He	0.898	ppb	1.8	6691.01	1000	
60	Ni	89	He	0.882	ppb	7.0	1821.30	1000	
63	Cu	89	He	0.840	ppb	2.7	5435.75	2000	
66	Zn	89	He	2.058	ppb	6.7	1902.43	2000	
75	As	89	He	0.291	ppb	8.8	167.35	1000	
78	Se	89	H2	0.503	ppb	5.5	117.83	1000	
88	Sr	89	He	1.844	ppb	3.7	5141.17	2000	
95	Mo	89	He	1.852	ppb	4.2	5563.56	1000	
107	Ag	89	He	0.072	ppb	10.0	706.71	100	
111	Cd	89	He	0.087	ppb	27.0	111.11	1000	
118	Sn	159	He	1.886	ppb	7.4	4802.17	1000	
121	Sb	159	No Gas	0.527	ppb	7.9	9620.90	1000	
137	Ba	159	No Gas	1.083	ppb	10.7	7780.97	2000	
182	W	159	No Gas	2.439	ppb	3.4	36609.43	1000	
205	Tl	209	No Gas	0.524	ppb	12.8	15336.57	1000	
208	Pb	209	No Gas	1.266	ppb	9.9	50649.43	2000	
232	Th	209	No Gas	9.552	ppb	19.3	362648.07	1000	
238	U	209	No Gas	0.752	ppb	27.5	28811.03	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5182905.64	1.3	5944934.1	87.18	29.5	120.4	
Sc	45	No Gas	9255064.53	0.9	10076516.58	91.85	29.5	120.4	
Sc	45	H2	1093939.95	2.5	1161144.5	94.21	29.5	120.4	
Sc	45	He	297473.88	1.0	315280.57	94.35	29.5	120.4	
Ge	72	No Gas	1775667.84	1.2	1945701.64	91.26	29.5	120.4	
Ge	72	H2	350532.26	2.2	397826.96	88.11	29.5	120.4	
Ge	72	He	177196.81	0.5	191383.4	92.59	29.5	120.4	
Y	89	H2	5943321.13	1.6	6409151.48	92.73	29.5	120.4	
Y	89	He	1558956.02	0.6	1642682.2	94.9	29.5	120.4	
Tb	159	No Gas	17318395.30	2.0	18061819.73	95.88	29.5	120.4	
Tb	159	He	6512955.67	0.6	7050233.92	92.38	29.5	120.4	
Bi	209	No Gas	8082775.67	2.5	9028324.88	89.53	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	015SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:51:06
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.002	ppb	26.6	23.33	100	
11	B	6	No Gas	0.865	ppb	4.3	4031.82	1000	
23	Na	45	He	48.272	ppb	5.3	35232.07	200000	
24	Mg	45	He	13.143	ppb	15.2	4003.07	200000	
27	Al	45	He	12.221	ppb	11.9	1375.68	200000	
28	Si	45	H2	1.203	ppb	17.6	700.79	10000	
39	K	45	He	29.991	ppb	8.5	24343.00	200000	
40	Ca	45	H2	20.652	ppb	5.5	35754.88	200000	
51	V	89	He	0.090	ppb	17.6	640.04	1000	
52	Cr	89	He	0.033	ppb	37.0	489.92	2000	
55	Mn	89	He	0.044	ppb	26.9	233.29	2000	
56	Fe	89	H2	17.324	ppb	9.1	101487.43	100000	
59	Co	89	He	0.016	ppb	13.8	133.35	1000	
60	Ni	89	He	0.014	ppb	56.5	51.11	1000	
63	Cu	89	He	0.049	ppb	31.7	1141.21	2000	
66	Zn	89	He	0.106	ppb	19.2	456.69	2000	
75	As	89	He	0.062	ppb	7.1	44.67	1000	
78	Se	89	H2	0.100	ppb	4.9	25.17	1000	
88	Sr	89	He	0.040	ppb	16.5	132.23	2000	
95	Mo	89	He	0.523	ppb	2.2	1630.15	1000	
107	Ag	89	He	0.007	ppb	42.0	93.34	100	
111	Cd	89	He	0.016	ppb	27.6	21.48	1000	
118	Sn	159	He	0.521	ppb	11.2	1561.26	1000	
121	Sb	159	No Gas	0.054	ppb	16.2	1134.65	1000	
137	Ba	159	No Gas	0.030	ppb	18.1	297.00	2000	
182	W	159	No Gas	0.341	ppb	12.5	5514.02	1000	
205	Tl	209	No Gas	0.076	ppb	9.5	3370.90	1000	
208	Pb	209	No Gas	0.116	ppb	3.5	6584.69	2000	
232	Th	209	No Gas	0.047	ppb	8.4	2282.77	1000	
238	U	209	No Gas	0.040	ppb	0.4	1738.74	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	6154369.26	2.6	5944934.1	103.52	29.5	120.4	
Sc	45	No Gas	10304051.29	2.1	10076516.58	102.26	29.5	120.4	
Sc	45	H2	1137861.55	0.4	1161144.5	97.99	29.5	120.4	
Sc	45	He	303308.19	0.4	315280.57	96.2	29.5	120.4	
Ge	72	No Gas	1992377.63	2.2	1945701.64	102.4	29.5	120.4	
Ge	72	H2	380083.47	0.2	397826.96	95.54	29.5	120.4	
Ge	72	He	186873.92	0.8	191383.4	97.64	29.5	120.4	
Y	89	H2	6326670.41	0.8	6409151.48	98.71	29.5	120.4	
Y	89	He	1605921.38	0.4	1642682.2	97.76	29.5	120.4	
Tb	159	No Gas	18444101.25	2.2	18061819.73	102.12	29.5	120.4	
Tb	159	He	6922100.31	0.1	7050233.92	98.18	29.5	120.4	
Bi	209	No Gas	9252323.66	1.7	9028324.88	102.48	29.5	120.4	

Sample Report

Sample Name	RINSE
File Name	016SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:53:50
Sample Type	Sample
Total Dilution	1.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	N/A	11.11	100	
11	B	6	No Gas	0.416	ppb	4.0	2024.66	1000	
23	Na	45	He	23.642	ppb	2.3	21961.07	200000	
24	Mg	45	He	5.289	ppb	13.4	1644.68	200000	
27	Al	45	He	4.546	ppb	17.4	518.92	200000	
28	Si	45	H2	0.237	ppb	152.0	503.90	10000	
39	K	45	He	10.405	ppb	23.3	18960.81	200000	
40	Ca	45	H2	6.139	ppb	3.1	11892.07	200000	
51	V	89	He	0.077	ppb	4.6	578.93	1000	
52	Cr	89	He	0.017	ppb	34.2	403.27	2000	
55	Mn	89	He	0.020	ppb	73.6	175.97	2000	
56	Fe	89	H2	4.115	ppb	5.7	26243.83	100000	
59	Co	89	He	0.010	ppb	50.3	82.23	1000	
60	Ni	89	He	0.012	ppb	23.4	46.67	1000	
63	Cu	89	He	0.014	ppb	42.6	924.51	2000	
66	Zn	89	He	0.060	ppb	84.5	412.24	2000	
75	As	89	He	0.043	ppb	25.1	33.33	1000	
78	Se	89	H2	0.053	ppb	27.4	13.00	1000	
88	Sr	89	He	0.019	ppb	43.4	71.12	2000	
95	Mo	89	He	0.261	ppb	18.1	802.28	1000	
107	Ag	89	He	0.004	ppb	4.5	58.89	100	
111	Cd	89	He	0.008	ppb	32.9	10.37	1000	
118	Sn	159	He	0.225	ppb	7.0	785.61	1000	
121	Sb	159	No Gas	0.029	ppb	21.0	664.09	1000	
137	Ba	159	No Gas	0.016	ppb	23.9	186.88	2000	
182	W	159	No Gas	0.125	ppb	16.7	2055.83	1000	
205	Tl	209	No Gas	0.039	ppb	1.5	2199.31	1000	
208	Pb	209	No Gas	0.057	ppb	10.8	3948.03	2000	
232	Th	209	No Gas	0.034	ppb	4.3	1715.40	1000	
238	U	209	No Gas	0.021	ppb	16.2	901.04	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5948210.34	2.1	5944934.1	100.06	29.5	120.4	
Sc	45	No Gas	9997302.89	1.8	10076516.58	99.21	29.5	120.4	
Sc	45	H2	1098308.30	1.4	1161144.5	94.59	29.5	120.4	
Sc	45	He	297379.07	0.7	315280.57	94.32	29.5	120.4	
Ge	72	No Gas	1968700.23	2.6	1945701.64	101.18	29.5	120.4	
Ge	72	H2	364983.55	0.6	397826.96	91.74	29.5	120.4	
Ge	72	He	182862.67	0.3	191383.4	95.55	29.5	120.4	
Y	89	H2	6172604.11	0.5	6409151.48	96.31	29.5	120.4	
Y	89	He	1572530.27	0.7	1642682.2	95.73	29.5	120.4	
Tb	159	No Gas	18346107.92	2.0	18061819.73	101.57	29.5	120.4	
Tb	159	He	6837119.76	0.6	7050233.92	96.98	29.5	120.4	
Bi	209	No Gas	9225617.48	1.2	9028324.88	102.19	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	017_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:56:29
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	23.964	ppb	4.9	154329.89	25	95.86	89.8	110.2	
11	B	6	No Gas	24.475	ppb	5.1	100190.78	25	97.9	89.8	110.2	
23	Na	45	He	5091.449	ppb	0.3	2557173.54	5000	101.83	89.8	110.2	
24	Mg	45	He	5050.646	ppb	0.3	1435857.84	5000	101.01	89.8	110.2	
27	Al	45	He	492.894	ppb	0.6	52219.56	500	98.58	89.8	110.2	
28	Si	45	H2	492.579	ppb	1.3	87545.17	500	98.52	89.8	110.2	
39	K	45	He	4928.608	ppb	0.8	1225104.65	5000	98.57	89.8	110.2	
40	Ca	45	H2	5084.164	ppb	1.0	7825223.42	5000	101.68	89.8	110.2	
51	V	89	He	24.245	ppb	0.6	90789.23	25	96.98	89.8	110.2	
52	Cr	89	He	24.227	ppb	0.9	114297.19	25	96.91	89.8	110.2	
55	Mn	89	He	24.210	ppb	0.7	53366.49	25	96.84	89.8	110.2	
56	Fe	89	H2	5026.101	ppb	0.2	27457407.69	5000	100.52	89.8	110.2	
59	Co	89	He	24.257	ppb	1.2	179756.52	25	97.03	89.8	110.2	
60	Ni	89	He	24.559	ppb	0.6	49883.09	25	98.24	89.8	110.2	
63	Cu	89	He	24.524	ppb	0.4	134372.00	25	98.1	89.8	110.2	
66	Zn	89	He	24.668	ppb	0.7	18718.74	25	98.67	89.8	110.2	
75	As	89	He	24.315	ppb	0.8	13130.28	25	97.26	89.8	110.2	
78	Se	89	H2	24.630	ppb	0.6	5930.66	25	98.52	89.8	110.2	
88	Sr	89	He	24.047	ppb	1.0	66526.00	25	96.19	89.8	110.2	
95	Mo	89	He	24.732	ppb	0.5	73789.85	25	98.93	89.8	110.2	
107	Ag	89	He	25.061	ppb	0.1	237439.62	25	100.24	89.8	110.2	
111	Cd	89	He	24.626	ppb	1.4	31081.92	25	98.5	89.8	110.2	
118	Sn	159	He	24.332	ppb	0.9	62304.62	25	97.33	89.8	110.2	
121	Sb	159	No Gas	24.185	ppb	4.4	466715.35	25	96.74	89.8	110.2	
137	Ba	159	No Gas	24.211	ppb	4.9	184058.28	25	96.84	89.8	110.2	
182	W	159	No Gas	24.369	ppb	2.9	389854.20	25	97.48	89.8	110.2	
205	Tl	209	No Gas	24.894	ppb	3.7	791487.60	25	99.58	89.8	110.2	
208	Pb	209	No Gas	24.821	ppb	3.9	1114061.35	25	99.28	89.8	110.2	
232	Th	209	No Gas	23.443	ppb	5.0	1020628.31	25	93.77	89.8	110.2	
238	U	209	No Gas	23.896	ppb	4.0	1048485.43	25	95.58	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5828620.08	2.2	5944934.1	98.04	29.5	120.4	
Sc	45	No Gas	9956039.75	1.9	10076516.58	98.8	29.5	120.4	
Sc	45	H2	1084176.61	0.5	1161144.5	93.37	29.5	120.4	
Sc	45	He	291220.36	0.1	315280.57	92.37	29.5	120.4	
Ge	72	No Gas	1956700.17	2.3	1945701.64	100.57	29.5	120.4	
Ge	72	H2	361131.70	0.6	397826.96	90.78	29.5	120.4	
Ge	72	He	181155.49	0.5	191383.4	94.66	29.5	120.4	
Y	89	H2	6116256.98	0.8	6409151.48	95.43	29.5	120.4	
Y	89	He	1551834.02	0.3	1642682.2	94.47	29.5	120.4	
Tb	159	No Gas	18503718.47	1.4	18061819.73	102.45	29.5	120.4	
Tb	159	He	6809354.97	0.9	7050233.92	96.58	29.5	120.4	
Bi	209	No Gas	9299900.09	1.6	9028324.88	103.01	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	018_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 17:59:13
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.005	ppb	55.3	45.56	0.2	
11	B	6	No Gas	0.353	ppb	4.2	1760.17	4	
23	Na	45	He	14.034	ppb	8.3	16995.75	200	
24	Mg	45	He	2.384	ppb	17.0	797.86	20	
27	Al	45	He	1.554	ppb	15.6	194.45	20	
28	Si	45	H2	0.094	ppb	319.5	480.54	100	
39	K	45	He	4.966	ppb	33.3	17544.50	200	
40	Ca	45	H2	2.463	ppb	3.9	6200.47	20	
51	V	89	He	0.021	ppb	15.4	366.69	1	
52	Cr	89	He	0.012	ppb	38.8	379.27	1	
55	Mn	89	He	0.005	ppb	53.2	143.31	0.4	
56	Fe	89	H2	2.761	ppb	2.5	18803.53	20	
59	Co	89	He	0.003	ppb	143.0	33.34	0.2	
60	Ni	89	He	0.004	ppb	131.8	28.89	0.4	
63	Cu	89	He	-0.027	ppb	N/A	701.15	0.6	
66	Zn	89	He	-0.038	ppb	N/A	338.91	2	
75	As	89	He	0.031	ppb	34.2	27.00	1	
78	Se	89	H2	0.042	ppb	8.0	10.50	1	
88	Sr	89	He	0.010	ppb	40.3	45.56	1	
95	Mo	89	He	0.175	ppb	4.6	544.48	1	
107	Ag	89	He	0.007	ppb	13.7	91.11	0.2	
111	Cd	89	He	0.005	ppb	64.7	6.66	0.2	
118	Sn	159	He	0.133	ppb	12.0	552.26	1	
121	Sb	159	No Gas	0.023	ppb	10.0	547.29	0.2	
137	Ba	159	No Gas	0.009	ppb	51.1	140.16	0.4	
182	W	159	No Gas	0.115	ppb	11.1	1928.98	1	
205	Tl	209	No Gas	0.033	ppb	24.8	2052.47	0.2	
208	Pb	209	No Gas	0.036	ppb	3.2	3063.58	0.2	
232	Th	209	No Gas	0.147	ppb	6.1	6686.03	1	
238	U	209	No Gas	0.021	ppb	12.2	927.75	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5935321.67	1.8	5944934.1	99.84	29.5	120.4	
Sc	45	No Gas	10049351.18	1.4	10076516.58	99.73	29.5	120.4	
Sc	45	H2	1105221.45	0.7	1161144.5	95.18	29.5	120.4	
Sc	45	He	296449.59	1.2	315280.57	94.03	29.5	120.4	
Ge	72	No Gas	1968967.60	2.6	1945701.64	101.2	29.5	120.4	
Ge	72	H2	366856.32	0.4	397826.96	92.22	29.5	120.4	
Ge	72	He	183061.94	0.5	191383.4	95.65	29.5	120.4	
Y	89	H2	6180116.46	0.5	6409151.48	96.43	29.5	120.4	
Y	89	He	1576132.61	1.0	1642682.2	95.95	29.5	120.4	
Tb	159	No Gas	18608245.56	1.5	18061819.73	103.03	29.5	120.4	
Tb	159	He	6880809.48	0.6	7050233.92	97.6	29.5	120.4	
Bi	209	No Gas	9370597.66	1.5	9028324.88	103.79	29.5	120.4	

Prep Blank (PB) Report

Sample Name	PBWOC01IMW2
File Name	019_PB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:01:53
Sample Type	PB
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Be	9	6	No Gas	0.000	ppb	10188.8	12.22	0.5	
B	11	6	No Gas	1.757	ppb	3.2	1729.05	10	
Na	23	45	He	79.207	ppb	9.9	17571.36	500	
Mg	24	45	He	19.233	ppb	5.3	1197.92	50	
Al	27	45	He	14.825	ppb	3.2	340.02	50	
Si	28	45	H2	10.166	ppb	29.3	724.15	250	
K	39	45	He	26.518	ppb	27.0	17286.05	500	
Ca	40	45	H2	32.969	ppb	22.7	10992.38	50	
V	51	89	He	0.802	ppb	3.5	873.39	2.5	
Cr	52	89	He	0.319	ppb	11.2	613.91	2.5	
Mn	55	89	He	0.742	ppb	13.1	451.26	1	
Fe	56	89	H2	12.478	ppb	24.1	15095.03	50	
Co	59	89	He	0.017	ppb	45.7	33.34	0.5	
Ni	60	89	He	0.084	ppb	24.3	54.45	1	
Cu	63	89	He	0.443	ppb	11.5	1310.11	1.5	
Zn	66	89	He	1.407	ppb	20.3	566.70	5	
As	75	89	He	0.196	ppb	9.5	30.67	2.5	
Se	78	89	H2	0.139	ppb	47.9	5.83	2.5	
Sr	88	89	He	0.096	ppb	36.2	70.00	2.5	
Mo	95	89	He	0.663	ppb	8.1	405.58	2.5	
Ag	107	89	He	0.023	ppb	26.0	63.34	0.5	
Cd	111	89	He	0.025	ppb	44.7	7.04	0.5	
Sn	118	159	He	1.219	ppb	5.0	832.29	2.5	
Sb	121	159	No Gas	0.114	ppb	11.5	547.30	0.5	
Ba	137	159	No Gas	0.106	ppb	12.3	230.26	1	
W	182	159	No Gas	0.320	ppb	14.5	1114.63	2.5	
Tl	205	209	No Gas	0.031	ppb	26.3	1208.08	0.5	
Pb	208	209	No Gas	0.170	ppb	2.5	2990.16	0.5	
Th	232	209	No Gas	3.359	ppb	3.6	30003.09	2.5	PB 6020 Fails DoD
U	238	209	No Gas	0.046	ppb	18.0	413.81	0.5	

QC ISTD Table

Prep Blank (PB) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5858933.00	2.3	5944934.1	98.55	29.5	120.4	
Sc	45	No Gas	10048984.46	2.5	10076516.58	99.73	29.5	120.4	
Sc	45	H2	977202.46	15.7	1161144.5	84.16	29.5	120.4	
Sc	45	He	290675.12	0.1	315280.57	92.2	29.5	120.4	
Ge	72	No Gas	1954879.76	2.4	1945701.64	100.47	29.5	120.4	
Ge	72	H2	317850.37	16.5	397826.96	79.9	29.5	120.4	
Ge	72	He	177170.55	0.4	191383.4	92.57	29.5	120.4	
Y	89	H2	5495568.66	16.6	6409151.48	85.75	29.5	120.4	
Y	89	He	1538375.24	0.6	1642682.2	93.65	29.5	120.4	
Tb	159	No Gas	18612029.17	2.2	18061819.73	103.05	29.5	120.4	
Tb	159	He	6833124.06	0.2	7050233.92	96.92	29.5	120.4	
Bi	209	No Gas	9461908.55	1.8	9028324.88	104.8	29.5	120.4	

Laboratory Control Sample (LCS) Report

Sample Name	LCSWOC01IMW2
File Name	020LCSW.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:04:35
Sample Type	LCSW
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Be	9	6	No Gas	48.308	ppb	5.0	62148.29	50	19.32	79.5	120.4	
B	11	6	No Gas	502.412	ppb	4.3	409972.23	500	20.1	79.5	120.4	
Na	23	45	He	7863.925	ppb	0.7	779663.12	7500	20.97	79.5	120.4	
Mg	24	45	He	5216.549	ppb	1.1	290352.70	5000	20.87	79.5	120.4	
Al	27	45	He	2005.507	ppb	0.9	41592.40	2000	20.06	79.5	120.4	
Si	28	45	H2	966.555	ppb	0.9	33526.60	1000	19.33	0	200	
K	39	45	He	10242.248	ppb	0.6	507486.13	10000	20.48	79.5	120.4	
Ca	40	45	H2	2613.068	ppb	0.7	780791.14	2500	20.9	79.5	120.4	
V	51	89	He	489.127	ppb	0.4	357274.49	500	19.57	79.5	120.4	
Cr	52	89	He	198.538	ppb	0.1	182932.49	200	19.85	79.5	120.4	
Mn	55	89	He	492.950	ppb	0.1	212059.70	500	19.72	79.5	120.4	
Fe	56	89	H2	1017.521	ppb	0.7	1087704.54	1000	20.35	79.5	120.4	
Co	59	89	He	506.401	ppb	0.3	733682.75	500	20.26	79.5	120.4	
Ni	60	89	He	505.607	ppb	0.9	200721.34	500	20.22	79.5	120.4	
Cu	63	89	He	254.368	ppb	0.5	271612.07	250	20.35	79.5	120.4	
Zn	66	89	He	494.240	ppb	1.0	72262.01	500	19.77	79.5	120.4	
As	75	89	He	100.032	ppb	1.3	10563.16	100	20.01	79.5	120.4	
Se	78	89	H2	99.521	ppb	0.5	4674.74	100	19.9	79.5	120.4	
Sr	88	89	He	490.125	ppb	0.6	265058.49	500	19.6	79.5	120.4	
Mo	95	89	He	100.949	ppb	0.7	58888.68	100	20.19	79.5	120.4	
Ag	107	89	He	51.922	ppb	0.2	96193.32	50	20.77	79.5	120.4	
Cd	111	89	He	251.093	ppb	0.4	61961.38	250	20.09	79.5	120.4	
Sn	118	159	He	486.941	ppb	1.3	246658.12	500	19.48	79.5	120.4	
Sb	121	159	No Gas	99.147	ppb	3.5	380933.89	100	19.83	79.5	120.4	
Ba	137	159	No Gas	1927.486	ppb	3.6	2916413.52	2000	19.27	79.5	120.4	
W	182	159	No Gas	100.604	ppb	3.4	320420.04	100	20.12	79.5	120.4	
Tl	205	209	No Gas	102.466	ppb	3.9	659106.77	100	20.49	79.5	120.4	
[Pb]	206	209	No Gas	99.787	ppb	2.6	233166.62	100	19.96	79.5	120.4	
[Pb]	207	209	No Gas	99.817	ppb	3.0	202141.52	100	19.96	79.5	120.4	
Pb	208	209	No Gas	102.194	ppb	2.6	928142.74	100	20.44	79.5	120.4	
Th	232	209	No Gas	98.894	ppb	4.6	870974.60	100	19.78	79.5	120.4	
U	238	209	No Gas	98.215	ppb	4.1	871644.74	100	19.64	79.5	120.4	

QC ISTD Table

Laboratory Control Sample (LCS) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5822286.77	2.9	5944934.1	97.94	29.5	120.4	
Sc	45	No Gas	9803825.67	2.3	10076516.58	97.29	29.5	120.4	
Sc	45	H2	1049637.93	1.2	1161144.5	90.4	29.5	120.4	
Sc	45	He	285019.26	0.9	315280.57	90.4	29.5	120.4	
Ge	72	No Gas	1931591.45	2.6	1945701.64	99.27	29.5	120.4	
Ge	72	H2	346792.20	0.8	397826.96	87.17	29.5	120.4	
Ge	72	He	175388.34	0.5	191383.4	91.64	29.5	120.4	
Y	89	H2	5965765.14	1.0	6409151.48	93.08	29.5	120.4	
Y	89	He	1517035.34	0.5	1642682.2	92.35	29.5	120.4	
Tb	159	No Gas	18420788.20	2.0	18061819.73	101.99	29.5	120.4	
Tb	159	He	6752007.40	0.5	7050233.92	95.77	29.5	120.4	
Bi	209	No Gas	9404727.94	1.4	9028324.88	104.17	29.5	120.4	

Sample Report

Sample Name	SO1108-001
File Name	021SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:07:12
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.018	ppb	65.8	33.33	100	
11	B	6	No Gas	25.279	ppb	2.0	19817.49	1000	
23	Na	45	He	80769.733	ppb	0.7	7608232.08	200000	
24	Mg	45	He	2130.192	ppb	0.3	113968.18	200000	
27	Al	45	He	48.190	ppb	4.1	984.51	200000	
28	Si	45	H2	2652.229	ppb	2.1	88712.53	10000	
39	K	45	He	126.614	ppb	4.6	20899.22	200000	
40	Ca	45	H2	23633.620	ppb	0.5	6849269.34	200000	
51	V	89	He	3.660	ppb	0.4	2858.18	1000	
52	Cr	89	He	0.431	ppb	15.3	686.56	2000	
55	Mn	89	He	37.592	ppb	0.5	15792.60	2000	
56	Fe	89	H2	10.837	ppb	2.6	14533.80	100000	
59	Co	89	He	3.192	ppb	6.4	4492.14	1000	
60	Ni	89	He	5.459	ppb	5.0	2121.35	1000	
63	Cu	89	He	1.284	ppb	3.9	2120.24	2000	
66	Zn	89	He	3.600	ppb	4.6	851.17	2000	
75	As	89	He	1.819	ppb	14.2	195.36	1000	
78	Se	89	H2	0.231	ppb	11.0	10.67	1000	
88	Sr	89	He	200.635	ppb	0.6	105211.28	2000	
95	Mo	89	He	1.679	ppb	6.7	962.29	1000	
107	Ag	89	He	0.022	ppb	43.5	57.78	100	
111	Cd	89	He	0.031	ppb	22.4	8.15	1000	
118	Sn	159	He	1.318	ppb	13.5	862.28	1000	
121	Sb	159	No Gas	0.237	ppb	19.4	1011.16	1000	
137	Ba	159	No Gas	102.849	ppb	3.3	155011.91	2000	
182	W	159	No Gas	0.442	ppb	6.5	1485.08	1000	
205	Tl	209	No Gas	0.143	ppb	18.6	1912.29	1000	
208	Pb	209	No Gas	0.184	ppb	18.2	3080.28	2000	
232	Th	209	No Gas	3.679	ppb	2.3	32478.79	1000	
238	U	209	No Gas	0.394	ppb	7.8	3487.75	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5518469.16	2.6	5944934.1	92.83	29.5	120.4	
Sc	45	No Gas	9526799.07	1.9	10076516.58	94.54	29.5	120.4	
Sc	45	H2	1020724.15	1.3	1161144.5	87.91	29.5	120.4	
Sc	45	He	273806.69	0.5	315280.57	86.85	29.5	120.4	
Ge	72	No Gas	1912854.70	2.1	1945701.64	98.31	29.5	120.4	
Ge	72	H2	338234.09	0.6	397826.96	85.02	29.5	120.4	
Ge	72	He	171591.77	0.7	191383.4	89.66	29.5	120.4	
Y	89	H2	5784190.86	0.5	6409151.48	90.25	29.5	120.4	
Y	89	He	1470931.09	0.7	1642682.2	89.54	29.5	120.4	
Tb	159	No Gas	18340233.34	2.0	18061819.73	101.54	29.5	120.4	
Tb	159	He	6672518.37	0.6	7050233.92	94.64	29.5	120.4	
Bi	209	No Gas	9353294.84	1.6	9028324.88	103.6	29.5	120.4	

Sample Report

Sample Name	SO1108-001A
File Name	022SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:09:52
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	11.258	ppb	7.9	12833.88	100	
11	B	6	No Gas	238.575	ppb	6.7	172590.03	1000	
23	Na	45	He	90930.167	ppb	0.6	8514770.72	200000	
24	Mg	45	He	3153.154	ppb	1.2	167664.01	200000	
27	Al	45	He	1012.431	ppb	2.0	20066.88	200000	
28	Si	45	H2	7222.433	ppb	0.9	238506.03	10000	
39	K	45	He	9851.362	ppb	1.3	466778.42	200000	
40	Ca	45	H2	24817.377	ppb	0.4	7121470.94	200000	
51	V	89	He	51.719	ppb	0.6	36829.09	1000	
52	Cr	89	He	49.372	ppb	0.5	44289.73	2000	
55	Mn	89	He	56.816	ppb	1.4	23785.03	2000	
56	Fe	89	H2	1004.477	ppb	0.6	1045227.74	100000	
59	Co	89	He	13.532	ppb	2.3	18998.69	1000	
60	Ni	89	He	25.242	ppb	0.8	9725.96	1000	
63	Cu	89	He	31.790	ppb	0.5	33576.76	2000	
66	Zn	89	He	99.877	ppb	1.7	14417.94	2000	
75	As	89	He	50.651	ppb	0.5	5185.21	1000	
78	Se	89	H2	48.057	ppb	1.8	2197.57	1000	
88	Sr	89	He	246.164	ppb	0.9	128956.60	2000	
95	Mo	89	He	51.707	ppb	0.2	29224.40	1000	
107	Ag	89	He	10.933	ppb	0.6	19634.88	100	
111	Cd	89	He	10.522	ppb	1.5	2515.82	1000	
118	Sn	159	He	48.093	ppb	2.2	24313.71	1000	
121	Sb	159	No Gas	11.050	ppb	6.8	40746.75	1000	
137	Ba	159	No Gas	129.399	ppb	6.6	187585.24	2000	
182	W	159	No Gas	54.615	ppb	6.5	166635.93	1000	
205	Tl	209	No Gas	11.434	ppb	7.0	71627.35	1000	
208	Pb	209	No Gas	11.464	ppb	5.9	101444.66	2000	
232	Th	209	No Gas	13.951	ppb	8.0	118374.40	1000	
238	U	209	No Gas	11.578	ppb	5.9	98919.30	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5167084.56	5.9	5944934.1	86.92	29.5	120.4	
Sc	45	No Gas	9029267.28	6.7	10076516.58	89.61	29.5	120.4	
Sc	45	H2	1010668.08	1.4	1161144.5	87.04	29.5	120.4	
Sc	45	He	272211.89	1.0	315280.57	86.34	29.5	120.4	
Ge	72	No Gas	1814976.51	5.8	1945701.64	93.28	29.5	120.4	
Ge	72	H2	335395.22	1.6	397826.96	84.31	29.5	120.4	
Ge	72	He	170945.77	1.5	191383.4	89.32	29.5	120.4	
Y	89	H2	5807344.85	1.5	6409151.48	90.61	29.5	120.4	
Y	89	He	1469430.83	1.3	1642682.2	89.45	29.5	120.4	
Tb	159	No Gas	17684500.99	6.4	18061819.73	97.91	29.5	120.4	
Tb	159	He	6687448.72	0.3	7050233.92	94.85	29.5	120.4	
Bi	209	No Gas	9074428.69	6.8	9028324.88	100.51	29.5	120.4	

Sample Report

Sample Name	SO1108-001L
File Name	023SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:12:29
Sample Type	Sample
Total Dilution	25.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.030	ppb	72.4	18.89	100	
11	B	6	No Gas	32.988	ppb	4.0	5447.87	1000	
23	Na	45	He	81443.067	ppb	1.3	1588503.32	200000	
24	Mg	45	He	2127.514	ppb	1.1	23540.86	200000	
27	Al	45	He	71.046	ppb	15.2	317.79	200000	
28	Si	45	H2	2672.418	ppb	2.2	18445.85	10000	
39	K	45	He	121.289	ppb	14.2	16670.55	200000	
40	Ca	45	H2	23861.575	ppb	1.0	1401942.10	200000	
51	V	89	He	4.831	ppb	3.5	986.74	1000	
52	Cr	89	He	0.361	ppb	51.0	379.94	2000	
55	Mn	89	He	37.523	ppb	1.2	3371.13	2000	
56	Fe	89	H2	22.532	ppb	3.1	8201.54	100000	
59	Co	89	He	2.955	ppb	4.6	868.99	1000	
60	Ni	89	He	5.310	ppb	9.7	444.47	1000	
63	Cu	89	He	0.956	ppb	19.8	1028.97	2000	
66	Zn	89	He	2.684	ppb	54.2	434.47	2000	
75	As	89	He	1.922	ppb	25.5	50.34	1000	
78	Se	89	H2	0.500	ppb	34.0	4.83	1000	
88	Sr	89	He	199.202	ppb	0.6	21678.79	2000	
95	Mo	89	He	2.756	ppb	5.7	336.69	1000	
107	Ag	89	He	0.085	ppb	26.7	51.11	100	
111	Cd	89	He	0.068	ppb	18.5	4.07	1000	
118	Sn	159	He	1.155	ppb	19.7	325.57	1000	
121	Sb	159	No Gas	0.288	ppb	10.1	327.04	1000	
137	Ba	159	No Gas	100.466	ppb	6.0	30820.08	2000	
182	W	159	No Gas	0.914	ppb	25.0	674.10	1000	
205	Tl	209	No Gas	-0.173	ppb	N/A	784.24	1000	
208	Pb	209	No Gas	0.436	ppb	9.3	2232.59	2000	
232	Th	209	No Gas	0.385	ppb	6.9	934.42	1000	
238	U	209	No Gas	0.389	ppb	12.5	700.81	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5597037.05	1.7	5944934.1	94.15	29.5	120.4	
Sc	45	No Gas	9590632.17	0.8	10076516.58	95.18	29.5	120.4	
Sc	45	H2	1033420.39	1.4	1161144.5	89	29.5	120.4	
Sc	45	He	282159.95	1.3	315280.57	89.49	29.5	120.4	
Ge	72	No Gas	1930529.07	1.2	1945701.64	99.22	29.5	120.4	
Ge	72	H2	344958.81	0.9	397826.96	86.71	29.5	120.4	
Ge	72	He	177627.96	0.5	191383.4	92.81	29.5	120.4	
Y	89	H2	5934544.13	0.7	6409151.48	92.59	29.5	120.4	
Y	89	He	1525334.56	0.7	1642682.2	92.86	29.5	120.4	
Tb	159	No Gas	18631423.33	1.0	18061819.73	103.15	29.5	120.4	
Tb	159	He	6821906.91	0.8	7050233.92	96.76	29.5	120.4	
Bi	209	No Gas	9461210.46	0.8	9028324.88	104.79	29.5	120.4	

Sample Report

Sample Name	SO1108-001P
File Name	024SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:15:10
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	49.667	ppb	4.1	60863.05	100	
11	B	6	No Gas	529.383	ppb	4.3	411367.18	1000	
23	Na	45	He	89531.681	ppb	0.7	8531298.60	200000	
24	Mg	45	He	7326.526	ppb	0.4	396318.93	200000	
27	Al	45	He	2055.613	ppb	1.1	41433.26	200000	
28	Si	45	H2	3638.130	ppb	0.7	121122.52	10000	
39	K	45	He	10249.956	ppb	0.4	493601.93	200000	
40	Ca	45	H2	26474.788	ppb	0.6	7646210.86	200000	
51	V	89	He	498.775	ppb	0.3	356474.58	1000	
52	Cr	89	He	200.423	ppb	0.3	180695.19	2000	
55	Mn	89	He	531.561	ppb	0.4	223741.69	2000	
56	Fe	89	H2	1022.412	ppb	0.6	1064988.73	100000	
59	Co	89	He	512.359	ppb	0.4	726335.85	1000	
60	Ni	89	He	516.273	ppb	0.4	200544.00	1000	
63	Cu	89	He	258.895	ppb	0.3	270493.86	2000	
66	Zn	89	He	518.908	ppb	0.9	74217.69	2000	
75	As	89	He	103.373	ppb	0.8	10680.26	1000	
78	Se	89	H2	101.296	ppb	1.2	4637.06	1000	
88	Sr	89	He	695.931	ppb	0.7	368239.45	2000	
95	Mo	89	He	103.682	ppb	1.1	59182.07	1000	
107	Ag	89	He	52.087	ppb	0.5	94421.25	100	
111	Cd	89	He	252.504	ppb	0.3	60969.54	1000	
118	Sn	159	He	489.047	ppb	0.6	246593.83	1000	
121	Sb	159	No Gas	99.586	ppb	3.1	386954.40	1000	
137	Ba	159	No Gas	2037.127	ppb	3.0	3117213.51	2000	
182	W	159	No Gas	102.857	ppb	3.6	331277.42	1000	
205	Tl	209	No Gas	103.282	ppb	3.9	667233.53	1000	
208	Pb	209	No Gas	102.483	ppb	3.8	934688.15	2000	
232	Th	209	No Gas	97.559	ppb	5.0	862859.59	1000	
238	U	209	No Gas	100.129	ppb	3.9	892462.59	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5543313.33	2.1	5944934.1	93.24	29.5	120.4	
Sc	45	No Gas	9620747.91	1.6	10076516.58	95.48	29.5	120.4	
Sc	45	H2	1017185.12	0.8	1161144.5	87.6	29.5	120.4	
Sc	45	He	277015.60	0.8	315280.57	87.86	29.5	120.4	
Ge	72	No Gas	1918171.30	1.8	1945701.64	98.59	29.5	120.4	
Ge	72	H2	333724.46	0.4	397826.96	83.89	29.5	120.4	
Ge	72	He	172346.19	0.7	191383.4	90.05	29.5	120.4	
Y	89	H2	5813497.72	0.9	6409151.48	90.71	29.5	120.4	
Y	89	He	1484409.08	0.6	1642682.2	90.36	29.5	120.4	
Tb	159	No Gas	18625929.03	1.4	18061819.73	103.12	29.5	120.4	
Tb	159	He	6720998.72	0.6	7050233.92	95.33	29.5	120.4	
Bi	209	No Gas	9446308.27	1.7	9028324.88	104.63	29.5	120.4	

Sample Report

Sample Name	SO1108-001S
File Name	025SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:17:48
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	48.717	ppb	4.1	60192.60	100	
11	B	6	No Gas	521.834	ppb	3.9	408881.37	1000	
23	Na	45	He	89149.750	ppb	0.8	8470174.25	200000	
24	Mg	45	He	7212.678	ppb	0.6	389018.21	200000	
27	Al	45	He	2004.911	ppb	1.9	40292.21	200000	
28	Si	45	H2	3526.175	ppb	0.8	117353.56	10000	
39	K	45	He	10110.446	ppb	0.1	485678.33	200000	
40	Ca	45	H2	25866.540	ppb	0.1	7467027.94	200000	
51	V	89	He	487.980	ppb	0.7	350819.62	1000	
52	Cr	89	He	196.758	ppb	0.8	178439.48	2000	
55	Mn	89	He	522.914	ppb	0.9	221398.80	2000	
56	Fe	89	H2	1005.609	ppb	0.7	1043470.84	100000	
59	Co	89	He	499.758	ppb	0.7	712653.80	1000	
60	Ni	89	He	500.265	ppb	0.6	195476.25	1000	
63	Cu	89	He	252.960	ppb	0.6	265865.56	2000	
66	Zn	89	He	494.925	ppb	0.6	71222.04	2000	
75	As	89	He	100.951	ppb	1.4	10491.44	1000	
78	Se	89	H2	98.384	ppb	1.0	4485.69	1000	
88	Sr	89	He	678.017	ppb	0.1	360899.29	2000	
95	Mo	89	He	101.794	ppb	1.1	58445.50	1000	
107	Ag	89	He	51.142	ppb	0.5	93258.76	100	
111	Cd	89	He	247.933	ppb	1.3	60215.86	1000	
118	Sn	159	He	481.750	ppb	0.2	242905.51	1000	
121	Sb	159	No Gas	97.885	ppb	3.7	381510.57	1000	
137	Ba	159	No Gas	2001.279	ppb	3.9	3071645.02	2000	
182	W	159	No Gas	100.356	ppb	3.5	324237.39	1000	
205	Tl	209	No Gas	102.239	ppb	3.7	659789.12	1000	
208	Pb	209	No Gas	101.247	ppb	3.9	922411.81	2000	
232	Th	209	No Gas	103.777	ppb	2.7	917064.94	1000	
238	U	209	No Gas	99.726	ppb	4.2	887879.28	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5589479.75	2.3	5944934.1	94.02	29.5	120.4	
Sc	45	No Gas	9595340.32	1.4	10076516.58	95.22	29.5	120.4	
Sc	45	H2	1016704.25	1.0	1161144.5	87.56	29.5	120.4	
Sc	45	He	276206.67	0.8	315280.57	87.61	29.5	120.4	
Ge	72	No Gas	1924063.29	1.8	1945701.64	98.89	29.5	120.4	
Ge	72	H2	332681.95	0.9	397826.96	83.62	29.5	120.4	
Ge	72	He	172546.65	0.8	191383.4	90.16	29.5	120.4	
Y	89	H2	5790654.98	0.5	6409151.48	90.35	29.5	120.4	
Y	89	He	1493224.89	1.2	1642682.2	90.9	29.5	120.4	
Tb	159	No Gas	18685706.25	1.7	18061819.73	103.45	29.5	120.4	
Tb	159	He	6720624.07	0.2	7050233.92	95.32	29.5	120.4	
Bi	209	No Gas	9436536.62	1.9	9028324.88	104.52	29.5	120.4	

Sample Report

Sample Name	SO1108-002
File Name	026SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:20:29
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.008	ppb	111.1	21.11	100	
11	B	6	No Gas	17.999	ppb	0.9	14103.98	1000	
23	Na	45	He	110862.202	ppb	4.6	10501174.03	200000	
24	Mg	45	He	632.925	ppb	4.8	34131.69	200000	
27	Al	45	He	24.848	ppb	9.1	523.36	200000	
28	Si	45	H2	2694.912	ppb	1.6	90476.20	10000	
39	K	45	He	171.584	ppb	6.8	23125.06	200000	
40	Ca	45	H2	6904.588	ppb	0.4	2010135.89	200000	
51	V	89	He	0.488	ppb	5.2	616.70	1000	
52	Cr	89	He	0.822	ppb	6.0	1039.19	2000	
55	Mn	89	He	1.178	ppb	6.8	615.90	2000	
56	Fe	89	H2	23.107	ppb	2.9	27674.93	100000	
59	Co	89	He	0.146	ppb	45.0	215.57	1000	
60	Ni	89	He	2.250	ppb	5.7	888.95	1000	
63	Cu	89	He	57.900	ppb	4.5	60789.58	2000	
66	Zn	89	He	289.116	ppb	4.7	41281.89	2000	
75	As	89	He	0.231	ppb	27.3	33.00	1000	
78	Se	89	H2	0.227	ppb	40.1	10.67	1000	
88	Sr	89	He	45.675	ppb	4.1	24058.46	2000	
95	Mo	89	He	0.485	ppb	21.3	287.79	1000	
107	Ag	89	He	0.036	ppb	12.3	84.45	100	
111	Cd	89	He	0.065	ppb	25.9	16.30	1000	
118	Sn	159	He	5.422	ppb	4.7	2892.64	1000	
121	Sb	159	No Gas	0.162	ppb	6.3	734.18	1000	
137	Ba	159	No Gas	3.879	ppb	5.8	6031.38	2000	
182	W	159	No Gas	0.368	ppb	5.9	1278.17	1000	
205	Tl	209	No Gas	0.050	ppb	45.8	1338.24	1000	
208	Pb	209	No Gas	7.291	ppb	2.7	68197.46	2000	
232	Th	209	No Gas	3.685	ppb	4.0	33034.03	1000	
238	U	209	No Gas	0.219	ppb	8.5	1972.38	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5484691.58	2.1	5944934.1	92.26	29.5	120.4	
Sc	45	No Gas	9629717.30	1.6	10076516.58	95.57	29.5	120.4	
Sc	45	H2	1024568.16	0.9	1161144.5	88.24	29.5	120.4	
Sc	45	He	275749.12	3.9	315280.57	87.46	29.5	120.4	
Ge	72	No Gas	1931208.40	1.8	1945701.64	99.26	29.5	120.4	
Ge	72	H2	341004.62	0.3	397826.96	85.72	29.5	120.4	
Ge	72	He	172167.50	3.5	191383.4	89.96	29.5	120.4	
Y	89	H2	5883622.48	0.9	6409151.48	91.8	29.5	120.4	
Y	89	He	1478209.21	4.0	1642682.2	89.99	29.5	120.4	
Tb	159	No Gas	18699267.36	1.4	18061819.73	103.53	29.5	120.4	
Tb	159	He	6627577.61	3.6	7050233.92	94.01	29.5	120.4	
Bi	209	No Gas	9495748.12	1.3	9028324.88	105.18	29.5	120.4	

Sample Report

Sample Name	SO1108-003
File Name	027SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:23:05
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.000	ppb	N/A	11.11	100	
11	B	6	No Gas	4.551	ppb	1.5	3780.62	1000	
23	Na	45	He	94402.291	ppb	0.5	9024393.24	200000	
24	Mg	45	He	1799.538	ppb	1.2	97738.45	200000	
27	Al	45	He	65.208	ppb	6.8	1343.45	200000	
28	Si	45	H2	2706.261	ppb	4.0	90029.98	10000	
39	K	45	He	260.546	ppb	4.3	27484.11	200000	
40	Ca	45	H2	20285.294	ppb	0.9	5848409.56	200000	
51	V	89	He	2.674	ppb	5.2	2193.57	1000	
52	Cr	89	He	0.449	ppb	3.2	713.89	2000	
55	Mn	89	He	3.877	ppb	4.1	1765.80	2000	
56	Fe	89	H2	10.097	ppb	2.1	13842.17	100000	
59	Co	89	He	5.273	ppb	2.9	7531.49	1000	
60	Ni	89	He	8.651	ppb	2.5	3401.66	1000	
63	Cu	89	He	5.329	ppb	4.4	6393.91	2000	
66	Zn	89	He	38.050	ppb	1.3	5800.30	2000	
75	As	89	He	1.010	ppb	11.4	114.34	1000	
78	Se	89	H2	0.153	ppb	15.6	7.17	1000	
88	Sr	89	He	130.905	ppb	0.8	69723.84	2000	
95	Mo	89	He	0.351	ppb	0.7	214.45	1000	
107	Ag	89	He	0.021	ppb	27.1	56.67	100	
111	Cd	89	He	0.019	ppb	50.9	5.18	1000	
118	Sn	159	He	1.551	ppb	4.4	991.18	1000	
121	Sb	159	No Gas	0.112	ppb	13.8	540.61	1000	
137	Ba	159	No Gas	42.326	ppb	2.5	65359.66	2000	
182	W	159	No Gas	0.205	ppb	5.6	750.86	1000	
205	Tl	209	No Gas	-0.060	ppb	N/A	620.71	1000	
208	Pb	209	No Gas	1.673	ppb	1.5	16836.61	2000	
232	Th	209	No Gas	0.747	ppb	2.1	6929.75	1000	
238	U	209	No Gas	0.320	ppb	5.9	2890.25	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5504041.14	2.3	5944934.1	92.58	29.5	120.4	
Sc	45	No Gas	9661521.49	2.1	10076516.58	95.88	29.5	120.4	
Sc	45	H2	1015383.12	0.8	1161144.5	87.45	29.5	120.4	
Sc	45	He	277913.67	0.2	315280.57	88.15	29.5	120.4	
Ge	72	No Gas	1936619.91	1.7	1945701.64	99.53	29.5	120.4	
Ge	72	H2	333571.68	0.1	397826.96	83.85	29.5	120.4	
Ge	72	He	173624.62	0.6	191383.4	90.72	29.5	120.4	
Y	89	H2	5814898.91	0.8	6409151.48	90.73	29.5	120.4	
Y	89	He	1493873.36	0.4	1642682.2	90.94	29.5	120.4	
Tb	159	No Gas	18775674.44	1.5	18061819.73	103.95	29.5	120.4	
Tb	159	He	6758635.11	0.6	7050233.92	95.86	29.5	120.4	
Bi	209	No Gas	9539060.08	1.8	9028324.88	105.66	29.5	120.4	

Sample Report

Sample Name	SO1108-004
File Name	028SMPL.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:25:46
Sample Type	Sample
Total Dilution	5.0000
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	LDR	QC Flag
9	Be	6	No Gas	0.002	ppb	272.1	13.33	100	
11	B	6	No Gas	13.544	ppb	1.4	10645.36	1000	
23	Na	45	He	109583.034	ppb	0.6	10467374.92	200000	
24	Mg	45	He	622.634	ppb	0.3	33862.15	200000	
27	Al	45	He	24.757	ppb	42.4	525.80	200000	
28	Si	45	H2	2687.217	ppb	0.7	89579.26	10000	
39	K	45	He	169.293	ppb	0.4	23197.36	200000	
40	Ca	45	H2	6928.312	ppb	0.6	2002644.78	200000	
51	V	89	He	0.815	ppb	14.2	860.06	1000	
52	Cr	89	He	0.766	ppb	2.9	1003.19	2000	
55	Mn	89	He	1.246	ppb	5.3	653.23	2000	
56	Fe	89	H2	18.579	ppb	4.6	22700.87	100000	
59	Co	89	He	0.071	ppb	20.1	108.90	1000	
60	Ni	89	He	0.408	ppb	7.0	180.01	1000	
63	Cu	89	He	18.951	ppb	1.1	20718.19	2000	
66	Zn	89	He	30.345	ppb	2.9	4705.41	2000	
75	As	89	He	0.214	ppb	41.8	31.67	1000	
78	Se	89	H2	0.142	ppb	19.2	6.67	1000	
88	Sr	89	He	44.566	ppb	1.4	23796.81	2000	
95	Mo	89	He	0.271	ppb	16.7	168.90	1000	
107	Ag	89	He	0.011	ppb	71.5	38.89	100	
111	Cd	89	He	0.029	ppb	56.0	7.78	1000	
118	Sn	159	He	0.532	ppb	17.3	475.58	1000	
121	Sb	159	No Gas	0.070	ppb	11.0	373.76	1000	
137	Ba	159	No Gas	3.535	ppb	5.9	5480.58	2000	
182	W	159	No Gas	0.094	ppb	28.1	390.44	1000	
205	Tl	209	No Gas	-0.081	ppb	N/A	487.22	1000	
208	Pb	209	No Gas	0.712	ppb	5.2	7986.61	2000	
232	Th	209	No Gas	0.370	ppb	5.4	3554.53	1000	
238	U	209	No Gas	0.167	ppb	4.1	1505.11	1000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5467499.08	1.8	5944934.1	91.97	29.5	120.4	
Sc	45	No Gas	9644819.69	1.8	10076516.58	95.72	29.5	120.4	
Sc	45	H2	1017237.85	0.1	1161144.5	87.61	29.5	120.4	
Sc	45	He	277739.93	0.6	315280.57	88.09	29.5	120.4	
Ge	72	No Gas	1942846.22	1.7	1945701.64	99.85	29.5	120.4	
Ge	72	H2	334234.03	0.2	397826.96	84.01	29.5	120.4	
Ge	72	He	173910.35	0.8	191383.4	90.87	29.5	120.4	
Y	89	H2	5827680.03	0.4	6409151.48	90.93	29.5	120.4	
Y	89	He	1496968.97	0.6	1642682.2	91.13	29.5	120.4	
Tb	159	No Gas	18637184.17	0.8	18061819.73	103.19	29.5	120.4	
Tb	159	He	6768518.51	0.3	7050233.92	96	29.5	120.4	
Bi	209	No Gas	9525451.68	1.6	9028324.88	105.51	29.5	120.4	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	029_CCV.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:28:23
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
9	Be	6	No Gas	24.305	ppb	2.8	152313.94	25	97.22	89.8	110.2	
11	B	6	No Gas	24.406	ppb	3.2	97218.01	25	97.62	89.8	110.2	
23	Na	45	He	5074.962	ppb	0.3	2488157.37	5000	101.5	89.8	110.2	
24	Mg	45	He	5013.870	ppb	0.2	1391421.42	5000	100.28	89.8	110.2	
27	Al	45	He	483.433	ppb	1.1	49997.06	500	96.69	89.8	110.2	
28	Si	45	H2	463.712	ppb	0.2	79657.20	500	92.74	89.8	110.2	
39	K	45	He	4901.233	ppb	0.9	1189342.17	5000	98.02	89.8	110.2	
40	Ca	45	H2	4990.515	ppb	0.8	7422434.26	5000	99.81	89.8	110.2	
51	V	89	He	23.671	ppb	1.3	87724.88	25	94.68	89.8	110.2	
52	Cr	89	He	23.742	ppb	0.7	110847.68	25	94.97	89.8	110.2	
55	Mn	89	He	23.786	ppb	0.6	51887.30	25	95.14	89.8	110.2	
56	Fe	89	H2	4943.793	ppb	0.4	26274849.13	5000	98.88	89.8	110.2	
59	Co	89	He	24.157	ppb	1.6	177143.51	25	96.63	89.8	110.2	
60	Ni	89	He	24.250	ppb	0.5	48741.36	25	97	89.8	110.2	
63	Cu	89	He	24.223	ppb	0.7	131348.13	25	96.89	89.8	110.2	
66	Zn	89	He	23.886	ppb	0.7	17947.64	25	95.54	89.8	110.2	
75	As	89	He	24.082	ppb	1.0	12869.69	25	96.33	89.8	110.2	
78	Se	89	H2	24.294	ppb	0.1	5691.08	25	97.18	89.8	110.2	
88	Sr	89	He	23.604	ppb	0.7	64623.65	25	94.42	89.8	110.2	
95	Mo	89	He	24.315	ppb	0.2	71792.26	25	97.26	89.8	110.2	
107	Ag	89	He	24.974	ppb	1.0	234148.04	25	99.9	89.8	110.2	
111	Cd	89	He	24.550	ppb	0.7	30663.57	25	98.2	89.8	110.2	
118	Sn	159	He	23.397	ppb	0.6	60296.48	25	93.59	89.8	110.2	
121	Sb	159	No Gas	24.101	ppb	2.3	472314.84	25	96.4	89.8	110.2	
137	Ba	159	No Gas	24.043	ppb	2.1	185628.30	25	96.17	89.8	110.2	
182	W	159	No Gas	24.717	ppb	2.6	401489.39	25	98.87	89.8	110.2	
205	Tl	209	No Gas	25.198	ppb	3.1	812603.21	25	100.79	89.8	110.2	
208	Pb	209	No Gas	24.831	ppb	2.5	1130613.75	25	99.32	89.8	110.2	
232	Th	209	No Gas	23.000	ppb	4.9	1015584.40	25	92	89.8	110.2	
238	U	209	No Gas	24.585	ppb	3.4	1094127.68	25	98.34	89.8	110.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5669323.03	1.8	5944934.1	95.36	29.5	120.4	
Sc	45	No Gas	9812649.59	1.3	10076516.58	97.38	29.5	120.4	
Sc	45	H2	1047607.74	1.3	1161144.5	90.22	29.5	120.4	
Sc	45	He	284277.80	0.2	315280.57	90.17	29.5	120.4	
Ge	72	No Gas	1944877.20	1.7	1945701.64	99.96	29.5	120.4	
Ge	72	H2	344685.72	1.4	397826.96	86.64	29.5	120.4	
Ge	72	He	177183.09	0.2	191383.4	92.58	29.5	120.4	
Y	89	H2	5950278.19	1.0	6409151.48	92.84	29.5	120.4	
Y	89	He	1535685.38	0.6	1642682.2	93.49	29.5	120.4	
Tb	159	No Gas	18786539.17	1.2	18061819.73	104.01	29.5	120.4	
Tb	159	He	6851872.12	0.2	7050233.92	97.19	29.5	120.4	
Bi	209	No Gas	9432420.11	1.7	9028324.88	104.48	29.5	120.4	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	030_CCB.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2021\03-MAR\LOC01A.b
Acq Time	3/1/2021 18:31:06
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	006CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**admin**

QC Analyte Table

Mass	Name	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
9	Be	6	No Gas	0.003	ppb	92.2	33.33	0.2	
11	B	6	No Gas	0.263	ppb	1.7	1355.67	4	
23	Na	45	He	11.002	ppb	6.2	15007.89	200	
24	Mg	45	He	1.229	ppb	43.7	451.16	20	
27	Al	45	He	0.522	ppb	40.4	81.12	20	
28	Si	45	H2	-0.332	ppb	N/A	383.77	100	
39	K	45	He	2.501	ppb	33.3	16438.73	200	
40	Ca	45	H2	1.131	ppb	22.6	3898.46	20	
51	V	89	He	-0.009	ppb	N/A	247.79	1	
52	Cr	89	He	0.001	ppb	458.0	322.61	1	
55	Mn	89	He	-0.009	ppb	N/A	109.98	0.4	
56	Fe	89	H2	1.644	ppb	9.4	12232.34	20	
59	Co	89	He	0.004	ppb	73.7	40.00	0.2	
60	Ni	89	He	0.010	ppb	19.6	41.11	0.4	
63	Cu	89	He	-0.030	ppb	N/A	675.60	0.6	
66	Zn	89	He	-0.005	ppb	N/A	357.79	2	
75	As	89	He	0.021	ppb	14.5	21.00	1	
78	Se	89	H2	0.038	ppb	25.5	9.17	1	
88	Sr	89	He	0.010	ppb	24.8	45.56	1	
95	Mo	89	He	0.084	ppb	16.5	263.35	1	
107	Ag	89	He	0.006	ppb	15.4	72.23	0.2	
111	Cd	89	He	0.004	ppb	39.3	5.55	0.2	
118	Sn	159	He	0.068	ppb	25.0	384.46	1	
121	Sb	159	No Gas	0.018	ppb	11.1	463.86	0.2	
137	Ba	159	No Gas	0.009	ppb	89.0	136.82	0.4	
182	W	159	No Gas	0.081	ppb	15.8	1398.31	1	
205	Tl	209	No Gas	0.011	ppb	58.1	1374.95	0.2	
208	Pb	209	No Gas	0.017	ppb	16.4	2192.52	0.2	
232	Th	209	No Gas	0.171	ppb	5.2	7801.19	1	
238	U	209	No Gas	0.017	ppb	14.7	764.21	0.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	5818917.98	1.4	5944934.1	97.88	29.5	120.4	
Sc	45	No Gas	9802460.35	1.1	10076516.58	97.28	29.5	120.4	
Sc	45	H2	1048865.17	1.0	1161144.5	90.33	29.5	120.4	
Sc	45	He	287883.84	0.9	315280.57	91.31	29.5	120.4	
Ge	72	No Gas	1949227.77	0.9	1945701.64	100.18	29.5	120.4	
Ge	72	H2	349919.84	0.6	397826.96	87.96	29.5	120.4	
Ge	72	He	178861.19	0.9	191383.4	93.46	29.5	120.4	
Y	89	H2	5981037.44	0.6	6409151.48	93.32	29.5	120.4	
Y	89	He	1549923.05	0.5	1642682.2	94.35	29.5	120.4	
Tb	159	No Gas	18695874.58	0.8	18061819.73	103.51	29.5	120.4	
Tb	159	He	6889887.75	0.4	7050233.92	97.73	29.5	120.4	
Bi	209	No Gas	9451834.52	1.8	9028324.88	104.69	29.5	120.4	

Logbooks and Supporting Documents

Katahdin Analytical Services, Inc.

Metals Preparation Benchsheet

Reagents and Consumables Information:

Method: 3010-MS

HNO3: MSR2228 **HCL:** MSR2219 **Digestion Vessels:** MLD0260000046

1:1 HNO3: MR2921 **1:1 HCL:** MR2923

Pipet	LCS/Spiking Information:
M11	CLPP-SPK-1 (ID/Vol): MS2282 / 0.05 mL
M21	CLPP-SPK-INT1 (ID/Vol): MW20000 / 0.5 mL
M21	CLPP-SPK-INT2 (ID/Vol): MW20024 / 0.5 mL
—	— Spike (ID/Vol): — / — mL

Heat Source ID : A
Start Time: 9:03 **/Temp.** 90 °C
End Time: 15:53 **/Temp.** 95 °C
Thermometer ID/Pos: ALC30 / 2:3

Sample ID	Batch ID	Initial Wt/Vol	Initial Units	Final Vol	Final Units	MX	Meth	Anal.	Date	Bottle	pH <2
LCSWOC01IMW2	OC01IMW2	0.05	L	0.05	L	AQ	IM	SF	03/01/2021	—	✓
PBWOC01IMW2	OC01IMW2		L		L	AQ	IM	SF	03/01/2021	—	
SO1083-001	OC01IMW2		L		L	AQ	IM	SF	03/01/2021	F	
SO1083-002	OC01IMW2		L		L	AQ	IM	SF	03/01/2021	A	
SO1108-001	OC01IMW2		L		L	AQ	IM	SF	03/01/2021	C	
SO1108-001P	OC01IMW2		L		L	AQ	IM	SF	03/01/2021	C	
SO1108-001S	OC01IMW2		L		L	AQ	IM	SF	03/01/2021	C	
SO1108-002	OC01IMW2		L		L	AQ	IM	SF	03/01/2021	A	
SO1108-003	OC01IMW2		L		L	AQ	IM	SF	03/01/2021	A	
SO1108-004	OC01IMW2	✓	L	✓	L	AQ	IM	SF	03/01/2021	A	✓

Client IDs verified -SF

REVIEWED
KC 3/2/21
KATAHDIN ANALYTICAL
METALS SECTION

QA-064-Revision 5 -12/07/2018 **Digestion performed by:** SF **On:** 3/1/21 **Page:** OC004 **Revision:** 00

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Appendix I

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US Army Corps of Engineers

Facility:	D01ME0077-02, Nike 58 - SI in Launch Area
Event:	Nike 58 Winter Groundwater 2020 Sampling
SDG:	TN0377
Guidance Document:	Quality Assurance Project Plan Former LO-58 Nike Missile Launch Site, Caribou, Maine
Prime Contractor:	Verina Consulting Group, LLC, Bridgewater, NJ
Project Manager:	Robert Gan
Contract Laboratory(ies):	Katahdin Analytical Services, Scarborough, ME
Data Review Contractor:	NOBIS
Data Review Level:	S2AVEM
Primary Data Reviewer:	Kristi Rutherford, Environmental Chemist
Second Reviewer:	Gary Glennon, Lead Chemist
Date Submitted:	March 26, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	E524.2	MADEPVP	SW6020A	SW7470A	SW8260C
DW-01-EFF-WINTER2020	TN0377-1	Water	Field Sample/N	X	X	X	X	X	
DW-01-INF-WINTER2020	TN0377-2	Water	Field Sample/N	X	X	X	X	X	
DW-01-MID-WINTER2020	TN0377-3	Water	Field Sample/N	X	X	X	X	X	
DW-02R-EFF-WINTER2020	TN0377-4	Water	Field Sample/N	X	X	X	X	X	
DW-02R-INF-WINTER2020	TN0377-5	Water	Field Sample/N	X	X	X	X	X	
DW-FD-WINTER2020	TN0377-6	Water	Field Duplicate/FD	X	X	X	X	X	
DW-TB-WINTER2020	TN0377-14	Water	Trip Blank/TB		X	X			
GW-EB-WINTER2020	TN0377-13	Water	Equipment Blank/EB	X		X	X	X	X
GW-TB-WINTER2020	TN0377-15	Water	Trip Blank/TB			X			X
MW-01-WINTER2020	TN0377-7	Water	Field Sample/N	X		X	X	X	X
MW-02-WINTER2020	TN0377-8	Water	Field Sample/N	X		X	X	X	X
MW-03-WINTER2020	TN0377-9	Water	Field Sample/N	X		X	X	X	X
MW-04-WINTER2020	TN0377-10	Water	Field Sample/N	X		X	X	X	X
MW-05-WINTER2020	TN0377-11	Water	Field Sample/N	X		X	X	X	X
MW-FD-WINTER2020	TN0377-12	Water	Field Duplicate/FD	X		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 Quality Assurance Project Plan Former LO-58 Nike Missile Launch Site, Caribou, Maine 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 Verina Consulting Group, LLC, Bridgewater, NJ; analyses were performed by Katahdin Analytical Services, Scarborough, ME and were reported under sample delivery group (SDG) TN0377. 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 74 results (5.63%) out of the 1315 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
BNASIM	No additional comments; see Checklist for detail.
E524.2	No additional comments; see Checklist for detail.
MADEPVP	No additional comments; see Checklist for detail.
SW6020A	No additional comments; see Checklist for detail.
SW7470A	No additional comments; see Checklist for detail.
SW8260C	No additional comments; see Checklist for detail.

Kristi Rutherford

February 09, 2021

Reviewed by Kristi Rutherford, Environmental Chemist, NOBIS

As the First 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.

Gary J. Glennon

Reviewed by Gary Glennon, Lead Chemist, NOBIS

March 26, 2021

As the Second Reviewer, I certify that I have performed a quality assurance review of the report generated by the First Reviewer.

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
MW-01-WINTER2020-MS (MS)/ WG292336-5	Dibenz (a,h)anthracene	35.83	44 - 131	10 - 131	percent	J/UJ	M	
MW-01-WINTER2020-MS (MS)/ WG292336-5	Benzo (g,h,i)perylene	39.04	44 - 128	10 - 128	percent	J/UJ	M	
MW-01-WINTER2020-MS (MS)/ WG292336-5	Indeno(1,2,3-c,d)pyrene	39.04	48 - 130	10 - 130	percent	J/UJ	M	
MW-01-WINTER2020-MS (MS)/ WG292336-5	Benzo(a)pyrene	48.66	53 - 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
MW-01-WINTER2020	N	Benzo(a)pyrene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M
MW-01-WINTER2020	N	Benzo(g,h,i)perylene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M
MW-01-WINTER2020	N	Dibenz(a,h)anthracene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M
MW-01-WINTER2020	N	Indeno(1,2,3-c,d)pyrene	0.200	0.100 UM	0.100 UJ		ug/l	H2/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
DW-01-INF-WINTER2020-MS (SD)/ WG292336-4	Indeno(1,2,3-c,d)pyrene	42.86	< 40	< 40	rpd	J/None	D	
DW-01-INF-WINTER2020-MS (SD)/ WG292336-4	Dibenz (a,h)anthracene	45.90	< 40	< 40	rpd	J/None	D	
MW-01-WINTER2020-MS (SD)/ WG292336-6	Benzo (b)fluoranthene	42.86	< 40	< 40	rpd	J/None	D	
MW-01-WINTER2020-MS (SD)/ WG292336-6	Benzo (k)fluoranthene	48.28	< 40	< 40	rpd	J/None	D	
MW-01-WINTER2020-MS (SD)/ WG292336-6	Benzo(a)pyrene	48.96	< 40	< 40	rpd	J/None	D	
MW-01-WINTER2020-MS (SD)/ WG292336-6	Benzo (g,h,i)perylene	62.91	< 40	< 40	rpd	J/None	D	
MW-01-WINTER2020-MS (SD)/ WG292336-6	Indeno(1,2,3-c,d)pyrene	62.91	< 40	< 40	rpd	J/None	D	
MW-01-WINTER2020-MS (SD)/ WG292336-6	Dibenz (a,h)anthracene	70.53	< 40	< 40	rpd	J/None	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.

No results associated with this QC element required qualification.

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
MW-01-WINTER2020 (N)/ TN0377-7		7.830	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
MW-02-WINTER2020 (N)/ TN0377-8		7.120	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
MW-04-WINTER2020 (N)/ TN0377-10		7.030	< 7	< 14	days	J/UJ	H2	Prep Exceeds UWL
MW-FD-WINTER2020 (FD)/ TN0377-12		7.100	< 7	< 14	days	J/UJ	H2	Prep 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
MW-01-WINTER2020	N	1-Methylnaphthalene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	2-Methylnaphthalene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Acenaphthene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Acenaphthylene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Anthracene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Benzo(a)anthracene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Benzo(a)pyrene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M
MW-01-WINTER2020	N	Benzo(b)fluoranthene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Benzo(g,h,i)perylene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M
MW-01-WINTER2020	N	Benzo(k)fluoranthene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Chrysene	0.200	0.0440 J	0.0440 J	-	ug/l	H2/TR
MW-01-WINTER2020	N	Dibenz(a,h)anthracene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M
MW-01-WINTER2020	N	Fluoranthene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Fluorene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Indeno(1,2,3-c,d)pyrene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M
MW-01-WINTER2020	N	Naphthalene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Phenanthrene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Pyrene	0.200	0.0700 J	0.0700 J	-	ug/l	H2/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 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
DW-01-MID-WINTER2020 (N)/ TN0377-3	2-Methylnaphthalene -d10	100.0	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.

No results associated with this QC element required qualification.

Quality Control Outliers for test method E524.2, 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
DW-02R-INF-WINTER2020 (N)/ TN0377-6	Methylene chloride	5.300	< 2.5	< 2.5	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 E524.2

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-02R-INF-WINTER2020	N	Methylene chloride	2.50	2.50	2.50 UJ		ug/l	L/T/D3
DW-FD-WINTER2020	FD	Methylene chloride	2.50	7.80	7.80 J		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 E524.2, 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
WG292404-2 (LB)/ WG292404-2	Methylene chloride	0.9400	< 0.62	< 2.5	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 E524.2

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-01-EFF-WINTER2020	N	Methylene chloride	2.50	0.720 J	2.50 U		ug/l	L/T
DW-01-MID-WINTER2020	N	Methylene chloride	2.50	2.40 J	2.50 U		ug/l	L/T
DW-02R-INF-WINTER2020	N	Methylene chloride	2.50	2.50	2.50 UJ		ug/l	L/T/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 E524.2, 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
WG292404-1 (BS)/ WG292404-1	Vinyl chloride	132.0	70 - 130	70 - 130	percent	J/None	C	
WG292404-1 (BS)/ WG292404-1	Chloromethane	148.0	70 - 130	70 - 130	percent	J/None	C	
WG292404-1 (BS)/ WG292404-1	Dichlorodifluoromethane	168.0	70 - 130	70 - 130	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 E524.2, 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
DW-01-INF-WINTER2020-MS (MS)/ WG292404-6	Chloroethane	140.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MS (MS)/ WG292404-6	Trichlorofluoromethane	146.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MS (MS)/ WG292404-6	Vinyl chloride	154.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MS (MS)/ WG292404-6	Chloromethane	160.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MS (MS)/ WG292404-6	Acetone	172.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MS (MS)/ WG292404-6	Dichlorodifluoromethane	206.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MSD (SD)/ WG292404-7	Methyl tert-butyl ether (MTBE)	132.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MSD (SD)/ WG292404-7	Chloroethane	152.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MSD (SD)/ WG292404-7	Trichlorofluoromethane	154.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MSD (SD)/ WG292404-7	Acetone	164.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MSD (SD)/ WG292404-7	Vinyl chloride	172.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MSD (SD)/ WG292404-7	Chloromethane	178.0	70 - 130	70 - 130	percent	J/None	M	
DW-01-INF-WINTER2020-MSD (SD)/ WG292404-7	Dichlorodifluoromethane	224.0	70 - 130	70 - 130	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 E524.2, 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
DW-TB-WINTER2020 (TB)/ TN0377-14	Acetone	2.400	< 2.2	< 5	ug/l	U/None	T	
DW-TB-WINTER2020 (TB)/ TN0377-14	Methylene chloride	3.600	< 0.62	< 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.

Qualified Results associated with the Trip Blank for E524.2

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-01-EFF-WINTER2020	N	Methylene chloride	2.50	0.720 J	2.50 U		ug/l	L/T
DW-01-INF-WINTER2020	N	Methylene chloride	3.40	3.40	3.40 U		ug/l	T
DW-01-MID-WINTER2020	N	Methylene chloride	2.50	2.40 J	2.50 U		ug/l	L/T
DW-02R-EFF-WINTER2020	N	Methylene chloride	4.20	4.20	4.20 U		ug/l	T
DW-02R-INF-WINTER2020	N	Methylene chloride	2.50	2.50	2.50 UJ		ug/l	L/T/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 SW6020A, Total, 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
GW-EB-WINTER2020 (EB)/ TN0377-13	Beryllium	0.04900	< 0.034	< 1	ug/l	U/None	V	
GW-EB-WINTER2020 (EB)/ TN0377-13	Lead	0.08300	< 0.075	< 1	ug/l	U/None	V	
GW-EB-WINTER2020 (EB)/ TN0377-13	Chromium	0.3400	< 0.22	< 5	ug/l	U/None	V	
GW-EB-WINTER2020 (EB)/ TN0377-13	Copper	3.000	< 0.19	< 3	ug/l	U/None	V	
GW-EB-WINTER2020 (EB)/ TN0377-13	Calcium	45.00	< 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.

Qualified Results associated with the Equipment Blank for SW6020A, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
MW-01-WINTER2020	N	Chromium	5.00	0.590 J	5.00 U		ug/l	V/L
MW-01-WINTER2020	N	Copper	3.00	1.40 J	3.00 U		ug/l	V/L
MW-01-WINTER2020	N	Lead	1.00	0.180 J	1.00 U		ug/l	V/L
MW-02-WINTER2020	N	Chromium	5.00	3.82 J	5.00 U		ug/l	V/L
MW-02-WINTER2020	N	Copper	3.00	1.20 J	3.00 U		ug/l	V/L
MW-02-WINTER2020	N	Lead	1.00	0.130 J	1.00 U		ug/l	V/L
MW-03-WINTER2020	N	Chromium	5.00	0.750 J	5.00 U		ug/l	V/L
MW-03-WINTER2020	N	Copper	3.00	1.20 J	3.00 U		ug/l	V/L
MW-03-WINTER2020	N	Lead	1.00	0.150 J	1.00 U		ug/l	V/L
MW-04-WINTER2020	N	Chromium	5.00	0.750 J	5.00 U		ug/l	V/L
MW-04-WINTER2020	N	Copper	3.00	1.30 J	3.00 U		ug/l	V/L
MW-04-WINTER2020	N	Lead	1.00	0.210 J	1.00 U		ug/l	V/L
MW-05-WINTER2020	N	Beryllium	1.00	0.0940 J	1.00 U		ug/l	V
MW-05-WINTER2020	N	Chromium	5.00	1.00 J	5.00 U		ug/l	V/L
MW-05-WINTER2020	N	Lead	1.00	0.949 J	1.00 U		ug/l	V/L
MW-FD-WINTER2020	FD	Beryllium	1.00	0.0370 J	1.00 U		ug/l	V
MW-FD-WINTER2020	FD	Chromium	5.00	0.600 J	5.00 U		ug/l	V/L
MW-FD-WINTER2020	FD	Copper	3.00	2.69 J	3.00 U		ug/l	V/L
MW-FD-WINTER2020	FD	Lead	1.00	0.0790 J	1.00 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 SW6020A, Total, 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
DW-02R-INF-WINTER2020 (N)/ TN0377-6	Lead	1.120	< 1	< 1	ug/l	J/UJ	D3	
DW-02R-INF-WINTER2020 (N)/ TN0377-6	Zinc	33.90	< 10	< 10	ug/l	J/UJ	D3	
DW-02R-INF-WINTER2020 (N)/ TN0377-6	Nickel	5.930	< 2	< 2	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 SW6020A, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-02R-INF-WINTER2020	N	Lead	1.00	2.30	2.30 J		ug/l	D3
DW-02R-INF-WINTER2020	N	Nickel	2.00	1.40 J	1.40 J		ug/l	D3/TR
DW-02R-INF-WINTER2020	N	Zinc	10.0	22.0	22.0 J		ug/l	D3
DW-FD-WINTER2020	FD	Lead	1.00	3.42	3.42 J		ug/l	D3
DW-FD-WINTER2020	FD	Nickel	2.00	7.33	7.33 J		ug/l	D3
DW-FD-WINTER2020	FD	Zinc	10.0	55.9	55.9 J		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 SW6020A, Total, 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
PBWNL22IMW3 (LB)/ PBWNL22IMW3	Cadmium	0.03700	< 0.03	< 1	ug/l	U/None	L	
PBWNL22IMW3 (LB)/ PBWNL22IMW3	Lead	0.2000	< 0.074	< 1	ug/l	U/None	L	
PBWNL22IMW3 (LB)/ PBWNL22IMW3	Chromium	0.3000	< 0.22	< 5	ug/l	U/None	L	
PBWNL22IMW3 (LB)/ PBWNL22IMW3	Copper	0.3900	< 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 SW6020A, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-01-EFF-WINTER2020	N	Cadmium	1.00	0.0350 J	1.00 U		ug/l	L
DW-01-EFF-WINTER2020	N	Chromium	5.00	1.60 J	5.00 U		ug/l	L
DW-01-EFF-WINTER2020	N	Lead	1.00	0.930 J	1.00 U		ug/l	L
DW-01-INF-WINTER2020	N	Chromium	5.00	0.600 J	5.00 U		ug/l	L
DW-01-MID-WINTER2020	N	Cadmium	1.00	0.0510 J	1.00 U		ug/l	L
DW-01-MID-WINTER2020	N	Chromium	5.00	0.480 J	5.00 U		ug/l	L
DW-01-MID-WINTER2020	N	Lead	1.00	0.330 J	1.00 U		ug/l	L
DW-02R-EFF-WINTER2020	N	Chromium	5.00	0.310 J	5.00 U		ug/l	L
DW-02R-INF-WINTER2020	N	Cadmium	1.00	0.0330 J	1.00 U		ug/l	L
DW-02R-INF-WINTER2020	N	Chromium	5.00	0.500 J	5.00 U		ug/l	L
DW-FD-WINTER2020	FD	Cadmium	1.00	0.0460 J	1.00 U		ug/l	L
DW-FD-WINTER2020	FD	Chromium	5.00	0.530 J	5.00 U		ug/l	L
GW-EB-WINTER2020	EB	Chromium	5.00	0.340 J	5.00 U		ug/l	L
GW-EB-WINTER2020	EB	Copper	3.00	3.00 J	3.00 U		ug/l	L
GW-EB-WINTER2020	EB	Lead	1.00	0.0830 J	1.00 U		ug/l	L
MW-01-WINTER2020	N	Chromium	5.00	0.590 J	5.00 U		ug/l	V/L
MW-01-WINTER2020	N	Copper	3.00	1.40 J	3.00 U		ug/l	V/L
MW-01-WINTER2020	N	Lead	1.00	0.180 J	1.00 U		ug/l	V/L
MW-02-WINTER2020	N	Cadmium	1.00	0.0430 J	1.00 U		ug/l	L
MW-02-WINTER2020	N	Chromium	5.00	3.82 J	5.00 U		ug/l	V/L
MW-02-WINTER2020	N	Copper	3.00	1.20 J	3.00 U		ug/l	V/L
MW-02-WINTER2020	N	Lead	1.00	0.130 J	1.00 U		ug/l	V/L
MW-03-WINTER2020	N	Cadmium	1.00	0.0330 J	1.00 U		ug/l	L
MW-03-WINTER2020	N	Chromium	5.00	0.750 J	5.00 U		ug/l	V/L
MW-03-WINTER2020	N	Copper	3.00	1.20 J	3.00 U		ug/l	V/L

Qualified Results associated with the Lab Blank for SW6020A, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
MW-03-WINTER2020	N	Lead	1.00	0.150 J	1.00 U		ug/l	V/L
MW-04-WINTER2020	N	Chromium	5.00	0.750 J	5.00 U		ug/l	V/L
MW-04-WINTER2020	N	Copper	3.00	1.30 J	3.00 U		ug/l	V/L
MW-04-WINTER2020	N	Lead	1.00	0.210 J	1.00 U		ug/l	V/L
MW-05-WINTER2020	N	Chromium	5.00	1.00 J	5.00 U		ug/l	V/L
MW-05-WINTER2020	N	Lead	1.00	0.949 J	1.00 U		ug/l	V/L
MW-FD-WINTER2020	FD	Chromium	5.00	0.600 J	5.00 U		ug/l	V/L
MW-FD-WINTER2020	FD	Copper	3.00	2.69 J	3.00 U		ug/l	V/L
MW-FD-WINTER2020	FD	Lead	1.00	0.0790 J	1.00 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 SW6020A, Total, 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
MW-01-WINTER2020-MSD (SD)/ TN0377-007P	Calcium	-20.00	87 - 118	30 - 118	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 SW8260C, 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
GW-EB-WINTER2020 (EB)/ TN0377-13	Methylene chloride	2.800	< 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.

Qualified Results associated with the Equipment Blank for SW8260C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
MW-01-WINTER2020	N	Methylene chloride	5.00	2.20 J	5.00 U		ug/l	V/L/T
MW-03-WINTER2020	N	Methylene chloride	5.00	1.60 J	5.00 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 SW8260C, 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
WG292401-10 (LB)/ WG292401-10	Carbon disulfide	0.3800	< 0.25	< 1	ug/l	U/None	L	
WG292401-10 (LB)/ WG292401-10	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 SW8260C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
MW-01-WINTER2020	N	Methylene chloride	5.00	2.20 J	5.00 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 SW8260C, 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
MW-01-WINTER2020-MS (MS)/ WG292401-13	Bromomethane	32.80	53 - 141	20 - 141	percent	J/UJ	M	
MW-01-WINTER2020-MSD (SD)/ WG292401-14	Chloroethane	150.2	60 - 138	20 - 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 SW8260C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
MW-01-WINTER2020	N	Bromomethane	2.00	1.00 UM	1.00 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 SW8260C, 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
MW-01-WINTER2020-MS (SD)/ WG292401-14	Bromomethane	61.02	< 20	< 20	rpd	J/None	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.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260C, 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
GW-EB-WINTER2020 (EB)/ TN0377-13	1,2-Dichloroethane-d4	122.0	81 - 118	10 - 118	percent	J/None	I	
MW-03-WINTER2020 (N)/ TN0377-9	1,2-Dichloroethane-d4	119.0	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 SW8260C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
GW-EB-WINTER2020	EB	Methylene chloride	5.00	2.80 J	2.80 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 SW8260C, 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
MW-02-WINTER2020 (N)/ TN0377-8		14.17	< 14	< 14	days	J/X	H1	Test Exceeds UCL
MW-03-WINTER2020 (N)/ TN0377-9		14.04	< 14	< 14	days	J/X	H1	Test Exceeds UCL
MW-04-WINTER2020 (N)/ TN0377-10		14.42	< 14	< 14	days	J/X	H1	Test Exceeds UCL
MW-05-WINTER2020 (N)/ TN0377-11		14.27	< 14	< 14	days	J/X	H1	Test Exceeds UCL
MW-FD-WINTER2020 (FD)/ TN0377-12		14.54	< 14	< 14	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 SW8260C, 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
GW-TB-WINTER2020 (TB)/ TN0377-15	Acetone	55.00	< 2.2	< 5	ug/l	U/None	T	
GW-TB-WINTER2020 (TB)/ TN0377-15	Methylene chloride	90.00	< 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 SW8260C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
MW-01-WINTER2020	N	Methylene chloride	5.00	2.20 J	5.00 U		ug/l	V/L/T
MW-02-WINTER2020	N	Methylene chloride	9.30	9.30	9.30 U		ug/l	T
MW-03-WINTER2020	N	Methylene chloride	5.00	1.60 J	5.00 U		ug/l	V/T
MW-04-WINTER2020	N	Methylene chloride	17.0	17.0	17.0 U		ug/l	T
MW-05-WINTER2020	N	Methylene chloride	5.80	5.80	5.80 U		ug/l	T
MW-FD-WINTER2020	FD	Methylene chloride	9.40	9.40	9.40 U		ug/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.

Table of All Qualified Results

Test Method: BNASIM Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
MW-01-WINTER2020	N	1-Methylnaphthalene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	2-Methylnaphthalene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Acenaphthene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Acenaphthylene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Anthracene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Benzo(a)anthracene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Benzo(b)fluoranthene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Benzo(k)fluoranthene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Chrysene	0.200	0.0440 J	0.0440 J	-	ug/l	H2/TR
MW-01-WINTER2020	N	Fluoranthene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Fluorene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Naphthalene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Phenanthrene	0.200	0.100 U	0.100 UJ		ug/l	H2
MW-01-WINTER2020	N	Pyrene	0.200	0.0700 J	0.0700 J	-	ug/l	H2/TR
MW-01-WINTER2020	N	Benzo(a)pyrene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M
MW-01-WINTER2020	N	Benzo(g,h,i)perylene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M
MW-01-WINTER2020	N	Dibenz(a,h)anthracene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M
MW-01-WINTER2020	N	Indeno(1,2,3-c,d)pyrene	0.200	0.100 UM	0.100 UJ		ug/l	H2/M

Test Method: E524.2 Extraction Method: METHOD

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-01-EFF-WINTER2020	N	Methylene chloride	2.50	0.720 J	2.50 U		ug/l	L/T
DW-01-INF-WINTER2020	N	Methylene chloride	3.40	3.40	3.40 U		ug/l	T
DW-01-MID-WINTER2020	N	Methylene chloride	2.50	2.40 J	2.50 U		ug/l	L/T
DW-02R-EFF-WINTER2020	N	Methylene chloride	4.20	4.20	4.20 U		ug/l	T
DW-02R-INF-WINTER2020	N	Methylene chloride	2.50	2.50	2.50 UJ		ug/l	L/T/D3
DW-FD-WINTER2020	FD	Methylene chloride	2.50	7.80	7.80 J		ug/l	D3

Test Method: SW6020A Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-01-EFF-WINTER2020	N	Cadmium	1.00	0.0350 J	1.00 U		ug/l	L
DW-01-EFF-WINTER2020	N	Chromium	5.00	1.60 J	5.00 U		ug/l	L
DW-01-EFF-WINTER2020	N	Lead	1.00	0.930 J	1.00 U		ug/l	L
DW-01-INF-WINTER2020	N	Chromium	5.00	0.600 J	5.00 U		ug/l	L
DW-01-MID-WINTER2020	N	Cadmium	1.00	0.0510 J	1.00 U		ug/l	L
DW-01-MID-WINTER2020	N	Chromium	5.00	0.480 J	5.00 U		ug/l	L
DW-01-MID-WINTER2020	N	Lead	1.00	0.330 J	1.00 U		ug/l	L
DW-02R-EFF-WINTER2020	N	Chromium	5.00	0.310 J	5.00 U		ug/l	L
DW-02R-INF-WINTER2020	N	Cadmium	1.00	0.0330 J	1.00 U		ug/l	L
DW-02R-INF-WINTER2020	N	Chromium	5.00	0.500 J	5.00 U		ug/l	L

Table of All Qualified Results

Test Method: SW6020A	Extraction Method: Total							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-02R-INF-WINTER2020	N	Lead	1.00	2.30	2.30 J		ug/l	D3
DW-02R-INF-WINTER2020	N	Nickel	2.00	1.40 J	1.40 J		ug/l	D3/TR
DW-02R-INF-WINTER2020	N	Zinc	10.0	22.0	22.0 J		ug/l	D3
DW-FD-WINTER2020	FD	Cadmium	1.00	0.0460 J	1.00 U		ug/l	L
DW-FD-WINTER2020	FD	Chromium	5.00	0.530 J	5.00 U		ug/l	L
DW-FD-WINTER2020	FD	Lead	1.00	3.42	3.42 J		ug/l	D3
DW-FD-WINTER2020	FD	Nickel	2.00	7.33	7.33 J		ug/l	D3
DW-FD-WINTER2020	FD	Zinc	10.0	55.9	55.9 J		ug/l	D3
GW-EB-WINTER2020	EB	Chromium	5.00	0.340 J	5.00 U		ug/l	L
GW-EB-WINTER2020	EB	Copper	3.00	3.00 J	3.00 U		ug/l	L
GW-EB-WINTER2020	EB	Lead	1.00	0.0830 J	1.00 U		ug/l	L
MW-01-WINTER2020	N	Chromium	5.00	0.590 J	5.00 U		ug/l	V/L
MW-01-WINTER2020	N	Copper	3.00	1.40 J	3.00 U		ug/l	V/L
MW-01-WINTER2020	N	Lead	1.00	0.180 J	1.00 U		ug/l	V/L
MW-02-WINTER2020	N	Cadmium	1.00	0.0430 J	1.00 U		ug/l	L
MW-02-WINTER2020	N	Chromium	5.00	3.82 J	5.00 U		ug/l	V/L
MW-02-WINTER2020	N	Copper	3.00	1.20 J	3.00 U		ug/l	V/L
MW-02-WINTER2020	N	Lead	1.00	0.130 J	1.00 U		ug/l	V/L
MW-03-WINTER2020	N	Cadmium	1.00	0.0330 J	1.00 U		ug/l	L
MW-03-WINTER2020	N	Chromium	5.00	0.750 J	5.00 U		ug/l	V/L
MW-03-WINTER2020	N	Copper	3.00	1.20 J	3.00 U		ug/l	V/L
MW-03-WINTER2020	N	Lead	1.00	0.150 J	1.00 U		ug/l	V/L
MW-04-WINTER2020	N	Chromium	5.00	0.750 J	5.00 U		ug/l	V/L
MW-04-WINTER2020	N	Copper	3.00	1.30 J	3.00 U		ug/l	V/L
MW-04-WINTER2020	N	Lead	1.00	0.210 J	1.00 U		ug/l	V/L
MW-05-WINTER2020	N	Chromium	5.00	1.00 J	5.00 U		ug/l	V/L
MW-05-WINTER2020	N	Beryllium	1.00	0.0940 J	1.00 U		ug/l	V
MW-05-WINTER2020	N	Lead	1.00	0.949 J	1.00 U		ug/l	V/L
MW-FD-WINTER2020	FD	Chromium	5.00	0.600 J	5.00 U		ug/l	V/L
MW-FD-WINTER2020	FD	Copper	3.00	2.69 J	3.00 U		ug/l	V/L
MW-FD-WINTER2020	FD	Beryllium	1.00	0.0370 J	1.00 U		ug/l	V
MW-FD-WINTER2020	FD	Lead	1.00	0.0790 J	1.00 U		ug/l	V/L

Test Method: SW8260C	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
GW-EB-WINTER2020	EB	Methylene chloride	5.00	2.80 J	2.80 J	+	ug/l	I/TR
MW-01-WINTER2020	N	Methylene chloride	5.00	2.20 J	5.00 U		ug/l	V/L/T
MW-01-WINTER2020	N	Bromomethane	2.00	1.00 UM	1.00 UJ		ug/l	M
MW-02-WINTER2020	N	Methylene chloride	9.30	9.30	9.30 U		ug/l	T
MW-03-WINTER2020	N	Methylene chloride	5.00	1.60 J	5.00 U		ug/l	V/T
MW-04-WINTER2020	N	Methylene chloride	17.0	17.0	17.0 U		ug/l	T
MW-05-WINTER2020	N	Methylene chloride	5.80	5.80	5.80 U		ug/l	T

Table of All Qualified Results

Test Method: SW8260C	**Extraction Method: SW5030**							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
MW-FD-WINTER2020	FD	Methylene chloride	9.40	9.40	9.40 U		ug/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.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of All Trace Results

Test Method: BNASIM Extraction Method: SW3510C

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-02R-INF-WINTER2020	N	Chrysene	0.190	0.0460 J	0.0460 J		ug/L	TR
DW-02R-INF-WINTER2020	N	Pyrene	0.190	0.0640 J	0.0640 J		ug/L	TR
MW-01-WINTER2020	N	Chrysene	0.200	0.0440 J	0.0440 J	-	ug/L	H2/TR
MW-01-WINTER2020	N	Pyrene	0.200	0.0700 J	0.0700 J	-	ug/L	H2/TR
MW-05-WINTER2020	N	1-Methylnaphthalene	0.200	0.0720 J	0.0720 J		ug/L	TR
MW-05-WINTER2020	N	Fluorene	0.200	0.0770 J	0.0770 J		ug/L	TR

Test Method: E524.2 Extraction Method: METHOD

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-01-INF-WINTER2020	N	Chloroform	0.500	0.0490 J	0.0490 J		ug/L	TR
DW-01-INF-WINTER2020	N	cis-1,2-Dichloroethene	0.500	0.480 J	0.480 J		ug/L	TR
DW-01-INF-WINTER2020-MS	MS	2-Hexanone	5.00	4.20	4.20 J		ug/L	TR
DW-01-INF-WINTER2020-MS	MS	4-Methyl-2-pentanone (MIBK)	5.00	4.80	4.80 J		ug/L	TR
DW-01-INF-WINTER2020-MSD	SD	2-Hexanone	5.00	4.30	4.30 J		ug/L	TR
DW-01-INF-WINTER2020-MSD	SD	4-Methyl-2-pentanone (MIBK)	5.00	4.90	4.90 J		ug/L	TR
DW-TB-WINTER2020	TB	Acetone	5.00	2.40 J	2.40 J		ug/L	TR

Test Method: MADEPVP Extraction Method: METHOD

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
MW-01-WINTER2020-MS	MS	C9-C10 Volatile Petroleum Hydrocarbons, Aromatic	100	99.2	99.2 J		ug/L	TR
MW-05-WINTER2020	N	C9-C10 Volatile Petroleum Hydrocarbons, Aromatic	100	58.0 J	58.0 J		ug/L	TR

Test Method: SW6020A Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-01-EFF-WINTER2020	N	Manganese	2.00	0.920 J	0.920 J		ug/L	TR
DW-01-EFF-WINTER2020	N	Nickel	2.00	0.310 J	0.310 J		ug/L	TR
DW-01-EFF-WINTER2020	N	Selenium	5.00	0.380 J	0.380 J		ug/L	TR
DW-01-INF-WINTER2020	N	Antimony	1.00	0.0780 J	0.0780 J		ug/L	TR
DW-01-INF-WINTER2020	N	Manganese	2.00	0.350 J	0.350 J		ug/L	TR
DW-01-MID-WINTER2020	N	Beryllium	1.00	0.0710 J	0.0710 J		ug/L	TR
DW-01-MID-WINTER2020	N	Nickel	2.00	0.300 J	0.300 J		ug/L	TR
DW-01-MID-WINTER2020	N	Selenium	5.00	0.370 J	0.370 J		ug/L	TR
DW-01-MID-WINTER2020	N	Thallium	1.00	0.180 J	0.180 J		ug/L	TR
DW-02R-EFF-WINTER2020	N	Antimony	1.00	0.0580 J	0.0580 J		ug/L	TR
DW-02R-INF-WINTER2020	N	Antimony	1.00	0.0600 J	0.0600 J		ug/L	TR
DW-02R-INF-WINTER2020	N	Nickel	2.00	1.40 J	1.40 J		ug/L	D3/TR
DW-FD-WINTER2020	FD	Antimony	1.00	0.0610 J	0.0610 J		ug/L	TR
GW-EB-WINTER2020	EB	Beryllium	1.00	0.0490 J	0.0490 J		ug/L	TR
GW-EB-WINTER2020	EB	Calcium	100	45.0 J	45.0 J		ug/L	TR

Table of All Trace Results

Test Method: SW6020A Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
MW-01-WINTER2020	N	Antimony	1.00	0.150 J	0.150 J		ug/L	TR
MW-01-WINTER2020	N	Manganese	2.00	1.60 J	1.60 J		ug/L	TR
MW-01-WINTER2020	N	Nickel	2.00	0.250 J	0.250 J		ug/L	TR
MW-02-WINTER2020	N	Manganese	2.00	1.80 J	1.80 J		ug/L	TR
MW-02-WINTER2020	N	Nickel	2.00	0.280 J	0.280 J		ug/L	TR
MW-03-WINTER2020	N	Manganese	2.00	0.740 J	0.740 J		ug/L	TR
MW-03-WINTER2020	N	Nickel	2.00	0.170 J	0.170 J		ug/L	TR
MW-04-WINTER2020	N	Nickel	2.00	0.310 J	0.310 J		ug/L	TR
MW-05-WINTER2020	N	Antimony	1.00	0.230 J	0.230 J		ug/L	TR
MW-05-WINTER2020	N	Nickel	2.00	1.30 J	1.30 J		ug/L	TR
MW-FD-WINTER2020	FD	Manganese	2.00	1.10 J	1.10 J		ug/L	TR
MW-FD-WINTER2020	FD	Nickel	2.00	0.230 J	0.230 J		ug/L	TR

Test Method: SW8260C Extraction Method: SW5030

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
GW-EB-WINTER2020	EB	Methylene chloride	5.00	2.80 J	2.80 J	+	ug/L	I/TR

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
MW-02-WINTER2020	N	1-Methylnaphthalene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	2-Methylnaphthalene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Acenaphthene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Acenaphthylene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Anthracene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Benzo(a)anthracene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Benzo(a)pyrene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Benzo(b)fluoranthene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Benzo(g,h,i)perylene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Benzo(k)fluoranthene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Chrysene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Dibenz(a,h)anthracene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Fluoranthene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Fluorene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Indeno(1,2,3-c,d)pyrene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Naphthalene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Phenanthrene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-02-WINTER2020	N	Pyrene	0.190	0.0930 U	0.0930 UJ	0.0930 U	
MW-04-WINTER2020	N	1-Methylnaphthalene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	2-Methylnaphthalene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Acenaphthene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Acenaphthylene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Anthracene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Benzo(a)anthracene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Benzo(a)pyrene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Benzo(b)fluoranthene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Benzo(g,h,i)perylene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Benzo(k)fluoranthene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Chrysene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Dibenz(a,h)anthracene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Fluoranthene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Fluorene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Indeno(1,2,3-c,d)pyrene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Naphthalene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Phenanthrene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-04-WINTER2020	N	Pyrene	0.200	0.100 U	0.100 UJ	0.100 U	
MW-FD-WINTER2020	FD	1-Methylnaphthalene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	2-Methylnaphthalene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Acenaphthene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Acenaphthylene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Anthracene	0.200	0.0980 U	0.0980 UJ	0.0980 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
MW-FD-WINTER2020	FD	Benzo(a)anthracene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Benzo(a)pyrene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Benzo(b)fluoranthene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Benzo(g,h,i)perylene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Benzo(k)fluoranthene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Chrysene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Dibenz(a,h)anthracene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Fluoranthene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Fluorene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Indeno(1,2,3-c,d)pyrene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Naphthalene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Phenanthrene	0.200	0.0980 U	0.0980 UJ	0.0980 U	
MW-FD-WINTER2020	FD	Pyrene	0.200	0.0980 U	0.0980 UJ	0.0980 U	

Modified Qualifiers for test method SW8260C

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
MW-02-WINTER2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 X	2.50 U	
MW-02-WINTER2020	N	2-Hexanone	5.00	2.50 U	2.50 X	2.50 U	
MW-02-WINTER2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 X	2.50 U	
MW-02-WINTER2020	N	Acetone	5.00	2.50 U	2.50 X	2.50 U	
MW-02-WINTER2020	N	Benzene	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Bromodichloromethane	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Bromoform	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Bromomethane	2.00	1.00 U	1.00 X	1.00 U	
MW-02-WINTER2020	N	Carbon disulfide	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Chlorobenzene	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Chloroethane	2.00	1.00 U	1.00 X	1.00 U	
MW-02-WINTER2020	N	Chloroform	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Chloromethane	2.00	1.00 U	1.00 X	1.00 U	
MW-02-WINTER2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Dibromochloromethane	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Ethylbenzene	1.00	0.500 U	0.500 X	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260C							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
MW-02-WINTER2020	N	m,p-Xylene	2.00	1.00 U	1.00 X	1.00 U	
MW-02-WINTER2020	N	Methylene chloride	9.30	9.30	9.30 X	9.30 U	T
MW-02-WINTER2020	N	o-Xylene	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Styrene	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Toluene	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 X	0.500 U	
MW-02-WINTER2020	N	Vinyl chloride	2.00	1.00 U	1.00 X	1.00 U	
MW-02-WINTER2020	N	Xylenes, Total	3.00	1.50 U	1.50 X	1.50 U	
MW-03-WINTER2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 X	2.50 U	
MW-03-WINTER2020	N	2-Hexanone	5.00	2.50 U	2.50 X	2.50 U	
MW-03-WINTER2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 X	2.50 U	
MW-03-WINTER2020	N	Acetone	5.00	2.50 U	2.50 X	2.50 U	
MW-03-WINTER2020	N	Benzene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Bromodichloromethane	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Bromoform	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Bromomethane	2.00	1.00 U	1.00 X	1.00 U	
MW-03-WINTER2020	N	Carbon disulfide	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Chlorobenzene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Chloroethane	2.00	1.00 U	1.00 X	1.00 U	
MW-03-WINTER2020	N	Chloroform	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Chloromethane	2.00	1.00 U	1.00 X	1.00 U	
MW-03-WINTER2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Dibromochloromethane	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Ethylbenzene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	m,p-Xylene	2.00	1.00 U	1.00 X	1.00 U	
MW-03-WINTER2020	N	Methylene chloride	5.00	1.60 J	2.50 X	5.00 U	V/T
MW-03-WINTER2020	N	o-Xylene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Styrene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 X	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260C							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
MW-03-WINTER2020	N	Toluene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 X	0.500 U	
MW-03-WINTER2020	N	Vinyl chloride	2.00	1.00 U	1.00 X	1.00 U	
MW-03-WINTER2020	N	Xylenes, Total	3.00	1.50 U	1.50 X	1.50 U	
MW-04-WINTER2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 X	2.50 U	
MW-04-WINTER2020	N	2-Hexanone	5.00	2.50 U	2.50 X	2.50 U	
MW-04-WINTER2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 X	2.50 U	
MW-04-WINTER2020	N	Acetone	5.00	2.50 U	2.50 X	2.50 U	
MW-04-WINTER2020	N	Benzene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Bromodichloromethane	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Bromoform	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Bromomethane	2.00	1.00 U	1.00 X	1.00 U	
MW-04-WINTER2020	N	Carbon disulfide	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Chlorobenzene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Chloroethane	2.00	1.00 U	1.00 X	1.00 U	
MW-04-WINTER2020	N	Chloroform	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Chloromethane	2.00	1.00 U	1.00 X	1.00 U	
MW-04-WINTER2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Dibromochloromethane	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Ethylbenzene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	m,p-Xylene	2.00	1.00 U	1.00 X	1.00 U	
MW-04-WINTER2020	N	Methylene chloride	17.0	17.0	17.0 X	17.0 U	T
MW-04-WINTER2020	N	o-Xylene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Styrene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Toluene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 X	0.500 U	
MW-04-WINTER2020	N	Vinyl chloride	2.00	1.00 U	1.00 X	1.00 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260C							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
MW-04-WINTER2020	N	Xylenes, Total	3.00	1.50 U	1.50 X	1.50 U	
MW-05-WINTER2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 X	2.50 U	
MW-05-WINTER2020	N	2-Hexanone	5.00	2.50 U	2.50 X	2.50 U	
MW-05-WINTER2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 X	2.50 U	
MW-05-WINTER2020	N	Acetone	5.00	2.50 U	2.50 X	2.50 U	
MW-05-WINTER2020	N	Benzene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Bromodichloromethane	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Bromoform	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Bromomethane	2.00	1.00 U	1.00 X	1.00 U	
MW-05-WINTER2020	N	Carbon disulfide	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Chlorobenzene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Chloroethane	2.00	1.00 U	1.00 X	1.00 U	
MW-05-WINTER2020	N	Chloroform	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Chloromethane	2.00	1.00 U	1.00 X	1.00 U	
MW-05-WINTER2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Dibromochloromethane	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Ethylbenzene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	m,p-Xylene	2.00	1.00 U	1.00 X	1.00 U	
MW-05-WINTER2020	N	Methylene chloride	5.80	5.80	5.80 X	5.80 U	T
MW-05-WINTER2020	N	o-Xylene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Styrene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Toluene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 X	0.500 U	
MW-05-WINTER2020	N	Vinyl chloride	2.00	1.00 U	1.00 X	1.00 U	
MW-05-WINTER2020	N	Xylenes, Total	3.00	1.50 U	1.50 X	1.50 U	
MW-FD-WINTER2020	FD	1,1,1-Trichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	1,1,2-Trichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	1,1-Dichloroethane	1.00	0.500 U	0.500 X	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260C							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
MW-FD-WINTER2020	FD	1,1-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	1,2-Dichloroethane	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	1,2-Dichloropropane	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	2-Butanone (MEK)	5.00	2.50 U	2.50 X	2.50 U	
MW-FD-WINTER2020	FD	2-Hexanone	5.00	2.50 U	2.50 X	2.50 U	
MW-FD-WINTER2020	FD	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 X	2.50 U	
MW-FD-WINTER2020	FD	Acetone	5.00	2.50 U	2.50 X	2.50 U	
MW-FD-WINTER2020	FD	Benzene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Bromodichloromethane	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Bromoform	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Bromomethane	2.00	1.00 U	1.00 X	1.00 U	
MW-FD-WINTER2020	FD	Carbon disulfide	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Carbon tetrachloride	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Chlorobenzene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Chloroethane	2.00	1.00 U	1.00 X	1.00 U	
MW-FD-WINTER2020	FD	Chloroform	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Chloromethane	2.00	1.00 U	1.00 X	1.00 U	
MW-FD-WINTER2020	FD	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Dibromochloromethane	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Ethylbenzene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	m,p-Xylene	2.00	1.00 U	1.00 X	1.00 U	
MW-FD-WINTER2020	FD	Methylene chloride	9.40	9.40	9.40 X	9.40 U	T
MW-FD-WINTER2020	FD	o-Xylene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Styrene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Toluene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Trichloroethene (TCE)	1.00	0.500 U	0.500 X	0.500 U	
MW-FD-WINTER2020	FD	Vinyl chloride	2.00	1.00 U	1.00 X	1.00 U	
MW-FD-WINTER2020	FD	Xylenes, Total	3.00	1.50 U	1.50 X	1.50 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?	•			0.7, 1.4, 0.2, 2.0C
Were holding times met?		•		Sample to prep HT not met for MW-01-WINTER2020 (>7d). Based on prof judgment, other samples prepped on 7th day were not qualified; quals manually removed by validator.
Were all requested target analytes reported?	•			per QAPP WS#15
Were surrogate recoveries within project acceptance limits?		•		See outlier report. No quals for DW-01-MID-WINTER2020 since bias is high and results ND.
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?	•			GW-EB-WINTER2020 ND
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?	•			DW-01-INF-WINTER2020 and MW-01-WINTER2020
Were MS/MSD recoveries within project acceptance limits?		•		%R criteria met for DW-01-INF-WINTER2020 %R below criteria for 4 compounds in MW-01-WINTER2020; parent sample qualified (J-/UJ). See outlier report.
Was the MS/MSD RPD within project acceptance limits?		•		RPDs outside criteria in sample DW-01-INF-WINTER2020; no quals since parent sample results ND. Several RPDs outside criteria in sample MW-01-WINTER2020. Note eQAPP RPD criteria <40%. RPDs >40% in MW-01 were assoc with ND results; no quals. See outlier report.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			DW-02R-INF-WINTER2020 / DW-FD-WINTER2020 and MW-02-WINTER2020 / MW-FD-WINTER2020. Criteria met for both pairs.
Were QAPP specified laboratory PQLs achieved?		•		LOQ for 81 results in 13 samples do not meet Project RL; see ADR detail report
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL RSD, ICV and CCV nonconformances noted in case narrative; not addressed as part of 2A validation.
Were DoD QSM corrective actions followed if deviations were noted?		•		Samples were analyzed with ICAL and ICV nonconformances; calibration and analysis should have been reanalyzed.
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: E524.2 (Volatile Organic Compounds by Purge & Trap Capillary Column 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?	•			0.7, 1.4, 0.2, 2.0C, pH<2
Were holding times met?	•			
Were all requested target analytes reported?	•			per QAPP WS#15
Were Internal Standard retention times within method requirements?	•			
Were internal standards spiked for every sample, standard, and QC sample?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			WG292404-2
Were target analytes in the method blank less than MDL?		•		Methylene Chloride (0.94 J ug/L) see outlier report, some results negated
Were target analytes in the field blank less than MDL?		•		DW-TB-WINTER2020: Acetone (2.4 J ug/L), Methylene chloride (3.6 ug/L). Some results negated for methylene chloride, see outlier report. No quals for acetone since assoc samples were ND.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		Some %Rs above criteria in LCS WG292404-1, see outlier report. No quals since bias is high and assoc sample results ND.
Was the LCS/LCSD RPD within project acceptance limits?			•	LCS only
Was a MS/MSD pair prepared with each batch?	•			DW-01-INF-WINTER2020
Were MS/MSD recoveries within project acceptance limits?		•		DW-01-INF-WINTER2020 some %R above criteria; no quals since bias was high and assoc results in parent sample were ND.
Was the MS/MSD RPD within project acceptance limits?	•			RPD criteria met
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		DW-02R-INF-WINTER2020 / DW-FD-WINTER2020: methylene chloride J/UJ in FD pair
Were QAPP specified laboratory PQLs achieved?		•		LOQ for 70 results in 7 samples do not meet Project RL; see ADR detail report
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV nonconformances noted in case narrative; not addressed as part of 2A validation.
Were DoD QSM corrective actions followed if deviations were noted?		•		Samples were analyzed with ICV nonconformances; calibration and analysis should have been reanalyzed.
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: MADEPVP (Method for the Determination of Volatile Petroleum Hydrocarbons (VPH))				
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?	•			0.7, 1.4, 0.2, 2.0C
Were holding times met?	•			
Were all requested target analytes reported?	•			per QAPP WS#15
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?	•			DW-TB-WINTER2020, GW-EB-WINTER2020 ND
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?	•			DW-01-INF-WINTER2020 and MW-01-WINTER2020
Were MS/MSD recoveries within project acceptance limits?	•			DW-01-INF-WINTER2020 and MW-01-WINTER2020: %R and RPD criteria met
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?			•	lab dup not analyzed
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			DW-02R-INF-WINTER2020 / DW-FD-WINTER2020 and MW-02-WINTER2020 / MW-FD-WINTER2020 criteria met
Were QAPP specified laboratory PQLs achieved?		•		LOQ for 45 results in 15 samples do not meet Project RL; see ADR detail report
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		CCV nonconformances noted in case narrative; not addressed during 2A validation.
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: SW6020A (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?	•			0.7, 1.4, 0.2, 2.0C
Were holding times met?	•			
Were all requested target analytes reported?	•			per QAPP WS#15
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		PBWNL22IMW3: Cd, Cr, Cu, Pb in MB. See outlier report.
Were target analytes in the field blank less than MDL?		•		GW-EB-WINTER2020: Be (0.049 J ug/L), Ca (45 J ug/L); see outlier report. Some results negated.
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?	•			DW-01-INF-WINTER2020 and MW-01-WINTER2020
Were MS/MSD recoveries within project acceptance limits?		•		DW-01-INF-WINTER2020: %R criteria metMW-01-WINTER2020: %R outside criteria for Ca; no quals since sample conc >4X spiked amount.
Was the MS/MSD RPD within project acceptance limits?	•			W-01-INF-WINTER2020 and MW-01-WINTER2020 RPD criteria met
Were the post spike recoveries within project acceptance limits?		•		MW-01-WINTER2020 PDS outside criteria for Ca; no quals since sample >4X spike amount. PDS not required for Hg since MS criteria met. No quals.
Were the serial dilution RPD values within project acceptance limits?	•			MW-01-WINTER2020 criteria met for results >50X DW-01-INF-WINTER2020 criteria met for results >50X LOQ
Was the laboratory duplicate RPD within project acceptance limits?			•	Lab dup not performed
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		MW-02-WINTER2020 / MW-FD-WINTER2020 criteria met. DW-02R-INF-WINTER2020 / DW-FD-WINTER2020: see outlier report, Pb, Ni, Zn outside criteria. Quals applied manually by validator to all DW samples.
Were QAPP specified laboratory PQLs achieved?		•		LOQ for 13 results (arsenic) in 13 samples do not meet Project RL; see ADR detail report
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: SW7470A (Mercury in Water (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?	•			0.7, 1.4, 0.2, 2.0C
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?	•			GW-EB-WINTER2020 ND
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?	•			DW-01-INF-WINTER2020 and MW-01-WINTER2020
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?		•		PDS %R above criteria in both spiked samples but not required since MS %R was acceptable.
Were the serial dilution RPD values within project acceptance limits?	•			MW-01-WINTER2020, DW-01-INF-WINTER2020
Was the laboratory duplicate RPD within project acceptance limits?			•	Lab dup not analyzed
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			MW-02-WINTER2020 / MW-FD-WINTER2020 and DW-02R-INF-WINTER2020 / DW-FD-WINTER2020 criteria met
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: SW8260C (Volatile Organic Compounds by 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?	•			0.7, 1.4, 0.2, 2.0C, pH<2
Were holding times met?	•			Based on professional judgment, samples analyzed on the 14th day from collection (rounded to whole day) were accepted and qualification was manually removed by the validator.
Were all requested target analytes reported?	•			per QAPP WS#15
Were surrogate recoveries within project acceptance limits?		•		Some %Rs above criteria, see outlier report.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		MB WG292401-10: Carbon Disulfide (0.38 J ug/L), Methylene Chloride (1.5 J ug/L). Assoc with samples TN0377-7, TN0377-15. See outlier report.
Were target analytes in the field blank less than MDL?		•		GW-EB-WINTER2020: Methylene chloride (2.8 J ug/L). Assoc results negated at LOD or LOQ. GW-TB-WINTER2020: Methylene chloride (90 ug/L), Acetone (55 ug/L). Assoc results negated at LOD, LOQ or sample concentration. See outlier report.
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?	•			MW-01-WINTER2020
Were MS/MSD recoveries within project acceptance limits?		•		See outlier report: Bromomethane below %R criteria and RPD outside criteria. Chloroethane %R above criteria. ND result for Bromomethane in parent sample qualified UJ for %R. No qual for Chloroethane since bias is high and parent sample is ND.
Was the MS/MSD RPD within project acceptance limits?		•		RPD outside criteria for Bromomethane; no quals since parent sample ND.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			MW-02-WINTER2020 / MW-FD-WINTER2020: criteria met
Were QAPP specified laboratory PQLs achieved?		•		LOQ for 4 results (methylene chloride) in 4 samples do not meet Project RL; see ADR detail report
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		CCV nonconformances were noted in the case narrative but were not addressed during a 2A validation.
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		Results rejected (X) by ADR for holding time were manually revised J/UJ by validator since samples were analyzed on 14th day from collection.

Facility:	D01ME0077-02, Nike 58 - SI in Launch Area
Event:	Nike 58 February 2021 Sampling
SDG:	SO1108
Guidance Document:	Quality Assurance Project Plan Former LO-58 Nike Missile Launch Site, Caribou, Maine
Prime Contractor:	Verina Consulting Group, LLC, Bridgewater, NJ
Project Manager:	Robert Gan
Contract Laboratory(ies):	Katahdin Analytical Services, Scarborough, ME
Data Review Contractor:	NOBIS
Data Review Level:	S2AVEM
Primary Data Reviewer:	Kristi Rutherford, Environmental Chemist
Second Reviewer:	Gary Glennon, Lead Chemist
Date Submitted:	April 02, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	SW6020A
DW-01-EFF-FEBRUARY2021	SO1108-1	Water	Field Sample/N	X
DW-01-INF-FEBRUARY2021	SO1108-2	Water	Field Sample/N	X
DW-01-MID-FEBRUARY2021	SO1108-3	Water	Field Sample/N	X
DW-FD-FEBRUARY2021	SO1108-4	Water	Field Duplicate/FD	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 Quality Assurance Project Plan Former LO-58 Nike Missile Launch Site, Caribou, Maine 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 Verina Consulting Group, LLC, Bridgewater, NJ; analyses were performed by Katahdin Analytical Services, Scarborough, ME and were reported under sample delivery group (SDG) SO1108. 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
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- 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 4 results (50.00%) out of the 8 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
SW6020A	Antimony and Arsenic only by 6020

Kristi Rutherford

March 27, 2021

Reviewed by Kristi Rutherford, Environmental Chemist, NOBIS

As the First 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.

Gary J. Glennon

Reviewed by Gary Glennon, Lead Chemist, NOBIS

April 02, 2021

As the Second Reviewer, I certify that I have performed a quality assurance review of the report generated by the First Reviewer.

Quality Control Outliers for test method SW6020A, Total, 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
PBWOC01IMW2 (LB)/ PBWOC01IMW2	Antimony	0.1100	< 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 SW6020A, Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-01-EFF-FEBRUARY2021	N	Antimony	1.00	0.240 J	1.00 U		ug/l	L
DW-01-INF-FEBRUARY2021	N	Antimony	1.00	0.160 J	1.00 U		ug/l	L
DW-01-MID-FEBRUARY2021	N	Antimony	1.00	0.110 J	1.00 U		ug/l	L
DW-FD-FEBRUARY2021	FD	Antimony	1.00	0.0700 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.

Table of All Qualified Results

Test Method: SW6020A Extraction Method: Total

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
DW-01-EFF-FEBRUARY2021	N	Antimony	1.00	0.240 J	1.00 U		ug/l	L
DW-01-INF-FEBRUARY2021	N	Antimony	1.00	0.160 J	1.00 U		ug/l	L
DW-01-MID-FEBRUARY2021	N	Antimony	1.00	0.110 J	1.00 U		ug/l	L
DW-FD-FEBRUARY2021	FD	Antimony	1.00	0.0700 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.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Trace Results

No results associated with this sample delivery group are considered trace.

Results with Modified Qualifiers

No qualifiers associated with this sample delivery group were modified manually.

Reason Code Definitions

Code	Definition
L	Lab Blank
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: SW6020A (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?	•			Samples received at 6.9C, pH<2. Samples were received on ice in good condition the same day of collection. Temp preservation not required for metals; no actions taken.
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			PBWOC01IMW2
Were target analytes in the method blank less than MDL?		•		Antimony (0.11 J ug/L) in MB. See outlier reports, results qualified as nondetect (U).
Were target analytes in the field blank less than MDL?			•	field blank not submitted
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCSWOC01IMW2 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?	•			DW-01-EFF-FEBRUARY2021
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?	•			Criteria met for results >50X MDL
Was the laboratory duplicate RPD within project acceptance limits?		•		lab dup not analyzed
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			DW-01-INF-FEBRUARY2021 / DW-FD-FEBRUARY2021 both ND
Were QAPP specified laboratory PQLs achieved?	•			PQLs per WS15 met
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			No issues noted that were not addressed in 2A validation.
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		