2015 ANNUAL OPERATION & MAINTENANCE (O&M) AND MONITORING REPORT AREA OF CONTAMINATION 50

FORMER FORT DEVENS ARMY INSTALLATION, DEVENS, MA

AUGUST 2016

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2015 ANNUAL

OPERATION & MAINTENANCE (O&M)

AND MONITORING REPORT

AREA OF CONTAMINATION 50

Devens, Massachusetts

August 2016

CERTIFICATION:

I hereby certify that the enclosed Report, shown and marked in this submittal, is that proposed to be incorporated with Contract Number W912WJ-15-C-0002. This document was prepared in accordance with the U.S. Army Corps of Engineers (USACE) Scope of Work and is hereby submitted for Government approval.

Reviewed By:

KGS Project Manager **Date**

Received By:

USACE Project Manager **Date**

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LIST OF ACRONYMS AND ABBREVIATIONS

ABC®	Anaerobic BioChem®
ABC® Ole’	Anaerobic BioChem® + Oleic Acid
ABC® Ole’+	Anaerobic BioChem® + Oleic Acid + Zero Valent Iron
AOC	area of contamination
ARCADIS	ARCADIS U.S., Inc./G&M, Inc.
Army	U.S. Army
bgs	below ground surface
BCT	Base Realignment and Closure Cleanup Team
BRAC	Base Realignment and Closure
°C	degrees Celsius
cis-1,2-DCE	*cis*-1,2-dichloroethene
CoC	Chain-of-Custody
CVOC	chlorinated volatile organic compound
CY	calendar year
DTW	depth-to-water
Devens	Former Fort Devens Army Installation
DO	dissolved oxygen
DoD	Department of Defense
DQE	data quality evaluation
DRFTA	Devens Reserve Forces Training Area
ERD	enhanced reductive dechlorination
ft.	feet
ft./day	feet per day
FDSA	Former Drum Storage Area
FDW	Former Dry Well
FID	Flame Ionization Detector
GP	Geoprobe® injection point
HGL	HydroGeoLogic, Inc.
H&S	H&S Environmental, Inc
IDW	Investigation-Derived Wastes
IRZ	in-situ reactive zone
IW	injection well
IWS	in-well stripping
KGS	KOMAN Government Solutions, LLC
LTM	long-term monitoring

LTMP	Long-Term Monitoring Plan
LUC	land-use controls
mg/L	milligrams per liter
mS/cm	milliSiemens per centimeter
MAAF	former Moore Army Airfield
MassDEP	Massachusetts Department of Environmental Protection
MassDevelopment	Massachusetts Development and Finance Agency
MiHPT	Membrane Interface Probe-Hydraulic Profiling Tool
MS	matrix spike
MSD	matrix spike duplicate
mV	millivolt
M2S JV	M2 and Sovereign Consulting Inc Joint Venture
NELAP	National Environmental Laboratory Accreditation Program
NTU	nephelometric turbidity unit
O&M	operation and maintenance
ORP	oxidation-reduction potential
%	percent
PARCCS	precision, accuracy, representativeness, comparability, completeness, and sensitivity
PCE	tetrachloroethene
PID	photoionization detector
ppm	parts per million
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
QSM	Quality Systems Manual
ROD	Record of Decision
Sovereign	Sovereign Consulting, Inc.
SU	standard units
SVE	soil vapor extraction
S_2C_2	Streamlined Site Characterization & Closure, Inc.
trans-1,2-DCE	*trans*-1,2-dichloroethene
TCE	trichloroethene
µg/L	micrograms per liter
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

VC	vinyl chloride
VOC	volatile organic compound
ZVI	Zero Valent Iron

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DEVENS, MASSACHUSETTS

1.0 INTRODUCTION

This 2015 Annual Operation & Maintenance (O&M) and Monitoring Report was prepared by KOMAN Government Solutions, LLC (KGS) [formerly H&S Environmental, Inc. (H&S)] for the U.S. Army Corps of Engineers (USACE) under contract number W912WJ-15-C-0002, to detail the operation and performance of on-going remediation activities and groundwater monitoring results at Area of Contamination (AOC) 50 at the former Fort Devens Army Installation (Devens), Devens, Massachusetts (**Figure 1**). Remediation activities were performed in accordance with the *Final Long-Term Monitoring Plan* (LTMP) [HydroGeoLogic, Inc (HGL), 2012] and the *Final Work Plan for Supplemental ERD Injections at AOC 50* (H&S, 2015).

1.1 Purpose and Objectives

The purpose of this AOC 50 Annual O&M and Monitoring Report is to document the O&M activities conducted and to summarize the long-term monitoring (LTM) and groundwater analytical results from January through December 2015. All field work in 2015 was completed by KGS of Westborough, MA under contract W912WJ-15-C-0002.

In September 2004, ARCADIS U.S., Inc. /G&M, Inc. (ARCADIS) implemented the full-scale remedy after an enhanced reductive dechlorination (ERD) pilot study was conducted in Area 5. This included soil vapor extraction, ERD, and in-well stripping (IWS) systems. The first ERD injection event was conducted in October 2004 utilizing molasses as the ERD substrate. ARCADIS discontinued the soil vapor extraction (SVE) system in November 2005, as monitoring indicated that the recoverable chlorinated volatile organic compound (CVOC) mass was removed and the IWS was shut down in March 2013.

HGL revised the ERD injection program in November 2008 by revising the utilized substrate [molasses was replaced by Anaerobic BioChem® (ABC®)]. Semi-annual injections of ABC® continued in all areas through 2014. Based on historical data, a Membrane Interface Probe Hydraulic Profiling Tool (MiHPT) investigation was conducted in 2014 to address the findings from the calendar year (CY) 2013 profiling event in the Source Area (Area 1). Its purpose was to improve the overall understanding of the location/source of residual Volatile Organic Compound (VOC) contamination both vertically and laterally in the source area, where elevated [>1,000 micrograms per liter (µg/L)] concentrations of tetrachloroethene (PCE) remained and use that information to recommend modifications of the existing remedy to more effectively treat the source area. As a result of the MiHPT investigation, the spring 2015 injection strategy was planned.

The 2015 substrate injection strategy was developed based on review of the historical data and MiHPT results. The Spring 2015 injection event was performed in July and was the 14th ERD injection event using Anaerobic BioChem® (ABC®) as the ERD substrate. In addition, ABC

Ole and ABC Ole + were added to the 2015 event. ABC Ole includes oleic acids which are longer-chained compounds that area likely to persist longer in the source area soils, and therefore may improve the effectiveness of the injections. Similarly, zero valent iron (ZVI), referred to as Ole +, can enhance the rate of degradation in the tighter, more impacted source area soils. The ABC Ole was added to Areas 2 and 3 to evaluate the effectiveness of the longer-chained substrate to see if they persist longer (i.e., TOC remains elevated in the aquifer for longer). Areas 4 and 5 were treated with the ABC alone as in previous rounds to compare to the effectiveness of the Ole in the upgradient areas. The July 2015 strategy was outlined in the *Final Work Plan for Supplemental ERD Injections* (H&S, August 2015) and performed by Redox-Tech under KGS oversight. The strategy consisted of performing targeted direct push injections to reach deeper impacted soils in the source area as well as supplemental injections in select original injection wells located in Areas 1 through 5. Injections were performed in July 2015 at fifteen (15) Area 1 direct push injection locations, twelve (12) Area 1 injection wells, five (5) Area 2 injection wells, five (5) Area 3 injection wells, seven (7) Area 4 injection wells, and six (6) Area 5 injection wells.

A combination of ABC® and Oleic Acid (ABC® Ole') was used in Areas 1, 2 and 3 injection wells to increase persistence and prolong treatment of VOCs closer to the source area. Zero Valent Iron was added to ABC® Ole' (ABC® Ole'+) to enhance VOC reduction and stimulate long-term release of the components for bioremediation and create a more reductive environment. This combination was injected directly, via Geoprobe®, into deep soils in the source area (Area 1). ABC® alone was used in downgradient Areas 4 and 5, which was consistent with previous injection programs. One injection event occurred in 2015. The ERD injection program is evaluated after each event and modified as needed to address the effectiveness of the injection system.

1.2 Site Description and History

The AOC 50 site is located on the northeastern boundary of the former Moore Army Airfield (MAAF), within the former North Post portion of the former Fort Devens Army Installation, Ayer, Massachusetts (**Figure 1**). Fort Devens was identified for cessation of operations and closure under Public Law 101-510, the Defense Base Realignment and Closure (BRAC) Act of 1990, and was officially closed in March 1996. Portions of the property formerly occupied by Fort Devens were retained by the U.S. Army (Army) for reserve forces training and renamed the Devens Reserve Forces Training Area (DRFTA). Areas not retained as part of the DRFTA were transferred to new owners (Massachusetts Development and Finance Agency [MassDevelopment] and the U.S. Fish and Wildlife Service [USFWS]) for reuse and redevelopment. The DRFTA was renamed the U.S. Army Garrison Fort Devens in 2009.

All but approximately 14 acres of the former MAAF (approximately 246 acres total) were transferred to MassDevelopment for reuse in 1997. Currently, the airfield is closed to aircraft traffic and is used by the Massachusetts State Police for training and vehicle storage. The former MAAF is zoned for Special Use II and Innovation and Technology Business. Under the Devens Reuse Plan (November 14, 1994), Special Use II and Innovation and Technology Business includes a broad range of industrial, light industrial, office, and research and development uses. There are currently no plans for development of the former MAAF, although the area can be developed if interested parties are identified. Devens Army Installation retained approximately nine acres of the former airfield for vehicle storage and maintenance and approximately four acres in and around the AOC 50 Source Area for remediation activities.

The primary area of groundwater contamination at AOC 50 is referred to as the Southwest Plume, which extends from the Source Area approximately 3,000 feet (ft) downgradient towards the Nashua River. Sources of groundwater contamination at AOC 50 include two World War II fueling systems, a drywell formerly connected to the parachute shakeout tower, and the PCE drum storage area; these sources are collectively referred to as the, "AOC 50 Source Area". The AOC 50 Source Area is comprised of less than two acres and surrounds Buildings 3803 (the former parachute shop), 3840 (the former parachute shakeout tower), 3824 (a gazebo), and 3801 (the former 10th Special Forces airplane parachute simulation building). Although these sources have been removed or taken out of commission, groundwater underlying AOC 50 contains elevated concentrations of VOCs, most notably PCE.

1.3 Site Hydrogeology

A single groundwater aquifer occurs within the overburden deposits below the former MAAF and AOC 50. Restrictions to vertical groundwater flow, such as silty clay layers, are present, but are not prevalent or continuous in soil borings conducted within the kame glacial deposit or along the Nashua River. Some silty clay layers were encountered within the aquifer in the AOC 50 Source Area. These thin, silty clay layers appear to reduce the vertical permeability, contribute to a slight increase in the water table elevation, and increase the difference between shallow and deep water levels.

Depth to groundwater measurements have been collected from a network of monitoring wells and sampling points on a regular basis since 1997. Groundwater is encountered at approximately 3 ft below ground surface (bgs) in the AOC 50 Source Area and approximately 64 ft bgs at the southwestern end of the former MAAF. Groundwater elevations within deeper wells at and to the north of AOC 50 typically have lower heads than wells screened at shallower depths indicating that there is a downward hydraulic gradient within this area..

The Nashua River is the controlling hydrologic feature of AOC 50 and the former MAAF area. As groundwater beneath AOC 50 moves downgradient in a southwesterly direction toward the Nashua River, vertical gradients become neutral. Vertical gradients reverse and become upward along the Nashua River, as would be expected near such a discharge feature. These changes in gradient demonstrate that groundwater is recharged near the AOC 50 source area, travels below the former MAAF, and discharges to the Nashua River.

Hydraulic conductivities at the site range from one (1) to more than 50 ft per day (ft/day) with seepage velocities ranging from 0.024 to 1.19 ft/day.

1.4 Remedial System Operations and Modifications

The overall O&M approach and remedial system configuration at AOC 50 is constantly evaluated and adjusted in an effort to maintain optimum remedial performance. During the 2015 reporting period, the KGS team conducted the following routine activities and modifications.

The items listed below are discussed in more detail throughout this report.

- Collected semi-annual water level measurements across AOC 50 (spring and fall 2015).

- Conducted semi-annual LTM groundwater monitoring events in June 2015 (spring 2015) and October 2015 (fall 2015);
- Conducted post-ERD injection groundwater monitoring in September 2015; and
- Conduct groundwater sampling evaluation of HydraSleeve™ versus low flow sampling technology.

System modifications/updates performed during this reporting period include:

- Modified the ERD substrate injection strategy based on an evaluation of groundwater geochemistry and VOC trends observed in groundwater, and
- Performed ERD substrate injections in 35 injection wells (IWs) and at 15 Geoprobe direct push soil injection locations (GP) in July 2015.

2.0 REMEDIAL SYSTEM PERFORMANCE

2.1 Enhanced Reductive Dechlorination (ERD) System

The spring 2015 injection event occurred from July 21-30, 2015. Details of the ERD Injection event are presented in the *Enhanced Reductive Dechlorination Injection Summary Report* (H&S, 2016) included as **Appendix A**. Refer to this report for detailed information; including injection volumes, injection locations, types of substrate, results, statistical analysis and recommendations for future events. Injection locations are presented in **Figures 2.1** and **2.2**. Data trend charts are included as **Figures 3** through **17**. These charts represent PCE, TCE and/or methane concentrations over time for select wells within each Area.

<u>Area 1</u>

Figures 3 through **7** present the PCE, TCE and/or methane data trends for select locations in Area 1. Monitoring wells G6M-04-09X and G6M-04-10X are located downgradient of the FDSA. As shown in **Figures 3** and **4**, the trend shows a decline in PCE and TCE concentrations related to the ERD injections. PCE and TCE concentrations in these wells were non-detect or below detection limits in the samples collected in 2015. Monitoring wells G6M-02-08X and G6M-03-01X are located near the FDW. The PCE, TCE and/or methane data trends are depicted in **Figures 5** and **6**. Monitoring well G6M-02-08X (**Figure 5**) demonstrated high PCE concentrations with a high of 3,600 ug/l in 2003 but has steadily decreased since ERD injections began in 2004 and has been at or below detection limits since 2013. The continued decrease in PCE concentrations is attributed to the ERD injection program and is supported by low dissolved oxygen values, negative ORP and high methane concentrations at this location.

Location G6M-03-01X (**Figure 6**) showed a slight post-injection increase in PCE and TCE in 2015; however, the concentrations are lower than fall 2014 monitoring results. This increase in PCE and TCE concentrations is most likely attributed to injections of ERD substrate at nearby locations IW-13D, IW-15D and IW16D.

Monitoring well G6M-13-05X was installed in January 2014 to replace G6M-04-12X. The concentrations of PCE and TCE in groundwater sampled from monitoring well G6M-13-05X (**Figure 7**) have increased from since January 2014. This increase has been attributed to a delay response to historical ERD injections; however, the trend in 2015 data shows a decline.

<u>Area 2</u>

Figures 8 through **11** present the PCE, TCE and/or methane data trends for select locations in Area 2. Monitoring wells sampled in the vicinity of Area 2 in 2015 include G6M-02-01X, G6M-04-01X, G6M-04-03X and G6M-04-02X. Concentrations of PCE and TCE from location G6M-02-01X (**Figure 8**) have shown some fluctuations but have decreased overall since the ERD program started in 2004. The PCE and TCE concentrations have been at or below the detection limit since 2013 and were non-detect in 2015. Concentrations of PCE and TCE at upgradient location G6M-04-01X (**Figure 9**) have been below 5 µg/l since 2013 and were non-detect in 2015**.** PCE and TCE levels at location G6M-04-03X (**Figure 10**) showed an overall decrease since 2006 with some slight rebounds. Increased methane concentrations since 2009 and decreased PCE and TCE concentrations indicate reductive dechlorination is effectively reducing the contaminants of concern. Monitoring well G6M-04-02X is located directly upgradient of the Area 3 transect. Data trends for PCE and TCE (**Figure 11**) show some fluctuation during fall sampling events followed by a decrease after ERD injection events.

Area 3

Figures 12 and **13** present the PCE, TCE and/or methane data trends for downgradient Area 3 monitoring wells G6M-03-07X and G6M-04-04X. Concentrations of PCE and TCE in both wells have been non-detect since 2009. As indicated in Area 2, elevated methane concentrations in well G6M-03-07X, PCE concentrations near or below the limit of detection, low dissolved oxygen concentrations and negative ORP values indicate effective reductive dechlorination has occurred in Area 3. The geochemical environment of groundwater near Area 3 remains reductive and the remnant VOCs are expected to fully degrade.

Area 4

Figure 14 presents the PCE and TCE data trends for Area 4 monitoring wells G6M-06-01X and its replacement monitoring well G6M-13-02X. Well G6M-13-02X was installed in 2014 to replace G6M-06-01X, which was converted to an injection well on the westernmost edge of the Area 4 transect. Concentrations of PCE and TCE in monitoring well G6M-13-02X show a decreasing trend since October 2014 are expected to continue to decrease with continued ERD injections.

Area 5

Figures 15 through **17** present the PCE, TCE and/or methane data trends for Area 5 monitoring wells; G6M-97-05B, G6M-13-04X and G6M-03-10X. As shown in **Figure 15**, increasing trends for PCE and TCE have been observed in G6M-97-05B, which is located to the west of the Area 5 transect. Increasing trends are also evident in G6M-13-04X (**Figure 16**). Well G6M-13-04X was installed in 2014 to replace G6M-02-05X, which was converted to an injection well on the westernmost edge of the Area 5 transect. There was a slight increase in PCE and TCE concentrations in 2015 in well G6M-13-04X; however levels are well below historical high values and fluctuations may be due to ERD events. Dissolved oxygen and ORP values indicate a reducing environment and it is anticipated that PCE and TCE concentrations will continue to decrease. Concentrations of PCE have decreased over time at G6M-03-10X (**Figure 17**), however a recent sample collected on June 22, 2015 indicated a result of 15.5 ug/L. Concentrations collected after the injection event indicated non-detect for PCE.

2.2 Conclusions and Recommendations

The overall data trends overall indicate decreasing or stable PCE and TCE trends in all areas with the exception of G6M-97-05B located in Area 5. It is expected that concentrations in Areas 1 through 4 will continue to decrease with future ERD injections. However, the PCE and TCE concentrations at G6M-97-05B have increased to a high of 117 µg/L for PCE and 6.90 µg/L for TCE in October 2015. An evaluation of groundwater flow paths, groundwater concentrations and substrate injection points indicate that this well is located near the western edge of the treatment zone in Area 5. It is recommended that ERD injections continue upgradient of this location and be combined with direct injection of substrate within the vicinity of this well.

3.0 LONG-TERM MONITORING EVENT METHODOLOGY

The LTM program at AOC 50 was conducted in accordance with the Final Long Term Monitoring Plan (LTMP) (HGL, 2012) to monitor contaminant trends over time. The KGS team performed semi-annual LTM groundwater sampling events in spring (June) and fall (October) 2015. In addition, an post-ERD injection evaluation groundwater sampling event occurred in September 2015. Selected monitoring wells in the Area 1 - Source Area and in the downgradient Areas 2 through 5 were sampled to evaluate the effectiveness of the July 2015 ERD injection program.

3.1 Groundwater Sampling and Analysis

The spring and fall semi-annual LTM groundwater sampling events were conducted in June and October 2015. A post-injection sampling event occurred in September 2015. The groundwater sampling events were performed in accordance with the low-flow procedures documented in *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells* (USEPA Region 1, 2010), and included the following activities:

- A combination of dedicated and non-dedicated, stainless steel bladder pumps was used for groundwater purging and sampling. The bladder pump intake screens were placed approximately in the center, or slightly below the center, of the submerged well screen interval. The pump intakes were placed a minimum of 2-ft above the bottom of the monitoring wells;
- Previously installed dedicated dual bonded, ¼-inch Teflon-lined polyethylene sample tubing was used in each LTM well;
- Each monitoring well was generally purged at a rate between 100 and 500 millimeters per minute. The purge rate was established to maintain a stable depth-to-water (DTW) and/or total draw down less than 0.3 ft (about 3.6 inches);
- The pump discharge was monitored for field parameters (pH, specific conductivity, DO, oxidation-reduction potential (ORP), temperature, and turbidity) and the DTW was measured every three to five minutes during purging. The purging of the monitoring well was determined to be complete when field parameters stabilized;
- Turbidity samples were collected via a “Y” or “T” connector with a shut-off valve located after the pump and before the flow-through cell;
- Dissolved metals samples were field-filtered with 0.45 micron filters; and,
- Investigation-derived waste (IDW) handling activities were similar to those described in **Section 3.3**.

Groundwater samples were collected from the monitoring wells for the analytical parameters discussed in Section 4.0 of this report. Details on analytical sample container and preservation requirements are included in **Table 3.1**. Groundwater sampling forms for all events are presented in **Appendix B**.

3.2 Decontamination Procedures

Bladder pumps that were used to sample more than one monitoring well were decontaminated between wells by using the following five-step process: 1) rinse with potable water, 2) wash with a non-phosphate detergent solution, 3) rinse with potable water, 4) rinse again with isopropyl alcohol, and 5) rinse with distilled water. The bladder pumps were completely disassembled prior to decontamination. The single use bladder was also removed from the bladder pump and replaced during the decontamination process. The same five-step process was used to decontaminate other non-dedicated sampling equipment.

3.3 Investigative-Derived Waste Handling

IDW (i.e., purge and decontamination water) was containerized at each wellhead and monitored using a photoionization detector (PID). During the sampling events, headspace monitoring of containerized IDW did not identify VOC vapors above background, (0 parts per million (ppm) to 10 ppm). Because VOC vapors were not above 10 ppm, the purge water was placed on the ground at the site of generation as outlined in the 2003, Waste Management Plan and May 1995, Project Operations Plan.

3.4 Long-term Monitoring Events

A summary of the methodology used during the 2015 sampling events is outlined below.

3.4.1 Monitoring Well Inspection

Prior to sampling, the following procedures were used by the KGS team to inspect the LTM wells at AOC 50:

- The monitoring well location was identified and the well identification number was confirmed;
- The wellhead was inspected for signs of damage and any damage noted, as warranted; and,
- The monitoring well seal was removed and the wellhead was screened with a PID. If ambient VOCs vapor concentrations at the breathing level exceeded five ppm, work activities at the wellhead were halted and the well was allowed to vent until vapor concentrations were below five ppm.

No tampering was apparent during any of the 2015 sampling events. AOC 50 monitoring well construction details are provided in **Table 3.2**.

3.4.2 Water Level Measurements

The depth to water in AOC 50 monitoring wells was measured and recorded within a 24-hour period as part of the spring and fall 2015 LTM events. The groundwater elevation at each monitoring well was determined by subtracting the DTW from the surveyed elevation of a reference point at the top of the well riser. A summary of the water level measurements and the corresponding water elevation data is presented in **Table 3.3** and groundwater elevation contours are presented on **Figures 18** (June 2015) and **19** (October 2015). The groundwater flow direction is to the southwest. Groundwater was encountered at 12.85 ft bgs (el. 211.97 ft amsl) and at 14.45 ft bgs (el. 210.37 ft. amsl) in the AOC 50 Source Area (G6M-04-10A) and at 55.82 ft bgs (el. 203.11 ft amsl) and 56.83 ft bgs (el. 202.10 ft amsl) in the southwestern end (G6M-04-05X) of the former MAAF during the spring and fall 2015 LTM events, respectively. The groundwater hydraulic gradient between G6M-04-10A and G6M-04-05X was calculated to be approximately 0.004 ft/ft in June 2015 and 0.0036 ft/ft in October 2015.

4.0 GROUNDWATER MONITORING RESULTS

The monitoring of AOC 50 groundwater is accomplished through measuring water levels to assess flow patterns, and sampling to evaluate groundwater quality. Table 4.1 in the Final LTMP (HGL, 2012) outlined the frequency and locations of the groundwater sampling and water level monitoring for CY 2015**.**

Laboratory analytical results for all groundwater samples collected during the 2015 LTM field activities are discussed in the following subsections. Analytical results judged to be artifacts or laboratory contaminants originating in the sampling and analytical processes are not considered representative of site conditions. The effects of contamination in the laboratory and field blanks, as well as the effects of other QC issues associated with the analytical results, are reported in data quality evaluation (DQE) reports for the 2015 sampling events. The DQEs are appended to this Annual Report as **Appendix C**.

4.1 Groundwater Chemistry for Monitoring Events

The spring 2015 LTM event included sampling of twenty (20) wells. The fall 2015 LTM event included sampling of forty-seven (47) locations (43 monitoring wells and 4 MicroWells®). In addition, eighteen (18) wells were sampled during September 2015 to evaluate the ERD optimization.

The frequency, sampling locations and analytical parameters for the LTM and ERD sampling events are summarized in **Table 4.1**. Selected analytical results and groundwater field parameters are presented in **Table 4.2.**

4.1.1 Field Parameters

Field parameter measurements collected during the spring and fall 2015 LTM semi-annual sampling events, as well as, the September 2015 post-ERD injection sampling event are summarized below.

Observed pH levels ranged from slightly acidic to slightly basic, 5.02 to 8.04, in 2015. Within AOC 50, especially in the Former Drum Storage Area (FDSA) and Former Dry Well (FDW) Area, the more acidic levels were present approximately within and directly downgradient of established in-situ reactive zone (IRZ) boundaries or, in the case of Area 5, upgradient of the former IWS system enclosure. Such pH differentiation is likely the result of higher carbonic and supplementary acid (e.g., fatty acids, propionic acid) formation from organic carbon fermentation, caused by the ERD process.

Low dissolved oxygen (DO) levels and negative ORP values were recorded directly downgradient and within the established IRZ boundaries. Low DO (less than 1 mg/L) and negative ORP values are indicators of the anaerobic breakdown of PCE. Specific conductivity data above 2.0 mS/cm were generally recorded for wells southwest of Route 2A and in the gravel parking lot for Area 1, which may be the result of the introduction of de-icing salt applied to roadways during snow removal activities.

In general, pH extremes at AOC 50 have been sporadic and primarily occurred from 2004 through 2006 when the IWS was initiated and molasses was the ERD substrate. Two monitoring wells that offer a moderate consistency for pH extremes are G6M-02-08X (FDW–Area 1) and G6M-04-03X (Area 2). Monitoring well G6M-02-08X (well screen located from 60 to 70 ft bgs) has exhibited pH readings between 3.97 and 5.59 since July 2005, and has a documented molasses content that stems from historic substrate injections. However, this well has demonstrated strong reductive dechlorination progress that has not been inhibited by a slightly low groundwater pH. Groundwater monitoring well G6M-04-03X, sampled annually, has yielded high pH values between 8.80 and 10.65 from 2008 through 2014. Measurements were lower in 2015 at 7.71 in September and 6.79 in October indicating that this ERD strategy is effective in Area 2.

4.1.2 Volatile Organic Compounds

Spring sampling included 20 groundwater monitoring wells and fall sampling included 46 monitoring wells. Post-injection sampling events included 18 wells in September. PCE degradation is demonstrated by increases in daughter compounds along the first order reductive dechlorination pathway of PCE → TCE → *cis*-1,2-DCE → VC, where the more chlorinated predecessor is subsequently replaced by a less chlorinated daughter product. As can be observed in Table 4-2, PCE concentrations have declined, biodegradation daughter products appeared and then disappeared, demonstrating the decline was due to ERD. Data trend charts for PCE, TCE and/or methane have been discussed in Section 2.0 and indicate overall decreasing PCE and TCE concentrations in all areas of AOC50. **Figures 20** through **23** present PCE concentration plume contours over time and will be discussed in this section.

Figure 20 shows a continuous PCE plume in 2004, extending from the source area to Area 5, with the highest detected PCE concentrations, up to 17,000 µg/L at location G6M-94-18X, in the source area. These data were collected prior to full scale remedy implementation.

Figure 21 shows PCE concentrations in 2010, after six years of remedial actions. The PCE plume decreased significantly over all areas in AOC 50 and was no longer continuous over the entire area. Residual pockets of PCE levels remained around injection transects in all areas. The highest levels continued to be concentrated in the Source area with PCE detected at 1,000 µg/L at location G6M-04-09X.

Figure 22 shows PCE concentrations in 2014. The PCE concentrations continue to be highest in the Source area, with a high of 6,200 µg/L at location G6M-07-02X. PCE levels have decreased across Areas 2 and 3. Area 5 showed increased levels along the westernmost edges on the perimeter of the Areas 4 and 5 transects.

Figure 23 shows PCE concentrations from the fall 2015 LTM sampling event. These samples were collected following an ERD injection in July 2015. The PCE concentrations continue to be highest in the Source area. PCE levels in Areas 2 and 3 have decreased from 2014 levels with the highest concentrations remaining in well G6M-04-02X. This well is located directly upgradient of the Area 3 transect; PCE concentrations decreased from 480 µg/L in 2014 to 105 µg/L in 2015. These results, along with low dissolved oxygen and negative ORP values, indicate that ERD injections in this area are effective. The PCE plume in Area 5 showed some decreases but has not changed significantly since 2014 and continues to persist along the westernmost edges. It should be noted that the increased levels of VOCs may be the resul of expanded monitoring in the area. PCE levels have increased in well G6M-97-05B; located directly to the west of the Area 5 transect. However, ORP and dissolved oxygen levels at this location are decreasing indicating that conditions are approaching anaerobic conditions.

4.1.3 Inorganic Metals

Groundwater samples were collected from 19 LTM wells during the spring 2015 LTM event and from 46 LTM wells during the fall 2015 LTM event. All samples were submitted for dissolved metals (arsenic, iron and manganese) analysis. Groundwater samples were also collected from 18 wells and submitted for dissolved metals analysis during the September post-injection sampling event. **Table 4.2** presents the metals data to date. **Figures 24 and 25** presents dissolved arsenic concentrations and ORP data, graphically, for Area 5 wells.

Metals solubilization, especially arsenic and manganese associated with the ERD process, is evident within the in-situ reactive zones (IRZs) across AOC 50. The resulting extent of metals desorption is directly correlated with the geochemically reducing conditions within the IRZ for each injection area. Specifically, the more reductive the environment and, thus, conducive to chlorinated hydrocarbon degradation, the more likely metals dissolution will occur within a reducing zone. This relationship is observed throughout the AOC 50 treatment area and was an anticipated by-product of the selected remedy. Solubilization of naturally-occurring metals is isolated to the area constituting the IRZs due to the production of arsenic (III) (arsenite) versus arsenic (V) (arsenate).

Monitoring wells with the highest historic levels of arsenic are located in Area 5. The dissolved metals concentrations will likely continue to fluctuate within an IRZ and are not anticipated to significantly diminish until the IRZ reverts to an oxidizing state. By comparison, oxygenated environments with a positive ORP promote the oxygenation of arsenite to arsenate, which is readily and firmly bound within the surrounding mineral and natural organic matrices. The presence of dissolved iron within the aquifer further promotes rapid oxidation of the arsenite to arsenate once the groundwater reaches the oxidizing portions of the aquifer.

4.1.4 Conclusions

As noted in Section 2.2 and discussed in Section 4.1.2, the historic PCE concentrations in groundwater are reducing throughout the ERD injection areas. In most cases, the degradation of PCE is followed by an increase in biodegradation daughter products. Through ERD, the daughter product concentrations have declined. As shown in Figures 4.3 and 4.4, residual pockets of PCE in groundwater remain along the western edge of Areas 4 and 5. The PCE concentrations in the Area 5 downgradient MicroWell® locations, XSA-12-97X, XSA-12-96X, XSA-12-98X, and XSA-12-95X, are above the 5 µg/L action level.

As is evident from the monitoring data, dissolved arsenic concentrations are generally below the regulatory limit of 10 µg/L, within wells where conditions are primarily oxidizing. This includes wells downgradient of the defined Area 5 IRZ. Groundwater monitoring performed at the Area 5 downgradient MicroWell® locations, XSA-12-97X, XSA-12-96X, XSA-12-98X, and XSA-12-95X, confirms that the level of dissolved arsenic, above the regulatory limit of 10 µg/L, does not extend beyond the area of monitoring well G6M-03-10X and has not bypassed the AOC 50 monitoring well network.

Concentrations of total organic carbon (TOC) were monitored in the ERD injection areas to indicate substrate distribution. This parameter is an indicator of natural organic carbon present at site during baseline characterization and is an indicator of substrate distribution during performance monitoring. An ideal range of TOC is 20 to 50 mg/L. It was anticipated that TOC concentrations should have increased after the ABC Ole and ABC Ole+ injections. Concentrations of TOC that are stable or declining in conjunction with elevated or increasing VOC concentrations indicate additional substrate injection is necessary. As can be observed in Area 1/Source Area wells, TOC concentrations are less than 5 mg/L in monitoring locations G6M-07-02X and G6M-03-01X, while PCE and TCE concentrations are above the cleanup criteria. Area 2 wells indicate a steady decline in TCE and PCE concentrations and an increase in TOC concentrations.

Area 3 wells indicate TOC concentrations less than 5 mg/L and VOC concentrations above the cleanup criteria. This is observed at well G6M-04-02X. Concentrations of PCE increased from 16.2 to 105 µg/L and TOC was less than 5 mg/L. The increase in PCE concentration may be related to changes in pH. The release of hydrochloric acid, volatile fatty acids and carbonic acid during the ERD process may contribute to reduced dechlorination efficiency and subsequent rebound. Area 4 and 5 monitoring locations indicated overall decreases in VOC concentrations with exceptions at G6M-04-07X, G6M-13-01X and G6M-97-05B. These increases may be attributed to decreases in pH, affecting the ERD process. Additional monitoring will be necessary to evaluate VOC degradation.

Methane concentrations were reviewed in the injection areas. The presence of methane indicates fermentation is occurring in a highly anaerobic environment and that reducing conditions are appropriate for anaerobic degradation. For chlorinated aliphatic hydrocarbons, such as PCE, elevated levels of ethene and ethane can be used to infer anaerobic dechlorination. However, these two compounds are subject to rapid biodegradation so their absence in a sample does not necessarily mean that biodegradation is not occurring. A review of methane, ethane and ethene concentrations after the substrate modification indicated slight increases at select wells. The increases of methane were coupled with decreases in VOC concentrations. Ethene and ethane concentrations remained relatively stable.

Exceptions included G6M-04-076X and G6M-97-05B which indicated a decrease in methane or not detected concentrations and a slight increase in PCE. However as discussed previously, fluctuations in pH may be affecting the ERD process.

Overall, the addition of ABC substrate has reduced the VOC concentrations at AOC 50. The modification to the ABC substrate including the addition of olelic acids (ABC Ole) and zero valent iron (ABC Ole +) produced results consistent with previous injections. However, the product persistence appears to be successful when comparing previous injection events with the 2015 event. This is observed through continued negative ORP values, stable TOC and stable methane concentrations.

The Army will continue to monitor VOC and metals concentrations as well as geochemistry parameters across the site and will evaluate potential changes to the ERD substrate injection strategy.

4.2 Quality Assurance/Quality Control

All analytical data were provided by a properly accredited laboratory. Accutest-New England is certified by the Commonwealth of Massachusetts in the analysis of potable and non-potable water. Accutest is also accredited by the National Environmental Laboratory Accreditation Program (NELAP) and compliant with the Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories.

As part of the 2015 groundwater sampling events, QA/QC samples were collected to ensure that the data quality objectives were met for the laboratory analysis. Field QC activities included equipment (rinsate) blank collection from a non-dedicated groundwater sampling pump after the equipment was decontaminated. Equipment blank samples were analyzed for the same parameters as the associated groundwater samples. In addition, field duplicate samples were collected at a rate of 10% to evaluate field precision, and matrix spike (MS)/MS duplicate (MSD) pairs were submitted at 5% to evaluate matrix effects on analytical precision and accuracy.

The KGS team evaluated analytical results from the 2015 sampling events for data acceptability in accordance with the USEPA Region 1 data validation guidelines (USEPA Region 1, 1996a, 1996b, 2004, and 2008), using the acceptance limits defined in the AOC 50 Project-*Specific Quality Assurance Project Plan (QAPP) for the Annual Long-Term Monitoring (LTM) Program* [QAPP]; Sovereign and HGL, 2013). The method requirements from the USEPA SW-846 QC guidance (USEPA, 2005) and the DoD QSM version 5.0 (DoD, 2013) were used as supplemental information. The DQEs for the AOC 50 2015 sampling events are presented in **Appendix C**. Specific laboratory QC deviations requiring qualification in the spring and fall 2015 data sets included:

- Field duplicate precision above of the acceptable range;
- Method, trip and/or equipment blank cross-contamination; and,
- MS and MSD recovery and precision results outside the acceptance criteria.

Appropriate qualifiers have been added to the analytical data in **Table 4.2**.

4.3 Laboratory and Field Corrective actions

Laboratory

All laboratory analyses were performed in accordance with the precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) requirements listed in the AOC 50 QAPP (Sovereign and HGL, 2013). The detection limits for vinyl chloride in samples collected from location G6M-02-08X in June, September and October 2015 were elevated due to sample matrix effects which required dilutions prior to analysis. No corrective actions were required by the laboratory for the 2015 sampling events.

Field

There were no major field corrective actions required in CY 2015. Discrepancy issues were identified real time by review of chains of custody and laboratory logins as they were received by the project chemist. If discrepancies were noted, the project chemist notified the laboratory project manager via email and/or verbal communication and the issue was resolved immediately.

5.0 HYDRASLEEVE SAMPLING

During the spring and fall 2015 sampling events, HydraSleeve™ technology was utilized along with low stress/low flow sampling methods to evaluate the potential for substituting low flow sampling techniques with HydraSleeve™ technology. Confirmatory sampling was conducted involving the collection of analytical samples by both means and comparison of the results using relative percent difference (RPD) calculations. HydraSleeve™ is a proven, no-purge groundwater sampling method that reduces sampling time and equipment needs. Previous studies have indicated that HydraSleeve™ sampling is a suitable substitute for low-flow sampling (Parsons, 2005; Fernandes and Roberts, 2001; MWH, 2009; MWH, 2010; NDCEE, 2012).

HydraSleeve™ samplers were used during the spring LTM sampling event. At each sample location, the HydraSleeve™ was installed after water level measurements were collected. HydraSleeve™ samplers were installed according to manufacturer's specifications and instructions. Each well was allowed to equilibrate prior to the HydraSleeve™ being removed. However, due to field technician sample collection error, the samples were not collected per manufacturer's instruction. This resulted in significant RPD differences between low flow and HydraSleeve™ sample results and this data was not considered for evaluation.

Fall sampling included HydraSleeve™ technology. During these events, sample technique was reviewed with the field staff resulting in comparable data sets. **Table 5.1** shows the comparison of HydraSleeve™ and low flow sample results for VOC analysis of samples collected from AOC 50 in October 2015.

RPDs for detected results ranged from 3.4% to 103%. The results for PCE, TCE and VC from four out of the five samples were fairly comparable, with the exception of RPDs of 66.6% and 62.6% for the cis-1,2-dichloroethene results. The RPDs for PCE and TCE from one sample were 90.1% and 103%, respectively. There does not appear to be a trend. However, a possible explanation for these discrepancies might be loss of VOCs during sampling as a result of using the two sampling techniques.

The ideal RPD would be less than 20% indicating that the HydraSleeve™ technology would be a suitable alternate procedure for sampling groundwater wells. However due to the variations in RPDs presented in Table 5.1, additional data will be collected in spring 2016 to further evaluate the usability of HydraSleeve™ samplers for groundwater sampling

6.0 LAND-USE CONTROL MONITORING

Land Use Controls (LUCs) were a key component of the 2004 Record of Decision (ROD) and 2005 Final Remedial Action Work Plan (RAWP) (ARCADIS, 2005) and were developed to restrict or prevent potential human exposure to groundwater contaminants of AOC 50 until the property can be used for unlimited exposure and unrestricted use. The 2005 RAWP outlined the plan for implementation of the LUCs at AOC 50. According to the plan, LUCs are implemented in each area of the plume, the North, Source Area and Southwest. LUCs in the form of institutional controls (ICs) are necessary to restrict land and groundwater use at the site to prevent unacceptable risk for the duration of the remedy.

The LUC RAWP established the LUC objectives for each area. The basic objectives for all areas include: Restricting potential residential and/or commercial/industrial receptors from ingesting contaminated groundwater; restricting groundwater pumping and/or stormwater discharge/recharge to avoid drawing the contaminated groundwater from the Source Area; limiting construction in specified areas over the contaminated groundwater that would interfere with the operation of the remedy and providing access to the site for the monitoring/remediation. Additional objectives in the Source Area include: protecting commercial/industrial workers from inhaling vapors released from groundwater used as "open" process water and preventing potential construction/occupation of residential dwellings, schools/child care facilities and inhalation of vapors released from groundwater to indoor air.

The objectives of the LUCs for AOC 50 are imposed through legal mechanisms, which have been set up to establish environmental use restrictions and controls to limit activities that would interfere with the operation of the remedy. The legal mechanisms are enforced through incorporation of lease provisions into deeds and permits and through negotiations and agreements with local towns and developers.

Annual physical inspections, including interviews with stakeholders, are conducted to confirm continued compliance with LUC objectives. Annual LUC compliance reports are prepared and include a summary of the interviews and inspections and identify any deficiencies to the site controls. The annual evaluation addresses whether the use restrictions and controls were communicated in the deed(s), whether the owners and state and local agencies were notified of the use restrictions and controls affecting the property, and whether use of the property has conformed to such restrictions and controls. The AOC 50 annual LUC inspection and interview is included in Appendix E.

The September 2007 Addendum to the Real Property Master Plan included supplemental information on LUCs established under BRAC and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) programs that are applicable to Area G (Regional Training Site [RTS] Maintenance), as well as, for three other deeded areas located at the DRFTA. A copy of the September 2007 Addendum to the Real Property Master Plan is presented as **Appendix E**.

Any proposed actions that affect the AOC 50 property must consider following the ROD requirements, which include:

- Provide continued access to treatment transects and monitoring wells and access to install additional injection or monitoring wells, if necessary;

- Coordinate construction plans with the BCT to facilitate ongoing remediation and future access to plume areas;
- No groundwater extraction or injection for any purpose; and,
- Coordinate construction plans for modifications to storm water systems with the BCT.

Furthermore, the deed notices provided at the time of property transfer to USFWS, Henry Woodle of Groton Ayer Realty Trust, and Ron Ostrowski of MassDevelopment, inform each owner of their property use restrictions.

Monitoring activities performed for the 2015 reporting period included a review of the documentation and records, on-site inspections, and annual LUC interviews with AOC 50 property owners.

6.1 On-site Inspections

LUCs were verified during an annual physical inspection of the site. The physical inspection included the following observations:

- Any signs of increased exposure potential to the public from groundwater contaminants;
- Any evidence that groundwater extraction wells had been installed at the site;
- Any evidence of site use changes; and,
- Any site access issues related to monitoring and remediation activities.

No evidence of increased exposure potential or the installation of groundwater extraction wells was observed. There is no evidence of any new activity in the area. There were no issues encountered related to site access for monitoring and remediation activities during the October 2015 site inspection.

6.2 Land-Use Control Interview

Telephone interviews were conducted with each property owner, manager or other designee familiar with "day-to-day" activities of the property. During the interviews, the KGS team personnel inquired about the following:

- The owner's familiarity regarding LUCs imposed upon the property and documentation of these controls;
- Sources of water used at the property; and,
- Proposed plans for property sale, future development, construction or demolition activities at AOC 50.

Mr. Simeone of USACE stated that no change has occurred during CY 2015 and that the remedy is being implemented at the site.

Mr. Ostrowski of MassDevelopment, reiterated the same information stating that no change had occurred during CY 2015.

6.3 Land-Use Control Monitoring Summary

Results of the annual compliance monitoring indicate that no breaches to the LUCs were evident and corrective action(s) were not necessary since there were no changes in site conditions or land use. There are no proposed changes to inspection and reporting frequency at this time.

7.0 CONCLUSIONS

Sections 2.0 and 4.0 discuss the 2015 ERD injection and LTM events, respectively. Overall, the target VOC concentrations groundwater in all areas of AOC 50 are decreasing as shown on trends charts (Appendix A of the *ERD Injection Report*) and plume figures (Figures 4.1 through 4.4) indicating that remedial actions are effectively treating contaminants of concern to achieve site goals. Increased methane concentrations and low dissolved oxygen and negative ORP levels support this conclusion.

The highest levels of PCE, while greatly reduced over time, remain in the source areas wells. Areas 2 and 3 show the most definitive overall decreasing concentration trend for PCE. This indicates that the ERD process is continuing to work toward completion in these areas, as is confirmed by a decline in dechlorination by-product levels and the sustained evolution of high ethene and methane concentrations. Some residual pockets of PCE still exist at select monitoring wells, specifically downgradient and along the western edge of Areas 4 and 5. Recent data have shown that the conversion of western edge monitoring wells in Areas 1, 2, 4 and 5 to injection wells has been effective at stimulating reductive dechlorination at the western edge of the former PCE plume.

KGS

8.0 RECOMMENDATIONS

After evaluation of the results and interpretation of the analytical and geochemical data collected during the 2015 reporting period discussed in this annual report; the following actions are recommended for AOC 50 in 2016:

- Based on continued detections of PCE in Source Area wells, additional Geoprobe direct push injections of ABC®Ole'+ substrate are recommended. In addition, injections will be conducted in existing Source Area injection wells with ABC®Ole'. Data from the groundwater sampling events will be used to continue evaluating the effectiveness of the ERD remedy.
- Reducing conditions are present in Area 2; therefore, additional supplemental ERD injections are not recommended at this time. Groundwater conditions will continue to be monitored during LTM sampling events.
- ERD injections of ABC®Ole' substrate will be conducted in select Area 3 injection wells. Potential injection wells may include IW-26 and IW-27.
- Based on PCE levels along the western edge of Areas 4 and 5, continued injections of ABC® will be conducted in select injection wells and direct push locations along the Areas 4 and 5 transects. Potential injection wells may include G6M-06-01X and IW-36.

Prior to each ERD injection event, the ERD injection strategy will be evaluated to optimize the volume and/or the placement of the ERD substrate within particular injection transects. Groundwater sampling will be conducted during the spring 2016 LTM event to evaluate groundwater conditions prior to the injection event. A post-injection sampling event will occur after the fall 2016 LTM event to assess the effectiveness of the 2016 ERD injection strategy. Semi-annual and annual LTM sampling and collection of synoptic water levels will continue in the spring and fall. Annual monitoring for VOCs and metals will continue at MicroWells® XSA-12-95X through XSA-12-98X.

9.0 REFERENCES

ARCADIS U.S., Inc. 2005. *Remedial Action Work Plan, AOC 50, Devens, Massachusetts*. June.

H&S Environmental, Inc., (H&S) 2015. *Final Work Plan for Supplemental ERD Injections at AOC 50*, Devens, Massachusetts. August.

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Sovereign Consulting, Inc. (Sovereign) and HGL, 2013. *Project-Specific Quality Assurance Project Plan (QAPP) for the Annual Long-Term Monitoring (LTM) Program, AOC 50, Former Fort Devens Army Installation, Devens, Massachusetts*. July.

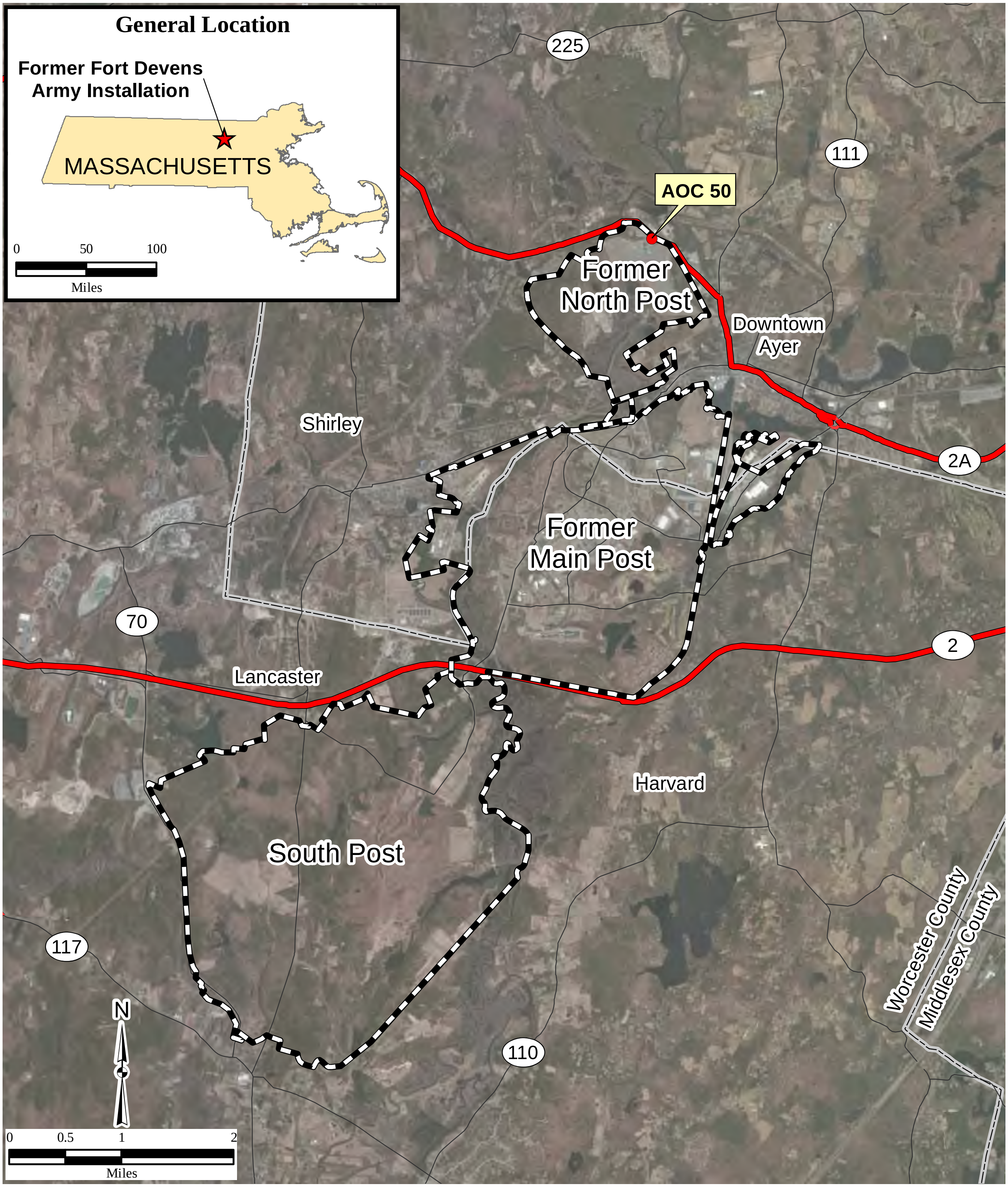
U.S. Department of Defense (DoD), Environmental Data Quality Workgroup, 2013. *Department of Defense Quality Systems Manual for Analytical Laboratories 5.0.* July.

U.S. Environmental Protection Agency (USEPA) Region 1, 1996a, 1996b, 2004, and 2008. *USEPA Region 1, EPA – New England Data Validation Functional Guidelines for Evaluating Environmental Analyses.*

USEPA, 2005. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, through update IIIB.* Office of Solid Waste and Emergency Response. June.

USEPA, Region 1, 2010. *Low Stress (low-flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells* (EQASOP-GW 001). January.

FIGURES



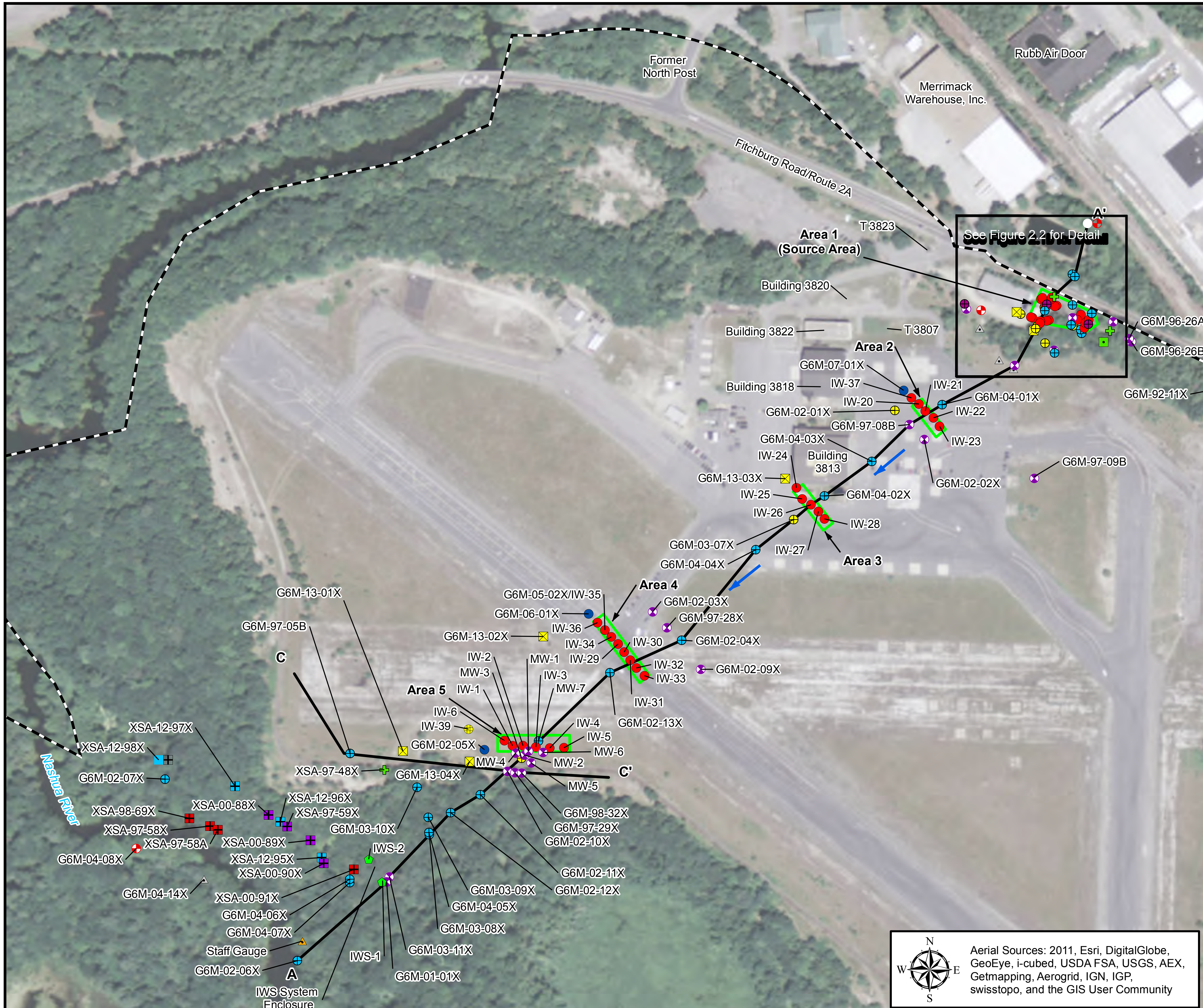
Source: Sovereign,HGL, ESRI, USACE, www.mass.gov,

ESRI Online Bing Maps Aerial

Legend

- Area of Contamination (AOC)
- Major Road
- Highway
- County Line
- Former Fort Devens

Figure 1.1
AOC 50 Site Location
Former Fort Devens Army Installation



Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 2.1
Site Layout
Area of Contamination 50

Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- ERD LTM Well - Sampled Every 3 Years
- LTM Well - Gauge Only
- Monitoring Well
- Monitoring Well Converted to Injection Well
- In-Well Stripping System Well
- MicroWell® - Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Monitoring Well Installed 12/2013-01/2014
- Injection Well Installed 01/2014
- G6M-92-11X Well/Gauge/Piezometer Identification
- Groundwater Flow Direction
- A——A' Cross Section
- Former Fort Devens Boundary
- ERD Injection Well Transect

Notes:
ERD = Enhanced reductive dechlorination
IWS = In-well stripping
LTM = Long-term monitoring

References:
HGL. LTMMP 2012.

2015 Annual O&M and Maintenance
AOC 50

Former Fort Devens Army Installation and Sudbury Annex
Devens, Massachusetts

KOMAN Government Solutions, LLC
160 East Main Street, Suite 2F, Westborough, MA 01581

0 150 300
Feet

Date: 05/24/2016

Figure 2.1

KGS

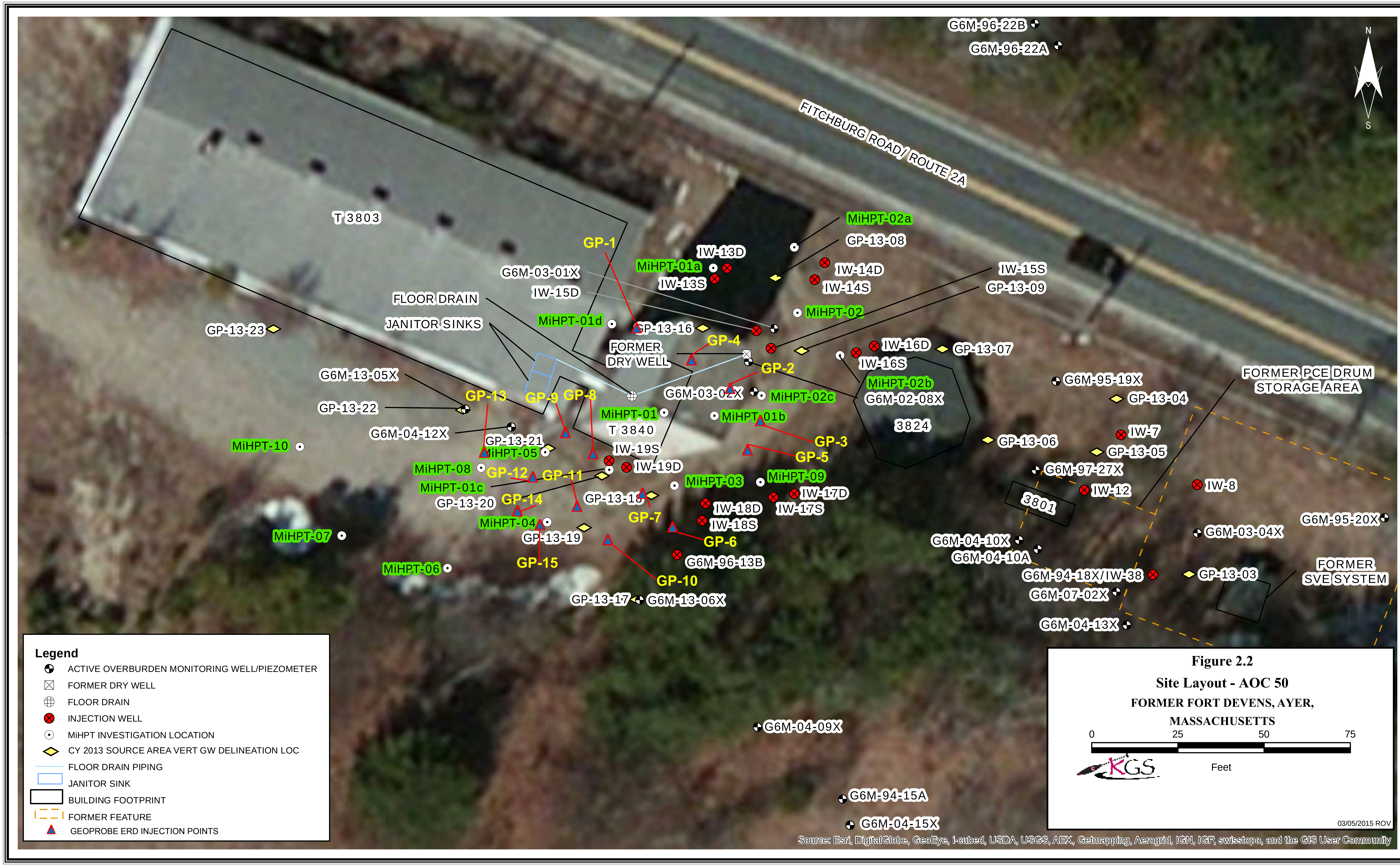


Figure 2.2

Site Layout - AOC 50

FORMER FORT DEVENS, AYER, MASSACHUSETTS

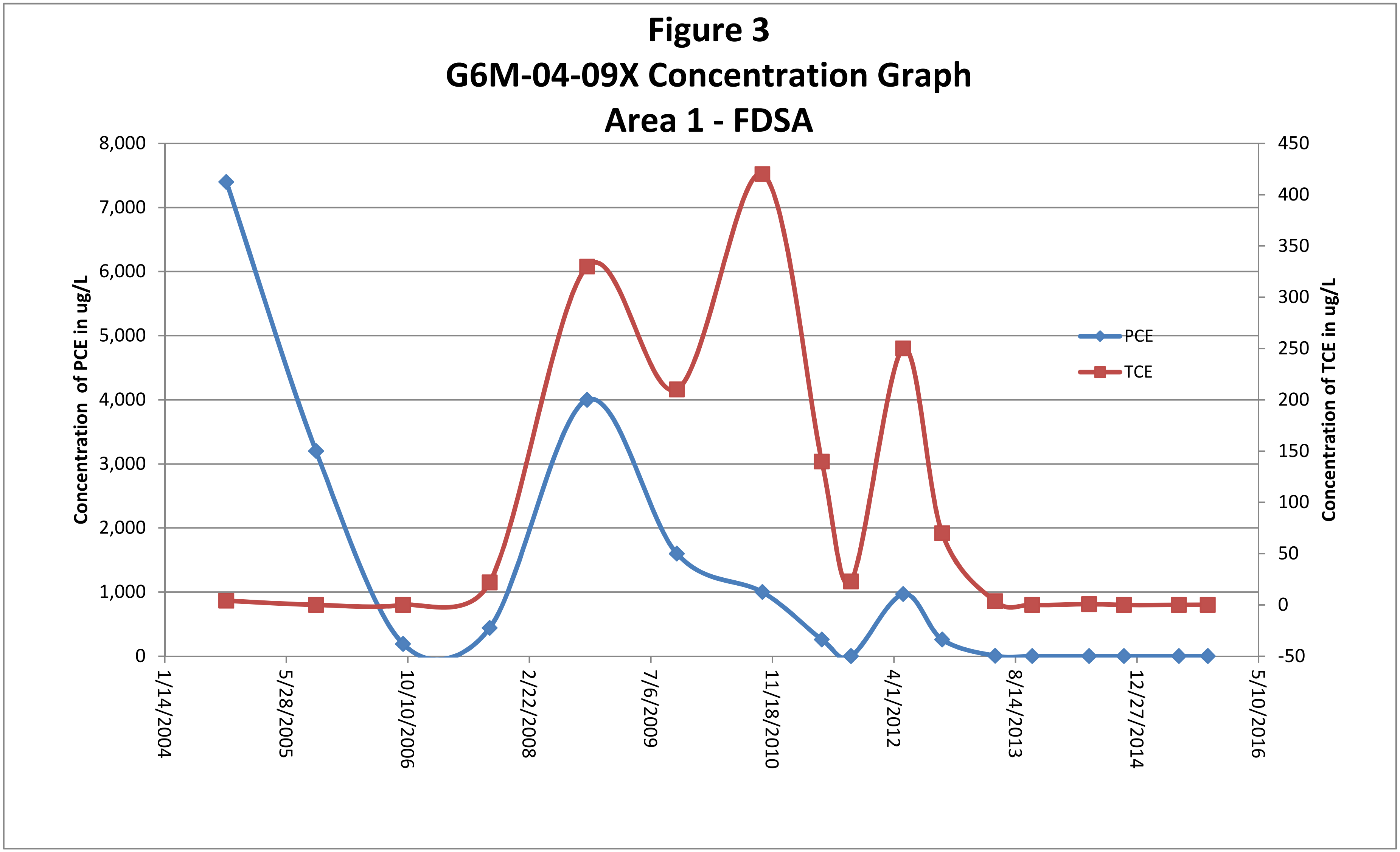


Figure 3
G6M-04-09X Concentration Graph
Area 1 - FDSA
Concentration of PCE in ug/L
Concentration of TCE in ug/L
PCE
TCE
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
450
400
350
300
250
200
150
100
50
0
-50
1/14/2004
5/28/2005
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8/14/2013
12/27/2014
5/10/2016

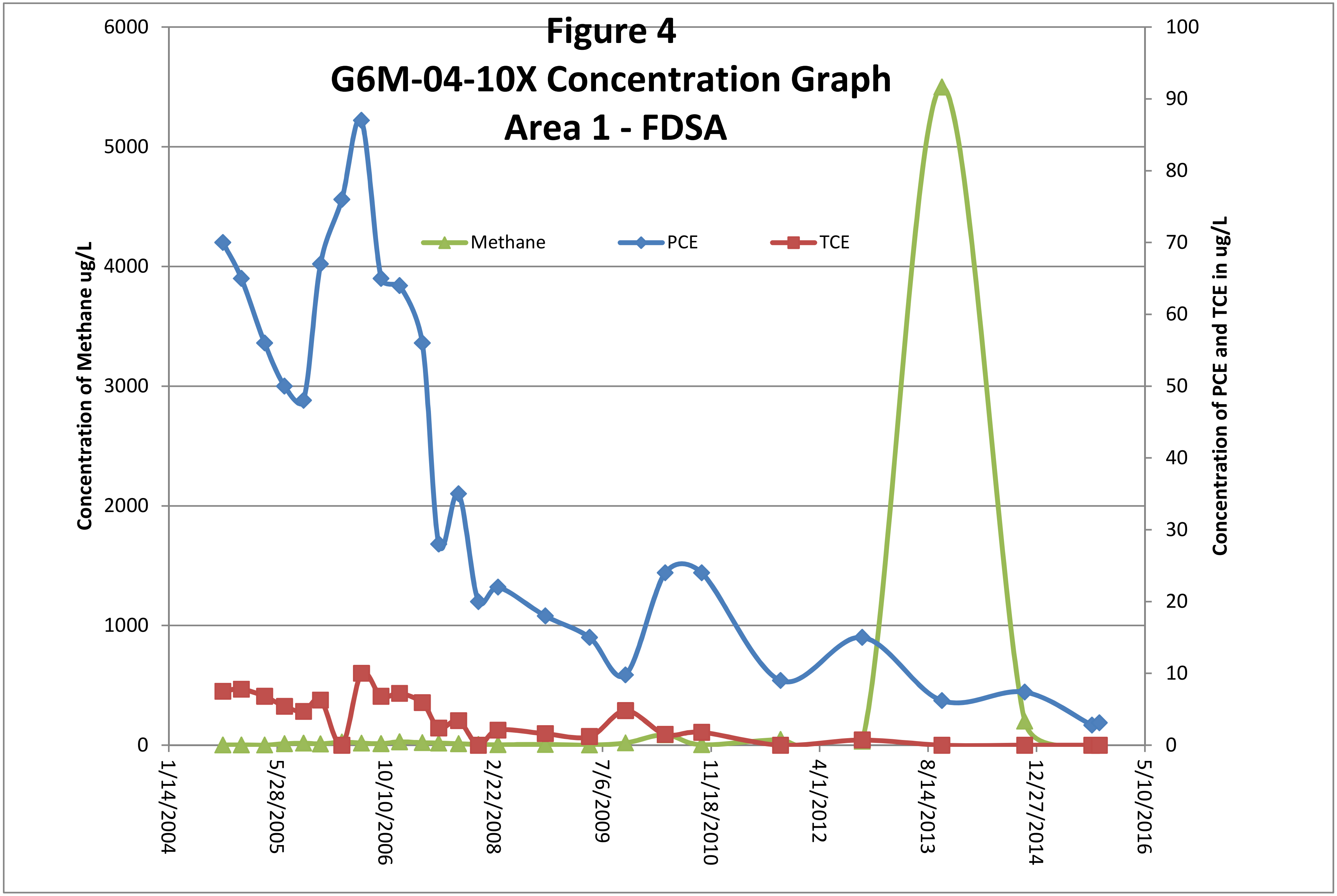
Figure 4
G6M-04-10X Concentration Graph
Area 1 - FDSA
Methane
PCE
TCE
Concentration of Methane ug/L
Concentration of PCE and TCE in ug/L
6000
5000
4000
3000
2000
1000
0
100
90
80
70
60
50
40
30
20
10
0
1/14/2004
5/28/2005
10/10/2006
2/22/2008
7/6/2009
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4/1/2012
8/14/2013
12/27/2014
5/10/2016

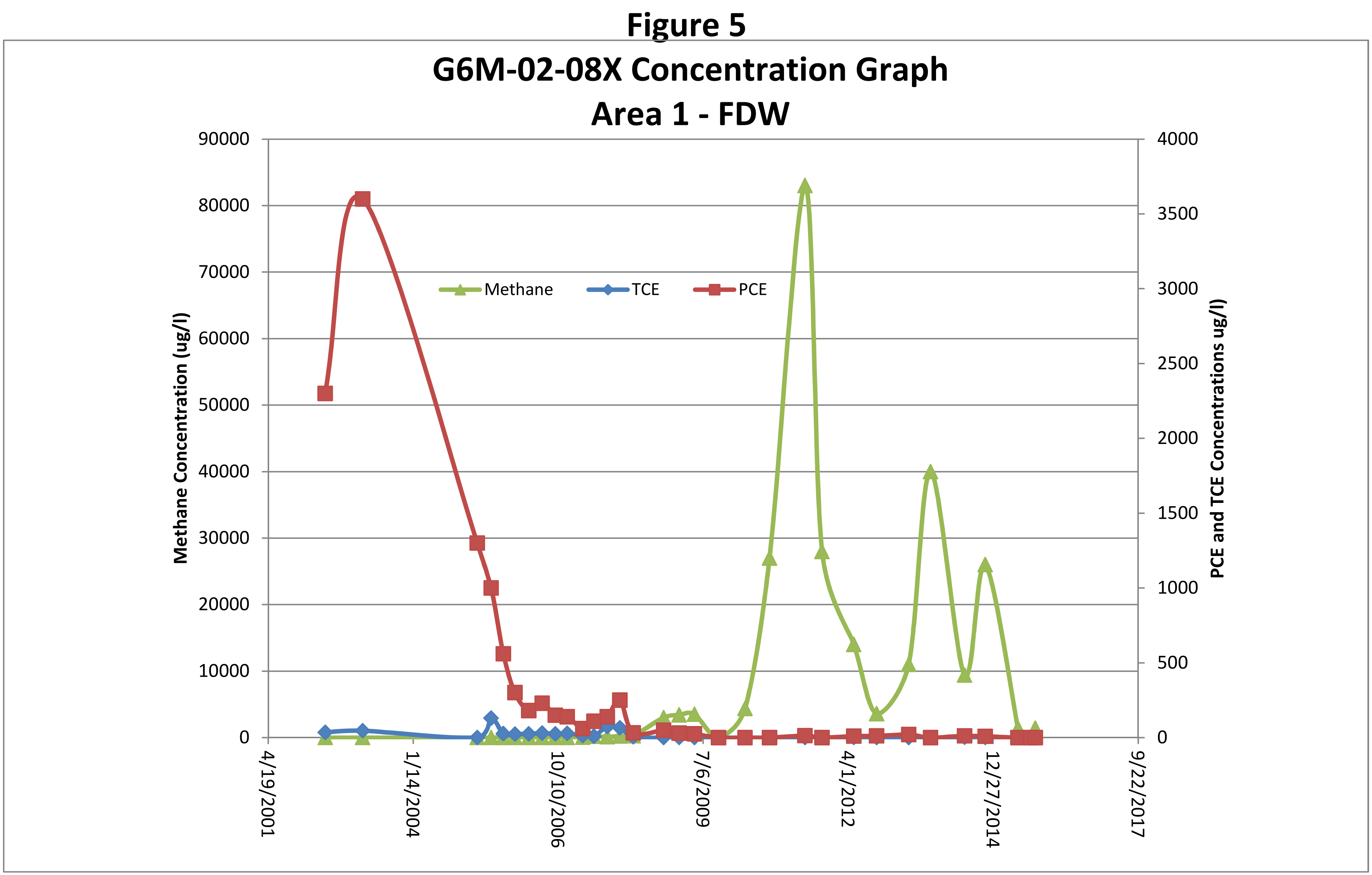


Figure 5
G6M-02-08X Concentration Graph
Area 1 - FDW
Methane
TCE
PCE
Methane Concentration (ug/l)
PCE and TCE Concentrations ug/l)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
4000
3500
3000
2500
2000
1500
1000
500
0
4/19/2001
1/14/2004
10/10/2006
7/6/2009
4/1/2012
12/27/2014
9/22/2017

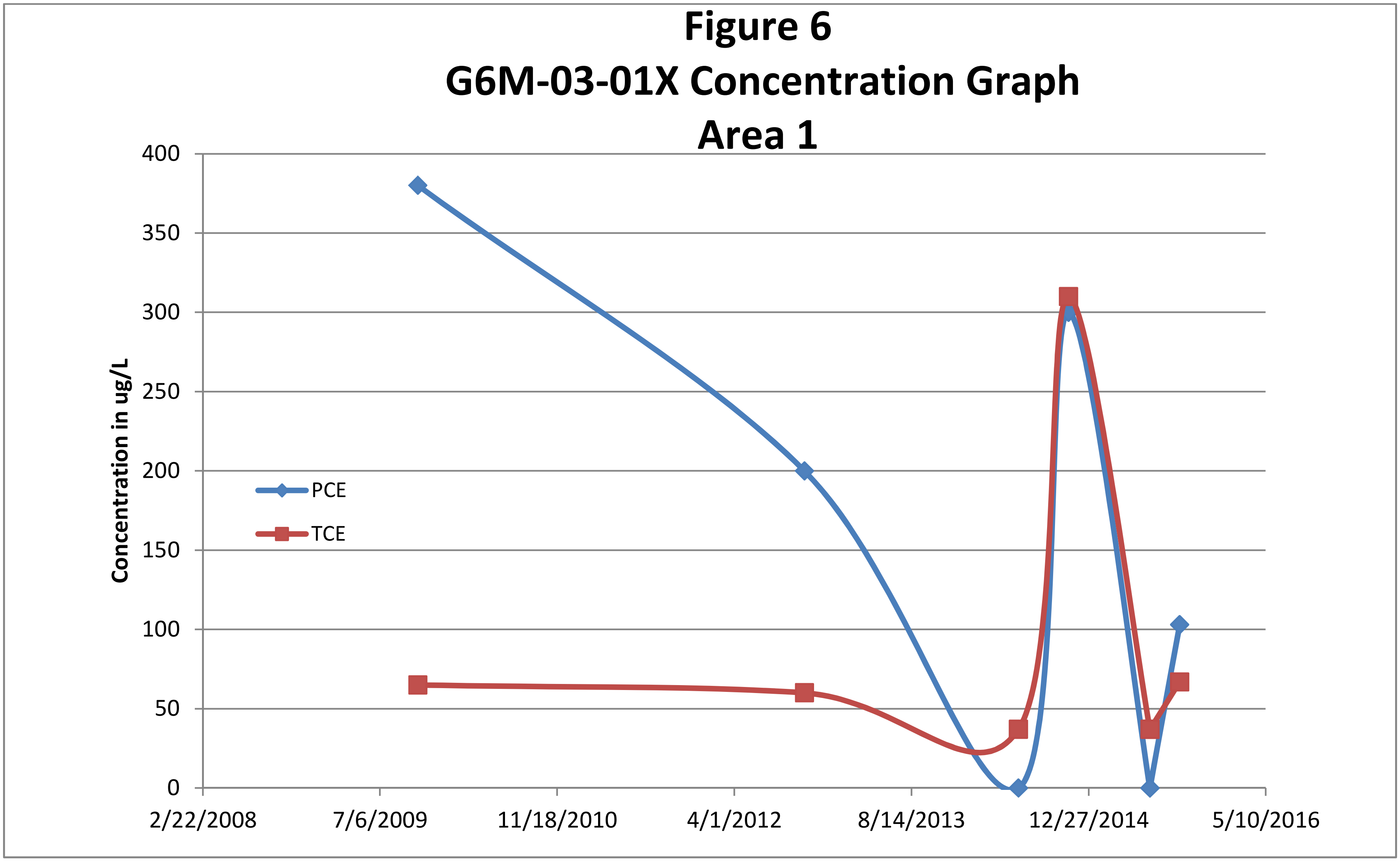


Figure 6
G6M-03-01X Concentration Graph
Area 1
Concentration in ug/L
400
350
300
250
200
150
100
50
0
PCE
TCE
2/22/2008
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016

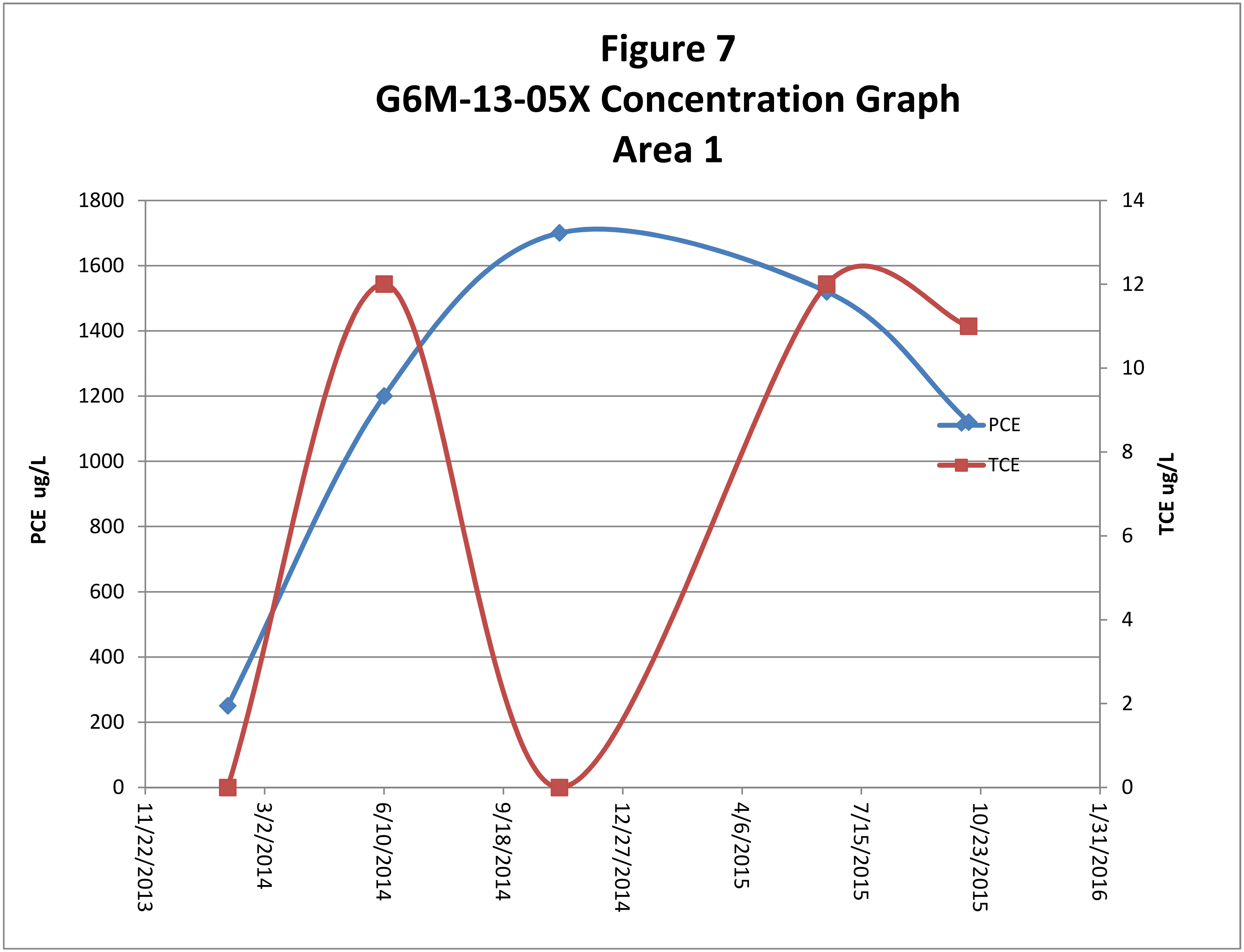


Figure 7
G6M-13-05X Concentration Graph
Area 1
PCE ug/L
TCE ug/L
1800
1600
1400
1200
1000
800
600
400
200
0
14
12
10
8
6
4
2
0
PCE
TCE
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
1/31/2016

Figure 8
G6M-02-01X Concentration Graph
Area 2

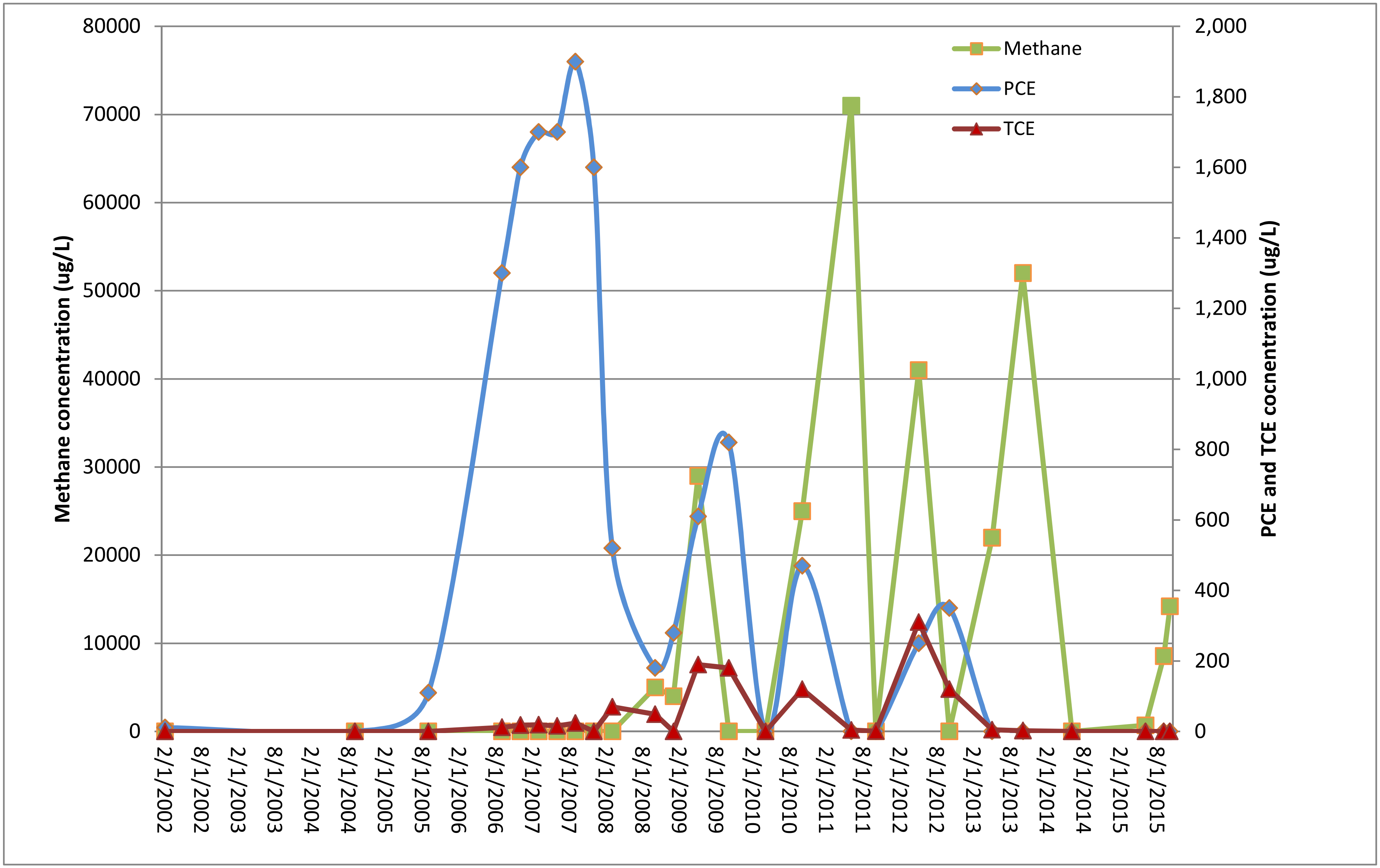


Figure 9
G6M-04-01X Concentration Graph
Area 2

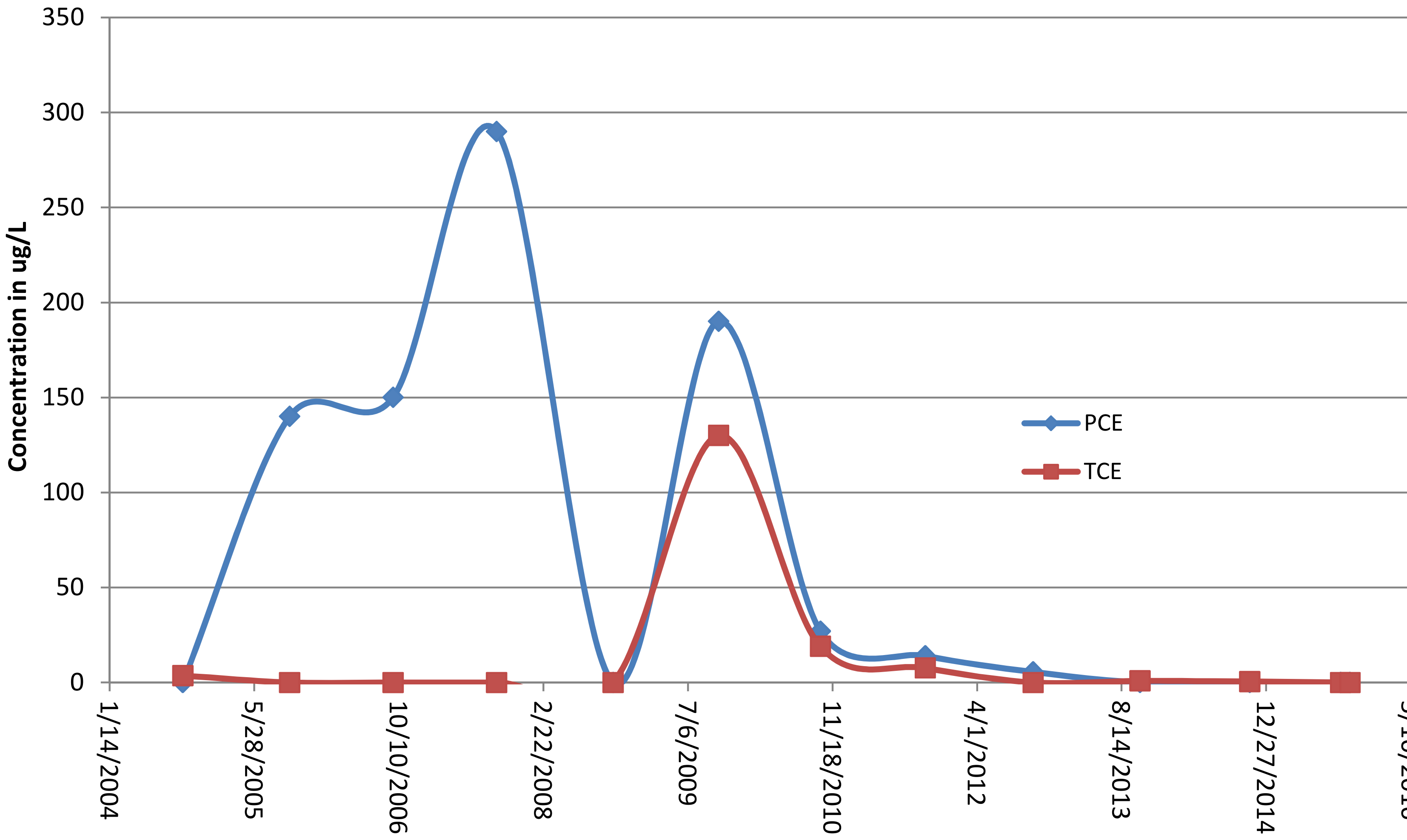


Figure 10
G6M-04-03X Concentration Graph
Area 2

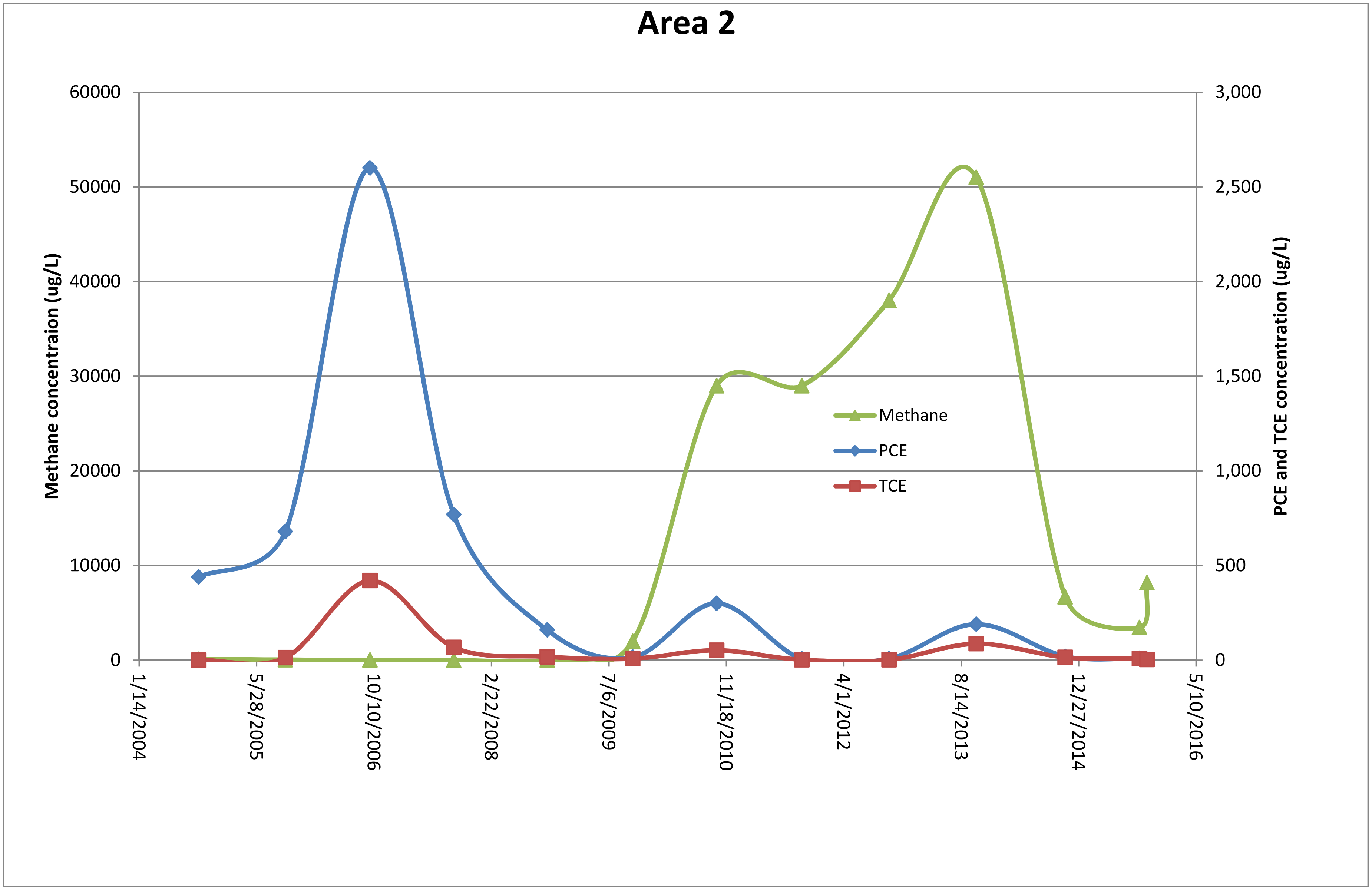
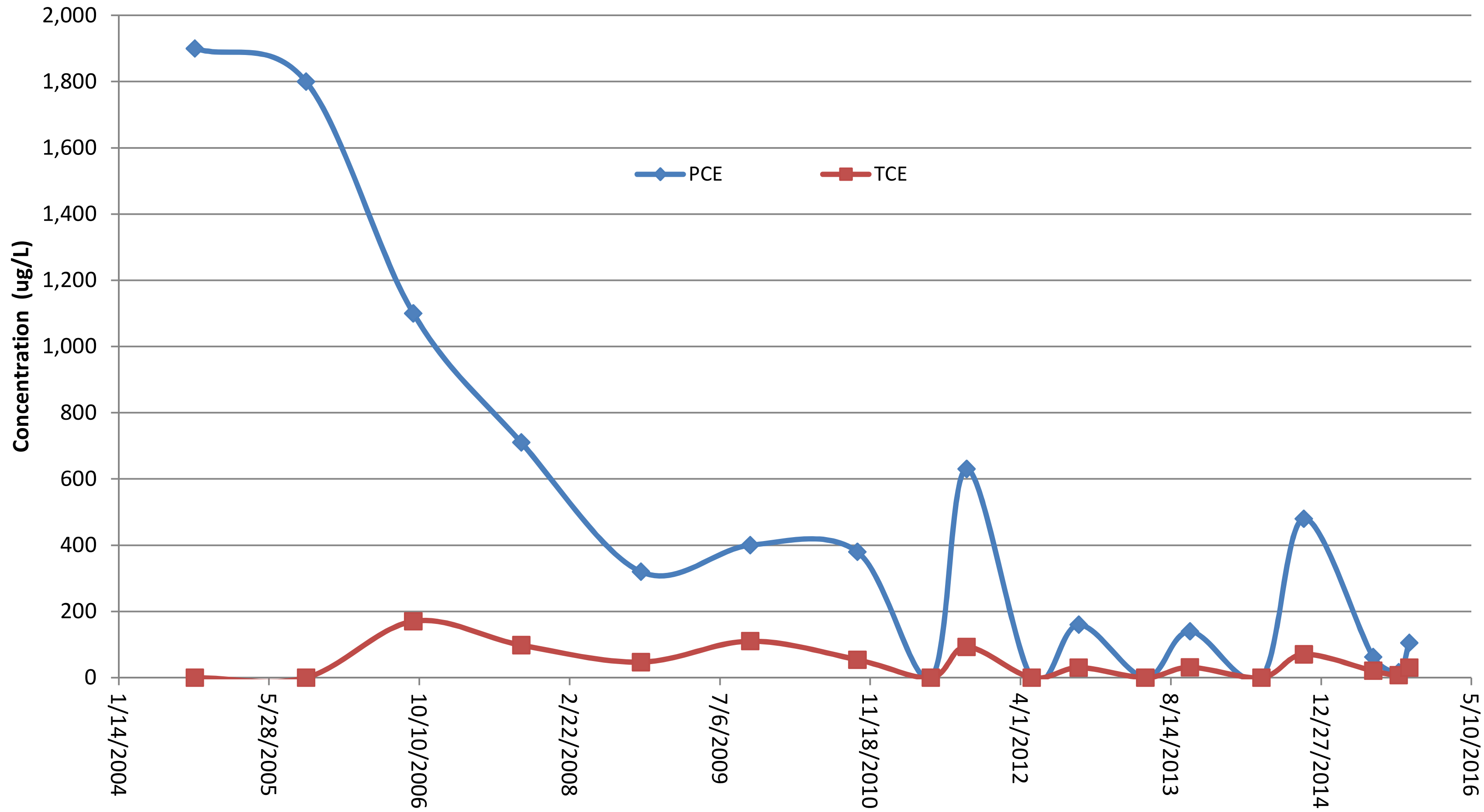


Figure 11
G6M-04-02X Concentration Graph
Area 2



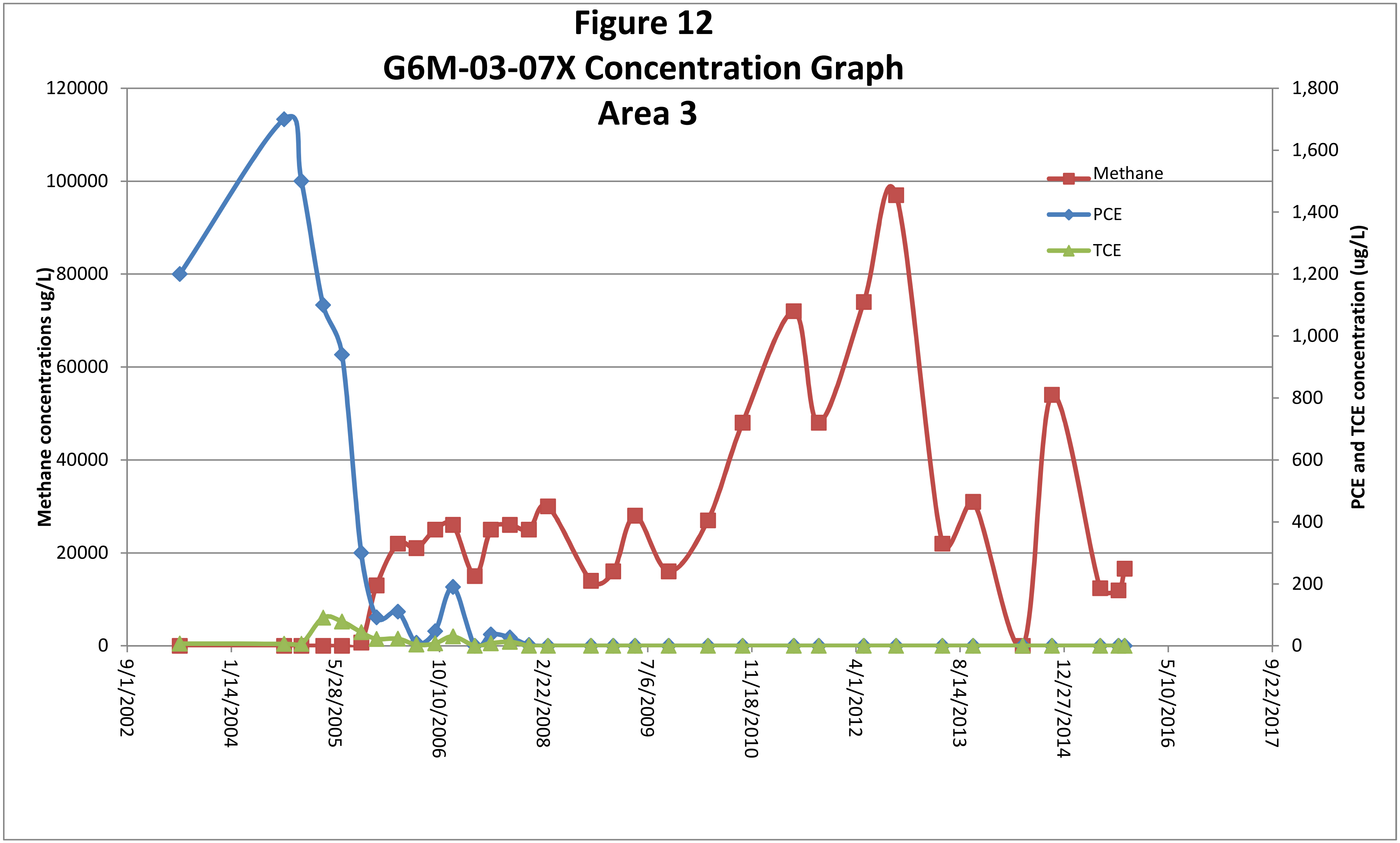


Figure 12
G6M-03-07X Concentration Graph
Area 3
Methane concentrations ug/L)
PCE and TCE concentration (ug/L)
120000
100000
80000
60000
40000
20000
0
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
Methane
PCE
TCE
9/1/2002
1/14/2004
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016
9/22/2017

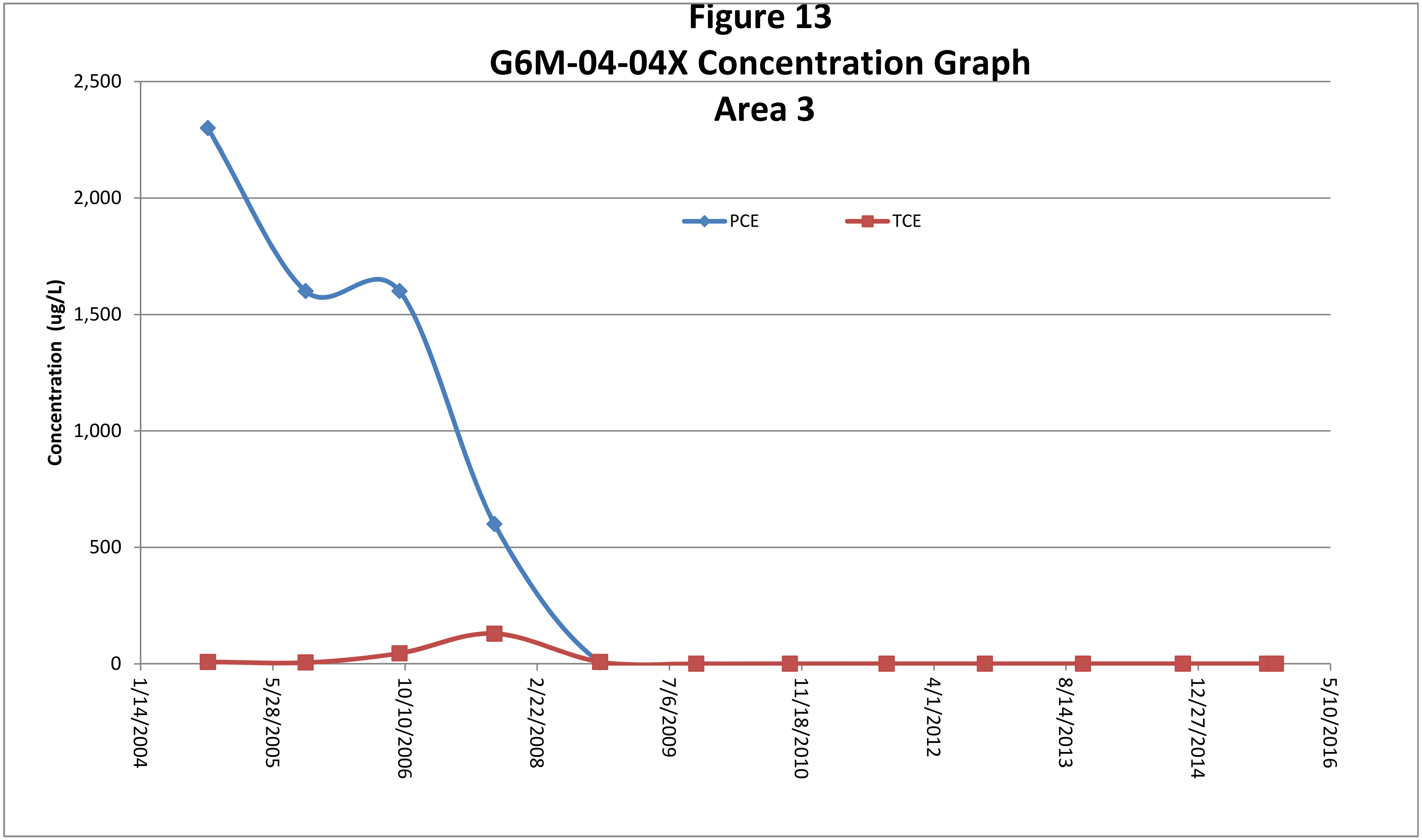
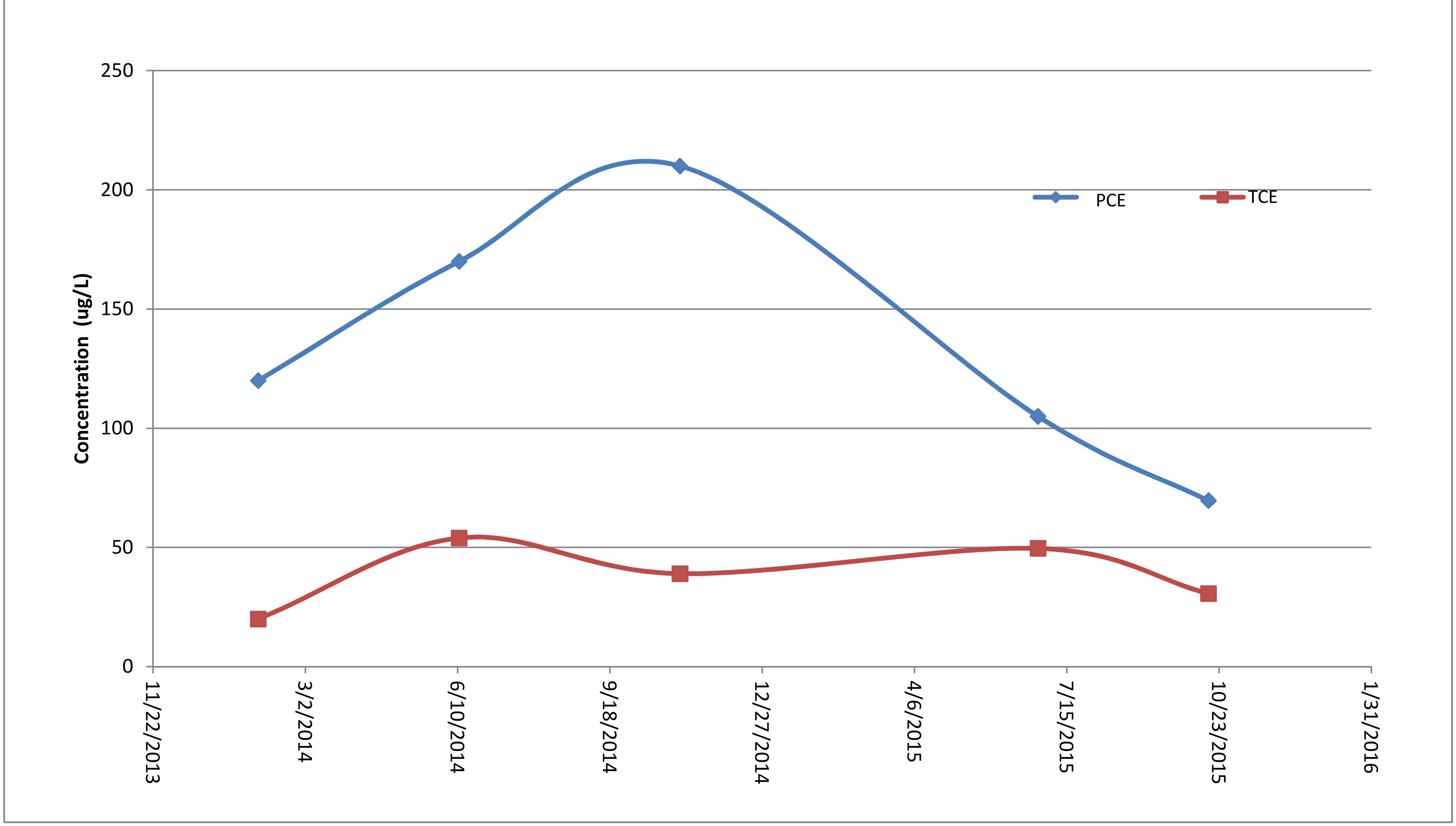


Figure 13
G6M-04-04X Concentration Graph
Area 3
PCE
TCE
Concentration (ug/L)
2,500
2,000
1,500
1,000
500
0
1/14/2004
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016

Figure 14
G6M-13-02X Concentration Graph
Area 4



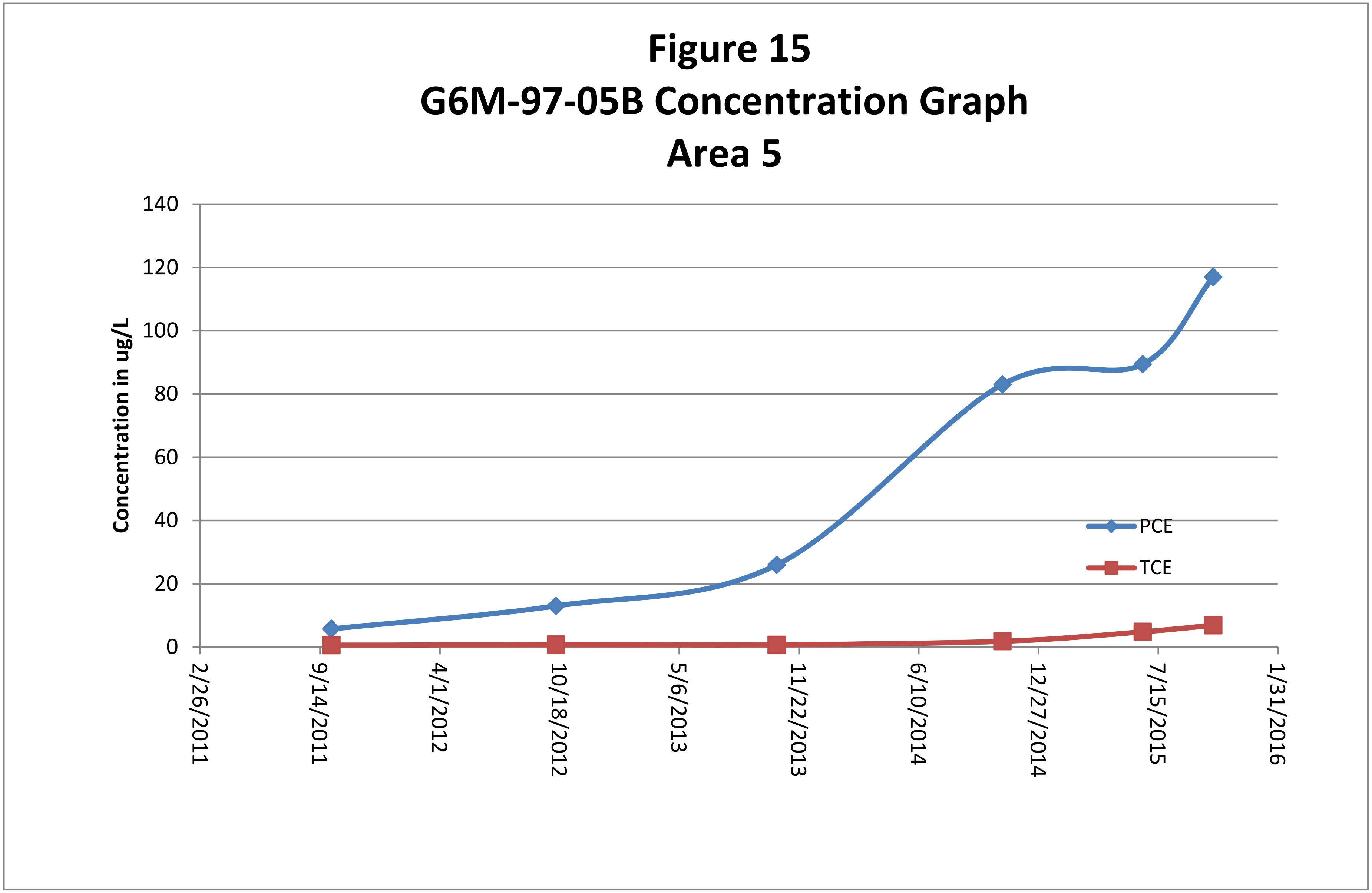


Figure 15
G6M-97-05B Concentration Graph
Area 5
Concentration in ug/L
140
120
100
80
60
40
20
0
2/26/2011
9/14/2011
4/1/2012
10/18/2012
5/6/2013
11/22/2013
6/10/2014
12/27/2014
7/15/2015
1/31/2016
PCE
TCE

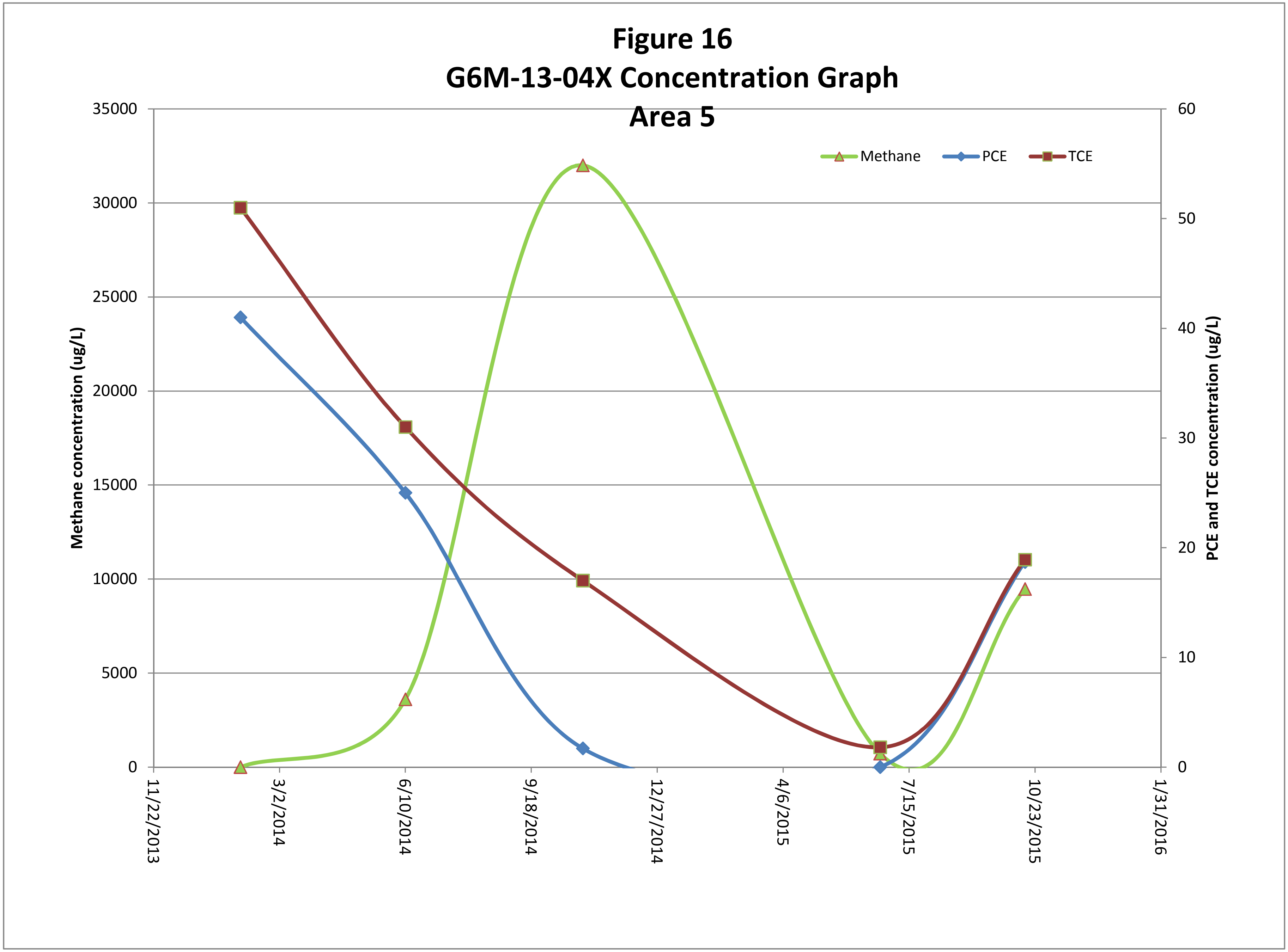


Figure 16
G6M-13-04X Concentration Graph
Area 5
Methane
PCE
TCE
Methane concentration (ug/L)
PCE and TCE concentration (ug/L)
35000
30000
25000
20000
15000
10000
5000
0
60
50
40
30
20
10
0
11/22/2013
3/2/2014
6/10/2014
9/18/2014
12/27/2014
4/6/2015
7/15/2015
10/23/2015
1/31/2016

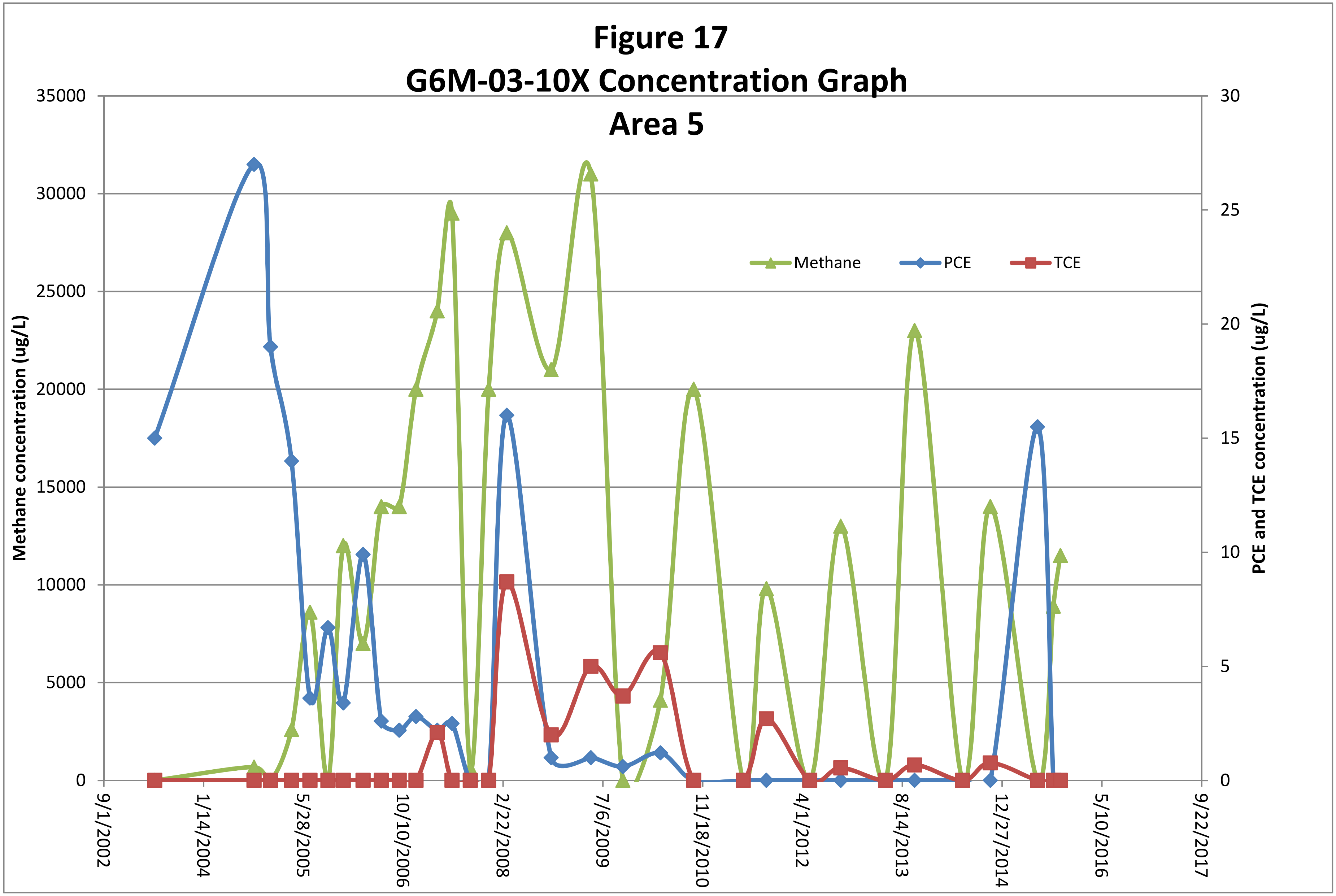
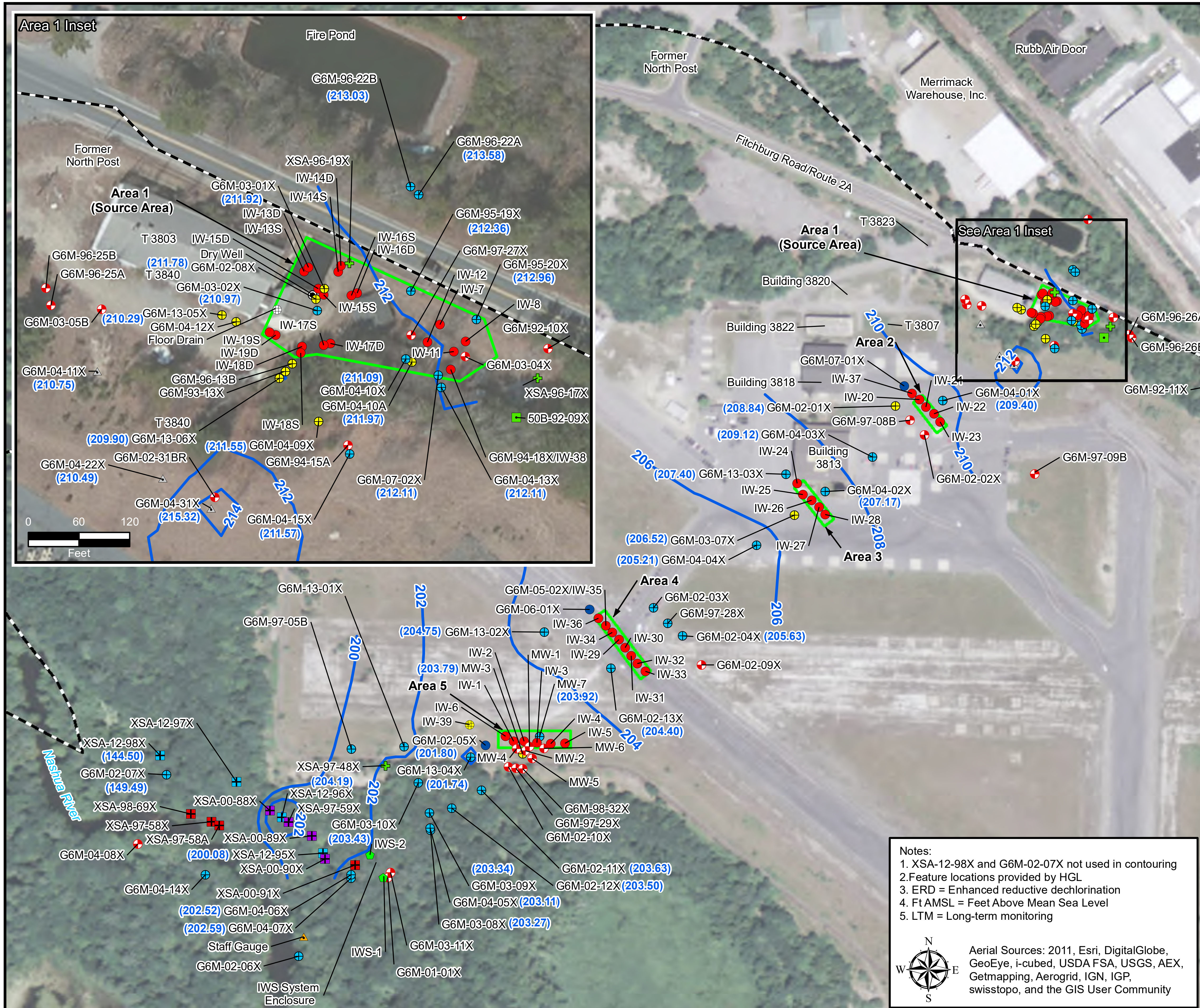


Figure 17
G6M-03-10X Concentration Graph
Area 5
Methane
PCE
TCE
Methane concentration (ug/L)
PCE and TCE concentration (ug/L)
35000
30000
25000
20000
15000
10000
5000
0
30
25
20
15
10
5
0
9/1/2002
1/14/2004
5/28/2005
10/10/2006
2/22/2008
7/6/2009
11/18/2010
4/1/2012
8/14/2013
12/27/2014
5/10/2016
9/22/2017



Notes:
1. XSA-12-98X and G6M-02-07X not used in contouring
2. Feature locations provided by HGL
3. ERD = Enhanced reductive dechlorination
4. Ft AMSL = Feet Above Mean Sea Level
5. LTM = Long-term monitoring

N E S W

Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 18
Interpretive Water Table Elevations June 2015

Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- Monitoring Well
- Monitoring Well Converted to Injection Well (CY2013)
- In-Well Stripping System Well
- MicroWell® - Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Injection Well Installed 01/2014
- G6M-92-11X Well/Gauge/Piezometer Identification
- Groundwater Contour (Ft AMSL) (Interval = 2 FT)
- 205.63 Groundwater Elevation (ft AMSL)
- Former Fort Devens Boundary
- ERD Injection Well Transect

References:
HGL. LTMMP 2012.

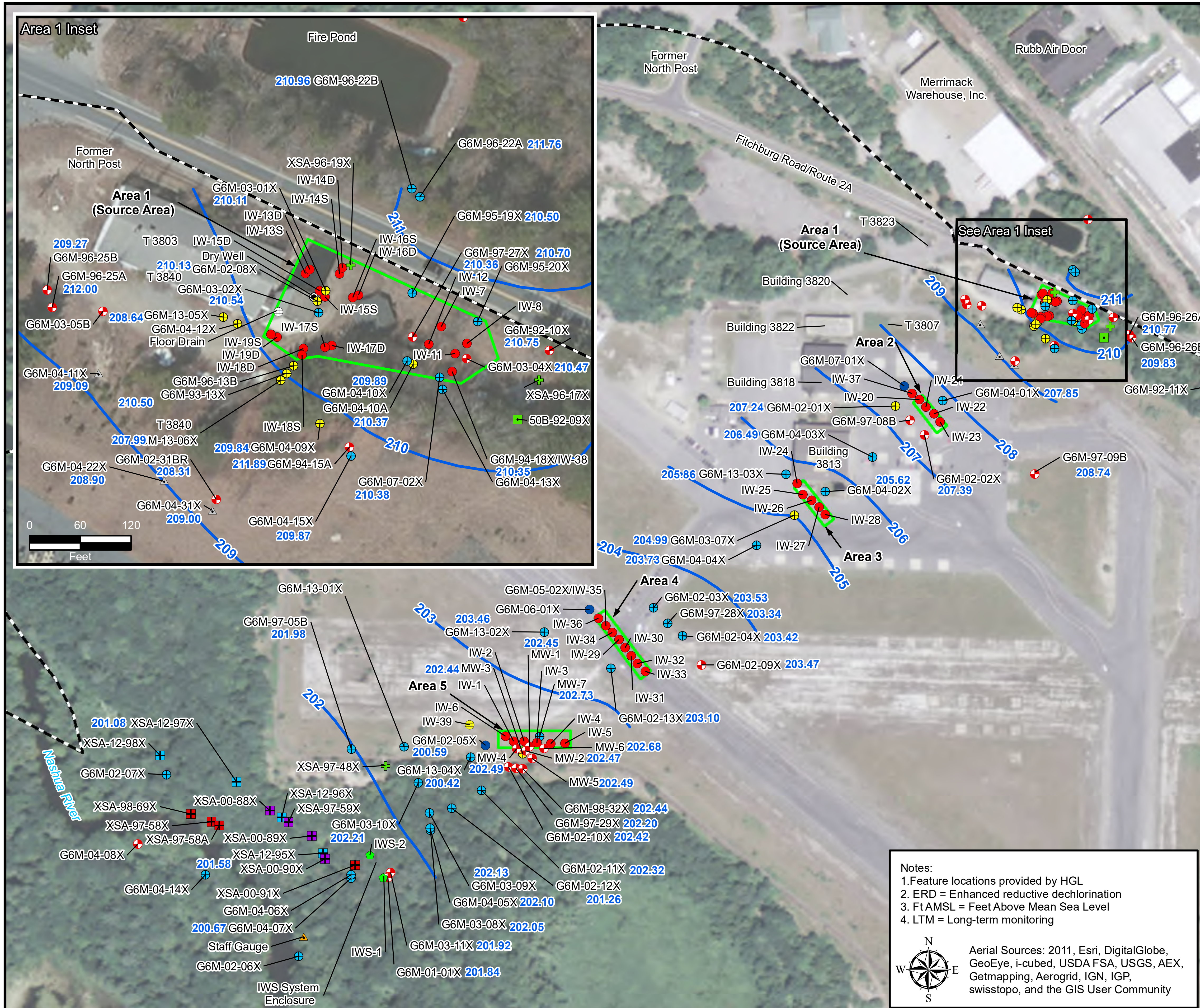
2015 Annual Report
AOC 50

Former Fort Devens Army Installation and Sudbury Annex
Devens, Massachusetts

KOMAN Government Solutions, LLC
160 East Main Street, Suite 2F, Westborough, MA 01581

0 150 300 Feet	Date: 12/06/2016	Figure 18	KGS

File: 2015AR_AOC50_June2015_GWC.mxd



Notes:
1. Feature locations provided by HGL
2. ERD = Enhanced reductive dechlorination
3. Ft AMSL = Feet Above Mean Sea Level
4. LTM = Long-term monitoring

Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 19
Interpretive Water Table Elevations
October 2015

Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- Monitoring Well
- Monitoring Well Converted to Injection Well (CY2013)
- In-Well Stripping System Well
- MicroWell® - Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Injection Well Installed 01/2014
- G6M-92-11X Well/Gauge/Piezometer Identification
- Groundwater Contour (Ft AMSL) (Interval = 1 FT)
- 203.42 Groundwater Elevation (ft AMSL)
- Former Fort Devens Boundary
- ERD Injection Well Transect

References:
HGL. LTMMP 2012.

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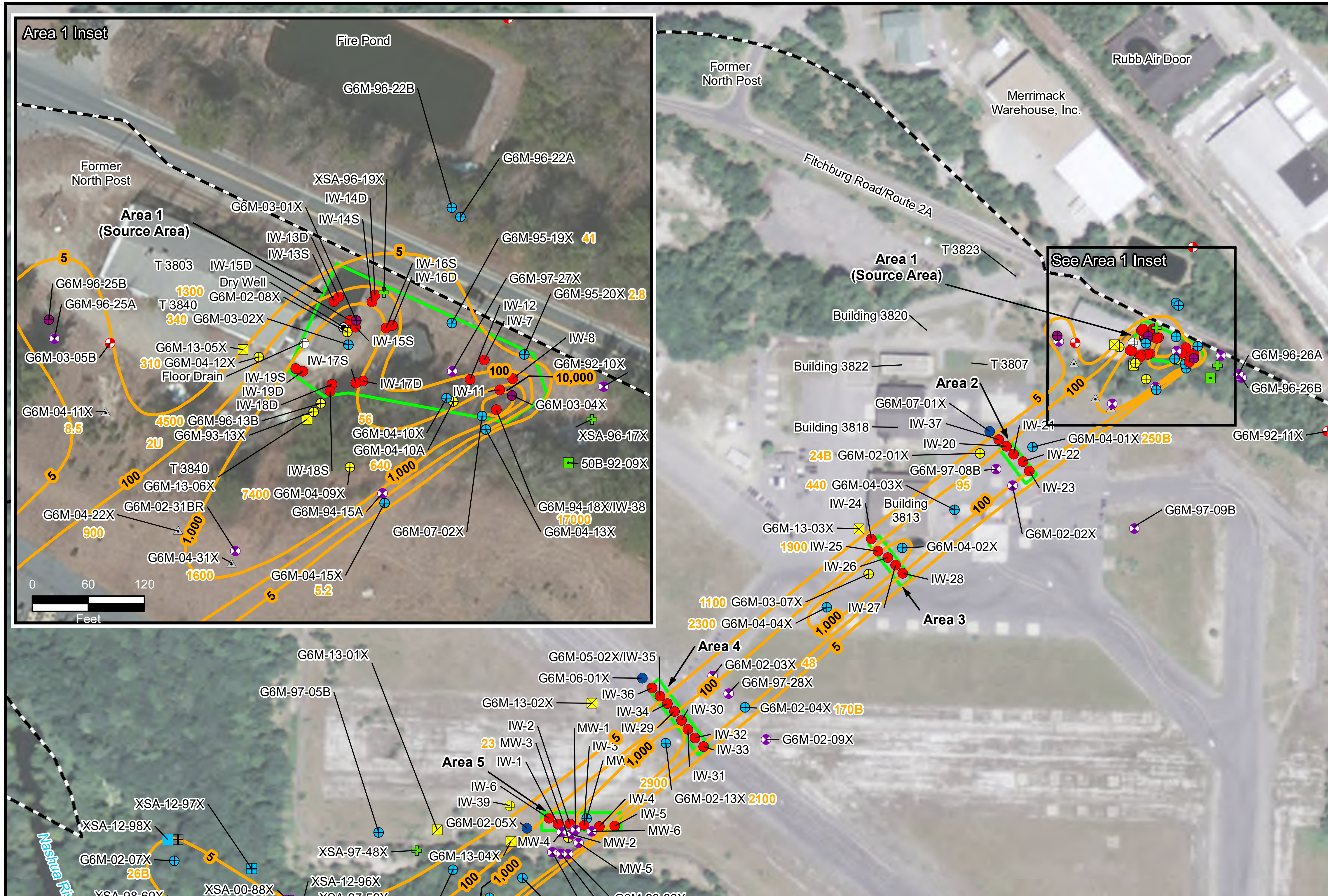
0 150 300 Feet	Date: 12/06/2016	Figure 19	KGS

File: 2015AR_AOC50_Oct2015_GWC.mxd

Figure 20
Tetrachloroethene Concentrations in Groundwater 2004



Notes:
1. Feature locations provided by HGL
2. µg/L = Micrograms per liter
3. ERD = Enhanced Reductive Dechlorination
4. GW = Groundwater
5. J = Estimate
6. LTM = Long-Term Monitoring
7. U = Non-detect
8. B=compound detected in lab blank

Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- ERD LTM Well - Sampled Every 3 Years
- LTM Well - Gauge Only
- Monitoring Well
- Monitoring Well Converted to Injection Well
- In-Well Stripping System Well
- MicroWell® - Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Monitoring Well Installed 12/2013-01/2014
- Injection Well Installed 01/2014
- Dry Well
- Floor Drain
- G6M-92-11X Well/Gauge/Piezometer Identification
- 5 Tetrachloroethene Contour (µg/L)
- 1.7 Tetrachloroethene Concentration (µg/L)
- Former Fort Devens Boundary
- ERD Injection Well Transect

References:
HGL. LTMMP 2012.

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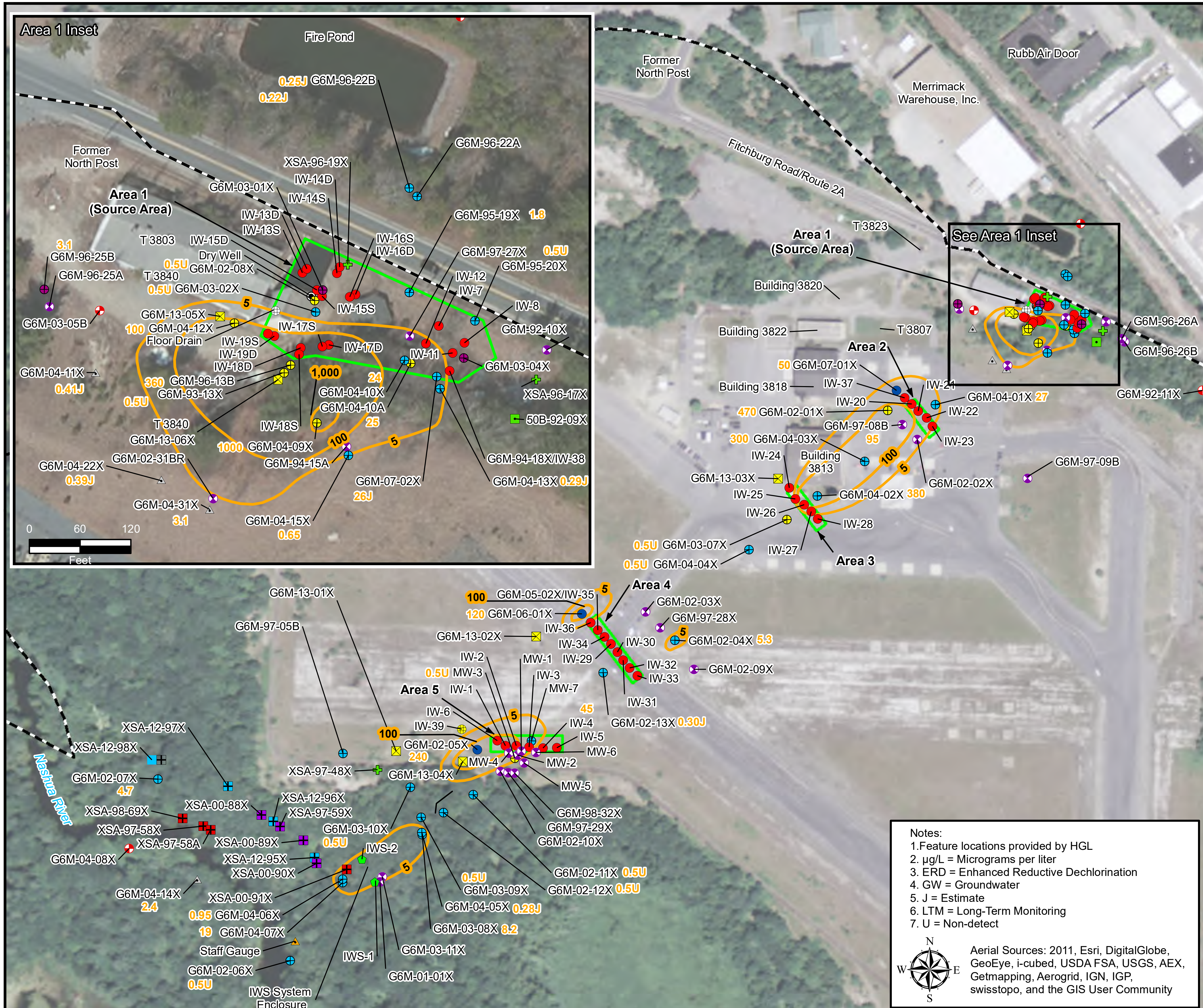
0 150 300 Feet	Date: 06/01/2016	Figure 20

KGS

Figure 21
Tetrachloroethene Concentrations in Groundwater 2010



Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- ERD LTM Well - Sampled Every 3 Years
- LTM Well - Gauge Only
- Monitoring Well
- Monitoring Well Converted to Injection Well
- In-Well Stripping System Well
- MicroWell® - Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Monitoring Well Installed 12/2013-01/2014
- Injection Well Installed 01/2014
- Dry Well
- Floor Drain
- G6M-92-11X Well/Gauge/Piezometer Identification
- 5 Tetrachloroethene Contour (µg/L)
- 1.7 Tetrachloroethene Concentration (µg/L)
- Former Fort Devens Boundary
- ERD Injection Well Transect

References:
HGL. LTMMP 2012.

Notes:
1. Feature locations provided by HGL
2. µg/L = Micrograms per liter
3. ERD = Enhanced Reductive Dechlorination
4. GW = Groundwater
5. J = Estimate
6. LTM = Long-Term Monitoring
7. U = Non-detect

Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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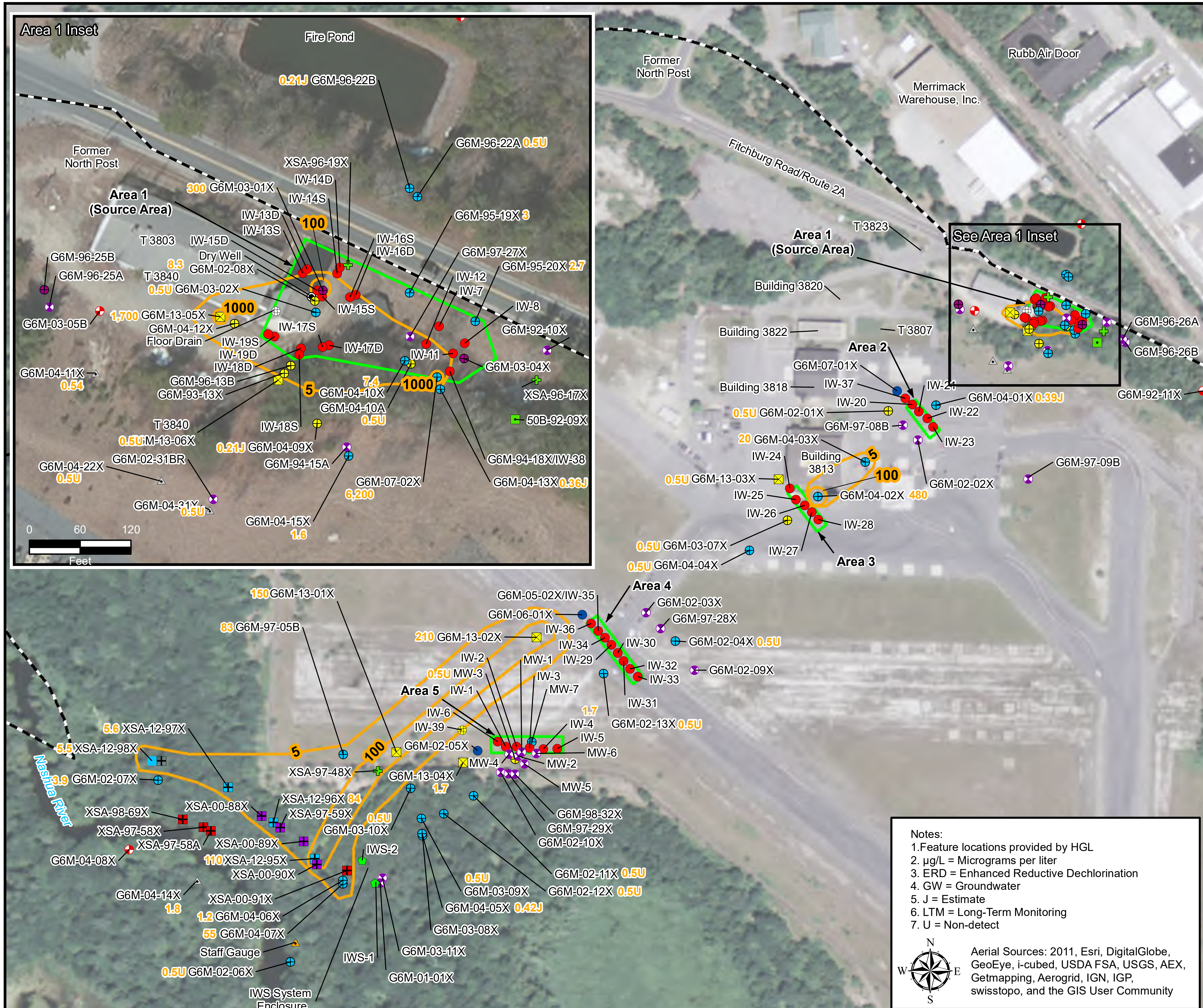
0 150 300
Feet

Date: 06/01/2016

Figure 21

Figure 22
Tetrachloroethene Concentrations in Groundwater 2014



Notes:
1.Feature locations provided by HGL
2. µg/L = Micrograms per liter
3. ERD = Enhanced Reductive Dechlorination
4. GW = Groundwater
5. J = Estimate
6. LTM = Long-Term Monitoring
7. U = Non-detect

N W E S

Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- ERD LTM Well - Sampled Every 3 Years
- LTM Well - Gauge Only
- Monitoring Well
- Monitoring Well Converted to Injection Well
- In-Well Stripping System Well
- MicroWell® Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Monitoring Well Installed 12/2013-01/2014
- Injection Well Installed 01/2014
- Dry Well
- Floor Drain
- G6M-92-11X Well/Gauge/Piezometer Identification
- 1.7 Tetrachloroethene Concentration (µg/L)
- 5 Tetrachloroethene Contour (µg/L) Selection
- Former Fort Devens Boundary
- ERD Injection Well Transect

References:
HGL. LTMMP 2012.

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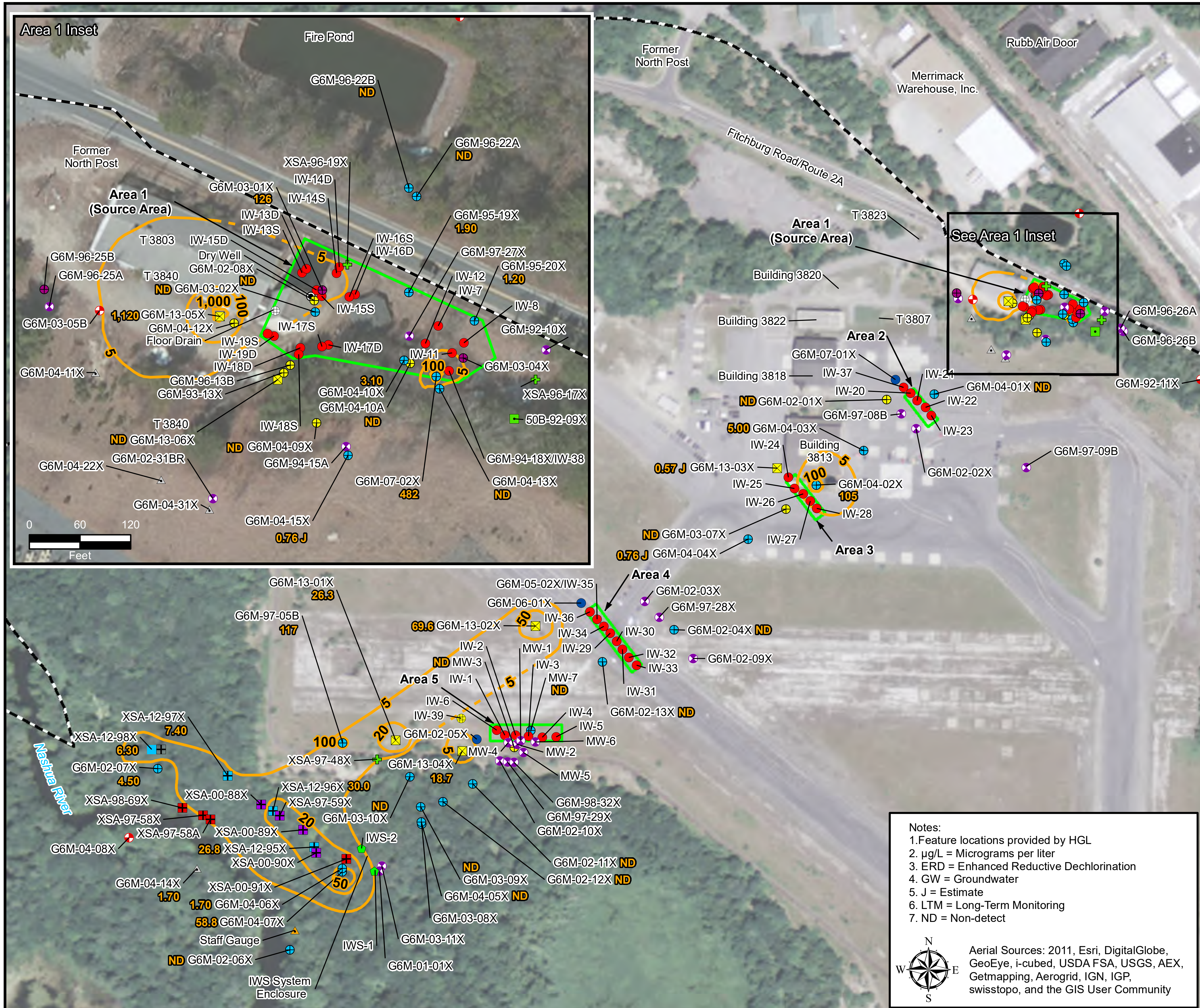
0 150 300
Feet

Date:
06/01/2016

Figure
22

Figure 23
PCE Concentrations in Groundwater
October 2015



Notes:
1.Feature locations provided by HGL
2. µg/L = Micrograms per liter
3. ERD = Enhanced Reductive Dechlorination
4. GW = Groundwater
5. J = Estimate
6. LTM = Long-Term Monitoring
7. ND = Non-detect

Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- ERD LTM Well - Sampled Every 3 Years
- LTM Well - Gauge Only
- Monitoring Well
- Monitoring Well Converted to Injection Well
- In-Well Stripping System Well
- MicroWell® - Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Monitoring Well Installed 12/2013-01/2014
- Injection Well Installed 01/2014
- Dry Well
- Floor Drain
- G6M-92-11X Well/Gauge/Piezometer Identification
- 5 PCE Contour (µg/L)
- Inferred PCE Contour (µg/L)
- 69.6 PCE Concentration (µg/L)
- Former Fort Devens Boundary
- ERD Injection Well Transect

References:
HGL. LTMMP 2012.

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0 150 300
Feet

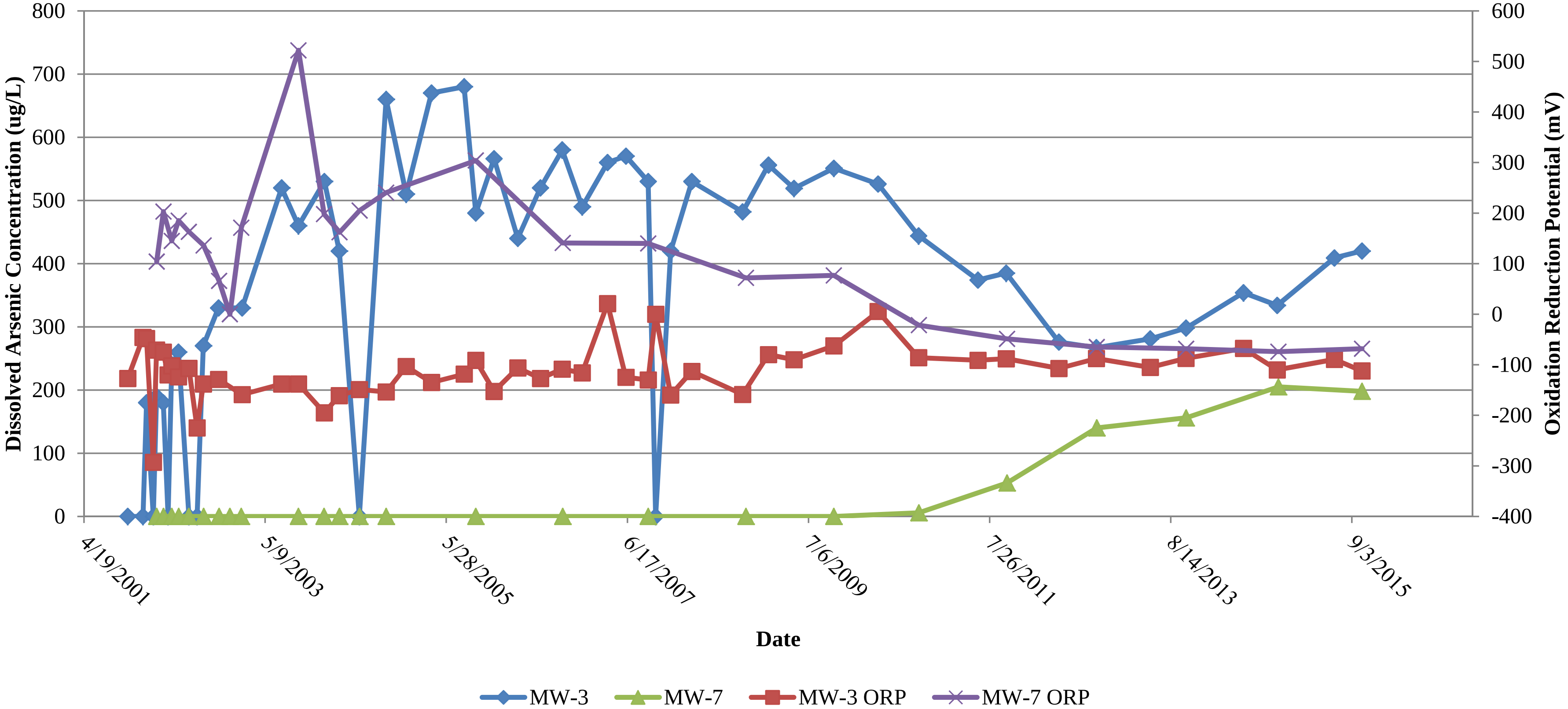
Date: 07/08/2016

Figure 23

KGS

File: AOC50_2015_Oct2015PCE.mxd

Figure 24
Historical Dissolved Arsenic and Oxidation Reduction Potential Concentrations
Area 5 Monitoring Wells MW-3 and MW-7
Former Fort Devens Army Installation
Devens, MA



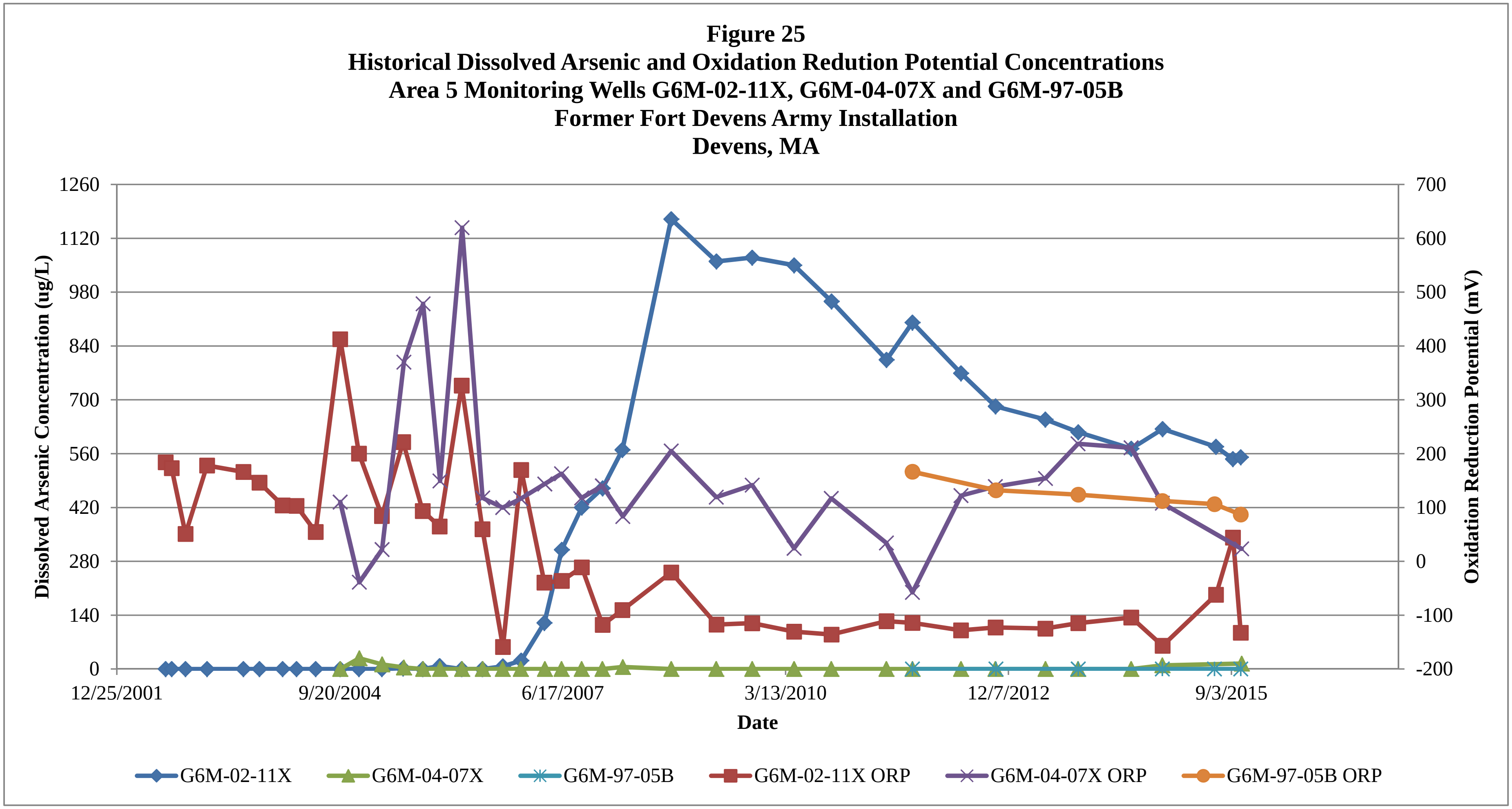


Figure 25
Historical Dissolved Arsenic and Oxidation Redution Potential Concentrations
Area 5 Monitoring Wells G6M-02-11X, G6M-04-07X and G6M-97-05B
Former Fort Devens Army Installation
Devens, MA
Dissolved Arsenic Concentration (ug/L)
Oxidation Reduction Potential (mV)
1260
1120
980
840
700
560
420
280
140
0
700
600
500
400
300
200
100
0
-100
-200
12/25/2001
9/20/2004
6/17/2007
3/13/2010
12/7/2012
9/3/2015
Date
G6M-02-11X
G6M-04-07X
G6M-97-05B
G6M-02-11X ORP
G6M-04-07X ORP
G6M-97-05B ORP

TABLES

TABLE 2.1
ERD Injection Log
Former Fort Devens Army Installation
Devens, MA

LOCATION	MONITORING DATE	LOCATION TYPE	AOC 50 AREA	INJECTION DATE	DEPTH TO WATER FT. TOC	INJECTION PRODUCT (AND WATER)	INJECTION VOLUME (Gal.)	INJECTION DEPTH (FT. BGS.)	INJECTION TIME	INJECTION WELL SCREENING RESULTS FID (PPM)	PID (PPM)	COMMENTS
G6M-04-12X	07/21/2015	Monitoring Well	Area 1 - Source Area	-	-	-	-	-	-	0.0	1.2	well is blocked at 15.4 ft with thick orange substance
IW-19S	07/21/2015	Injection Well	Area 1 - Source Area	07/21/2015	NM	ABC+Ole'	260	Screened Interval	11:50 - 12:20	2200.0	0.0	Possible spill or daylighted in casing.
IW-19D	07/21/2015	Injection Well	Area 1 - Source Area	07/21/2015	15.16	ABC+Ole'	260	Screened Interval	14:08 - 14:40	45000+	0.0	
IW-18S	07/21/2015	Injection Well	Area 1 - Source Area	07/21/2015	14.40	ABC+Ole'	260	Screened Interval	12:22 - 12:59	25000+	0.5	
IW-18D	07/21/2015	Injection Well	Area 1 - Source Area	07/21/2015	14.11	ABC+Ole'	260	Screened Interval	13:40 - 14:07	50000+	1.2	
IW-17S	07/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	50000+	1.3	
IW-17D	07/21/2015	Injection Well	Area 1 - Source Area	07/21/2015	NM	ABC+Ole'	260	Screened Interval	13:00 - 13:37	50000+	0.0	Daylighted outside of casing.
IW-15D	07/21/2015	Injection Well	Area 1 - Source Area	07/21/2015	12.18	ABC+Ole'	260	Screened Interval	15:16 - 15:45	50000+	75.0	
IW-15S	07/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	50000+	0.0	
IW-13D	07/21/2015	Injection Well	Area 1 - Source Area	07/22/2015	13.21	ABC+Ole'	260	Screened Interval	008:00 - 08:36	1020.0	1.3	
IW-13S	07/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	50000+	0.0	
IW-14S	07/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	1755.0	0.0	
IW-14D	07/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	25.2	20.2	
IW-16D	07/21/2015	Injection Well	Area 1 - Source Area	07/21/2015	13.50	ABC+Ole'	260	Screened Interval	14:45 - 15:15	50000+	2.0	
IW-16S	07/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	755.0	23.5	
IW-7	07/21/2015	Injection Well	Area 1 - Source Area	07/22/2015	13.18	ABC+Ole'	260	Screened Interval	11:05 - 11:49	40.0	3.5	Daylighted within casing.
IW-12	07/21/2015	Injection Well	Area 1 - Source Area	07/22/2015	12.54	ABC+Ole'	260	Screened Interval	11:05 - 11:49	50000+	0.0	
IW-8	07/21/2015	Injection Well	Area 1 - Source Area	07/22/2015	12.65	ABC+Ole'	260	Screened Interval	09:30 - 10:10	50000+	0.0	
IW-11	07/21/2015	Injection Well	Area 1 - Source Area	07/22/2015	13.50	ABC+Ole'	260	Screened Interval	08:45 - 09:20	151.0	0.0	Daylighted within casing.
GP-2	-	Geoprobe Injection	Area 1 - Source Area	07/22/2015	-	ABC+Ole'+Fe	910	40 - 65	09:00 - 11:25	-	-	Groundwater forced out of adjacent well G6M-02-08X (located approximately 10 ft from injection point) at a depth of 54 ft.
GP-1	-	Geoprobe Injection	Area 1 - Source Area	07/22/2015	-	ABC+Ole'+Fe	910	40 - 65	11:30 - 13:30	-	-	
GP-3	-	Geoprobe Injection	Area 1 - Source Area	07/22/2015	-	ABC+Ole'+Fe	910	40 - 65	13:40 - 15:00	-	-	Rod clogged with iron, pull string and re-advance.
GP-4	-	Geoprobe Injection	Area 1 - Source Area	07/23/2015	-	ABC+Ole'+Fe	910	40 - 65	08:30 - 10:25	-	-	Pump trouble 09:00 to 0910.
GP-5	-	Geoprobe Injection	Area 1 - Source Area	07/23/2015	-	ABC+Ole'+Fe	910	40 - 65	10:25 - 11:55	-	-	
IW-33	07/23/2015	Injection Well	Area 4	07/23/2015	60.55	ABC	410	Screened Interval	12:55 - 1335	50000+	1500	
IW-31	07/23/2015	Injection Well	Area 4	07/23/2015	60.58	ABC	410	Screened Interval	14:19 - 15:10	50000+	0.0	
IW-30	07/23/2015	Injection Well	Area 4	07/23/2015	59.05	ABC	410	Screened Interval	15:11 - 15:43	68	415	
IW-29	07/23/2015	Injection Well	Area 4	07/23/2015	60.61	ABC	410	Screened Interval	15:44 - 16:24	50000+	39.3	
IW-34	07/23/2015	Injection Well	Area 4	07/24/2015	60.69	ABC	410	Screened Interval	08:04 - 08:42	50000+	16.3	
iW-36	07/23/2015	Injection Well	Area 4	07/24/2015	61.72	ABC	410	Screened Interval	09:22 - 09:57	3000	0.3	
IW-35	07/23/2015	Injection Well	Area 4	07/24/2015	60.92	ABC	410	Screened Interval	08:45 - 09:21	18.6	0.0	
IW-5	07/24/2015	Injection Well	Area 5	07/24/2015	62.41	ABC	410	Screened Interval	10:09 - 10:43	3600	0.2	
IW-4	07/24/2015	Injection Well	Area 5	07/24/2015	62.84	ABC	410	Screened Interval	10:44 - 11:25	6800	57	
IW-3	07/24/2015	Injection Well	Area 5	07/24/2015	62.74	ABC	410	Screened Interval	11:25 - 12:05	5475	5.0	
IW-2	07/24/2015	Injection Well	Area 5	07/24/2015	63.04	ABC	410	Screened Interval	12:05 - 12:41	50000+	0.0	
IW-1	07/24/2015	Injection Well	Area 5	07/24/2015	63.04	ABC	410	Screened Interval	12:42 - 13:19	50000+	0.1	
IW-6	07/24/2015	Injection Well	Area 5	07/24/2015	65.10	ABC	410	Screened Interval	13:20 - 13:56	50000+	0.0	Heavy slime accumulation in well.
IW-28	07/27/2015	Injection Well	Area 3	07/27/2015	56.62	ABC+Ole'	410	Screened Interval	08:15 - 08:43	50000+	620	
IW-27	07/27/2015	Injection Well	Area 3	07/27/2015	57.31	ABC+Ole'	410	Screened Interval	08:44 - 09:20	50000+	610	
IW-26	07/27/2015	Injection Well	Area 3	07/27/2015	57.86	ABC+Ole'	410	Screened Interval	09:22 - 10:14	50000+	132	
IW-25	07/27/2015	Injection Well	Area 3	07/27/2015	60.84	ABC+Ole'	410	Screened Interval	10:15 - 10:56	8800	7.8	
IW-24	07/27/2015	Injection Well	Area 3	07/27/2015	61.51	ABC+Ole'	410	Screened Interval	10:58 - 11:51	2600	2.7	Heavy slime accumulation in well.
IW-37	07/27/2015	Injection Well	Area 2	07/27/2015	54.08	ABC+Ole'	410	Screened Interval	14:24 - 14:56	4200	3195	
IW-23	07/27/2015	Injection Well	Area 2	07/27/2015	54.38	ABC+Ole'	410	Screened Interval	12:06 - 12:45	3102	1057	
IW-20	07/27/2015	Injection Well	Area 2	07/27/2015	54.26	ABC+Ole'	410	Screened Interval	13:46 - 14:22	23.4	0.0	
IW-21	07/27/2015	Injection Well	Area 2	07/27/2015	54.15	ABC+Ole'	410	Screened Interval	13:19 - 13:45	5326	0.0	
IW-22	07/27/2015	Injection Well	Area 2	07/27/2015	54.07	ABC+Ole'	410	Screened Interval	12:46 - 13:18	3443	0.0	
GP-7	-	Geoprobe Injection	Area 1 - Source Area	07/28/2015	-	ABC+Ole'+Fe	910	40 - 65	08:21 - 10:00	-	-	
GP-9	-	Geoprobe Injection	Area 1 - Source Area	07/29/2015	-	ABC+Ole'+Fe	910	40 - 65	10:21 - 12:55	-	-	Rod clogged with iron, pull string and re-advance. Difficult drilling conditions.
GP-11	-	Geoprobe Injection	Area 1 - Source Area	07/28/2015	-	ABC+Ole'+Fe	910	40 - 65	10:15 - 12:12	-	-	
GP-13	-	Geoprobe Injection	Area 1 - Source Area	07/28/2015	-	ABC+Ole'+Fe	910	40 - 65	13:42 - 15:25	-	-	
GP-6	-	Geoprobe Injection	Area 1 - Source Area	07/29/2015	-	ABC+Ole'+Fe	910	40 - 65	09:30 - 11:32	-	-	
GP-8	-	Geoprobe Injection	Area 1 - Source Area	07/29/2015	-	ABC+Ole'+Fe	910	40 - 65	11:34 - 13:01	-	-	
GP-12	-	Geoprobe Injection	Area 1 - Source Area	07/29/2015	-	ABC+Ole'+Fe	910	40 - 65	13:12 - 14:51	-	-	Compressor failed at 14:52 possible overheating.
GP-15	-	Geoprobe Injection	Area 1 - Source Area	07/30/2015	-	ABC+Ole'+Fe	910	40 - 58	08:16 - 10:01	-	-	Contractor reported backpressure from 58 to 65 ft. No injection.
GP-10	-	Geoprobe Injection	Area 1 - Source Area	07/30/2015	-	ABC+Ole'+Fe	910	40 - 62	10:06 - 11:34	-	-	
GP-14	-	Geoprobe Injection	Area 1 - Source Area Shallow Area	07/30/2015	-	ABC+Ole'+Fe	910	16 - 40	11:36 - 13:35	-	-	

Notes:
TOC: Top of Casing. BGS: Below Ground Surface. PID: Photoionization Detector (measurement of volatiles). FID: Flame Ionization Detector (measurement of methane). PPM: Parts Per Million.
NM: Not Measured.

TABLE 3.1
Sample Preparation and Analysis Methods, Containers,
Holding Times, and Preservatives
LTM AOC 50
Former Fort Devens Army Installation
Devens, MA

Parameter	Analytical Method	Contaminant of Concern	Sample Container	Preservative
ORGANIC				
VOCs	SW8260C	TAL	3 x 40-ml vials with teflon septa screw caps; no	HCl to pH < 2; 4°+/- 2°C
Dissolved Gases	RSK-175	MEE	2 x 40-mL VOA vials	HCl to pH < 2; 4°+/- 2°C
METALS				
Dissolved Metals (field filtered)	SW6010C/6020A	As, Fe, Mn	1 x 250-ml Polyethylene	HNO3 to pH < 2; 4°+/- 2°C
WET CHEM				
Alkalinity	SM2320B	None	1 x 250-ml Polyethylene	Store at 4°+/-2°C
Nitrate	E353.2	Nitrate/Nitrite(As N)	1 x 500-ml Polyethylene	H2SO4 to pH < 2; 4°+/- 2°C
Sulfate	SW9056A	Sulfate	1 x 500-ml Polyethylene	Store at 4°+/-2°C
Sulfide	SM4500D-S-	Sulfide	1 x 250-ml Polyethylene	Zinc acetate +NaOH to pH >9, 4 °C
Total Organic Carbon	SM5310B	TOC	2 x 40-mL VOA vials or 250-ml amber glass bottle	H2SO4 to pH <2, 4 °C

Notes:
TAL = Target Analyte List
MEE = Methane, ethane and ethene
TOC: Total Organic Carbon

TABLE 3.2
AOC 50 Well Construction Details
Former Fort Devens Army Installation
Devens, MA

Well ID	Soil Drilling Method	Media Screened	Well Construction Material	Completion Depth (ft, bgs)	Well Screen Interval (ft, bgs)	Well Screen Elevation (ft, amsl)	Measuring Point Elevation[1] (ft, amsl)
Monitoring Wells							
G6M-92-02X	Hollow-Stem Auger	Soil	4" ID PVC	73	63-72.6	205.6-196	271.09
G6M-92-10X	Hollow-Stem Auger	Soil	4" ID PVC	20	9-19	218.2-208.2	225.88
G6M-92-11X	Hollow-Stem Auger	Soil	4" ID PVC	20	8.5-18.5	214.7-204.7	225.69
G6M-93-13X	Hollow-Stem Auger	Soil	4" ID PVC	20	9-19	214.7-204.7	225.63
G6M-94-15A	Hollow-Stem Auger	Soil	4" ID PVC	44	33-43	218.5-208.5	253.68
G6M-95-19X	Hollow-Stem Auger/Drive & Wash	Soil	2" ID PVC	87	48-58	174.8-164.8	224.69
G6M-95-20X	Hollow-Stem Auger/Drive & Wash	Soil	2" ID PVC	89	18-23	205.0-200.0	225.41
G6M-96-13B	Drive & Wash	Soil	2" ID PVC	62.5	52.3-62.3	171.5-161.5	225.78
G6M-96-22A	Drive & Wash	Soil	2" ID PVC	50.5	40-50	176.3-166.3	218.39
G6M-96-22B	Drive & Wash	Soil	2" ID PVC	70.8	65.5-70.5	150.9-145.9	218.36
G6M-96-24B	Drive & Wash	Soil	2" ID PVC	62	56.7-61.7	159.1-154.1	217.96
G6M-96-25A	Hollow-Stem Auger	Soil	2" ID PVC	19	9-18.7	215.1-205.4	226.32
G6M-96-25B	Drive & Wash	Soil	2" ID PVC	90	48-58	176-166	226.44
G6M-96-26A	Hollow-Stem Auger	Soil	2" ID PVC	18	8-18	215.7-205.7	225.36
G6M-96-26B	Hollow-Stem Auger	Soil	2" ID PVC	78.3	68-78	155.3-145.3	225.20
G6M-97-05B	Drive & Wash	Soil	2" ID PVC	206.5	130-135	136.4-131.4	268.88
G6M-97-08B	Drive & Wash	Soil	2" ID PVC	108.7	89.5-94.5	174.7-169.7	263.85
G6M-97-09B	Drive & Wash	Soil	2" ID PVC	92.6	71.5-81.5	186.6-176.6	260.85
G6M-97-27X	Drive & Wash	Soil	2" ID PVC	31	25-30	197.8-192.8	225.30
G6M-97-28X	Drive & Wash	Soil	2" ID PVC	149.4	100-105	163.9-158.9	266.49
G6M-97-29X	Drive & Wash	Soil	2" ID PVC	204	179-189	85.9-75.9	266.95
G6M-98-30X	Drive & Wash	Soil	2" ID PVC	71	60-65	161-156	223.54
G6M-98-32X	Drive & Wash	Soil	2" ID PVC	135	130-135	135-130	267.21
G6M-01-01X	Hollow-Stem Auger	Soil	2" ID PVC	150	130-150	134.1-114.1	266.47
G6M-02-01X	Hollow-Stem Auger	Soil	2" ID PVC	95	80-95	183.8-168.8	263.24
G6M-02-02X	Hollow-Stem Auger	Soil	2" ID PVC	95	80-95	184.1-169.1	263.78
G6M-02-03X	Hollow-Stem Auger	Soil	2" ID PVC	105	90-105	174.4-159.4	263.83
G6M-02-04X	Hollow-Stem Auger	Soil	2" ID PVC	105	90-105	173.6-158.6	265.72
G6M-02-05X	Hollow-Stem Auger	Soil	2" ID PVC	135	120-135	145.4-130.4	266.50
G6M-02-06X	Hollow-Stem Auger	Soil	2" ID PVC	65	55-65	153.5-143.5	210.53

TABLE 3.2
AOC 50 Well Construction Details
Former Fort Devens Army Installation
Devens, MA

Well ID	Soil Drilling Method	Media Screened	Well Construction Material	Completion Depth (ft, bgs)	Well Screen Interval (ft, bgs)	Well Screen Elevation (ft, amsl)	Measuring Point Elevation[1] (ft, amsl)
G6M-02-07X	Hollow-Stem Auger	Soil	2" ID PVC	40	30-40	179.5-169.5	211.52
G6M-02-08X	Hollow-Stem Auger	Soil	2" ID PVC	70	60-70	163.2-153.2	225.03
G6M-02-09X	Hollow-Stem Auger	Soil	2" ID PVC	105	90-105	175.6-160.6	264.90
G6M-02-10X	Hollow-Stem Auger	Soil	2" ID PVC	135	125-135	152.2-142.2	266.57
G6M-02-11X	Hollow-Stem Auger	Soil	2" ID PVC	135	125-135	140-130	264.73
G6M-02-12X	Hollow-Stem Auger	Soil	2" ID PVC	135	125-135	138.4-128.4	263.26
G6M-02-13X	Hollow-Stem Auger	Soil	2" ID PVC	120	110-120	154.8-144.8	264.41
G6M-02-31BR	Hollow-Stem Auger	Soil	2" ID PVC	95	85-95	179.1-169.1	256.51
G6M-03-01X	Drive & Wash	Soil	2" ID PVC	70	50-70	173.3-153.3	225.89
G6M-03-02X	Drive & Wash	Soil	2" ID PVC	43	28-43	173.2-158.2	225.11
G6M-03-04X	Drive & Wash	Soil	2" ID PVC	30	15-30	208.3-193.3	226.00
G6M-03-07X	Drive & Wash	Soil	2" ID PVC	90	80-90	183.6-173.6	263.46
G6M-03-08X	Drive & Wash	Soil	2" ID PVC	140	125-140	132.2-117.2	259.40
G6M-03-09X	Drive & Wash	Soil	2" ID PVC	140	125-140	132.4-117.4	259.69
G6M-03-10X	Drive & Wash	Soil	2" ID PVC	135	120-135	144.2-129.2	266.61
G6M-03-11X	Hollow-Stem Auger	Soil	2" ID PVC	147	115-130	149.5-134.5	266.42
G6M-04-01X	Hollow-Stem Auger	Soil	2" ID PVC	92	82-92	180.49-170.49	261.95
G6M-04-02X	Hollow-Stem Auger	Soil	2" ID PVC	90	80-90	184.49-174.98	267.35
G6M-04-03X	Hollow-Stem Auger	Soil	2" ID PVC	95	85-95	180.61-170.61	265.09
G6M-04-04X	Hollow-Stem Auger	Soil	2" ID PVC	104	94-104	159.67-169.67	263.46
G6M-04-05X	Hollow-Stem Auger	Soil	2" ID PVC	110	100-110	157.33-147.33	258.93
G6M-04-06X	Hollow-Stem Auger	Soil	2" ID PVC	105	95-105	168.07-158.07	264.77
G6M-04-07X	Hollow-Stem Auger	Soil	2" ID PVC	130	120-130	142.68-132.68	264.62
G6M-04-08X	Hollow-Stem Auger	Soil	2" ID PVC	90	80-90	130.7-120.7	210.35
G6M-04-09X	Hollow-Stem Auger	Soil	2" ID PVC	65	55-65	188.46-178.46	243.46
G6M-04-10X	Hollow-Stem Auger	Soil	2" ID PVC	62	52-62	170.92-160.92	225.02
G6M-04-10A	Hollow-Stem Auger	Soil	2" ID PVC	40	30-40	193.02-183.02	224.82
G6M-04-11X	Hollow-Stem Auger	Soil	2" ID PVC	45	35-45	193.42-183.42	230.27
G6M-04-12X	Hollow-Stem Auger	Soil	2" ID PVC	64	54-64	170.66-160.66	226.41
G6M-04-13X	Hollow-Stem Auger	Soil	2" ID PVC	40	30-40	194.71-184.71	226.68
G6M-04-14X	Hollow-Stem Auger	Soil	2" ID PVC	90	80-90	131.56-121.56	211.41
G6M-04-15X	Hollow-Stem Auger	Soil	2" ID PVC	80	70-80	182.45-172.45	254.03
G6M-04-22X	Hollow-Stem Auger	Soil	2" ID PVC	84	74-84	180.75-170.75	256.69

TABLE 3.2
AOC 50 Well Construction Details
Former Fort Devens Army Installation
Devens, MA

Well ID	Soil Drilling Method	Media Screened	Well Construction Material	Completion Depth (ft, bgs)	Well Screen Interval (ft, bgs)	Well Screen Elevation (ft, amsl)	Measuring Point Elevation[1] (ft, amsl)
G6M-04-31X	Hollow-Stem Auger	Soil	2" ID PVC	78	68-78	186.83-176.83	256.71
G6M-05-02X	Drive & Wash	Soil	2" ID PVC	129	109-129	Not surveyed	Not surveyed
G6M-06-01X	Drive & Wash	Soil	2" ID PVC	131	106-126	158.54-138.54	264.54
G6M-07-01X	Hollow-Stem Auger	Soil	2" ID PVC	99	78-98	184.9-164.9	262.9
G6M-07-02X	Hollow-Stem Auger	Soil	2" ID PVC	28	22.5-27.5	201.13-196.13	225.83
MW-1	Hollow-Stem Auger	Soil	2" ID PVC	136	126-136	138.9-128.9	267.10
MW-2	Hollow-Stem Auger	Soil	2" ID PVC	136	126-136	140.9-130.9	266.92
MW-3	Hollow-Stem Auger	Soil	2" ID PVC	136	126-137	138.7-128.7	266.55
MW-4	Hollow-Stem Auger	Soil	2" ID PVC	136	126-136	139.0-129.0	266.99
MW-5	Hollow-Stem Auger	Soil	2" ID PVC	136	126-136	138.2-128.2	266.46
MW-6	Hollow-Stem Auger	Soil	2" ID PVC	135	125-135	129.6-119.6	266.00
MW-7	Hollow-Stem Auger	Soil	2" ID PVC	135	125-135	139.7-129.7	265.77
G6M-13-01X[2]	Rotosonic	Soil	2" ID PVC	135	125-135	140.15-130.15	267.65
G6M-13-02X[2]	Rotosonic	Soil	2" ID PVC	125	115-125	149.62-139.62	264.62
G6M-13-03X[2]	Rotosonic	Soil	2" ID PVC	90	80-90	185.19-175.17	265.17
G6M-13-04X[2]	Rotosonic	Soil	2" ID PVC	135	125-135	139.61-129.61	267.11
G6M-13-05X[2]	Rotosonic	Soil	2" ID PVC	55	45-55	178.30-168.30	225.8
G6M-13-06X[2]	Rotosonic	Soil	2" ID PVC	60	50-60	172.67-162.67	225.17
Injection Wells							
IW-1	Hollow-Stem Auger	Soil	2" ID PVC	135	115-135	150-130	266.27
IW-2	Hollow-Stem Auger	Soil	2" ID PVC	135	115-135	149.9-129.9	266.24
IW-3	Hollow-Stem Auger	Soil	2" ID PVC	135	115-135	150-130	266.05
IW-4	Hollow-Stem Auger	Soil	2" ID PVC	135	115-135	149.6-129.6	266.18
IW-5	Hollow-Stem Auger	Soil	2" ID PVC	135	115-135	149-129	265.76
IW-6	Hollow-Stem Auger	Soil	2" ID PVC	135	115-135	149.97-129.97	267.03
IW-7	Hollow-Stem Auger	Soil	2" ID PVC	30	10-30	213.21-193.21	226.32
IW-8	Hollow-Stem Auger	Soil	2" ID PVC	30	10-30	213.31-193.31	225.57
IW-11	Hollow-Stem Auger	Soil	2" ID PVC	30	10-30	213.61-193.61	226.21
IW-12	Hollow-Stem Auger	Soil	2" ID PVC	30	10-30	213.06-193.06	225.55
IW-13s	Hollow-Stem Auger	Soil	2" ID PVC	46	21-46	202.91-177.91	226.09
IW-13d	Hollow-Stem Auger	Soil	2" ID PVC	71	46.71	177.96-152.96	226.14
IW-14s	Hollow-Stem Auger	Soil	2" ID PVC	43	18-43	205.46-180.46	225.78
IW-14d	Hollow-Stem Auger	Soil	2" ID PVC	73	43-73	180.46-150.46	225.25

TABLE 3.2
AOC 50 Well Construction Details
Former Fort Devens Army Installation
Devens, MA

Well ID	Soil Drilling Method	Media Screened	Well Construction Material	Completion Depth (ft, bgs)	Well Screen Interval (ft, bgs)	Well Screen Elevation (ft, amsl)	Measuring Point Elevation[1] (ft, amsl)
IW-15s	Hollow-Stem Auger	Soil	2" ID PVC	44	19-44	204.36-179.36	225.58
IW-15d	Hollow-Stem Auger	Soil	2" ID PVC	69	44-69	179.56-154.56	225.99
IW-16s	Hollow-Stem Auger	Soil	2" ID PVC	43	18-43	205.46-180.46	225.50
IW-16d	Hollow-Stem Auger	Soil	2" ID PVC	68	43-68	180.16-155.16	225.64
IW-17s	Hollow-Stem Auger	Soil	2" ID PVC	42	17-42	206.26-181.26	225.98
IW-17d	Hollow-Stem Auger	Soil	2" ID PVC	67	42-67	181.16-156.16	226.06
IW-18s	Hollow-Stem Auger	Soil	2" ID PVC	41	16-41	207.76-182.76	226.06
IW-18d	Hollow-Stem Auger	Soil	2" ID PVC	63	38-63	185.76-160.76	225.68
IW-19s	Hollow-Stem Auger	Soil	2" ID PVC	41	16-41	208.06-183.06	226.26
IW-19d	Hollow-Stem Auger	Soil	2" ID PVC	66	41-66	183.06-158.06	226.29
IW-20	Hollow-Stem Auger	Soil	2" ID PVC	97	77-97	186.15-166.15	263.05
IW-21	Hollow-Stem Auger	Soil	2" ID PVC	92	72-92	191.16-171.16	262.97
IW-22	Hollow-Stem Auger	Soil	2" ID PVC	91	71-91	192.1-172.1	262.87
IW-23	Hollow-Stem Auger	Soil	2" ID PVC	96	76-96	187.37-167.37	263.16
IW-24	Hollow-Stem Auger	Soil	2" ID PVC	90	70-90	195.19-175.19	267.37
IW-25	Hollow-Stem Auger	Soil	2" ID PVC	90	70-90	194.95-174.95	267.08
IW-26	Hollow-Stem Auger	Soil	2" ID PVC	90	70-90	194.58-174.58	264.37
IW-27	Hollow-Stem Auger	Soil	2" ID PVC	90	70-90	194.1-174.1	263.88
IW-28	Hollow-Stem Auger	Soil	2" ID PVC	90	70-90	193.61-173.61	263.02
IW-29	Hollow-Stem Auger	Soil	2" ID PVC	125	105-125	160.02-140.02	264.63
IW-30	Hollow-Stem Auger	Soil	2" ID PVC	125	105-125	160-140	264.77
IW-31	Hollow-Stem Auger	Soil	2" ID PVC	120	100-120	164.93-144.93	264.71
IW-32	Hollow-Stem Auger	Soil	2" ID PVC	115	95-115	169.77-149.77	264.64
IW-33	Hollow-Stem Auger	Soil	2" ID PVC	115	95-115	169.74-149.74	264.61
IW-34	Drive & Wash	Soil	2" ID PVC	124	104-124	Not surveyed	Not surveyed
IW-35/G6M-05-02X	Drive & Wash	Soil	2" ID PVC	129	109-129	Not surveyed	Not surveyed
IW-36	Drive & Wash	Soil	2" ID PVC	131	106-126	Not surveyed	Not surveyed
IW-37	Hollow-Stem Auger	Soil	2" ID PVC	99	79-99	Not surveyed	Not surveyed
IW-38/G6M-94-18X	Drive & Wash	Soil	2" ID PVC	92	22.5-27.5	201.1-191.1	225.85
IW-39	Rotosonic	Soil	2" ID PVC	145	125-145	142.24-122.24	267.24

TABLE 3.2
AOC 50 Well Construction Details
Former Fort Devens Army Installation
Devens, MA

Well ID	Soil Drilling Method	Media Screened	Well Construction Material	Completion Depth (ft, bgs)	Well Screen Interval (ft, bgs)	Well Screen Elevation (ft, amsl)	Measuring Point Elevation[1] (ft, amsl)
Microwells							
XSA-97-59X	VD 100	Water	0.62" ID Steel	151	145-150	123.58-118.58	270.54
XSA-00-88X	VD 100	Water	0.62" ID Steel	145.5	139.5-144.5	128.52-123.52	270.02
XSA-00-89X	VD 100	Water	0.62" ID Steel	133.00	127-132	140.47-135.47	269.47
XSA-00-90X	VD 100	Water	0.62" ID Steel	161.90	155.9-160.9	108.92-103.92	267.04
XSA-12-95X	VD HG41	Water	1.05" ID Steel	130.5	120 - 130	147.43-137.43	270.43
XSA-12-96X	VD HG41	Water	1.05" ID Steel	130.5	120 - 130	147.82-137.82	270.79
XSA-12-97X	VD HG41	Water	1.05" ID Steel	130.5	119.75-129.75	148.96-138.96	271.58
XSA-12-98X	KANGO 950S	Water	0.62" ID Steel	70.25	60 - 70	147.44-137.44	210.41

Notes:

[1] Reference point is top of casing

[2] Monitoring Wells installed in CY2013 to replace MWs converted to injection wells.

TABLE 3-3
Groundwater Elevation Data
AOC 50 2015 Sampling Events
Former Fort Devens Army Installation
Devens, MA

Well	Date	DTW (ft, below TOC)	TOC Elevation (ft, amsl)	GW Elevation (ft, amsl)	Notes
G6M-01-01X	10/12/2015	64.63	266.47	201.84	
G6M-02-01X	06/15/2015	54.40	263.24	208.84	
G6M-02-01X	10/12/2015	56.00	263.24	207.24	
G6M-02-02X	10/12/2015	56.39	263.78	207.39	
G6M-02-03X	08/21/2015	59.79	263.83	204.04	
G6M-02-03X	10/12/2015	60.30	263.83	203.53	
G6M-02-04X	06/15/2015	60.09	265.72	205.63	
G6M-02-04X	08/21/2015	61.76	265.72	203.96	
G6M-02-04X	09/14/2015	62.15	265.72	203.57	
G6M-02-04X	10/12/2015	62.30	265.72	203.42	
G6M-02-06X	08/21/2015	3.97	210.53	NA	small diameter wel
G6M-02-07X	06/15/2015	62.03	211.52	149.49	not used in contou
G6M-02-07X	08/21/2015	NC	211.52	NA	unable to locate
G6M-02-08X	06/15/2015	13.25	225.03	211.78	
G6M-02-08X	08/21/2015	13.99	225.03	211.04	
G6M-02-08X	09/09/2015	14.43	225.03	210.60	
G6M-02-08X	10/12/2015	14.90	225.03	210.13	
G6M-02-09X	08/21/2015	60.89	264.90	204.01	
G6M-02-09X	10/12/2015	61.43	264.90	203.47	
G6M-02-10X	10/12/2015	64.15	266.57	202.42	
G6M-02-11X	06/15/2015	61.10	264.73	203.63	
G6M-02-11X	08/21/2015	61.87	264.73	202.86	
G6M-02-11X	09/10/2015	62.34	264.73	202.39	
G6M-02-11X	10/12/2015	62.41	264.73	202.32	
G6M-02-12X	06/15/2015	59.76	263.26	203.50	
G6M-02-12X	10/12/2015	62.00	263.26	201.26	
G6M-02-13X	06/15/2015	60.01	264.41	204.40	
G6M-02-13X	08/21/2015	60.76	264.41	203.65	
G6M-02-13X	09/11/2015	62.23	264.41	202.18	
G6M-02-13X	10/12/2015	61.31	264.41	203.10	
G6M-02-31BR	10/12/2015	48.20	256.51	208.31	
G6M-03-01X	06/15/2015	13.97	225.89	211.92	
G6M-03-01X	08/21/2015	14.85	225.89	211.04	
G6M-03-01X	09/10/2015	14.93	225.89	210.96	
G6M-03-01X	10/12/2015	15.78	225.89	210.11	
G6M-03-02X	06/15/2015	14.14	225.11	210.97	
G6M-03-02X	10/12/2015	14.57	225.11	210.54	
G6M-03-04X	10/12/2015	15.53	226.00	210.47	
G6M-03-07X	06/15/2015	56.94	263.46	206.52	
G6M-03-07X	09/14/2015	58.16	263.46	205.30	
G6M-03-07X	10/12/2015	58.47	263.46	204.99	
G6M-03-08X	06/15/2015	56.13	259.40	203.27	
G6M-03-08X	10/12/2015	57.35	259.40	202.05	
G6M-03-09X	06/15/2015	56.35	259.69	203.34	
G6M-03-09X	10/12/2015	57.56	259.69	202.13	
G6M-03-10X	06/15/2015	63.18	266.61	203.43	

TABLE 3-3
Groundwater Elevation Data
AOC 50 2015 Sampling Events
Former Fort Devens Army Installation
Devens, MA

Well	Date	DTW (ft, below TOC)	TOC Elevation (ft, amsl)	GW Elevation (ft, amsl)	Notes
G6M-03-10X	08/21/2015	63.91	266.61	202.70	
G6M-03-10X	09/10/2015	31.37	266.61	235.24	
G6M-03-10X	10/12/2015	64.40	266.61	202.21	
G6M-03-11X	10/12/2015	64.50	266.42	201.92	
G6M-04-01X	06/15/2015	52.55	261.95	209.40	
G6M-04-01X	08/21/2015	53.28	261.95	208.67	
G6M-04-01X	10/12/2015	54.10	261.95	207.85	
G6M-04-02X	06/15/2015	60.18	267.35	207.17	
G6M-04-02X	08/21/2015	59.04	267.35	208.31	
G6M-04-02X	09/11/2015	61.42	267.35	205.93	
G6M-04-02X	10/12/2015	61.73	267.35	205.62	
G6M-04-03X	06/15/2015	55.97	265.09	209.12	
G6M-04-03X	08/21/2015	56.99	265.09	208.10	
G6M-04-03X	10/12/2015	58.60	265.09	206.49	
G6M-04-04X	06/15/2015	58.25	263.46	205.21	
G6M-04-04X	08/21/2015	59.04	263.46	204.42	
G6M-04-04X	09/14/2015	59.53	263.46	203.93	
G6M-04-04X	10/12/2015	59.73	263.46	203.73	
G6M-04-05X	06/15/2015	55.82	258.93	203.11	
G6M-04-05X	09/10/2015	56.78	258.93	202.15	
G6M-04-05X	10/12/2015	56.83	258.93	202.10	
G6M-04-06X	10/12/2015	63.18	264.77	201.59	
G6M-04-06X	06/15/2015	62.25	264.77	202.52	
G6M-04-07X	06/15/2015	62.03	264.62	202.59	
G6M-04-07X	10/12/2015	63.95	264.62	200.67	
G6M-04-09X	06/15/2015	31.91	243.46	211.55	
G6M-04-09X	10/12/2015	33.62	243.46	209.84	
G6M-04-10A	06/15/2015	12.85	224.82	211.97	
G6M-04-10A	08/21/2015	13.65	224.82	211.17	
G6M-04-10A	10/12/2015	14.45	224.82	210.37	
G6M-04-10X	06/15/2015	13.93	225.02	211.09	
G6M-04-10X	08/21/2015	14.26	225.02	210.76	
G6M-04-10X	09/09/2015	14.68	225.02	210.34	
G6M-04-10X	10/12/2015	15.13	225.02	209.89	
G6M-04-11X	06/15/2015	19.52	230.27	210.75	
G6M-04-11X	10/12/2015	21.18	230.27	209.09	
G6M-04-12X	08/21/2015	15.40	226.41	211.01	
G6M-04-13X	06/15/2015	14.57	226.68	212.11	
G6M-04-13X	08/21/2015	15.50	226.68	211.18	
G6M-04-13X	10/12/2015	16.33	226.68	210.35	
G6M-04-15X	06/15/2015	42.46	254.03	211.57	
G6M-04-15X	10/12/2015	44.16	254.03	209.87	
G6M-04-22X	06/15/2015	46.20	256.69	210.49	
G6M-04-22X	10/12/2015	47.79	256.69	208.90	

TABLE 3-3
Groundwater Elevation Data
AOC 50 2015 Sampling Events
Former Fort Devens Army Installation
Devens, MA

Well	Date	DTW (ft, below TOC)	TOC Elevation (ft, amsl)	GW Elevation (ft, amsl)	Notes
G6M-04-31X	06/15/2015	71.39	256.71	185.32	
G6M-04-31X	10/12/2015	47.71	256.71	209.00	
G6M-07-02X	06/15/2015	13.72	225.83	212.11	
G6M-07-02X	10/12/2015	15.45	225.83	210.38	
G6M-13-01X	06/15/2015	64.20	266.00	201.80	
G6M-13-01X	10/12/2015	65.41	266.00	200.59	
G6M-13-02X	06/15/2015	60.25	265.00	204.75	
G6M-13-02X	10/12/2015	61.54	265.00	203.46	
G6M-13-03X	06/15/2015	58.20	265.60	207.40	
G6M-13-03X	10/12/2015	59.74	265.60	205.86	
G6M-13-04X	06/15/2015	63.36	265.10	201.74	
G6M-13-04X	10/12/2015	64.68	265.10	200.42	
G6M-13-05X	06/15/2015	14.31	224.60	210.29	
G6M-13-05X	10/12/2015	15.96	224.60	208.64	
G6M-13-06X	06/15/2015	13.90	223.80	209.90	
G6M-13-06X	08/21/2015	14.69	223.80	209.11	
G6M-13-06X	09/09/2015	15.13	223.80	208.67	
G6M-13-06X	10/12/2015	15.81	223.80	207.99	
G6M-92-10X	10/12/2015	15.13	225.88	210.75	
G6M-93-13X	09/09/2015	14.58	225.63	211.05	
G6M-93-13X	10/12/2015	15.13	225.63	210.50	
G6M-94-15A	10/12/2015	41.79	253.68	211.89	
G6M-95-19X	06/15/2015	12.33	224.69	212.36	
G6M-95-19X	10/12/2015	14.19	224.69	210.50	
G6M-95-20X	06/15/2015	12.45	225.41	212.96	
G6M-95-20X	10/12/2015	14.71	225.41	210.70	
G6M-96-22A	06/15/2015	4.810	218.39	213.58	
G6M-96-22A	10/12/2015	6.630	218.39	211.76	
G6M-96-22B	06/15/2015	5.330	218.36	213.03	
G6M-96-22B	10/12/2015	7.400	218.36	210.96	
G6M-96-25A	10/12/2015	14.32	226.32	212.00	
G6M-96-25B	10/12/2015	17.17	226.44	209.27	
G6M-96-26A	10/12/2015	14.59	225.36	210.77	
G6M-96-26B	10/12/2015	15.37	225.20	209.83	
G6M-97-05B	10/12/2015	66.90	268.88	201.98	
G6M-97-09B	10/12/2015	52.11	260.85	208.74	
G6M-97-27X	10/12/2015	14.94	225.30	210.36	
G6M-97-28X	10/12/2015	63.15	266.49	203.34	
G6M-97-29X	10/12/2015	64.75	266.95	202.20	
G6M-98-32X	10/12/2015	64.77	267.21	202.44	
MW-1	10/12/2015	64.65	267.10	202.45	
MW-2	10/12/2015	64.45	266.92	202.47	

TABLE 3-3
Groundwater Elevation Data
AOC 50 2015 Sampling Events
Former Fort Devens Army Installation
Devens, MA

Well	Date	DTW (ft, below TOC)	TOC Elevation (ft, amsl)	GW Elevation (ft, amsl)	Notes
MW-3	06/15/2015	62.76	266.55	203.79	
MW-3	10/12/2015	64.11	266.55	202.44	
MW-4	10/12/2015	64.50	266.99	202.49	
MW-5	10/12/2015	63.97	266.46	202.49	
MW-6	10/12/2015	63.32	266.00	202.68	
MW-7	06/15/2015	61.85	265.77	203.92	
MW-7	10/12/2015	63.04	265.77	202.73	
XSA-12-95X	06/15/2015	70.35	270.43	200.08	
XSA-12-95X	10/12/2015	68.85	270.43	201.58	
XSA-12-96X	06/15/2015	66.60	270.79	204.19	
XSA-12-97X	10/12/2015	73.50	271.58	198.08	
XSA-12-97X	10/12/2015	70.50	271.58	201.08	
XSA-12-98X	06/15/2015	65.91	210.41	144.50	not used in contou

NOTES:
DTW = Distance to Water
TOC = Top of casing
amsl = above mean sea level
GW = Groundwater
NC = Not collected

TABLE 4.1
AOC 50
Monitoring Wells Selected for Long-Term Monitoring
Former Fort Devens Army Installation
Devens, MA

Location	Well ID	Sampling Rationale	Well Screen Interval (ft bgs)	Well Screen Elevation (ft, amsl)	Sample Parameters	Sample Frequency
North Plume	G6M-96-22A	Monitor VOCs and Arsenic in groundwater in the North Plume.	40-50	176.3-166.3	VOCs and Metals	Annual
	G6M-96-22B		65.5-70.5	150.9-145.9	VOCs and Metals	
Area 1	G6M-04-10A	Monitor COCs downgradient of ERD Injection Wells in the Source Area and provide pre-injection COC and Geochemistry data for ERD injection planning.	30-40	193.02-183.02	Full Suite	Semi-annual
	G6M-04-09X		55-65	188.46-178.46	VOCs, Metals and	
	G6M-13-06X		60-60	172.67-162.67	Full Suite	
	G6M-02-08X		60-70	163.2-153.2	Full Suite	
	G6M-93-13X		9-19	218.2-208.2		
	G6M-13-05X		45-55	178.3-168.3	VOCs and Metals	
Area 1	G6M-07-02X	Monitor COC trends within the Source Area.	22.5-27.5	225.83	Full Suite	Annual
	G6M-04-10X		52-62	170.92-160.92	Full Suite	
	G6M-04-13X		30-40	194.71-184.71	VOCs and Metals	
	G6M-04-15X		70-80	182.45-172.45	VOCs and Metals	
	G6M-03-02X		28-43	173.2-158.2	Full Suite	
	G6M-95-19X		48-58	174.8-164.8	VOCs and Metals	
	G6M-95-20X		18-23	205.0-200	VOCs and Metals	
Area 1	G6M-04-11X	Monitor COC trends and provide plume delineation downgradient of the Cesspool and Dry Well areas.	35-45	193.42-183.42	VOCs	Biennial
	G6M-04-31X[1]		68-78	186.83-176.83	As only/Fall	
	G6M-04-22X[1]		74-84	180.75-170.75	As only/Fall	
Area 1	G6M-03-01X	Monitor COCs downgradient of ERD Injection Wells in the Source Area.	50-70	173.3-153.3	VOCs	Semi-annual
Area 2	G6M-02-01X	Monitor TOC and COCs downgradient of ERD Injection Wells in the Southwest Plume Provide pre-injection COC and Geochemistry data for ERD injection planning.	80-95	183.8-168.8	Full Suite	Semi-annual
Area 2	G6M-04-01X	Monitor COCs upgradient of ERD Injection Wells in the Southwest Plume.	82-92	180.49-170.49	VOCs and Metals	Annual
Area 2	G6M-04-03X	Monitor COCs downgradient of ERD Injection Wells in the Southwest Plume.	85-95	180.61-170.61	Full Suite	Annual
Area 3	G6M-03-07X	Monitor TOC and COCs downgradient of ERD Injection Wells in the Southwest Plume Provide pre-injection COC and Geochemistry data for ERD injection.	80-90	183.6-173.6	Full Suite	Semi-Annual
Area 3	G6M-04-02X	Monitor COCs upgradient of ERD Injection Wells in the Southwest Plume.	80-90	184.49-174.98	VOCs and Metals	Annual
	G6M-13-03X		80-90	185-17-175.17	VOCs and Metals	
Area 3	G6M-04-04X	Monitor COCs downgradient of ERD Injection Wells in the Southwest Plume.	94-104	159.67-169.67	Full Suite	
Area 4	G6M-13-02X	Monitor VOCs on perimeter of Southwest Plume. Provide pre-injection COC and Geochemistry data for ERD injection planning.	115-125	149.62-139.62	VOCs and Metals	Semi-Annual
Area 4	G6M-02-13X	Monitor TOC and COCs downgradient of ERD Injection Wells in the Southwest Plume.	110-120	154.8-144.8	Full Suite	Annual
Area 4	G6M-02-04X	Monitor COCs upgradient of ERD Injection Wells in the Southwest Plume.	90-105	173.6-158.6	VOCs and Metals	
	G6M-02-03X		90-105	174.4-159.4		
	G6M-97-28X		100-105	163.9-158.9		
Area 5	MW-3	Monitor TOC and COCs downgradient and adjacent to ERD Injection Wells in the Southwest	126-136	138.7-128.7	Full Suite	Semi-annual
	G6M-13-04X		125-135	139.61-129.61	Full Suite	
Area 5	G6M-02-12X	Monitor COCs downgradient of the ERD Injection Wellswithin the Area 5 IRZ.	125-135	138.4-128.4	Full Suite	Annual
	G6M-02-11X		125-135	140-130	Full Suite	
	G6M-03-10X		120-135	144.2-129.2	Full Suite	
Area 5	G6M-03-08X	Monitor COCs and metals downgradient of last	125-140	132.2-117.2	Full Suite	

TABLE 4.1
AOC 50
Monitoring Wells Selected for Long-Term Monitoring
Former Fort Devens Army Installation
Devens, MA

Location	Well ID	Sampling Rationale	Well Screen Interval (ft bgs)	Well Screen Elevation (ft, amsl)	Sample Parameters	Sample Frequency
(Sentry)	G6M-03-09X	ERD transect of Injection Wells outside of Area 5	125-140	132.4-117.4	Full Suite	
Area 5 (IWS)	G6M-04-05X	Monitor COCs and metals upgradient of the IWS system and downgradient of the ERD injection transects.	100-110	157.33-147.33	Full Suite	Annual
	G6M-04-07X		120-130	142.68-132.68	Full Suite	
	G6M-04-06X		95-105	168.07-158.07	Full Suite	
Area 5	MW-7	Monitor COCs upgradient of ERD Injection Wells in the Southwest Plume	125-135	139.7-129.7	VOCs and Metals	Annual
Area 5	G6M-02-06X	Monitor VOCs along bank of Nashua River	55-65	153.5-143.5	VOCs and Metals	Annual
	G6M-02-07X		30-40	179.5-169.5	VOCs and Metals	
Nashua River	G6M-04-14X	Monitor VOCs and Metals on the south bank of the Nashua River.	80-90	131.56-121.56	VOCs and Metals	Annual
Area 5[2]	XSA-12-95X	Monitor Geochemistry and metals crossgradient and downgradient of ERD injection wells at Area 5.	120-130	147.43-137.43	VOCs and Metals	Annual
	XSA-12-96X		120-130	147.82-137.82	VOCs and Metals	
	XSA-12-97X		119.75-129.75	148.96-138.96	VOCs and Metals	
	XSA-12-98X		60-70	147.44-137.44	VOCs and Metals	
	G6M-97-05B		130-135	147.44-137.44	VOCs and Metals	
	G6M-13-01X		125-135	140.15-130.15	VOCs and Metals	

Notes:

Metals - dissolved arsenic, iron, and manganese.

Full Suite- VOCs, metals, nitrate, sulfate/sulfide, alkalinity (fall only), methane, ethane, ethene, and total organic carbon.

Field parameters to be measured include: pH, dissolved oxygen, oxidation/reduction potential, specific conductivity, turbidty, and temperature.

[1] Annual fall LTM sampling of G6M-04-31X and G6M-04-22X for arsenic will be conducted when biennial laboratory samples are not collected.

[2] MicroWells® XSA-12-95X through XSA-12-98X installed in Spring 2012.

Pre and Post samples collected to monitor ERD injections (Full Suite).

Wells to be sampled to monitor ERD injections (not included in LTM)

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-02-01X	02/28/2002	11	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.91	4.7	66.6	0.624	14	13.53
G6M-02-01X	09/23/2004	24B	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.64	2.54	145	0.784	6.11	19.41
G6M-02-01X	09/30/2005	110	2U	3.1	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.07	3.82	384.8	0.555	10.9	18.04
G6M-02-01X	09/20/2006	1,300	12	91	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.19	3.68	-108.2	0.708	9.07	17.33
G6M-02-01X	12/14/2006	1,600	18	120	2U	1U	2U	-	-	-	-	-	-	5U	-	-	-	-	6.54	3.64	-34.8	0.831	2.81	14.32
G6M-02-01X	03/30/2007	1,700	19	120	2U	1U	2U	0.012J	0.081	-	5U	0.1U	120J*	3.3J	-	-	9.43	1U	6.64	4.22	-35.3	0.8	0.78	14.06
G6M-02-01X	06/14/2007	1,700	16	97	2U	1U	2U	-	-	-	-	-	-	1.9J	-	-	-	-	6.72	3.3	69.6	0.853	10.4	14.82
G6M-02-01X	09/14/2007	1,900	24	150	2U	1U	2U	-	-	-	-	-	-		-	-	-	-	6.57	3.32	102.4	0.747	0.1	14.44
G6M-02-01X	12/13/2007	1,600	21J*	130J*	2U	1U	2U	-	-	-	-	-	-	3.6J	-	-	-	-	6.61	2.73	128	0.807	0	12.57
G6M-02-01X	03/14/2008	520	70	600	2U	2.2	2U	0.052	0.16	12	150	26	23000	180	-	-	5U	1U	6.45	0.38	-99.2	1.62	2.7	13.35
G6M-02-01X	10/07/2008	180	49	360	10U	10U	10U	6.3U	9.5	5,000	141	14.5	5,880	17.7	200	0.13U	11	0.03UJ	6.97	0.18	-112.9	1.193	8.4	12.07
G6M-02-01X	01/21/2009	280	76U	170	1.3U	1.2J	94U	1.3U	24	4,000	148	11,200J	4,500	11J	170	0.13U	7.0U	0.03U	7.13	0.39	-142.7	1.279	1.2	11.08
G6M-02-01X	05/06/2009	610	190	100	10U	10U	54	1.2U	29	29,000	133	18.7	3,950	13	220J	0.059J	8.4	0.03U	6.69	0.2	-127.7	1.085	1.15	11.42
G6M-02-01X	10/20/2009	820	180	76	40U	40U	47	1.3U	9	5,000J	108	11.8	2,470	4.6J	130	0.074J	7.6	0.03UJ	6.66	1.24	32.9	0.925	3.52	11.45
G6M-02-01X	04/21/2010	37J	53J	95J	2U	2U	69J	1.3U	43	12,000J	164	20.5J	4,480	40	280J	0.024J	4.0J	0.03U	6.70	0.42	-122.0	1.180	1.60	11.63
G6M-02-01X	10/06/2010	470	120	72	1.4	1.4	84	1.2U	49	25,000	133	13.7	3,050	10U	120	0.13U	5.2	0.03U	6.39	0.28	-77.8	1.039	3.65	12.53
G6M-02-01X	06/09/2011	0.5U	4.3	11	0.69	0.5U	12	1.2U	230	71,000	173	45.9	7,380	90	400	0.11J	3.3J	0.03U	6.42	0.3	-86.3	1.423	0	14.56
G6M-02-01X	10/05/2011	0.5U	0.88	3.6	0.5U	0.5U	7.3	1.2U	290	72,000J	271	27.3	5,470	18	190	0.13U	1.4J	0.03U	6.6	0.02	-106	0.681	0.87	12.53
G6M-02-01X	05/09/2012	250	310	65	8.0U	8.0U	63	1.1U	260	41,000	271	10.8	2,050	2.3J	86	0.13U	6.8	0.081	6.66	0.07	-79.2	0.798	1.6	12.38
G6M-02-01X	10/10/2012	350	120	75	10U	10U	160	1.2U	250	37,000J	220	10.4	2,080	10U	120 J	0.13U	6.5	0.36 J	6.64	0.5	-80.5	0.906	3.71	13.24
G6M-02-01X	05/21/2013	0.25J	4.7	8.4	0.67	0.5U	5.2	1.2U	220	22,000	272	35.6	7,450	43	240J	0.13UJ	3.0J	0.076J	6.57	0.14	-91.7	1.439	0.71	14.22
G6M-02-01X	10/17/2013	0.5U	2.4	11	0.58	0.5U	14	1.2U	450J	52,000	323	40.3	4,000	2.6J	140	0.13U	5.0U	0.078	6.66	0.22	-117.5	0.753	2.24	13.12
G6M-02-01X	06/11/2014	0.5U	0.5U	1.4	0.5U	0.5U	2.6	1.3UJ	16J	5,300J	449	83.9J	4,260	9.5J	210J	0.13U	1.2U	0.030U	6.73	0.25	-103.1	1.174	4.68	13.08
G6M-02-01X	10/30/2014	0.5U	0.21J	1.5	0.5U	0.5U	0.87	15	40	24,000	384	47.9	1,820	5U	86	0.13U	2.3J	0.03U	6.57	0.23	-130.8	0.959	1.81	12.73
G6M-02-01X	6/17/2015	0.50 U	0.50 U	**0.53 J**	0.50 U	0.50 U	0.50 U	5.0 U	**6.0 J**	**712**	**418**	**61.9**	**1,760**	**6.20**	**66.6**	0.11 U	0.50 U	1.0 U	6.80	0.25	-91.1	0.671	8.45	13.66
G6M-02-01X	9/10/2015	1.0 U	**0.5 J**	1.0 U	1.0 U	1.0 U	1.0 U	10 U	**5.3 J**	**8,550**	**374**	**60.9**	**1,750**	**2.10**		0.061 J	0.96 J	2.0 U	6.77	0.24	-110.5	0.807	0.81	16.00
G6M-02-01X	10/16/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	**14,200**	**360**	**56.2**	**1,750**	**2.14**	**54.6**	0.11 U	**1.1 J**	2.0 U	6.86	0.11	-128.2	1.109	2.79	16.08
G6M-02-03X	02/26/2002	210	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	11.61	2.21	11	1.154	18.1	18.88
G6M-02-03X	09/23/2004	48	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	4.95	1.17	632.1	1.374	3.8	17.6
G6M-02-03X	09/29/2005	12	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.70	2.9	204.9	1.138	10.67	17.62
G6M-02-03X	09/18/2006	10	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.20	0.35	219.4	0.993	4.32	14.39
G6M-02-03X	9/14/2015	**0.82 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	**284**	4.0 U	0.10 U	**79**	**1.10**		1.30	9.7 J	2.0 U	5.67	5.09	93.2	0.722	3.00	14.06
G6M-02-04X	02/26/2002	470	0.88J	1.3J	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.47	3.4	189.5	0.26	24	17.99
G6M-02-04X	09/23/2004	170B	2U	2.9	2U	1U	2U	-	-	-	5U	1U	15U	-	-	-	-	-	6.29	3.03	175.5	0.453	8.48	19.59
G6M-02-04X	09/28/2005	150	2U	6.2	2U	1U	2U	-	-	-	5U	1U	15U	-	-	-	-	-	5.61	2.75	302.3	0.502	12.6	17.26
G6M-02-04X	09/20/2006	48	2U	2U	2U	1U	2U	-	-	-	5U	0.10U	15U	-	-	-	-	-	5.84	4.57	189	0.467	8.45	14.49
G6M-02-04X	09/13/2007	21	4.2	2U	2U	1U	2U	-	-	-	6U	0.1U	15	-	-	-	-	-	6.39	3.13	93	0.927	4.8	14.85
G6M-02-04X	10/16/2008	9.0	2.5U	150	2.5U	2.5U	2.5U	-	-	-	78.2	8.56	7,370	-	-	-	-	-	6.91	1.05	-80	1.126	4	12.08
G6M-02-04X	10/15/2009	5U	17	120	5U	5U	10	-	-	-	309	82	10,900	-	-	-	-	-	6.55	1.52	-139.8	0.766	2.18	15.6
G6M-02-04X	10/04/2010	5.3	2.6	2.1	0.5U	0.5U	0.5U	-	-	-	101	20.2	1,240	-	-	-	-	-	6.48	0.98	-86.9	0.975	2.8	14.68
G6M-02-04X	06/09/2011	-	-	-	-	-	-	-	-	-	246	28.2	3,180	-	-	-	-	-	6.67	0.28	-88.3	0.856	0	13.32
G6M-02-04X	10/06/2011	0.69	0.80	0.67	0.5U	0.5U	0.5U	-	-	-	292	35.6	2,480	-	-	-	-	-	6.84	0.26	-112.5	0.601	3.71	12.68
G6M-02-04X	05/09/2012	-	-	-	-	-	-	-	-	-	451	43.4	2,510	-	-	-	-	-	6.94	0.52	-114.8	0.487	2.9	13.7
G6M-02-04X	10/09/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	374	30	1,860	-	-	-	-	-	6.87	0.43	-129.3	0.591	0	13.4
G6M-02-04X	05/21/2013	-	-	-	-	-	-	-	-	-	313	28.1	1,890	-	-	-	-	-	6.88	0.3	-110.5	0.745	2.26	13.62
G6M-02-04X	10/16/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	370	23.9	1,390	-	-	-	-	-	6.92	0.38	-124.4	0.522	1.32	13.21
G6M-02-04X	06/11/2014	-	-	-	-	-	-	-	-	-	175	14.2	997	-	-	-	-	-	6.60	0.59	-10.8	0.956	3.35	13.12
G6M-02-04X	11/03/2014	0.5U	0.24J	0.5U	0.5U	0.5U	0.5U	-	-	-	350	15.6	971						7.08	1.42	-111.1	0.55	1.38	14.70
G6M-02-04X	6/26/2015	**0.60 J**	**0.52 J**	**0.91 J**	0.50 U	0.50 U	0.50 U				**157**	**10.4**	**1,060**						7.39	0.71	-55.4	1.238	1.55	14.70
G6M-02-04X	9/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	**4,350**	**408**	**20.4**	**995**	**1.60**		0.057 U	**9.6 J**	2.0 U	7.01	0.40	-152.4	0.40	1.30	14.56
G6M-02-04X	10/16/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	**320**	**15.1**	**1,000**	NA	NA	NA	NA	NA	6.78	0.43	-97.3	0.665	0.86	13.02
G6M-02-05X	02/28/2002	130	2U	1.9J	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.15	6.61	181.1	0.597	11	15.72
G6M-02-05X	01/30/2003	170	2U	2.3	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.65
G6M-02-05X	09/30/2005	200	2U	2.6	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	4.73	3.61	441.8	0.512	7.9	15.78
G6M-02-05X	09/22/2006	350	2U	2.2	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.52	2.14	94.8	0.543	7.38	12.66
G6M-02-05X	09/12/2007	510	50	7.9	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.39	0.78	-57.8	0.723	30.6	12.27
G6M-02-05X	10/20/2008	390	17	4.4J	10U	10U	10U	-	-	-	-	-	-	-	-	-	-	-	7.00	1.83	-41.9	0.588	3	12.42
G6M-02-05X	10/19/2009	370	53	10U	10U	10U	10U	1.3U	1.6U	410	49.2	3.82	2,490	10U	57	0.26	19	0.03U	6.22	0.31	30.6	0.699	1.4	12.53
G6M-02-05X	10/05/2010	240	100	4.0J	5U	5U	5U	1.2U	1.5U	160	71.2	5.42	2,420	10U	20U	0.025J	13	0.03U	6.25	0.25	-37.5	0.749	5.99	12.27
G6M-02-05X	06/08/2011	200	230	78	3.7	0.62	18J	1.2U	10	5,400	105	8.58	2,700	2.6J	180	0.13U	11	0.03U	6.16	0.24	-42.8	0.708	0	12.27
G6M-02-05X	10/06/2011	37	140	59	2.0U	2.0U	25	1.2U	15	6,600	125	10.8	2,300	2.1J	530	0.012J	14	0.03U	6.18	0.73	-4	0.959	1.4	11.6
G6M-02-05X	10/06/2011	37	140	59	2.0U	2.0U	25	1.2U	15	6,600	125	10.8	2,300	2.1J	530	0.012J	14	0.03U	6.18	0.73	-4	0.959	1.4	12.36

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-02-05X	05/09/2012	140	68	17	0.5U	0.5U	0.5U	1.3U	1.6U	3,900	103	8.63	2,060	10U	75	0.13U	14	0.03U	6.19	0.78	9	0.682	1.52	12.56
G6M-02-05X	10/10/2012	94	44	16	2.0U	2.0U	2.0U	1.2U	1.5U	4,400	73	6.78	1,460	10U	64	0.11J	14	0.03U	6.14	1.92	15.2	0.809	0	11.16
G6M-02-05X	05/21/2013	38J	33J	78	0.48J	0.30J	2.3	1.2U	1.5U	2,200	84.1	8.43	1,310	10U	100J	0.13UJ	12	0.03UJ	6.26	0.75	-19.1	0.753	0.77	14.01
G6M-02-06X	03/01/2002	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.16	8.91	134.8	0.135	32	12.18
G6M-02-06X	09/24/2004	5.5B	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.33	9.48	152.8	0.09	0.02	12.31
G6M-02-06X	09/30/2005	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.22	8.22	66.4	0.107	4.39	13.26
G6M-02-06X	09/21/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.30	7.84	139.3	0.098	10.85	11.26
G6M-02-06X	09/14/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.94	8.5	-140.7	0.149	7.7	10.88
G6M-02-06X	10/20/2008	0.47J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	7.09	7.71	88.8	0.109	6.5	11.28
G6M-02-06X	10/14/2009	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	8U	0.2U	50U	-	-	-	-	-	6.98	8.96	26.1	0.115	0.2	11.43
G6M-02-06X	10/05/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	25U	-	-	-	-	-	6.90	7.66	63.6	0.128	4.38	11.62
G6M-02-06X	10/07/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	2.5J	0.1U	25U	-	-	-	-	-	6.87	6.3	24.7	0.076	18.6	11.76
G6M-02-06X	10/10/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	25U	-	-	-	-	-	7.11	8.89	16.8	0.134	10.53	11.39
G6M-02-06X	10/15/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	25U	-	-	-	-	-	7.36	9.84	110.9	0.134	2.62	12.86
G6M-02-06X	10/30/2014	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.155U	6.0J	-	-	-	-	-	7.21	7.73	73.1	0.101	2.18	13.93
G6M-02-06X	10/19/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	0.10 U	15 U	NA	NA	NA	NA	NA	7.29	8.05	82.5	0.114	2.23	12.89
G6M-02-07X	02/26/2002	24	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.34	-0.68	110.3	0.259	46	11.54
G6M-02-07X	09/23/2004	26B	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.26	1.72	332.8	0.423	25	12.39
G6M-02-07X	09/30/2005	16	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.69	6.98	121.2	0.389	7.7	11.08
G6M-02-07X	09/21/2006	11	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.58	3.72	143.6	0.251	14.3	10.8
G6M-02-07X	09/13/2007	12	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.68	3.78	43.3	0.334	3	10.49
G6M-02-07X	10/20/2008	9.8J	0.27J	0.5UJ	0.5UJ	0.5UJ	0.5UJ	-	-	-	-	-	-	-	-	-	-	-	7.46	3.15	42.8	0.271	12	10.50
G6M-02-07X	10/15/2009	6.7J	210	10U	10U	10U	10U	-	-	-	8U	0.127U	50U	-	-	-	-	-	7.41	1.15	-14	0.413	3	11.54
G6M-02-07X	01/15/2010	5.7	0.5U	0.5U	0.75U	0.75U	1.0U	-	-	-	-	-	-	-	-	-	-	-	7.53	3.26	150.2	0.344	1.88	11.62
G6M-02-07X	10/05/2010	4.7	0.24J	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	25U	-	-	-	-	-	7.39	2.57	60.3	0.296	1.33	11.83
G6M-02-07X	10/03/2011	3.6	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	25U	-	-	-	-	-	7.54	1.58	26.6	0.198	5.12	11.79
G6M-02-07X	10/11/2012	4.6	0.5U	0.57	0.5U	0.5U	0.5U	-	-	-	5U	0.0278J	25U	-	-	-	-	-	7.68	1.31	98.1	0.352	2.69	-
G6M-02-07X	10/15/2013	1.1	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	2.9J	0.1U	5.1J	-	-	-	-	-	7.62	2.39	99.8	0.911	1.05	-
G6M-02-07X	10/29/2014	3.9	0.27J	0.62	0.5U	0.5U	0.5U	-	-	-	2.4J	0.025U	7.8J	-	-	-	-	-	7.41	0.22	10.9	0.535	3.71	11.44
G6M-02-07X	10/19/2015	**4.50**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	0.10 U	15 U	NA	NA	NA	NA	NA	7.64	0.35	75.3	0.362	3.69	15.95
G6M-02-08X	05/17/2002	2,300	35	250	2U	1U	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.04
G6M-02-08X	01/31/2003	3,600	46	480	2.3	1U	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.98
G6M-02-08X	03/31/2005	1,300	38J	250	50U	50U	50U	0.049	0.79	1.2	5U	0.3J	770	15	62	1.1	6.2	2U	7.08	9.1	-50	0.563	24.6	9.64
G6M-02-08X	07/05/2005	1,000	130	1,800	12U	12U	12U	0.16	0.22	3	33	110	29,000	450	350	0.05U	3.7	8.3	4.23	1.66	19.1	1.616	4.72	14.95
G6M-02-08X	09/27/2005	560	26	1,300	1U	1.8	2.5	0.11	0.25	21	270	310J	75U	1,200	466	0.05U	320J	16	5.03	0.33	-68.6	1.965	3.16	18.79
G6M-02-08X	12/16/2005	300	24	1,200	4U	2U	4U	0.19	0.36	2.1	4.4B	350J*	15U*	1,500	520	0.05U	57	9.4	5.46	0.03	-31.4	1.999	66.4	9.72
G6M-02-08X	03/21/2006	180	25	1,300	2U	2.1	2.3	0.084	0.24	15	80	470	40,000	3,000	1,400	1U	245	14	5.46	0.33	-62.5	2.45	6.98	15.04
G6M-02-08X	06/21/2006	230	30	850	2U	1U	2U	0.14	0.23	19	100	970	44,000	5,700	1,800	1.67	759	40	4.80	1.32	-25.2	4.528	45.4	12.38
G6M-02-08X	09/20/2006	150	25	1,300	2U	1.6	2U	0.072	0.14	11	77	860	29,000	4,400	1,000	2U	655	16	5.20	1.57	-14.4	4.503	53.4	19.59
G6M-02-08X	12/12/2006	140	28	910	2U	1.1	2U	0.18	0.17	30	73	1,000	32,000	6,400	-	-	13.6	110	4.93	0.67	-38.3	6.436	108.6	7.42
G6M-02-08X	03/28/2007	60	14	500	2U	1U	2U	0.31	0.14	62	72	1,200	30,000J*	7,200	-	-	1,170	80	4.46	0.21	-144.5	7.243	60.9	11.74
G6M-02-08X	06/13/2007	110	8.4	420	2U	1U	2U	0.092	0.11	180	130	1,200	33,000	6,800	-	-	1,160	82	4.70	1.78	24.1	6.948	1328.4	9.25
G6M-02-08X	09/13/2007	140	74	1,400	2U	1U	2U	0.22	0.17	120	410	1,100	37,000	4,400	3,000	0.2U	890	200	5.34	2.68	-150.5	6.823	28.2	11.52
G6M-02-08X	12/10/2007	250	66	1,100	2U	2	3.3	0.14	0.23	240	360	1,200	42,000	7,700	-	-	414	120	5.17	0.15	-115.7	7.569	10.8	11.11
G6M-02-08X	03/10/2008	32	5.5	170	2U	1U	2U	0.36	0.15	280	570	970	20,000	11,000	-	-	770	16	4.28	0.5	-55.7	7.828	13.8	15.4
G6M-02-08X	10/06/2008	49	4.5J	81	5U	5U	5U	6.3U	7.9U	3,000	103J	598	7,630	4,190	1,800	0.13U	610	0.75UJ	4.52	-0.12	-25.9	4.495	65	12.25
G6M-02-08X	01/21/2009	29	18U	39	11U	14U	11U	1.2U	1.5U	3,400	76	474J	6,650	2,900J	3,000	0.13U	710	0.39	4.76	0.15	39.2	3.739	46.4	13.10
G6M-02-08X	05/07/2009	25	20U	29	20U	20U	20U	1.3U	5.8	3,500	53.2	356	5,130	3,000	550J	0.092J	410	0.053	3.97	0.4	71.4	3.538	15.4	14.96
G6M-02-08X	10/20/2009	0.5U	0.5U	0.31J	0.5U	0.5U	0.5U	1.3U	1.6U	2,300J	70.6	486	6,840	2,300	40	1.3U	440	0.3UJ	4.61	1.88	79.4	3.973	20.1	12.49
G6M-02-08X	04/21/2010	11J	2.0UJ	75J	2.0UJ	2.0UJ	2.0UJ	1.3U	1.6U	4,400	98.9	447 J	8,720	3,400	40	1.3U	130	0.28	4.49	0.10	28.2	3.353	22.3	11.07
G6M-02-08X	10/07/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	27,000	73.4	381	8,080	2,400	860	2.6U	100	0.095	4.47	0.33	58.0	3.209	4.33	12.69
G6M-02-08X	06/09/2011	13	0.5U	140	0.5U	0.5U	1.6	1.2U	1.5U	83,000	155	473	14,000	2,800	1,100	6.5U	99J	0.38	4.64	0.11	18.9	2.968	11	11.14
G6M-02-08X	10/04/2011	8.0U	8.0U	210	8.0U	8.0U	8.0U	1.2U	1.5U	28,000	194	491	15,900	2,400	230	0.13U	86	0.091	4.81	0.02	18.1	2.376	4.99	13.73
G6M-02-08X	05/10/2012	9.8	8.0U	270	8.0U	8.0U	8.0U	1.2U	1.5U	14,000	184	581	19,000	1,900	730	0.13U	64	1.8	5.16	0.21	-9.9	3.338	3.29	11.46
G6M-02-08X	10/15/2012	12	4.0U	270	4.0U	4.0U	6.2	1.2U	1.5U	3,600	121	523	20,300	1,800	900	0.080J	37	0.096	4.85	0.32	-1	2.915	3.76	10.42
G6M-02-08X	05/23/2013	20	8.0U	510	8.0U	8.0U	24	1.2U	1.5U	11,000	160	460	18,200	1,600	610	0.041J	5.3	3.5J	4.88	0.1	9.4	2.618	4.01	
G6M-02-08X	10/22/2013	13U	13U	500	13U	13U	51	3.6	84	40,000	200	428	15,400	1,100	630	0.13U	8.9	3.8	5.23	0.27	1.1	1.308	10.8	8.2
G6M-02-08X	06/12/2014	12	1.5	400	0.5U	0.7	140	1.3UJ	1.6UJ	9,400	241	420	10,100	670	700J	0.13U	1.0J	0.03U	5.23	0.21	11.2	2.023	6.68	16.6
G6M-02-08X	11/03/2014	8.3	5U	260	5U	5U	44	4.4	7.7	26,000	258	461	10,400	1,400	590	0.13U	0.96J	0.03U	5.28	0.12	-33.6	0.994	33.6	15
G6M-02-08X	6/16/2015	10 U	10 U	**98.8**	10 U	10 U	10 U	10 U	10 U	**1,410**	**318**	**455**	**10,200**	**1,020**	**582**	**0.15**	**8.6 J**	1.0 U	5.43	2.94	43.0	1.476	110	13.62
G6M-02-08X	9/9/2015	20 U	20 U	**83.8**	20 U	20 U	20 U	10 U	10 U	**10,600**	**340**	**428**	**8,780**	**976**		**0.078 J**	**15.8**	**4.80**	5.59	0.07	-39.2	1.337	12.0	13.71
G6M-02-08X	10/13/2015	20 U	21 U	**83.5**	21 U	21 U	21 U	10 U	10 U	**18,400**	**320**	**483**	**9,410**	**1280**	**526**	0.11 U	**7.1 J**	2.0 U	5.02	0.33	0.4	1.689	47.8	9.80

J = Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-02-11X	08/01/2002	450	2.8	2U	2U	1U	2U	-	-	-	5U	-	-	-	-	-	-	-	6.01	0.46	184	0.984	8.13	13.9
G6M-02-11X	08/28/2002	540J	2U	2U	2U	1U	2U	-	-	-	5U	-	-	5U	44	-	-	-	6.05	0.51	173	0.905	6.49	10.7
G6M-02-11X	10/29/2002	970	22	3	2U	1U	2U	-	-	-	5U	1U	1700	5U	51	0.10U	17	2.0U	6.02	0.49	51	0.92	5.04	13.2
G6M-02-11X	02/03/2003	710	22	2U	20U	1U	2U	-	-	-	5U	1U	-	5U	65	-	-	-	6.22	0.71	178	0.971	12.7	14.12
G6M-02-11X	07/16/2003	530	54	33	2U	1U	2U	0.005U	0.014	460	5U	1U	-	5U	120	-	16M	2.0U	6.31	0.86	166	0.813	11.9	16.05
G6M-02-11X	09/26/2003	590	31	37	2U	1U	2U	0.005U	0.005U	1,200	5U	-	1,700	19	-	-	-	-	6.60	0.41	146	0.921	7.2	8.61
G6M-02-11X	01/08/2004	300	15	49	2U	1U	2U	0.005U	0.0093	2,300	5U	1U	1,900	5U	150	-	12J	2.0U	6.29	0	104	0.729	0.6	6.55
G6M-02-11X	03/10/2004	160	11	53	2U	1U	2U	0.005U	0.068	14,000	5U	1U	2,200	1.8	130	-	9.6M	2U	6.39	0.82	103	0.847	7.5	15.58
G6M-02-11X	06/04/2004	440	23	54	2U	1U	2U	0.005U	0.01	2,300	5U	1U	1,900	2.4J	110	-	12M	1.9J	6.72	12.13	54.5	0.807	21.3	13.72
G6M-02-11X	09/22/2004	540	50	140	2U	1U	2U	0.005U	0.005U	13,000	5U	1U	2,400	1.2	100	0.5U	12	1.5J	6.19	0.96	412.7	0.996	1.25	11.09
G6M-02-11X	12/15/2004	760	47	120	2U	1U	2U	0.005U	0.021	9,700	5U	1U	2,100	5U	95	1	15	2U	6.35	1.36	200.1	0.675	21.2	13.83
G6M-02-11X	03/28/2005	1,100	41	45	40U	40U	40U	0.005U	0.065	10,000	5U	1UM	2,200	3.6J	90	0.2U	13	2UJ*	6.19	1.02	84.3	0.938	48.3	16.04
G6M-02-11X	07/01/2005	1,500	90	280	10U	10U	10U	0.028	0.42	15,000	2.1	1UJ*	1,800	9.4	98.4	0.05U	14	1U	5.78	0.37	221.6	0.806	6.66	14.87
G6M-02-11X	09/27/2005	240	78	260	2U	1U	16	0.020J	8.1	21,000	5U	1U	2,500	3.4	148	0.05U	5.9J	1U	5.92	0.4	93.6	0.755	0.69	12.998
G6M-02-11X	12/12/2005	220	28	50	2U	1U	9.1	0.082	29	24,000	7.8	0.2J	3,100	5.5	270	1.3J*	3.5	1U	6.28	0.18	64.8	1.107	8.9	12.95
G6M-02-11X	03/21/2006	520	94	230	2.3	1U	60	0.025U	34	17,000	5U	0.1U	1,500	8.2	120	0.2U	8.81	1U	6.45	12	326.6	0.765	7.15	14.52
G6M-02-11X	06/22/2006	130	44	20	20	1U	9.2	0.051	78	22,000	5U	1U*	6,300	6.1	210	0.2U	2.45	1U	6.19	0.27	59.7	1.231	5.04	14.02
G6M-02-11X	09/22/2006	37	17	8.6	2.8	1U	4	0.089	15	21,000	6.9	0.58	9,300	9.8	180	0.2U	4.87	1U	5.93	1.22	-158.9	1.079	4.55	12.97
G6M-02-11X	12/13/2006	45	7.9	3.6	4.4	1U	2U	0.24	19	28,000	22	1	16,000	9.3	-	-	1.06	1.2	6.39	0.19	169.6	1.277	6.94	13.71
G6M-02-11X	03/27/2007	38	21	3.6	9.8	1U	2U	6.8	28	23,000	120	7.1	24,000J*	10	-	-	-	-	6.25	0.61	-39.6	0.912	19	12.57
G6M-02-11X	06/13/2007	30	28	12	10	1U	2.8	4.8	33	27,000	310	6.8	18,000	12	-	-	9.62	1.6	6.22	0.65	-36.4	1.198	2.1	11.24
G6M-02-11X	09/11/2007	4.4	24	7.9	12	1U	4.3	2.8	36	30,000	420	18	18,000	14	270	0.2U	470	1U	6.24	3.52	-11.1	1.423	9.7	10.99
G6M-02-11X	12/13/2007	2.8J*	19J*	6J*	5.5J*	1U	4.4J*	8.3	16	29,000	470	47	18,000	15	-	-	5U	1	6.36	0.52	-117.9	1.409	0.5	11.79
G6M-02-11X	03/11/2008	2U	6.2	2.5	9.7	1U	2U	24	5.8	28,000	570	59	27,000	17	-	-	5U	2.8	6.35	0.41	-90.5	1.56	0.3	11.69
G6M-02-11X	10/16/2008	1.3	7.3	6.9	0.8	0.5U	2.2	1.2U	5.4	39,000	1,170	116	8,420	21.2U	240	0.10U	9.3	0.03U	5.8	1.51	-20.6	0.1535	4	13.68
G6M-02-11X	05/07/2009	0.5U	0.76	0.47J	0.92	0.5U	0.5U	3.1	3.5	42,000	1,060	125	3,950	31	370J	0.13U	17	0.03U	6.04	0.24	-117.5	1.605	0.32	12.08
G6M-02-11X	10/14/2009	0.23J	1.4	0.58	0.63	0.5U	0.46J	1.2U	1.5U	55,000	1,070	126	2,390	8.7J	430	0.13U	9.7	0.03U	6.46	0.52	-114.9	1.342	5	11.1
G6M-02-11X	04/20/2010	0.5U	1.6	24	0.24J	0.5U	5.8	1.2U	2.0	17,000	1,050	106J	3,760	8.7J	500	0.13U	5U	0.03U	6.75	0.38	-130.5	0.778	1.5	11.58
G6M-02-11X	10/05/2010	0.5U	0.94	0.52	0.38J	0.5U	0.66	1.2U	1.5U	47,000	956	93.8	1,590	10U	700	0.13U	1.4J	0.03U	6.51	0.72	-136	1.368	0.86	11.57
G6M-02-11X	06/09/2011	-	-	-	-	-	-	-	-	-	804	91.6	2,480	-	-	-	-	-	6.6	0.1	-111.1	1.131	4.53	11.66
G6M-02-11X	10/03/2011	0.5U	0.5U	0.64	0.5U	0.5U	1.2	1.2U	1.5U	19,000	901	99.9	2,670	7.6J	520	0.13U	5U	0.03U	6.58	0.44	-114.4	0.74	0.95	11.7
G6M-02-11X	05/08/2012	-	-	-	-	-	-	-	-	-	769	84.2	2,560	-	-	-	-	-	6.83	0.14	-128.1	1.014	1.03	11.58
G6M-02-11X	10/10/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	3.9	1.5U	12,000	683	69.9	1,840	4.2J	390	0.11J	1.3J	0.03U	6.52	0.28	-122.8	1.341	0.84	12.54
G6M-02-11X	05/21/2013	-	-	-	-	-	-	-	-	-	649	59.5	3,660	-	-	-	-	-	6.7	0.24	-124.88	1.247	0	18.2
G6M-02-11X	10/16/2013	0.5U	0.5U	0.26J	0.20J	0.5U	0.5U	17	1.6U	56,000	616	53	3,230	4.2J	320	0.13U	5.0U	0.03U	6.8	0.22	-114.8	1.243	0.39	14.2
G6M-02-11X	06/11/2014	-	-	-	-	-	-	-	-	-	573	50	8,010	-	-	-	-	-	6.84	0.32	-104.4	1.069	1.38	13.5
G6M-02-11X	10/29/2014	0.5U	0.5U	0.42J	0.34J	0.5U	0.44J	8.1J	1.5U	15,000	624	64.3J	4,860J	5U	340	0.13U	0.17J	0.03U	6.96	0.35	-156.8	1.224	0.65	12.8
G6M-02-11X	6/26/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	5.0 U	**8,180**	**578**	**51.1**	**10,800**	**5.80**	**312**	**0.17**	**2.0 J**	1.0 U	5.98	2.49	-62.1	0.934	9.2	12.54
G6M-02-11X	9/10/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**5.5 J**	10 U	**11,500**	**546**	**44.4**	**9,920**	**5.30**		**0.087 J**	**0.78 J**	2.0 U	6.29	3.21	44.2	0.570	5.37	14.62
G6M-02-11X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**5.8 J**	10 U	**9,710**	**551**	**44.2**	**10,400**	**4.9**	**229**	**0.062 J**	10 U	2.0 U	7.03	0.26	-132.7	0.942	1.12	14.83
G6M-02-12X	08/01/2002	330	2U	2U	2U	1U	2U	-	-	-	5U	-	-	-	-	-	-	-	6.24	0.64	19	0.924	37.6	14.01
G6M-02-12X	08/28/2002	520	6.5	2U	2U	1U	2U	-	-	-	5U	-	-	5U	54	-	-	-	6.15	0.19	156	0.868	2.96	14.12
G6M-02-12X	10/29/2002	790	10	2U	2U	1U	2U	-	-	-	5U	1U	1,100	2.0J	40	0.10U	17	2.0U	6.14	0.27	68	0.927	2.08	14.83
G6M-02-12X	02/03/2003	580	4	2U	2U	1U	2U	-	-	-	5U	1U	-	5U	52	-	-	-	6.04	-	78	0.947	5.06	12.49
G6M-02-12X	07/14/2003	-	-	-	-	-	-	-	-	-	-	-	-	5U	-	-	-	-	-	-	-	-	-	11.03
G6M-02-12X	09/22/2004	1,000	43	110	2U	1U	2U	0.005U	0.005U	2,900	5U	1U	450	1U	84	0.5U	13	2U	5.87	0.35	570.2	0.873	4.95	11.59
G6M-02-12X	09/27/2005	1,100	38	250	1.4	1U	5.4	0.025U	1.1	14,000	5U	1U	690	3.5	106	0.05U	13J	1U	6.11	1.17	238.5	6.92	24.5	11.73
G6M-02-12X	09/21/2006	190	88	64	23	1U	67	0.038	46	15,000	5U	0.37	3,200	7.6	170	0.2U	5.72	1U	6.23	0.17	78	0.799	60.6	11.65
G6M-02-12X	09/12/2007	62	50	28	4.4	1U	18	0.4	8.4	11,000	20U	0.58	5,500	2.6J	180	0.2U	340	1	6.52	3.06	52.8	0.934	5.8	11.75
G6M-02-12X	10/16/2008	0.37J	7.1	18	1.6	0.5U	4.8	1.2U	3.1	19,000	174	11.8	15,800	10U	310	0.10U	7U	0.03U	6.09	0.53	-67.4	1.091	10	11.66
G6M-02-12X	10/14/2009	0.5U	0.3J	13	0.74	0.5U	1.6	1.3U	1.6U	6,900	540	24.4	11,000	4.6J	350	0.13U	7U	0.03U	6.27	1.27	-40.0	1.025	1.5	19.7
G6M-02-12X	10/05/2010	0.5U	0.5U	5.6	0.27J	0.5U	1.5	1.2U	2	40,000	1,040	72.2	13,700	10U	810	0.050J	2.8J	0.03U	6.34	0.58	-88.1	1.217	1.11	17.11
G6M-02-12X	10/04/2011	0.5U	0.5U	6.3	0.5U	0.5U	4.3	1.2U	1.5U	21,000	1,020	71.2	9,540	6.4J	440	0.13U	0.33J	0.03U	6.65	0.48	-89.1	0.807	1.9	13.11
G6M-02-12X	10/10/2012	0.5U	0.5U	1.0	0.5U	0.5U	1.0	1.8	1.5U	14,000	865	65.8	5,010	4.0J	320	0.13U	0.59J	0.03U	6.76	0.7	-111.4	1.068	1.68	14.37
G6M-02-12X	10/16/2013	0.5U	0.5U	0.7	0.21J	0.5U	0.54	10	1.5U	55,000	809	61.3	4,910	4.2J	83	0.13U	5.0U	0.03U	6.85	0.45	-127.7	1.01	1.87	21.32
G6M-02-12X	10/29/2014	0.5U	0.5U	0.9	0.56	0.5U	0.79	9.2	1.5U	25,000	760	56J	4,870J	6.2J	330	0.13U	0.22J	0.03U	6.96	0.83	-103.4	0.995	2.48	15.51
G6M-02-12X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	**11,300**	**714**	**42.6**	**8,540**	**6.4**	**243**	0.11 U	10 U	2.0 U	7.26	1.07	-108.0	0.63	6.17	13.71
G6M-02-13X	08/02/2002	4,600	4	2U	2U	1U	2U	-	-	-	5U	-	-	-	-	-	-	-	6.17	0.54	141	0.665	7.62	13.98
G6M-02-13X	09/23/2004	5,000	13	16	2U	1U	2U	0.27	0.15	57	5U	1U	1,200	1U	31	2.3	17	1.8J	6.37	0.34	170.8	0.618	2.14	16.73
G6M-02-13X	12/13/2004	4,600	14	21	2U	1U	2U	0.27	0.11	88	5U	1U	1,300	5U	34	2.5	16M	2U	5.79	0.89	274.8	0.518	2.63	18.3
G6M-02-13X	03/30/2005	2,100	64J	210	100U	50U	100U	0.16	0.11	38	36	4.2	4,000	8.1	60	0.23	13	2U	5.97	0.89	-22.6	0.735	2.91	15.02
G6M-02-13X	08/11/2005	2,300	190	460	5.9	2U	2U	0.026	0.045	46	150	34J*	12,000J*	66	230	0.05U	2.3	1U	5.82	0.74	-68.8	0.897	5.6	14.76

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	**Date**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(µg/L)**	**(mg/L)**	**(µg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(SU)**	**(mg/L)**	**(mV)**	**(mS/cm)**	**(NTUs)**	**°C**
G6M-02-13X	09/29/2005	3,700	120	470	10U	10U	10U	0.16	0.12	420	74	22	6,800	37	110	0.05U	8.9	2.4	6.41	1.26	-89.1	0.71	6.99	15.48
G6M-02-13X	12/14/2005	210	50	850	2U	2	2U	0.057	0.087	11,000	477	200J*	36,200	290	420	0.083	2U	8.2	6.6	0.11	-134.4	1.389	0.6	15.43
G6M-02-13X	03/22/2006	660	37J*	640	2U	1U	2U	0.025U	0.009J	21,000	320	170	29,000	280	480	0.2U	8.08	3	6.67	0.9	-214.4	1.379	2.37	14.28
G6M-02-13X	06/22/2006	160	8.8	440	2U	1U	280	0.025J	0.51	25,000	750	420	30,000	140	480	0.2U	1.15	20	6.54	0.28	-138.7	2.175	16.1	14.68
G6M-02-13X	09/18/2006	550	52	160	2U	1U	280	0.15	1.1	24,000	420	160	9,900	52	140	0.2U	8.09	2.8	6.12	0.36	-119.3	1.19	6.9	13.37
G6M-02-13X	12/14/2006	460	20	190	2U	1U	220	0.025	0.35	23,000	460	260	12,000	140	-	-	4.25	3.6	6.49	0.19	-73.7	1.748	8.3	10.99
G6M-02-13X	03/27/2007	460	39	120	2U	1U	170	0.031	3.7	27,000	400	170	8,400J*	37	-	-	9.74	1.6	6.08	0.12	-14.6	1.378	11.2	13.81
G6M-02-13X	06/13/2007	440	45	48	2U	1U	46	0.025U	6.3	26,000	380	300	9,400	78	-	-	12.7	3.6	6.58	0.46	-178.7	1.926	47.5	12.34
G6M-02-13X	09/13/2007	510	150	120	2U	1U	53	0.14	26	20,000	230	88	4,800	18	74	0.2U	480	1U	6.54	0.45	-145.3	1.332	18.2	13.69
G6M-02-13X	12/14/2007	690	84J*	58J*	2U	1U	21J*	0.068	21	16,000	210	46	4,500	11	-	-	13	1U	6.51	0.27	-133.2	1.133	3.6	14.17
G6M-02-13X	03/12/2008	130	96	29	2U	1U	12	0.092	35	21,000	260	68	7,600	17	-	-	9	1U	6.48	0.57	-140.5	1.221	7.7	14.51
G6M-02-13X	10/06/2008	5U	9.7	7.9	5U	5U	7.5	6.5U	8.8	14,000	380	91	4,940	24.3	300	0.13U	11	0.03UJ	6.56	0.28	-173.6	1.071	5.2	13.58
G6M-02-13X	01/21/2009	1.4U	5	5.4	1.3U	1.7U	5.7	.25U	3.8	17,000	371	72.1J	3,990	11J	200	0.13U	14	0.03U	6.88	0.28	-121.2	0.821	4	13.07
G6M-02-13X	05/06/2009	0.5U	5.1	9.8	0.24J	0.5U	6.2	1.2U	2.6	26,000	351	69.4	3,820	9.4J	300J	0.012J	12	0.03U	6.01	0.29	-93.4	0.916	2.09	14.16
G6M-02-13X	10/15/2009	0.92	8.6	16	0.7	0.5U	8.5	1.2U	2.2	7,400	369	93.3	6,800	7J	370	0.13U	13	0.03UJ	6.47	0.24	-148.8	0.932	1.71	14.48
G6M-02-13X	04/20/2010	0.5U	0.29J	14	0.42J	0.5U	13	1.3U	6.4	44,000	322	134J	5,790	36	500	0.13U	5.0U	0.03U	6.47	0.28	-7.3	1.219	2.98	14.34
G6M-02-13X	10/04/2010	0.30J	1.6	8.3	0.24J	0.5U	8.4	1.2U	9.5	48,000	281	58.5	4,690	10U	370	0.046J	3.3J	0.03U	6.57	0.18	-124.5	1.168	0.90	13.69
G6M-02-13X	06/09/2011	-	-	-	-	-	-	-	-	-	302	72.3	6,820	-	-	-	-	-	6.49	0.21	-110.8	1.21	2.19	13.41
G6M-02-13X	10/06/2011	0.5U	0.5U	0.96	0.5U	0.5U	2.4	1.2U	1.5U	12,000	258	36.2	5,690	6.7J	110	0.13U	0.45J	0.056	6.65	0.07	-94.6	1.235	2	14.62
G6M-02-13X	05/09/2012	-	-	-	-	-	-	-	-	-	205	25.9	6,670	-	-	-	-	-	7	0.16	-118.5	1.281	1.01	11.53
G6M-02-13X	10/11/2012	0.5U	0.83	0.69	0.5U	0.5U	0.5U	1.3U	87	22,000	159	24.9	8,190	2.7J	380	0.013J	5.0U	0.03U	6.68	0.34	-109.8	1.195	0	12.32
G6M-02-13X	05/21/2013	-	-	-	-	-	-	-	-	-	212	22.3	12,500	-	-	-	-	-	6.88	0.12	-118	0.9	4.89	11.97
G6M-02-13X	10/16/2013	0.5U	0.78	1.8	0.27J	0.5U	1.1	1.8	3.9	34,000	140	19.1	11,400	2.5J	350	0.13U	5.0U	0.037	6.87	0.37	-110	0.916	0	11.96
G6M-02-13X	06/11/2014	-	-	-	-	-	-	-	-	-	195	20.4	15,800	-	-	-	-	-	6.74	0.27	-85	0.958	3.92	13.63
G6M-02-13X	10/29/2014	0.5U	1.3	2.8	0.5U	0.5U	1.8	1.2U	1.5U	7,300	128	12J	7,920J	5U	280	0.13U	0.61J	0.03U	6.86	0.26	-81	0.822	6.49	-
G6M-02-13X	6/23/2015	0.50 U	**1.70**	**3.40**	0.50 U	0.50 U	**2.50**	5.0 U	5.0 U	**1,840**	**142**	**12.5**	**11,100**	**2.90**	**250**	0.11 U	**2.6 J**	1.0 U	6.74	1.24	-107.2	0.817	5.37	14.62
G6M-02-13X	9/11/2015	1.0 U	**2.8**	**5.2**	1.0 U	1.0 U	**4.90**	10 U	10 U	**832**	**142**	**10.5**	**9,980**	**2.30**		**0.067 J**	**0.52 J**	2.0 U	6.45	0.25	-76.0	0.619	2.85	13.41
G6M-02-13X	10/16/2015	1.0 U	**3.60**	1.0 U	1.0 U	1.0 U	**3.30**	10 U	10 U	**473**	**114**	**9.77**	**12,300**	**3.2**	**261**	0.11 U	**1.5 J**	2.0 U	6.84	0.31	-87.2	0.667	2.90	8.40
G6M-03-01X	10/21/2009	380	65	670	25U	25U	25U	-	-	-	-	-	-	-	-	-	-	-	6.52	0.88	-153.5	0.559	7.25	11.99
G6M-03-01X	10/16/2012	200	60	200	10U	10U	550	-	-	-	-	-	-	-	-	-	-	-	6.51	0.95	-69.4	1.776	2.28	20.17
G6M-03-01X	06/12/2014	0.29J	37	19	0.59	0.51	68	-	-	-	-	-	-	-	-	-	-	-	6.52	1.95	11.7	0.812	13.1	16.73
G6M-03-01X	10/31/2014	300	310	98	0.5U	0.5U	34	-	-	-	-	-	-	-	-	-	-	-	6.40	0.75	-106.6	1.263	8.57	9.6
G6M-03-01X	6/18/2015	**0.65 J**	**37.0**	**52.6**	0.50 U	**0.55 J**	**18.8**												6.36	1.82	19.9	1.093	22.9	13.63
G6M-03-01X	9/10/2015	**103**	**66.9**	**64.9**	**2.40**	**1.40**	**62.8**	10 U	**68.9**	**8,640**	**46.0**	**41.8**	**7,080**	5.30		0.076 J	10.30	2.0 U	6.00	0.61	-55.0	1.881	4.38	12.57
G6M-03-01X	10/13/2015	**126**	**190**	**141**	**5.20**	**1.50**	**57.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.27	0.28	-83.5	2.096	3.61	13.25
G6M-03-02X	05/12/2003	1,300	2U	4.4	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.92
G6M-03-02X	10/11/2004	690	2U	5.6	2U	1U	2U	0.051	0.03	2.6	5U	1U	17	1U	12	3.7	20	1.7J	6.29	8.25	97.4	0.321	12.1	8.83
G6M-03-02X	12/15/2004	200	2U	5	2U	1U	2U	0.056	0.063	3.4	5U	1U	610	390	29	2.4	30	2U	5.86	1.75	-132.9	0.382	1.93	12.75
G6M-03-02X	03/29/2005	340	20U	14J	20U	10U	20U	0.15	0.34	5.1	640	140M	49,000	1,300	366	0.2U	230	6.7J*	5.23	0.65	-20.1	1.654	28.7	15.46
G6M-03-02X	06/29/2005	190	11	91	2.5U	2.5U	2.5U	0.29	0.65	43	130	220J*	35,000J*	1,200	431	0.05U	74	11	4.62	1.13	2.9	1.723	29.1	15.57
G6M-03-02X	09/29/2005	57	7.8	190	2.5U	2.5U	2.5U	0.2	0.29	560	150	260J	37,000	850	345	0.05U	62	16	4.94	0.53	-73.7	1.752	23.8	11.33
G6M-03-02X	12/15/2005	39	8U	190	8U	4U	8U	0.17	0.26	4,300	146	290J*	38,000	1,100	550	0.05U	66	16	5.42	4.55	13.9	1.65	19.7	12.12
G6M-03-02X	03/21/2006	17	2U	140	2U	1U	2U	0.016J	0.14	6,700	140	320	37,000	1,400	1,200	2U	88.4	8.8	5.56	0.16	-47.7	1.731	17.3	13.35
G6M-03-02X	06/21/2006	8.2	2U	160	2U	1U	2U	0.044	0.12	10,000	240	410	23,000	1,300	1,000	1U	120	9.6	3.21	0.89	140.1	2.428	11.6	10.08
G6M-03-02X	09/20/2006	9.7	2.3	230	2U	1U	2U	0.05	0.2	8,700	200	440	21,000	1,300	570	1U	115	8.4	5.55	0.71	-27.8	2.029	13.7	11.46
G6M-03-02X	12/12/2006	6.9	2U	180	2U	1U	2U	0.047	0.16	6,800	170	350	11,000	890	-	-	53	8	5.85	1.31	-43.1	2.326	26.7	12.11
G6M-03-02X	03/28/2007	13	2.2	320	2U	1U	2U	0.033	0.11	9,800	230	470	14,000J*	920	-	-	74.5	9.2	5.38	0.17	-62.3	2.523	14.9	12.75
G6M-03-02X	06/12/2007	11	2U	650	2U	1.4	17	0.025U	0.14	21,000	200	360	10,000	840	-	-	39	8.4	5.77	0.38	-59.3	2.268	39.5	12
G6M-03-02X	09/12/2007	12	2.1	800	2U	1U	81	0.006J	0.6	17,000	230	350	12,000	740	790	0.2U	580	20	5.44	10.26	-122.8	2.156	18.1	12.29
G6M-03-02X	12/10/2007	3.8	2U	720	2U	1.8	94	0.005J	1.4	14,000	290	390	29,000	1,000	-	-	24.7	7	5.67	6.03	-80.2	2.802	5.3	12.33
G6M-03-02X	03/10/2008	2U	2U	590	2U	1.8	50	0.098	3.4	11,000	320	410	100,000	2,000	-	-	50U	4.8	5.47	0.51	-55.9	3.113	24.5	11.74
G6M-03-02X	10/15/2008	5U	5U	260	5U	5U	27	1.2U	10	12,000	193	366	108,000	454	860	0.13U	59	0.03UJ	5.6	0.75	-28.1	2.376	15	11
G6M-03-02X	05/07/2009	4.0U	4.0U	220	4.0U	4.0U	12	1.2U	18	23,000	188	396	56,700	900	1,100J	0.13U	44	0.03U	5.45	0.32	-46.7	1.962	4.81	11.27
G6M-03-02X	10/19/2009	10U	20U	290	10U	10U	9.5J	1.3U	14	18,000	205	423	43,400	290	920	0.13U	300	0.03U	5.99	2.56	-44.2	1.832	11.9	-
G6M-03-02X	04/21/2010	2.0UJ	2.0UJ	120J	2.0UJ	2.0UJ	9.3J	1.3U	16	16,000	189	566J	39,600	1,200	1,000	0.13U	0.28J	0.03U	5.85	0.29	18.9	1.902	7.28	18.13
G6M-03-02X	10/06/2010	0.5U	0.5U	3.2	0.5U	0.5U	0.42J	1.2U	20	35,000	118	580	36,100	810	1,100	0.29	0.40J	0.03U	5.65	0.57	-21.1	2.137	5.47	13.03
G6M-03-02X	10/04/2011	13U	13U	410	13U	13U	30	1.2U	63	47,000	379	352	12,400	190	3,300	0.13U	0.51J	0.035	6.32	0.09	-86.1	1.14	13	16.73
G6M-03-02X	10/11/2012	2.0U	2.0U	59	2.0U	2.0U	34	1.2U	540	39,000	270	295	10,200	140	500	0.051J	5.0U	0.49	6.13	0.46	-68.9	1.31	9.5	23.98
G6M-03-02X	10/22/2013	1.3U	1.3U	44	1.3U	1.3U	36	1.2U	200	44,000	296	212	6,750	57	300	0.13U	5.0U	0.19	6.24	0.41	-68.8	0.609	9.19	17.97
G6M-03-02X	10/30/2014	0.5U	0.27J	6.6	0.5U	0.5U	6.3	1.2U	12	38,000	254	251	6,090	340	450	0.13U	0.23J	0.03U	6.45	0.33	-61.7	0.82	13.6	10.2
G6M-03-02X	10/13/2015	1.0 U	1.0 U	**6.0**	1.0 U	1.0 U	**5.30**	10 U	10 U	**17,600**	**168**	**116**	**3,540**	**33.0**	**156**	**0.062 J**	**10.2**	2.0 U	5.85	0.39	-86.6	0.679	23.1	13.10
G6M-03-04X	10/21/2009	4.2U	4.0U	81	4.0U	4.0U	4.1	-	-	-	-	-	-	-	-	-	-	-	6.04	0.7	-99.6	0.635	24.5	19.6

J = Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-03-04X	10/16/2012	0.5U	0.5U	0.5U	0.5U	0.5U	1.3	-	-	-	-	-	-	-	-	-	-	-	6.79	0.7	-123	0.622	80.4	22.98
G6M-03-07X	05/12/2003	1,200	7.2	34	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.74
G6M-03-07X	09/24/2004	1,700	6.3	31	2U	1U	2U	0.035	0.28	5.7	5U	1UJ*	20	1U	10U	4.3J*	12	1.6J	5.77	7	168.3	0.341	84.6	16.04
G6M-03-07X	12/16/2004	1,500	6	35	2U	1U	2U	0.026	0.08	0.39	5U	1U	190	5U	10U	4.2	12	2.9	6.02	17.09	321.7	0.348	8.46	14.01
G6M-03-07X	03/30/2005	1,100	91	140	40U	20U	40U	0.078	0.21	1.8	18	18	10,000	29	76	0.33	8	2U	6.33	1.9	-54.6	0.671	0.7	14.14
G6M-03-07X	06/29/2005	940	78	940	40U	20U	40U	0.06	0.34	3.9	31	39J*	15,000J*	83	118	0.079	6.4	1U	11.97	1.12	-20.1	0.915	5.93	8.48
G6M-03-07X	09/29/2005	300	44	1000	2.3	2.7	1U	0.068	0.45	660	46	210J	30,000	290	307	0.05U	3.2	12	6.20	2.7	-62	1.266	7.68	14.74
G6M-03-07X	12/12/2005	92	22	710	20U	10U	20U	0.078	0.13	13,000	96.1	190	46,600	220	320	0.05UJ*	2U	6.2	6.5	0.22	-82.1	1.038	3.6	14.16
G6M-03-07X	03/24/2006	110	23	430	2U	2	270	0.010J	2	22,000	130	280	48,000	260	590	0.2U	1	8.6	6.87	0.17	-130.5	1.39	10.1	11.35
G6M-03-07X	06/21/2006	9.5	3.6	180	2U	1U	310	0.073	21	21,000	140MSA	460	59,000	280	570	0.2U	1U	4.8	5.13	0.7	-170.4	2.258	31.4	13.04
G6M-03-07X	09/19/2006	47	7.9	260	2U	1U	300	0.037	9.2	25,000	140	470	44,000	290	460	0.926	1.27	5	6.48	0.27	-147.2	2.15	15.1	12.69
G6M-03-07X	12/14/2006	190	30	310	2U	1.3	160	0.025	5.9	26,000	220	400	38,000	300	-	-	2.44	2.8	6.37	0.17	-160	2.155	6.19	12.57
G6M-03-07X	03/29/2007	2U	2U	35	2U	1U	360	0.08	5.1	15,000	190	420	20,000J*	130	-	-	1U	4.4	6.32	2.46	-69.3	1.787	39.6	13.39
G6M-03-07X	06/14/2007	37	8.1	190	2U	1U	200	0.025U	2.3	25,000	220	490	37,000	310	-	-	10.5	2.4	6.40	1.31	-159	2.386	9.7	13.63
G6M-03-07X	09/13/2007	27	13	290	2.2	1.1	140	0.008J	12	26,000	210	500	29,000	72	560	0.2U	420	4.8	6.26	3.08	-174.9	2.743	117.6	14.45
G6M-03-07X	12/14/2007	2.6	2U	9.8	3	1U	120	0.010J	34	25,000	270	320	12,000	140	-	-	10U	4	6.51	0.99	-123.7	2.138	70.9	13.23
G6M-03-07X	03/14/2008	2U	2U	2.3	2U	1U	4.3	0.11	26	30,000	210	230	11,000	130	-	-	5U	4	6.41	1.06	-85.5	1.897	235.9	14.9
G6M-03-07X	10/07/2008	5U	2.2J	5U	21	5U	5U	6.3U	12	14,000	246	348	5,370	64.3	190	190	24	0.03UJ	6.24	0.10	-44.4	1.742	16	14.09
G6M-03-07X	01/22/2009	1.4U	2.3U	1.7J	15	1.7U	3.6	1.2U	10	16,000	227	338J	5,000	110J	20U	0.13U	37	0.03U	6.6	1.20	-74.9	1.743	30	14.38
G6M-03-07X	05/06/2009	0.5U	0.5U	1.8	20	0.5U	2.6	1.2U	9.9	28,000	351	361	5,500	66	720J	0.025J	32	0.03U	5.88	0.21	-117.9	1.735	20.3	14.21
G6M-03-07X	10/15/2009	0.27J	0.5U	2.3	19	0.5U	2.2	1.1U	7.3	16,000	318	251	4,870	44	550	0.13U	30	0.03UJ	6.25	0.88	-100.4	1.362	5.6	13.4
G6M-03-07X	04/21/2010	0.5U	0.5U	0.88	5.3	0.5U	1.3	1.3U	6.3	27,000	339	176J	2,000	46	320	0.13U	0.11J	0.03U	6.46	0.69	-106.3	1.086	8.9	16.20
G6M-03-07X	10/05/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	14	48,000	346	164	4,650	16	35	0.13U	0.27J	0.03U	6.35	0.11	-106.1	1.276	4.56	-
G6M-03-07X	06/08/2011	0.5U	0.5U	1.7	7.8	0.5U	2.1	1.2U	13	72,000	381	158	3,540	41	460	0.13U	5.0U	0.10	6.25	0.08	-87	0.841	9.82	15.28
G6M-03-07X	10/05/2011	0.5U	0.5U	0.86	5.6	0.5U	1.4	1.2U	1.5U	48,000	375	133	2,500	39	320	0.13U	5.0U	0.049	6.4	0.02	-42	0.764	6	9.73
G6M-03-07X	05/09/2012	0.5U	0.5U	1.2	4.4	0.5U	0.92	1.2U	200	74,000	388	131	3,090	31	320	0.13U	0.35J	0.063	6.52	0.14	-111.7	1.046	2.43	12.88
G6M-03-07X	10/11/2012	0.5U	0.5U	0.74	3.4	0.5U	1.5	1.2U	800	97,000	365	116	2,900	26	270	0.027J	5.0U	0.04	6.5	0.34	-96.2	0.962	4.81	15.32
G6M-03-07X	05/21/2013	0.5U	0.5U	1	3.4	0.5U	0.77	1.2U	1.5U	22,000	413	114	2,150	23	180J	0.13UJ	5.0U	0.03UJ	6.01	0.17	-64.9	0.923	1.28	14.79
G6M-03-07X	10/16/2013	0.5U	0.5U	0.86	2.9	0.5U	1.3	1.2U	33	31,000	434	120	2,340	26	340	0.13U	5.0U	0.065	6.53	0.21	-102.4	0.901	1.01	9.71
G6M-03-07X	06/11/2014	0.40J	0.5U	0.72	3	0.5U	2.5	1.3UJ	3.5J	10,000J	422	105J	1,670	45	260J	0.13U	0.52U	0.03J	6.32	0.28	-48.4	0.787	2.54	11.63
G6M-03-07X	10/30/2014	0.5U	0.5U	0.69	2.8	0.5U	1.1	1.2U	1.8	54,000	355	78.5	1,400	22	180	0.13U	0.38J	0.03U	6.49	0.24	-120.7	0.532	5.63	12.93
G6M-03-07X	6/18/2015	0.50 U	0.50 U	**0.62 J**	**2.10**	0.50 U	**0.77 J**	5.0 U	**5.7 J**	**12,400**	**97.1**	**107**	**1,810**	**27.1**	**262**	0.15 U	0.50 U	1.0 U	6.40	0.16	-94.9	0.626	15.1	16.20
G6M-03-07X	9/14/2015	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	**6.0 J**	**11,900**	**436**	**103**	**1,700**	**25.2**		0.086 J	0.94 J	2.0 U	6.45	0.56	-112.8	0.545	5.16	14.23
G6M-03-07X	10/14/2015	1.0 U	1.0 U	**0.59 J**	**1.80**	1.0 U	**0.73 J**	10 U	**6.5 J**	**16,600**	**441**	**102**	**1,660**	**243**	**161**	**0.085 J**	**2.3 J**	2.0 U	6.61	0.24	-76.2	0.754	5.37	12.30
G6M-03-08X	05/14/2003	750	2U	2U	2U	1U	2U	-	-	-	5U	1U	-	-	-	-	-	-	-	-	-	-	-	13.25
G6M-03-08X	09/22/2004	690	6.3	5.4	2U	1U	2U	0.005U	0.005U	1.8	5U	1U	15U	1U	16	8.3	13	1.5J	5.89	1.81	247.6	0.463	3.22	14.12
G6M-03-08X	12/16/2004	1,100	11	9.6	2U	1U	2U	0.069	0.03	4.7	5U	1U	17	5U	20	5.7	13	2.9	5.93	0.7	135.7	0.495	8.98	13.25
G6M-03-08X	03/31/2005	340	20U	9.6J	20U	20U	20U	0.011	0.45	14	5U	1U	15U	0.3J	12	2.3	17	2U	5.94	1.96	166.3	0.205	0.93	12.82
G6M-03-08X	07/06/2005	780	8.2	15	2U	1U	2U	0.11	0.068	410	4U	1U	10U	5.5	28.6	1.8	14	1U	5.85	0.78	236.1	0.463	5.37	13.36
G6M-03-08X	09/28/2005	620	4.8	14	1U	1U	1U	0.025U	0.009J	2,400M	5U	1U	15U	5U	28.3	1.6	12	1U	5.60	3.56	172.3	0.352	8.3	10.8
G6M-03-08X	12/14/2005	700	8	17	2U	1U	2U	0.025U	0.025U	7,000	5U	1U	15UJ	5U	32	1.2	12	1U	6.16	0.54	153.8	0.404	3.7	11.48
G6M-03-08X	03/22/2006	1,100	21J*	34	2.6	1U	2U	0.025U	0.006J	12,000	5U	0.1U	15U	6.5	29	0.586	11.7	1U	6.28	5.43	394.2	0.299	9.75	10.71
G6M-03-08X	06/21/2006	610	16	48	2U	1U	2U	0.004J	0.14	16,000	5U	1.8	42	5U	41J*	0.33	10.2	1U	5.91	0.29	141.6	0.49	21.4	10.62
G6M-03-08X	09/21/2006	660	47	110	2U	1U	5.2	0.023J	0.55	14,000	5U	0.10U	15U	3.2J	41	0.228	9.64	1U	6.00	2.36	122.5	0.325	17.1	11.03
G6M-03-08X	12/12/2006	750	45	120	2U	1U	7.8	0.013	0.59	16,000	5U	.01U	15U	5U	-	-	-	-	5.98	0.22	145	0.350	7.0	11.9
G6M-03-08X	03/29/2007	570	37	74	2U	1U	11	0.006J	0.72	14,000	5U	0.1U	15U	5U*	-	-	-	-	5.79	0.07	21.3	0.392	1.41	11.59
G6M-03-08X	06/12/2007	740	55	88	2U	1U	14	0.025U	0.7	15,000	5U	0.1U	15U	0.6J	-	-	-	-	5.93	0.25	135.2	0.413	41.3	10.18
G6M-03-08X	09/10/2007	520	75	75	2U	1U	21	0.025U	1.7	14,000	2U	0.1U	15U	5U	42	0.2U	200	1U	5.92	2.55	154.2	0.385	9.7	11.35
G6M-03-08X	12/11/2007	390	53	49	2U	1U	15	0.004J	1.6	15,000	5U	0.1U	20	5U*	-	-	-	-	5.76	0.23	129.3	0.437	0.8	11.11
G6M-03-08X	03/13/2008	390	5	10	2U	1U	2U	0.003J	0.051	2,800	5U	0.1U	20	5U	-	-	-	-	5.89	0.22	111.6	0.195	0.3	11.55
G6M-03-08X	10/20/2008	290	61	140	5U	5U	26	1.3U	2.1	21,000	8U	0.2U	33.2	10U	110	0.13U	14	0.03U	6.42	1.58	68.9	0.548	2	12.1
G6M-03-08X	05/06/2009	120	38	150	4.0U	4.0U	15	1.2U	1.6	37,000	3.1J	0.2U	144	10U	190J	0.13U	10	0.03U	5.93	0.32	100.8	0.701	1.5	13.18
G6M-03-08X	10/14/2009	5U	20	120	5U	5U	11	1.3U	1.6U	7,300J	8.0U	0.139U	1,470	10U	240	0.13U	8.3	0.03U	5.91	0.33	152.3	0.643	2.11	-
G6M-03-08X	04/20/2010	26J	9.9J	88J	2UJ	2UJ	1.5J	1.3U	1.6U	3,500	9.0	0.194U	6,520	10U	250	0.13U	7.8	0.03U	6.31	0.90	87.9	0.382	0.3	14.33
G6M-03-08X	10/04/2010	8.2	5.2	80	2U	2U	3.5	1.2U	1.5U	890	3.4J	0.132U	11,300	10U	360	0.13U	5.5	0.03U	6.07	0.68	84.9	0.549	0.0	10.23
G6M-03-08X	06/08/2011	-	-	-	-	-	-	-	-	-	14.1	0.266	16,100	-	-	-	-	-	6.28	0.21	49.5	0.686	0.5	11.28
G6M-03-08X	10/03/2011	4.3	3.4	62	2.5U	2.5U	9.6	1.2U	1.5U	590	5.1J	0.194J	16,800	10U	360	0.13U	3.2J	0.03U	6.17	0.43	77.2	0.603	0.51	15.19
G6M-03-08X	05/08/2012	-	-	-	-	-	-	-	-	-	5.0U	0.127U	17,700	-	-	-	-	-	6.58	1.87	39.7	0.618	0.55	13.06
G6M-03-08X	10/09/2012	0.5U	0.78	9.8	0.76	0.5U	7.4	1.3U	3.6	110	5U	0.152	18,600	2.5J	380	0.13U	1.4J	0.03U	6.34	0.43	53.9	0.648	1.42	11.87
G6M-03-08X	05/22/2013	-	-	-	-	-	-	-	-	-	3.1J	0.117U	12,500	-	-	-	-	-	6.56	1.4	36.5	0.591	0.14	11.9
G6M-03-08X	10/15/2013	0.5U	0.87	2.8	1.2	0.5U	1.6	1.8	1.5U	360	5.2	0.121U	12,300	3.0J	450	0.13U	5.0U	0.03U	6.57	0.39	82.7	0.851	0.0	16.01

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-03-08X	06/12/2014	-	-	-	-	-	-	-	-	-	4.3J	0.152	9,850	-	-	-	-	-	6.57	1.84	58.9	0.592	6.31	13.03
G6M-03-08X	6/18/2015	0.50 U	**0.51 J**	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	5.0 U	5.0 U	**2.5 J**	0.05 U	**2,320**	**5.40**	**83.2**	0.11 U	**8.4 J**	1.0 U	6.32	1.11	113.0	0.273	8.42	13.18
G6M-03-08X	10/14/2015	NS																						
G6M-03-09X	05/14/2003	2U	2U	2U	2U	1U	2U	-	-	-	5U	1U	-	-	-	-	-	-	-	-	-	-	-	13.34
G6M-03-09X	09/23/2004	3.7B	2U	2U	2U	1U	2U	0.005U	0.005U	1.9	5U	1U	15U	1U	23	19	15	2.2	6.23	8.67	176.2	0.13	4.57	13.22
G6M-03-09X	12/14/2004	2U	2U	2U	2U	1U	2U	0.015	0.026	2	5U	1U	15U	5U	25	11	15	2U	6.08	8.17	417.6	0.106	12.1	12.43
G6M-03-09X	03/29/2005	1.5J	2U	2U	2U	1U	2U	0.013	0.26	1.4	5U	1UM	15U	0.3J	18	1.5	13	2U	6.18	6	113.2	0.123	72.4	13.27
G6M-03-09X	06/30/2005	5.8	2U	2U	2U	1U	2U	0.077	0.032	1.2	2U	1UJ*	10U	15	25.1	1.3	13	1U	5.75	2.81	160.2	0.135	53.6	10.23
G6M-03-09X	09/28/2005	2U	2U	2U	2U	1U	2U	0.006J	0.009J	29M	5U	1U	15U	4J	38.2	3.7	13	1U	5.90	10.56	181	0.108	7.6	11.2
G6M-03-09X	12/13/2005	2U	2U	2U	2U	1U	2U	0.005J	0.014J	790	5U	1U	15U*	5U*	53	0.05U	13	1U	6.21	3.06	259.3	172	4.9	10.62
G6M-03-09X	03/22/2006	2U	2U	2U	2U	1U	2U	0.006J	0.016J	39	5U	0.1U	20	7.9	36	1.81	12.1	1U	6.40	3	415.5	0.102	10.83	10.99
G6M-03-09X	06/23/2006	2U	2U	2U	2U	1U	2U	0.025U	0.042	390	5U	0.1U	15U	5U	39	2.65	13.2	1U	5.92	4.55	164.9	0.156	16.9	11.02
G6M-03-09X	09/21/2006	2U	2U	2U	2U	1U	2U	0.014J	0.12	140	5U	0.10U	15U	0.8J	36	2.51	9.19	1UJ*	6.71	2.24	127.6	0.212	4.56	13.75
G6M-03-09X	12/13/2006	2U	2U	2U	2U	1U	2U	0.025U	0.019J	870	5U	0.10U	15U	5U	-	-	-	-	6.21	3.38	142.8	0.162	5.6	11.45
G6M-03-09X	03/29/2007	2U	2U	2U	2U	1U	2U	0.006J	0.032	1,600	5U	0.1U	15U	1.8J	-	-	-	-	6.08	0.16	16.4	0.217	2.45	10.57
G6M-03-09X	06/13/2007	3.8	2U	2U	2U	1U	2U	0.005J	0.011J	870	5U	0.1U	15U	0.5J	-	-	-	-	6.26	0.36	111	0.154	7.6	11.36
G6M-03-09X	09/10/2007	2U	2U	2U	2U	1U	2U	0.025U	0.025U	18,000	6U	0.1U	15U	5U	53	2.01	20	1U	6.26	2.74	128	0.193	9.9	11.07
G6M-03-09X	12/11/2007	2U	2U	2U	2U	1U	2U	0.006J	0.022J	2,200	5U	0.1U	15U	5U*	-	-	-	-	6.03	0.11	110.3	0.19	2.1	11.41
G6M-03-09X	03/12/2008	2U	2U	2U	2U	1U	2U	0.027	0.016J	5,200	5U	0.11	18	5U	-	-	-	-	6.33	0.24	24.6	0.159	0.5	11.51
G6M-03-09X	10/20/2008	0.37J	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	1,600	8U	0.2U	50U	10U	48	0.84	19	0.03U	5.98	0.24	177.8	0.129	6.5	11.28
G6M-03-09X	05/06/2009	0.78	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	340	8U	0.2U	50U	10U	52J	0.9	14	0.03U	5.99	0.33	104	0.171	1	11.35
G6M-03-09X	10/14/2009	0.35J	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	230	8U	0.2U	50U	10U	53	0.32	13	0.03U	5.49	0.26	-89.9	0.161	0	-
G6M-03-09X	04/20/2010	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	1.3U	1.6U	700	5U	0.1U	25U	10U	90	0.13U	12	0.03U	6.19	0.40	166	0.102	0.6	15.41
G6M-03-09X	10/04/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	35J	5U	0.1U	25U	10U	44	0.86	12	0.03U	5.90	1.18	146.6	0.159	0.6	12.1
G6M-03-09X	06/08/2011	-	-	-	-	-	-	-	-	-	5U	1.68	11.4J	-	-	-	-	-	5.99	0.42	122.8	0.154	0.4	11.09
G6M-03-09X	10/03/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	230	20U	0.2U	50U	10U	35	0.39	11	0.03U	5.82	0.61	163.2	0.107	0.23	16.6
G6M-03-09X	05/08/2012	-	-	-	-	-	-	-	-	-	5.0U	0.1U	25U	-	-	-	-	-	6.12	2.27	186.4	0.095	0.71	13.41
G6M-03-09X	10/09/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	2.6	5U	0.1U	6.2 J	10U	25	2.8	8.9	0.03U	5.71	4.36	167.9	0.136	0.58	12.12
G6M-03-09X	05/22/2013	-	-	-	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	-	-	6.01	0.46	172.9	0.084	1.83	13.94
G6M-03-09X	10/15/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	7,600	5U	0.1U	9.6J	10U	29	0.82	10	0.03U	6.08	1.16	150.3	0.144	0	15.96
G6M-03-09X	06/12/2014	-	-	-	-	-	-	-	-	-	5U	0.0219U	7.4J	-	-	-	-	-	5.89	0.54	163.9	0.102	2.49	14.07
G6M-03-09X	10/28/2014	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.4	1.5U	20	2.5U	0.268J	13.4J	5U	35	1.6	11	0.03U	6.24	1.65	124.1	0.139	2.78	13.61
G6M-03-09X	6/18/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	5.0 U	**30**	2.0 U	0.05 U	**20**	0.70 U	**27.0**	0.057 U	**8.6 J**	1.0 U	5.39	0.45	169.7	0.191	2.25	11.35
G6M-03-09X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	**1,090**	4.0 U	0.10 U	**57**	1.0 U	**27.8**	0.11 U	**11.4**	2.0 U	6.06	0.22	123.1	0.144	0.81	15.66
G6M-03-10X	05/14/2003	15	2U	2U	2U	1U	2U	-	-	-	5U	1.0U	-	-	-	-	-	-	-	-	-	-	-	14.23
G6M-03-10X	09/22/2004	27	2U	2U	2U	1U	2U	0.05	0.68	680	5U	1U	340	1U	51	2.8	12	1.5J	6.28	1.28	-77.2	0.539	20.5	13.06
G6M-03-10X	12/14/2004	19	2U	44	2U	1U	2U	0.02	0.025	1.9	5U	1U	880	5U	110	3.8	21	2U	6.52	0.94	62	0.801	1.57	13.92
G6M-03-10X	03/29/2005	14	0.98J	68	1.2J	1U	2U	0.005U	0.38	2,600	5U	1UM	1,200	5.9	146	0.2U	12	2U	6.44	0.59	-14.5	0.869	6.77	11.8
G6M-03-10X	06/30/2005	3.6	2U	2U	2U	1U	2U	0.026	0.021	8,600	2U	1UJ*	1,900	19	199	0.1	11	1U	5.18	0.39	273.2	0.702	5.06	12.45
G6M-03-10X	09/28/2005	6.7	2U	2U	2U	1U	2U	0.025U	0.020J	1,100M	5U	1U	720	0.6J	140	0.2	16	1U	6.43	4.3	74.1	0.588	7.36	11.31
G6M-03-10X	12/13/2005	3.4	2U	2U	2U	1U	2U	0.009J	0.027	12,000	6.9	1U*	3,020	5U*	250	0.48	8.4	1U	6.73	0.15	57.2	1.032	1.3	12.28
G6M-03-10X	03/23/2006	9.9	2U	2U	2U	1U	2U	0.020J	0.052	7,000	5U	0.22	3,800	3.5J	170	0.2U	8.9	1U	6.64	0.67	36.6	0.663	5.39	12.15
G6M-03-10X	06/22/2006	2.6	2U	2U	2U	1U	2U	0.004J	0.042	14,000	5U	0.74	7,300	5J	200	0.2U	4.44	1U	4.87	0.64	610.8	0.77	0.64	13.95
G6M-03-10X	09/20/2006	2.2	2U	2U	2U	1U	2U	0.006J	0.14	14,000	5U	0.21	6,200	6	180	0.2U	6.95	1U	6.41	1.26	-140.2	0.856	3.9	12.27
G6M-03-10X	12/13/2006	2.8	2U	3.4	2U	1U	2U	0.025U	0.025U	20,000	5U	0.27	8,500	2J	-	-	-	-	6.45	0.26	168.2	0.870	5.0	11.38
G6M-03-10X	03/29/2007	2.2	2.1	4.2	2U	1U	2U	0.007J	0.16	24,000	8.6	0.3	9,100J*	4.8J	-	-	-	-	6.20	0.32	-60.7	0.97	2.99	12.14
G6M-03-10X	06/11/2007	2.5	2U	4.1	2U	1U	2U	0.025U	0.095	29,000	23	1	11,000	6.7	-	-	-	-	6.27	0.41	45.5	0.947	8.5	11.61
G6M-03-10X	09/10/2007	2U	2U	3.8	2U	1U	2U	0.1	0.057	620	29	0.4	8,100	3.5J	150	0.2U	290	1U	6.28	0.24	61.3	0.859	13.6	12.27
G6M-03-10X	12/12/2007	2U	2U	2.8	2U	1U	2U	0.025U	0.043	20,000	26	0.33	9,200	5.8	-	-	-	-	6.14	0.66	69.8	0.755	7.5	12.45
G6M-03-10X	03/11/2008	16	8.7	16	2U	1U	4	0.04	59	28,000	91	15	9,200	5J	-	-	-	-	6.32	0.22	-62.9	1.029	7.3	11.74
G6M-03-10X	10/20/2008	1.0	2.0	5.4	0.5U	0.5U	1.0	1.3U	1.6U	21,000	248	7.07	10,300	170	170	0.13U	8.3	0.03U	5.98	0.21	-10.9	0.781	8.2	18.11
G6M-03-10X	05/06/2009	1	5	9.1	0.5U	0.5U	1.5	1.2U	1.5U	31,000	522	54.4	9,210	11	230J	0.0076J	9.3	0.03U	5.91	0.33	-64.0	1.04	0.5	18.59
G6M-03-10X	10/14/2009	0.6	3.7	10	0.5U	0.5U	2.2	1.3U	1.6U	9,000J	518	57.8	7,410	7.4J	310	0.13U	21	0.03U	6.32	0.67	-62.2	0.896	1.2	19.1
G6M-03-10X	04/20/2010	1.2	5.6	2.0	0.21J	0.5U	1.1	1.2U	1.5U	4,100	648	60.5J	4,910	4.7J	130	0.13U	6.5	0.03U	6.78	0.77	-101.1	0.799	1.4	16.25
G6M-03-10X	10/04/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	6.2	20,000	475	58.1	5,650	10U	230	0.13U	5.9	0.03U	6.52	0.22	-115.6	0.729	0.5	11.33
G6M-03-10X	06/09/2011	-	-	-	-	-	-	-	-	-	520	53.9	2,550	-	-	-	-	-	6.74	0.58	-118.8	0.704	4.62	12.12
G6M-03-10X	10/03/2011	0.5U	2.7	1.2	0.5U	0.5U	0.53	1.2U	1.5U	9,800	528	54.5	3,980	3.0J	100	0.21	7.6	0.030U	6.75	0.10	-85.8	0.633	0.85	12.31
G6M-03-10X	05/08/2012	-	-	-	-	-	-	-	-	-	480	56	4,070	-	-	-	-	-	7	0.15	-119.1	0.817	0.77	13.02
G6M-03-10X	10/09/2012	0.5U	0.55	0.5U	0.5U	0.5U	0.5U	22	1.6U	13,000	456	47.5	2,280	10U	100	0.13U	8.4	0.03U	6.88	0.43	-109.6	0.94	0	12.11
G6M-03-10X	05/22/2013	-	-	-	-	-	-	-	-	-	514	57.1	2,340	-	-	-	-	-	6.8	0.16	-137.6	1.111	0.4	12
G6M-03-10X	10/15/2013	0.5U	0.68	0.52	0.5U	0.5U	0.5U	1.8	1.5U	23,000	452	50.6	2,770	10U	80	0.042U	9.2	0.03U	6.87	4.57	-122.7	1.018	0.19	12.22
G6M-03-10X	06/12/2014	-	-	-	-	-	-	-	-	-	510	51.9	2,400	-	-	-	-	-	6.82	0.51	-88	0.857	Overrange	22.11

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	**Date**	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-03-10X	10/29/2014	0.5U	0.77	0.92	0.5U	0.5U	0.41J	1.2U	1.5U	14,000	418	42.9J	3,090J	5U	92	0.13U	8.6	0.03U	7.02	0.29	-122.4	0.787	4.94	19.6
G6M-03-10X	9/10/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	**8,910**	**453**	**68.1**	**2,020**	1.50		0.080 J	**10.80**	2.0 U	6.56	0.51	-107.5	0.787	3.00	12.58
G6M-03-10X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	**11,500**	**457**	**69.3**	**2,410**	**1.9**	**64.9**	0.11 U	**7.8 J**	2.0 U	7.03	0.49	-128.0	1.206	1.74	19.32
G6M-04-01X	09/23/2004	250B	3.6	21	2U	1U	2U	-	-	-	5U	1U	220	-	-	-	-	-	6.82	3.92	245.2	2.391	9.42	15.38
G6M-04-01X	09/28/2005	140	2U	9.2	2U	1U	2U	-	-	-	5.1	1U	170	-	-	-	-	-	6.49	5.85	202.3	2.699	7.29	13.21
G6M-04-01X	09/20/2006	150	2U	7.2	2U	1U	2U	-	-	-	5U	0.10U	220	-	-	-	-	-	5.87	4.88	-91.4	2.92	3.53	11.85
G6M-04-01X	09/14/2007	290	2U	8.6	2U	1U	2U	-	-	-	6U	0.1U	130	-	-	-	-	-	6.00	5.21	155.3	2.055	35.8	12.16
G6M-04-01X	10/20/2008	270J	11J	10UJ	10UJ	10UJ	10UJ	-	-	-	8UJ	0.2UJ	53.1J	-	-	-	-	-	7.32	3.37	96.2	0.999	3.5	17.25
G6M-04-01X	10/20/2009	190	130	360	13U	13U	15	-	-	-	8U	0.107U	113	-	-	-	-	-	5.79	2.25	342.4	0.908	4.8	13.38
G6M-04-01X	10/07/2010	27	19	120	0.68	0.29J	140	-	-	-	5U	1.05	164	-	-	-	-	-	6.14	0.29	124.3	1.312	1.55	11.53
G6M-04-01X	10/05/2011	14	7.6	36	0.71	0.5U	160	-	-	-	3.7J	0.381	261	-	-	-	-	-	6.27	0.48	69.9	1.132	3.3	12.65
G6M-04-01X	10/12/2012	5.5	4.0U	18	4.0U	4.0U	130	-	-	-	3.5 J	0.742	925	-	-	-	-	-	6.36	0.38	19.1	1.7	1.85	12.4
G6M-04-01X	10/17/2013	0.5U	0.78	0.99	0.29J	0.5U	14	-	-	-	6	1.06	8,890	-	-	-	-	-	6.46	0.40	17.4	2.509	2.49	14.53
G6M-04-01X	10/31/2014	0.39J	0.52	0.56	0.37J	0.5U	7.9	-	-	-	164	59.4	28,900	-	-	-	-	-	6.69	0.48	-95.3	1.85	19.6	13.34
G6M-04-01X	9/10/2015	1.0 U	1.0 U	**0.93 J**	1.0 U	1.0 U	**0.75 J**	10 U	10 U	**6,240**	**162**	**31.7**	**9,040**	18.9		0.12	3.6 J	2.0 U	7.15	0.45	-152.7	1.880	41.6	15.91
G6M-04-01X	10/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	**382**	**96.4**	**24,400**	NA	NA	NA	NA	NA	6.78	0.10	-133.0	2.878	4.83	12.46
G6M-04-02X	09/23/2004	1,900	2U	3.8	2U	1U	2U	-	-	-	5U	1U	86	-	-	-	-	-	6.59	7.25	152.4	0.704	9.52	13.09
G6M-04-02X	09/28/2005	1,800	5U	5U	5U	5U	5U	-	-	-	5U	1U	15U	-	-	-	-	-	5.21	6.54	294	0.607	12	18.36
G6M-04-02X	09/20/2006	1,100	170	2.2	2U	1U	2U	-	-	-	5U	0.10U	24	-	-	-	-	-	5.22	2.88	-101.5	0.696	10.61	17.15
G6M-04-02X	09/14/2007	710	98	290	21	1U	2U	-	-	-	48	16	13,000	-	-	-	-	-	6.52	2.91	-31.3	1.356	2.3	15.3
G6M-04-02X	10/16/2008	320	47	290	5U	5U	5U	-	-	-	135	56.6	6,530	-	-	-	-	-	6.32	0.74	-143.6	1.302	3.8	15.75
G6M-04-02X	10/15/2009	400	110	15	8U	8U	8U	-	-	-	78.3	20.8	3,580	-	-	-	-	-	6.19	0.9	-25	1.011	4.0	14.12
G6M-04-02X	10/06/2010	380	54	27	20U	20U	20U	-	-	-	182	40.2	5,530	-	-	-	-	-	6.25	0.51	-50.1	1.071	3.53	13
G6M-04-02X	06/08/2011	-	-	-	-	-	-	-	-	-	317	42.7	4,540	-	-	-	-	-	6.44	0.76	-95.9	0.678	1.9	13.61
G6M-04-02X	10/05/2011	630	93	13U	13U	13U	13U	-	-	-	172	18.1	4,370	-	-	-	-	-	6.24	0.41	1	0.669	6.6	15.18
G6M-04-02X	05/08/2012	-	-	-	-	-	-	-	-	-	225	15.5	3,980	-	-	-	-	-	6.36	0.2	-25.6	0.475	1.12	14.93
G6M-04-02X	10/12/2012	160	30	5.0U	5.0U	5.0U	5.0U	-	-	-	228	16.9	4,890	-	-	-	-	-	6.33	0.44	-33.5	0.534	2.02	15.92
G6M-04-02X	05/21/2013	-	-	-	-	-	-	-	-	-	143	7.29	5,400	-	-	-	-	-	5.98	0.36	18.3	0.699	0.74	13.55
G6M-04-02X	10/17/2013	140	31	5.7	4.0U	4.0U	4.0U	-	-	-	231	20.6	6,800	-	-	-	-	-	5.70	0.37	-12.3	0.485	3.75	15.8
G6M-04-02X	06/11/2014	-	-	-	-	-	-	-	-	-	137	13.9J	5,900	-	-	-	-	-	6.15	0.62	4.5	0.795	2.48	18.26
G6M-04-02X	10/30/2014	480	70	33	0.5U	0.5U	2.7J	-	-	-	160	40.5	5,980	-	-	-	-	-	6.34	0.28	-63.1	0.628	1.86	19.03
G6M-04-02X	6/18/2015	**62.2**	**20.3**	**15.7**	0.50 U	0.50 U	**1.80**				**362**	**82.4**	**7,220**						6.30	0.32	-101.0	0.500	10.9	13.09
G6M-04-02X	9/11/2015	**16.2**	**7.4**	**8.8**	1.0 U	1.0 U	**1.80**	10 U	10 U	**7,390**	**343**	**91.4**	**6,920**	**3.30**		**0.067 J**	**0.87 J**	2.0 U	6.59	0.39	-147.8	0.663	2.50	14.02
G6M-04-02X	10/16/2015	**105**	**30.5**	1.0 U	1.0 U	1.0 U	**1.60**	NA	NA	NA	**237**	**65.8**	**7,570**	NA	NA	NA	NA	NA	6.32	0.23	-56.1	0.818	2.43	12.79
G6M-04-03X	09/23/2004	440	2U	3.3	2U	1U	2U	0.22	0.036	100	5U	1U	3,100	1.4	53	5.1	23	2.2	6.37	3.41	446.5	1.236	12.2	12.85
G6M-04-03X	09/27/2005	680	14	10	1U	1U	1U	0.19	0.32	52	5U	0.6J	3,500	6	81.5	0.35	38J	1U	6.29	0.79	377.5	1.361	9.62	12.87
G6M-04-03X	09/22/2006	2,600	420	6.3	2U	1U	2U	0.049	0.3	17	5U	0.10U	2,900	7.2	190	0.2U	16.6	1U	6.30	0.43	152.1	0.524	3.52	15.12
G6M-04-03X	09/14/2007	770	68	2.7	2U	1U	2U	0.062	0.11	3	38	0.87	2,300	1.6J	100	0.2U	24	1U	7.29	0.49	-110.3	0.294	3.6	14.18
G6M-04-03X	10/16/2008	160	18	7.6	5U	5U	5U	1.3U	1.6U	6.2J	94.8	0.2U	930	10U	150J	0.10U	8	0.03U	10.48	2.01	18	0.539	5.8	14
G6M-04-03X	10/15/2009	16	8.4	8.6	0.5U	0.5U	0.5U	1.3U	1.6U	2,000	148	2.02	3,270	10U	240	0.13U	7U	0.03U	8.80	1.49	-46.9	0.227	5.0	13.3
G6M-04-03X	10/07/2010	300	52	94	0.62	0.25J	29	1.2U	3.5	29,000	133	5.47	3,910	10U	120	0.13U	4.8J	0.03U	6.67	2.47	-35.2	0.345	9.09	14.76
G6M-04-03X	10/05/2011	7.3	1.8	7.5	0.5U	0.5U	4.6	1.2U	1.5U	29,000	72.9	0.19U	559	3.1J	130	0.13U	6.0	0.03U	10.63	0.49	6.3	0.307	0	12.74
G6M-04-03X	10/10/2012	8.7	1.9	6.3	0.5U	0.5U	16	1.2U	170	38,000	65.8	0.261	1,320	10U	160	0.096J	8.0	0.03U	10.65	1.09	-18.4	0.556	6.84	13.84
G6M-04-03X	10/17/2013	190	87	200	4U	4U	86	1.2U	270	51,000	31.6	32.7	8,450	2.5J	67	0.13U	8.6	0.03U	6.55	0.69	-77.3	0.583	28	15.41
G6M-04-03X	10/30/2014	20	15	53	0.38J	0.5U	19	1.2U	17	6,700	14.4	0.29	114	4.7J	420	0.13U	7.5	0.03U	10.60	1.99	-70.1	1.152	24.3	13.53
G6M-04-03X	9/11/2015	**10.6**	**9.3**	**39.6**	1.0 U	1.0 U	**5.50**	10 U	10 U	**3,450**	**105**	**22.9**	**2,720**	**5.30**		**0.068 J**	**7.0 J**	2.0 U	7.71	0.36	-194.0	1.079	11.6	14.60
G6M-04-03X	10/14/2015	**5.00**	**3.20**	**43.0**	1.0 U	1.0 U	**6.80**	10 U	10 U	**8,190**	**232**	**75.1**	**11,300**	**8.2**	**337**	**0.13 J**	**7.0 J**	2.0 U	6.79	1.03	-68.4	1.208	9.64	12.80
G6M-04-04X	09/24/2004	2,300	7.8	24	2U	1U	2U	0.037	0.12	13	5U	1UJ*	560	1U	10U	5.5	20	2U	5.75	5.05	197.3	1.637	169	12.51
G6M-04-04X	09/29/2005	1,600	5.4	15	2.5U	2.5U	2.5U	0.018J	0.06	0.44	5U	1U	430	0.5J	5.3	1.4	23	1U	5.34	5.66	295.9	1.666	7.39	13.87
G6M-04-04X	09/19/2006	1,600	45	260	2U	1U	2U	0.12	0.095	33	110	84	31,000	120	190	0.2U	10.2	1.6	6.22	0.32	-71.5	1.765	7.64	13.53
G6M-04-04X	09/13/2007	600	130	210	2	1.2	300	0.005J	7	18,000	280	130	25,000	63	270	0.2U	890	1.2	6.57	3.2	-186.6	2.398	3.5	13.04
G6M-04-04X	10/16/2008	6.0	8.1	48	2.8	2.5U	150J	1.3U	62	18,000	523	248	19,300	34.6U	520	0.10U	7	0.03UJ	6.40	2.39	-106.2	2.239	4.0	13.16
G6M-04-04X	10/15/2009	0.5U	0.5U	4.8	5.2	0.5U	6.9	1.3U	61	38,000J	615	239	16,800	32	520	0.13U	23J	0.03UJ	6.47	0.86	-123.0	1.744	5.0	14.24
G6M-04-04X	10/05/2010	0.5U	0.5U	2.8	2.6	0.5U	3.2	1.2U	210	52,000J	529	155	16,900	15	81J	0.13U	5.0U	0.03U	6.35	0.40	-112.0	2.133	3.1	13.59
G6M-04-04X	10/05/2011	0.5U	0.5U	1.1	4.1	0.5U	2.7	1.2U	160	31,000J	615	145	16,400	17	350J	0.13U	5.0U	0.049	6.61	0.10	-88	1.042	5	12.99
G6M-04-04X	10/11/2012	0.5U	0.5U	0.80	3.7	0.5U	2.6	1.3U	460	51,000	590	133	15,700	13	220	0.13U	5.0U	0.052	6.66	0.39	-108.6	1.693	1.53	14.02
G6M-04-04X	10/16/2013	0.5U	0.5U	1.8	3.1	0.5U	3.0	3.5	420	44,000	601	114	11,000	11	240	0.13U	0.94J	0.049	6.57	0.24	-109.9	1.345	4.75	10.96
G6M-04-04X	10/30/2014	0.5U	0.5U	0.5U	1.7	0.5U	0.39J	1.2U	85	43,000	453	113	8,520	9.0J	180	0.098J	0.18J	0.03U	6.59	0.42	-145.8	1.537	6.54	11.41
G6M-04-04X	9/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.91 J**	10 U	**32.6**	**9,170**	**486**	**11.9 J**	**10,700 J**	7.50		0.068 J	3.4 J	2.0 U	6.7	0.28	-180.4	1.264	3.25	14.95
G6M-04-04X	10/16/2015	**0.76 J**	1.0 U	1.0 U	1.0 U	**2.80**	1.0 U	10 U	**61.3**	**20,000**	**505**	**115**	**10,000**	**8.5**	**167**	0.11 U	**1.6 J**	2.0 U	5.99	0.57	-114.6	1.727	3.13	10.70
G6M-04-05X	09/22/2004	140	2U	2U	2U	1U	2U	0.005U	0.0092	1.3	5U	1U	15U*	1U	14	4.9	14	2U	6.10	9.68	233.9	0.099	0.68	11.28
G6M-04-05X	12/15/2004	17	2U	2U	2U	1U	2U	0.005U	0.016	1.4	5U	1U	15U	5U	14	7.5	13	2U	5.87	1.17	228.7	0.098	1.04	11.37

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-04-05X	03/30/2005	130	10U	10U	10U	5U	10U	0.0074	0.028	15	5U	1U	15U	0.5J	14	1.2	10	2U	6.04	2.8	123.1	0.093	1.92	11.81
G6M-04-05X	06/30/2005	200	2U	2U	2U	1U	2U	0.041	0.022	96	2U	1UJ*	10U	2.4	15.9	0.87	8.9	1U	5.48	0.88	207.1	0.094	8.19	11.49
G6M-04-05X	09/29/2005	110	2U	2U	2U	1U	2U	0.006J	0.012J	220	5U	1U	33	5U	3.3	0.98	14	1U	6.08	0.2	215.3	0.061	2.1	10.48
G6M-04-05X	12/14/2005	36	2U	2U	2U	1U	2U	0.007J	0.016J	550	5U	1U	15U	5U	21	1.6	11	1U	6.10	0.23	179.3	0.091	0.3	11.31
G6M-04-05X	03/22/2006	330	2U	2U	2U	1U	2U	0.025U	0.019J	2,200	5U	0.1U	15U	3.4J	13	1.11	9.33	1U	6.21	0.77	343.3	0.062	0.86	11.08
G6M-04-05X	06/22/2006	38	2U	2U	2U	1U	2U	0.025U	0.082	33	5U	0.1U	15U	5U	22J*	1.82	9.01	1U	4.40	2.55	760.6	0.083	0	11.56
G6M-04-05X	09/22/2006	30	2U	2U	2U	1U	2U	0.009J	0.084	140	5U	0.10U	15U	5U	15	1.51	10.8	1U	5.78	1.48	-127.3	0.123	0.34	11.56
G6M-04-05X	12/12/2006	8.7	2U	2U	2U	1U	2U	0.025U	0.010J	850	5U	0.1U	15U	5U	-	-	-	-	5.66	0.39	156.7	0.105	0	11.24
G6M-04-05X	03/29/2007	16	2U	2U	2U	1U	2U	0.025U	0.022J	460	5U	0.12	15U	1.4J	-	-	-	-	5.79	0.13	57.9	0.185	0.01	
G6M-04-05X	06/12/2007	12	2U	2U	2U	1U	2U	0.005J	0.041	330	5U	0.1U	15U	0.4J	-	-	-	-	5.89	0.52	168.2	0.116	4.4	15.84
G6M-04-05X	09/10/2007	43	2U	2U	2U	1U	2U	0.24	0.089	340	2U	0.1U	15U	5U	20	1.61	17	1U	5.89	2.6	142.8	0.103	3.9	12.77
G6M-04-05X	12/11/2007	7.2	2U	2U	2U	1U	2U	0.025U	0.013J	1,900	5U	0.19	15U	5U*	-	-	-	-	5.75	0.23	134.1	0.118	0.6	15.25
G6M-04-05X	03/13/2008	2.5	2U	2U	2U	1U	2U	0.009J	0.020J	1,300	5U	0.1U	17	5U	-	-	-	-	5.9	0.18	121	0.129	0.2	17.23
G6M-04-05X	10/20/2008	3.7	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	3,300	8U	0.2U	50U	10U	30	1.5	10	0.03U	5.92	0.73	80	0.152	0	15.18
G6M-04-05X	05/06/2009	16	0.38J	0.84	0.5U	0.5U	0.27J	1.3U	1.6U	2,200	8U	0.2U	50U	10U	49J	0.37	17	0.03U	5.72	0.2	125.5	0.187	0	11.92
G6M-04-05X	10/14/2009	8.2	0.5U	0.29J	0.5U	0.5U	0.5U	1.3U	1.6U	2,000J	8.0U	0.127U	60U	10U	29	0.39	15	0.03U	5.62	0.5	184	0.203	0	14.07
G6M-04-05X	04/20/2010	2.3J	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	1.2U	1.5U	3,200	5U	0.1U	25U	10U	80	0.30	15	0.03U	5.92	0.4	152.5	0.144	0.20	17.68
G6M-04-05X	10/04/2010	0.28J	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	18	5U	0.1U	25U	10U	30	1.7	13	0.03U	5.67	1.51	145.5	0.131	0.8	15.25
G6M-04-05X	06/08/2011	-	-	-	-	-	-	-	-	-	5U	0.1U	12.7J	-	-	-	-	-	5.78	0.12	134.1	0.193	1	13.15
G6M-04-05X	10/03/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	2,000	20U	0.2U	11.4J	2.3J	39	0.47	19	0.03U	5.76	0.20	158.9	0.174	0.44	14.14
G6M-04-05X	05/08/2012	-	-	-	-	-	-	-	-	-	5.0U	0.1U	10.9J	-	-	-	-	-	6.01	0.83	157.2	0.16	0.56	14.76
G6M-04-05X	10/09/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	1,800	5U	0.1U	21.8 J	10U	32	0.063J	16	0.03U	5.76	0.27	108.4	0.171	0.84	14.36
G6M-04-05X	05/22/2013	-	-	-	-	-	-	-	-	-	2.7J	0.1U	25U	-	-	-	-	-	5.9	0.25	134.1	0.156	1.75	13.2
G6M-04-05X	10/15/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	28,000	5U	0.1U	15.4J	10U	60	0.13U	18	0.03U	6.01	0.47	145.8	0.199	0.00	14.17
G6M-04-05X	06/12/2014	-	-	-	-	-	-	-	-	-	2.4J	0.195U	13.3J	-	-	-	-	-	6.09	0.41	86.2	0.193	0.68	12.29
G6M-04-05X	10/28/2014	0.42J	0.5U	0.5U	0.5U	0.5U	0.5U	2.8	1.6	48	4.1J	0.0293	12.2JJ	10U	39	0.31	13	0.03U	6.49	0.62	81.9	0.182	0.48	11.61
G6M-04-05X	6/17/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	5.0 U	**22.4 J**	2.0 U	0.05 U	**11.8 J**	0.81 U	**22.9**	**0.29**	**23.30**	1.0 U						
G6M-04-05X	9/10/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	10 U	4.0 U	0.10 U	**7.5 J**	1.0 U		**0.21**	**25.40**	2.0 U	5.75	0.95	67.6	0.245	2.08	12.07
G6M-04-05X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	**53**	4.0 U	0.10 U	**20**	**1.1**	**31.9**	**0.20**	**21.9**	2.0 U	5.96	0.50	116.4	0.264	2.44	11.84
G6M-04-06X	09/22/2004	160	2U	2U	2U	1U	2U	0.056	0.005U	3.4	5U*	1U	15U	1U	110	5.3	8.7	2U	11.01	9.17	-0.6	0.341	1.34	11.37
G6M-04-06X	12/16/2004	24	2U	2U	2U	1U	2U	0.017	0.028	0.47	21	1U	15U	5U	54	7.9	10	2.9	10.89	9.42	106.9	0.254	2.26	13.13
G6M-04-06X	03/30/2005	37	2U	2U	2U	1U	2U	0.0087	0.051	0.58	7.5	1U	15U	5U	37	2	12	2U	9.47	10.46	10.6	0.235	0.32	11.56
G6M-04-06X	07/01/2005	140	2U	2U	2U	1U	2U	0.034	0.056	9.7	2U	1UJ*	190	2.8J	10.3	1.5	25	1U	9.08	9.77	457.2	0.214	0.95	11.76
G6M-04-06X	09/29/2005	32	2U	2U	2U	1U	2U	0.009J	0.018J	0.7	11	1U	15U	5.4	70.4	1.9	12	1U	9.32	9.43	390.6	0.192	1.99	11.46
G6M-04-06X	12/15/2005	26	2U	2U	2U	1U	2U	0.009J	0.022J	3.3	80.9	1U	150	7.6	39	1.9	12	1U	9.74	10.17	151.2	0.226	0.3	14.61
G6M-04-06X	03/23/2006	100	2U	2U	2U	1U	2U	0.006J	0.036	3.1	5U	0.1U	15U	5U	23	1.71	9.29	1U	8.94	9.46	452.5	0.188	1.72	10.34
G6M-04-06X	06/23/2006	190	2U	2U	2U	1U	2U	0.012J	0.041	10	13J*	0.1U	15U	5U	41	1.69	9.43	1U	8.66	9.75	165.3	0.254	3.55	12.76
G6M-04-06X	09/21/2006	45	2U	2U	2U	1U	2U	0.016J	0.11	6.3	5U	0.10U	15U	1.9J	31	1.03	10.9	1U	9.46	9.75	66.6	0.347	1.45	17.93
G6M-04-06X	12/11/2006	37	2U	2U	2U	1U	2U	0.010J	0.044	4.3	5U	0.1U	15U	5U	-	-	-	-	9.67	9.67	108	0.257	4.4	14.21
G6M-04-06X	03/29/2007	18	2U	2U	2U	1U	2U	0.011J	0.021J	13	5U	0.1U	15U	5U*	-	-	-	-	8.99	14.57	150.7	0.137	11.1	11.92
G6M-04-06X	06/12/2007	25	2U	3.5	2U	1U	2U	0.010J	0.061	19	5U	0.1U	15U	5U	-	-	-	-	8.82	10.12	118.1	0.272	4.9	13.9
G6M-04-06X	09/10/2007	23	2U	3	2U	1U	2U	0.005J	0.007J	0.13	8U	0.1U	15U	5U	38	1.32	82	1U	8.14	6.73	50.1	0.248	9.9	16.14
G6M-04-06X	12/12/2007	22	2U	6.3	2U	1U	2U	0.004J	0.025U	0.21	5U	0.1U	15U	5U*	-	-	-	-	7.36	12.25	81.7	0.335	0.2	13.66
G6M-04-06X	03/14/2008	14	2U	2.4	2U	1U	2U	0.005J	0.025U	2.8	5U	0.1U	15U	5U	-	-	-	-	7.29	10.89	186.9	0.224	0.3	13.13
G6M-04-06X	10/16/2008	24	0.68	2.2	0.5U	0.5U	0.5U	1.3U	1.6U	2	8.5	0.2U	11.5J	10U	34	1.47U	11	0.03U	7.69	9.11	209.6	0.198	1	13.01
G6M-04-06X	05/06/2009	13	0.51	1.8	0.5U	0.5U	0.5U	1.3U	1.6U	1.6	6.9	0.2U	50U	10U	44	1.3	14	0.03U	7.35	9.41	9.2	0.209	1.9	15.25
G6M-04-06X	10/14/2009	10	0.46J	1.8	0.5U	0.5U	0.5U	1.3U	1.6U	22J	7.4U	0.2U	50U	10U	44	1.3	11	0.03U	7.15	9.4	150	0.197	0	13.65
G6M-04-06X	04/20/2010	3.0J	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	1.2U	1.5U	150	7.3	0.1U	25U	10U	60	1.8	11	0.03U	6.75	2.86	27.1	0.147	0.0	12.92
G6M-04-06X	10/04/2010	0.95	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	2,000	6.1	0.1U	25U	10U	57	1.8	9.1	0.03U	6.50	0.38	121.6	0.216	0.0	14.01
G6M-04-06X	10/03/2011	4.0	0.5U	2.0	0.5U	0.5U	0.5U	1.2U	1.5U	9,200	4.7J	0.2U	10.7J	10U	71	0.74	11	0.03U	6.06	1.46	70.2	0.133	0.24	11.95
G6M-04-06X	10/09/2012	3.7	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	14,000	5U	0.1U	21.2 J	10U	62	0.48	16	0.03U	6.05	0.31	135.7	0.239	0	11.64
G6M-04-06X	10/15/2013	4.5	0.37J	0.55	0.5U	0.5U	0.5U	1.2U	1.5U	36,000	5U	0.1U	88.2	10U	140	0.13U	12	0.03U	6.09	1.07	171.1	0.242	0.04	10.6
G6M-04-06X	10/28/2014	1.2	0.78	0.41J	0.5U	0.5U	0.5U	8.1J	1.5U	1,200	2.5U	0.0243U	157J	5U	70	0.29	15	0.03U	6.51	0.29	164.7	0.205	1.63	11.28
G6M-04-06X	10/19/2015	**1.70**	**0.70 J**	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	10 U	4.0 U	0.10 U	**74**	**1.0**	**59.7**	0.11 U	**13.0**	2.0 U						
G6M-04-07X	09/22/2004	900	2.7	8.4	2U	1U	2U	0.061	0.12	3.1	5U	1U	260	1U	56	5.4	32	2U	7.10	3.42	110.1	0.243	9.28	11.98
G6M-04-07X	12/17/2004	1,100	2	9.3	2U	1U	2U	0.11	2.2	2.1	28	1U	47	0.6J	43	6.4M	14	2U	7.51	1.98	-38.9	0.246	74.7	11.89
G6M-04-07X	03/29/2005	240	10U	10U	10U	5U	10U	0.031	0.64	1.9	12	1UM	27	0.5J	43.2	1.5	14	2U	6.88	4.19	22	0.229	4.2	10.79
G6M-04-07X	07/05/2005	170	2U	2U	2U	1U	2U	0.07	0.042	1.8	4	1U	37	5U*	41.1	1.7	14	1U	5.83	5.44	369.9	0.186	23.4	11.51
G6M-04-07X	09/29/2005	470	3	8.3	2U	1U	2U	0.010J	0.010J	2.4	5U	1U	43	5U	1U	1.9	16	1U	6.19	0.86	478.3	0.277	6.62	11.28
G6M-04-07X	12/14/2005	390	2U	2	2U	1U	2U	0.006	0.016	7.9	3.8B	1U	17.9	6.1	40	1.6	13	1U	6.65	4.72	149.3	0.218	34.1	11.66
G6M-04-07X	03/23/2006	260	2U	2U	2U	1U	2U	0.005J	0.029	250	5U	0.1U	15U	5U	36	1.57	13.3	1U	6.28	2.14	619.7	0.267	4.09	12.09
G6M-04-07X	06/23/2006	150	2U	2U	2U	1U	2U	0.005J	0.022J	22	5U	0.1U	24	0.3J	30	1.28	12.5	1U	6.29	5.5	117.8	0.24	8.07	11.75

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-04-07X	09/21/2006	110	2U	2U	2U	1U	2U	0.014J	0.088	2.4	5U	0.10U	19	3.4J	32	2.54	10	1U	6.34	4.43	99.8	0.197	2.63	14.46
G6M-04-07X	12/11/2006	87	2U	2U	2U	1U	2U	0.007J	0.033	2.2	5U	0.10U	15	5U	-	-	-	-	6.65	6.99	116.4	0.134	10.52	17.2
G6M-04-07X	03/29/2007	45	2U	2U	2U	1U	2U	0.006J	0.018J	5.2	5U	0.1U	17J*	5U*	-	-	-	-	6.55	10.3	143.7	0.123	3.71	15.42
G6M-04-07X	06/12/2007	44	2U	2U	2U	1U	2U	0.010J	0.079	46	5U	0.67	18	1.2J	-	-	-	-	6.26	8.12	162.7	0.129	16.1	13.18
G6M-04-07X	09/10/2007	25	2U	2U	2U	1U	2U	0.006J	0.006J	0.11	2U	0.1U	15U	5U	19	1.89	45	1U	6.20	8.68	117.7	0.13	31.2	14.72
G6M-04-07X	12/12/2007	23	2U	2U	2U	1U	2U	0.004J	0.013J	0.48	5U	0.1U	15U	5U*	-	-	-	-	6.48	10.14	140.2	0.134	3	10.24
G6M-04-07X	03/13/2008	19	2U	2U	2U	1U	2U	0.003J	0.025U	1.6	5.2	0.1U	15U	5U	-	-	-	-	6.54	10.52	83.4	0.143	0.3	10.47
G6M-04-07X	10/16/2008	11	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	390	8.0U	0.2U	15.1J	10U	28	1.81U	10	0.03U	5.85	1.62	205	0.129	0.45	10.72
G6M-04-07X	05/06/2009	2.2	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	660	2.9J	0.2U	50U	10U	41J	2.3	12	0.03U	5.90	0.7	119.2	0.103	1.25	13.18
G6M-04-07X	10/14/2009	1.3	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	2,500J	8U	0.2U	50U	10U	32	1.9	15	0.03U	6.00	0.35	141.6	0.104	0	10.81
G6M-04-07X	04/20/2010	13J	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	1.3U	1.6U	630	5U	0.1U	31.8U	10U	50	1.5	12	0.03U	5.90	1.11	24.2	0.167	0.0	10.3
G6M-04-07X	10/04/2010	19	2.2	4.5	0.5U	0.5U	0.5U	1.2U	1.5U	5,100	5U	0.1U	25U	10U	43	1.1	10	0.03U	6.06	0.94	116.9	0.181	0.32	10.45
G6M-04-07X	06/08/2011	-	-	-	-	-	-	-	-	-	5U	0.148	67.9	-	-	-	-	-	5.81	1.06	34.1	0.172	0	10.36
G6M-04-07X	10/03/2011	8.7	1.2	2.2	0.5U	0.5U	0.5U	1.2U	1.5U	8,300	20U	0.2U	68.0	10U	53	0.59	12	0.03U	5.76	0.28	-57.7	0.105	0.96	10.69
G6M-04-07X	05/08/2012	-	-	-	-	-	-	-	-	-	4.0J	0.1U	27.2	-	-	-	-	-	6.26	0.35	122	0.198	0.48	10.51
G6M-04-07X	10/09/2012	31J	6.2	33J	0.5U	0.5U	0.97	1.2U	1.5U	6,400	5U	0.1U	35.4	10U	99	0.5	10	0.03U	6.05	0.41	138.9	0.264	0	10.25
G6M-04-07X	05/22/2013	-	-	-	-	-	-	-	-	-	3.9J	0.1U	51.4	-	-	-	-	-	6.14	0.39	154.1	0.22	0	14.03
G6M-04-07X	10/15/2013	26	5.7	16	0.5U	0.5U	0.5U	1.2U	1.5U	37,000	3.8J	0.1U	3,480	10U	110	0.30	11	0.03U	6.24	0.37	218.4	0.262	0.05	13.59
G6M-04-07X	06/10/2014	-	-	-	-	-	-	-	-	-	3.0J	0.0208UJ	6,710	-	-	-	-	-	6.01	0.32	210.9	0.257	5.18	8.84
G6M-04-07X	10/28/2014	55	11	54	0.31J	0.5U	0.61	1.3U	1.6U	4,900	9.5	0.195J	4,370J	5U	130	0.13	9.6	0.03U	6.57	0.24	108	0.254	4.69	10.62
G6M-04-07X	10/19/2015	**58.8**	**11.9**	1.0 U	1.0 U	1.0 U	**1.00**	10 U	10 U	**3,120**	**14.1**	**0.6**	**4,590**	**0.98 J**	**143**	0.11 U	**11.0**	2.0 U	6.35	0.05	23.3	0.324	1.68	10.67
G6M-04-08X	09/24/2004	4.2B	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.29	0.81	-75.5	0.632	52.8	15.68
G6M-04-09X	09/24/2004	7,400	4.2	9	2U	1U	2U	-	-	-	5U	1UJ	160	-	-	-	-	-	5.15	3.84	637.6	0.495	0.82	9.54
G6M-04-09X	09/28/2005	3,200	5U	5U	5U	5U	5U	-	-	-	5U	1U	37	-	-	-	-	-	5.92	3.41	678.4	0.169	2.07	10.21
G6M-04-09X	09/21/2006	190	2U	2U	2U	1U	2U	-	-	-	5U	0.10U	50	-	-	-	-	-	5.83	8.18	215.6	0.102	5.51	15.4
G6M-04-09X	09/12/2007	440	22	31	2U	1U	2U	-	-	-	5U	0.83	390	-	-	-	-	-	6.22	2.18	49.7	0.179	4.3	14
G6M-04-09X	10/17/2008	4,000	330	410	50U	50U	44	-	-	-	63.4	13.3	5,700	-	-	-	-	-	6.23	0.66	-36.2	0.497	9.2	10.50
G6M-04-09X	10/21/2009	1,600	210	210	50U	50U	51	-	-	-	70.8	13	3,960	-	-	-	-	-	5.80	0.58	33.3	0.376	4.53	12.35
G6M-04-09X	10/08/2010	1,000	420	990	0.79	0.89	7.8	-	-	-	69.9	14.3	15,300	-	-	-	-	-	6.17	0.99	-20.8	0.388	1.58	11.9
G6M-04-09X	06/09/2011	260	140	950	0.56	1.7	200	-	-	-	203	43.3	9,820	-	-	-	-	-	6.14	0.35	-49.3	0.562	0.03	11.27
G6M-04-09X	10/07/2011	20U	23	910	20U	20U	240	-	-	-	291	107	50,900	45	-	-	-	-	6.45	0.14	-105.8	0.626	2	10.1
G6M-04-09X	05/09/2012	970	250	510	40U	40U	340	-	-	-	344	76.7	17,800	9.1J	-	-	-	-	6.66	0.08	-85.2	0.495	12.5	10.11
G6M-04-09X	10/16/2012	260	70	100	20U	20U	350	-	-	-	225	41.7	13,800	3.0J	-	-	-	-	6.24	0.31	-79.9	0.289	10.3	10.75
G6M-04-09X	05/22/2013	5.9	3.6	5.9	0.81	0.5U	9.9	-	-	-	321	135	30,800	11	-	-	-	-	6.29	0.15	-84.7	0.812	4.21	8.74
G6M-04-09X	10/22/2013	0.5U	0.5U	52	0.53	0.5U	38	-	-	-	551	303	27,100	34	-	-	-	-	6.64	3.3	-130.9	0.917	18.5	10
G6M-04-09X	06/12/2014	1.4	0.75	12	0.6	0.5U	26	-	-	-	607	315	19,200	29	-	-	-	-	6.37	0.26	-82.0	1.392	3.64	10.42
G6M-04-09X	11/03/2014	0.21J	0.5U	0.43J	0.21J	0.5U	0.83	-	-	-	600	339	16,500	31	-	-	-	-	6.59	0.05	-129.2	1.03	21.8	10.47
G6M-04-09X	6/17/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U				**351**	**159**	**3,560**	**14.10**					6.33	0.64	-65.0	1.384	96	14.03
G6M-04-09X	10/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	**577**	**241**	**5,600**	**16.4**	NA	NA	NA	NA	6.61	0.13	134.9	1.604	15.3	10.75
G6M-04-10A	09/20/2004	2,900	2.5	3.4	2U	1U	2U	0.021	0.03	1.1	5U	1	170	1U	41	4.5J*	22	2	5.91	3.75	206.5	0.552	1.7	10.79
G6M-04-10A	12/14/2004	2,400	2U	2U	2U	1U	2U	0.015	0.096	1500	5U	1U	120	5U	25	1.7	13	2U	5.89	2.81	215.4	0.965	2.04	9.62
G6M-04-10A	03/30/2005	640	40U	40U	40U	40U	40U	0.33	0.07	1.4	8.4	1.2	8,100	52	107	0.33	16	2U	5.90	4.22	68.3	1.01	1.76	10.99
G6M-04-10A	08/11/2005	380	45	390	2U	2U	2U	0.24	0.23	3.4	77	87J*	50,000J*	240	359	.05U	7.8	1U	5.65	1.84	11.9	0.977	14.9	10.06
G6M-04-10A	09/27/2005	340	88	260	1U	1U	1U	0.08	0.15	110	190	230J	76,000	330	442	0.084	3.0J	5.9	6.33	1.89	-1.9	1.135	4.3	10.77
G6M-04-10A	12/14/2005	1,500	180	220	2U	1U	2U	0.048	0.13	6,800	179	250J*	32,500	370	480	0.05U	3.7	7.4	6.41	1.57	-64.8	0.985	1.9	10.24
G6M-04-10A	03/21/2006	4,400	180	450	2U	1U	8.3	0.025U	0.69	20,000	180	220	8,100	180	390	0.2U	4.08	2	6.72	0.27	-121.4	0.676	7.51	9.75
G6M-04-10A	06/20/2006	6,100	650	330	2U	1U	27	0.025U	0.12	16,000	160	220	5,700	120	340	0.2U	4.32	3.2	6.34	0.22	-99.8	0.893	9.82	10.97
G6M-04-10A	09/19/2006	1,000	15	59	2U	1U	14	0.23	0.11	11,000	170	97	5,000	61	150	0.311	5.2	1.2	6.56	1.14	-86.9	0.43	6	14.64
G6M-04-10A	12/13/2006	450	37	860	2U	1.2	76	0.025U	0.12	22,000	150	96	4,800	73	-	-	1.82	1.6	6.91	0.14	-111	0.662	27.3	6.31
G6M-04-10A	03/28/2007	1,200J*	230J*	680J*	2U	1.6J*	60J*	0.65	0.26	20,000	380	260	27,000J*	130	-	-	2.07	1U	6.1	0.19	-89.9	1.188	15.4	11.18
G6M-04-10A	06/12/2007	760	140	900	2U	2.1	130	0.54	1.1	23,000	310	260	15,000	190	-	-	1U	2.4	6.58	0.19	-145.2	1.295	128.5	15.77
G6M-04-10A	09/11/2007	2,700	99J*	400	2U	1U	91	0.35	0.47	18,000	240	290	13,000	220	440	0.2U	54	2.4	6.42	1.72	-138.2	0.864	42.3	13.97
G6M-04-10A	12/11/2007	830	8.8	280	2U	1U	90	0.3	0.52	31,000	330	280	12,000	270	-	-	3.57	3	6.4	1.2	-70.1	1.366	8	10.09
G6M-04-10A	03/10/2008	200	830	670	3.4	1.8	37	0.34	0.61	25,000	340	230	35,000	210	-	-	10	2.2	6.53	0.94	-123.8	1.362	24	9.82
G6M-04-10A	10/06/2008	4,000	450	990	100U	100U	1,400	1.3U	11	16,000	247	187	9,100	34	210	0.13U	12	0.03UJ	6.38	0.21	-168	0.948	15	15.25
G6M-04-10A	01/21/2009	1,500	390	1,400	1,100U	0.67J	1,200	1.2U	9.6	53,000	250	234J	8	46J	20U	0.13U	20	0.03UJ	6.6	0.2	-112.6	0.937	7.02	14.25
G6M-04-10A	05/07/2009	380	41	390J	10U	10U	420	1.2U	11	34,000	292	194	17,200	49	590J	0.13U	24	0.03U	6.4	0.8	-125	1.165	4.2	11.25
G6M-04-10A	10/20/2009	2,700	290	2,100	50U	50U	1,400	1.3U	15	11,000	220	127	8,960	21	350	0.13U	8.7	0.03U	6.42	0.17	-121.4	0.805	11.43	12.63
G6M-04-10A	04/21/2010	170	21	170	4.0U	4.0U	130	1.3U	15	21,000J	286	297J	18,200J	120	670	0.017J	0.65J	0.03U	6.58	0.70	-139.5	0.880	7.00	14.71
G6M-04-10A	10/06/2010	25	10J	600	20U	20U	190	1.2U	14	51,000	296	119	4,280	26	260	0.13U	0.98J	0.03U	6.32	0.17	-85.2	0.694	6.24	13.56
G6M-04-10A	06/09/2011	110	36	300	0.5U	0.5U	170	1.2U	5.7	92,000	295	198	9,140	63	660	0.13U	1.2J	0.03U	6.4	0.39	-105.1	1.243	5.1	10.45
G6M-04-10A	10/04/2011	850	170	1,100	40U	40U	270	1.2U	74	36,000	322	304	17,600	160	750	0.13U	1.1J	0.22	6.07	0.21	-94	0.629	8.18	8.25

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-04-10A	05/10/2012	180	120	610	20U	20U	200	1.1U	250	46,000	367	183	6,700	16	340	0.13U	0.70J	0.10	6.49	0.48	-107.7	0.71	9.05	10.96
G6M-04-10A	10/15/2012	2.0U	2.0U	26	2.0U	2.0U	110	1.2U	44	14,000	291	185	8,250	64	340	0.092J	5.0U	0.13J	6.43	0.6	-103.7	0.92	5.5	10.36
G6M-04-10A	05/23/2013	0.5U	0.5U	13	0.53	0.5U	15	1.2U	1.5U	18,000	342	400	7,110	200	650	0.11J	0.84J	0.1J	6.37	1.3	-84.4	1.311	11	10.6
G6M-04-10A	10/17/2013	360J	92J	130J	10U	10U	14J	1.2U	9.4	24,000J	292	341	5,000	150	650	0.13U	1.1J	0.034J	6.37	0.29	-95.5	1.756	9.78	10.48
G6M-04-10A	06/12/2014	0.5U	0.23J	1.4	0.5U	0.5U	5.1	2.2J	1.6UJ	9,500J	264	164	3,730	29	200J	0.13U	17	0.03U	6.36	0.59	-82.7	1.761	10.93	10.89
G6M-04-10A	11/03/2014	0.5U	0.5U	0.92	0.5U	0.5U	4.4	1.2U	3.6J	21,000	288	184	2,100	34	240	0.13U	16J	0.03U	6.62	0.15	-136.9	1.742	16.98	11.17
G6M-04-10A	6/19/2015	0.50 U	0.50 U	**0.50 J**	0.50 U	0.50 U	**5.00**	5.0 U	5.0 U	**7,510**	**274**	**145**	**1,940**	**18.3**	**278**	0.11 U	**21.70**	1.0 U	6.62	0.51	-94.6	2.201	8.06	10.47
G6M-04-10A	10/13/2015	1.0 U	1.0 U	**0.72 J**	1.0 U	1.0 U	**1.60**	10 U	10 U	**15,000**	**292**	**205**	**2,360**	**26.7**	**241**	**0.099 J**	**8.6 J**	2.0 U	6.53	0.08	-119.6	2.367	17	11.30
G6M-04-10X	09/20/2004	70	7.5	32	2U	1U	2U	0.019	0.039	1	5U	1	260	1U	11	6.7J*	21	3.4	5.59	6.87	246.2	0.902	0.95	10.24
G6M-04-10X	12/14/2004	65	7.8	35	2U	1U	2U	0.022	0.053	2.2	5U	1U	200	5U	10U	6.6	23	2U	5.40	7.57	424.2	0.816	5.5	16.22
G6M-04-10X	03/31/2005	56	6.8	30	2U	2U	2U	0.022	0.86	1.1	5U	1U	190	0.4J	10U	1.5	25	2U	5.18	7.65	256.7	1.337	0.41	13.05
G6M-04-10X	07/01/2005	50	5.4	23	2U	1U	2U	0.035	0.05	12	4.2	1UJ*	10U	5.9	43.5	1.7	12	1U	5.33	6.09	265.2	1.502	0.9	17.5
G6M-04-10X	09/27/2005	48	4.7	23	2U	1U	2U	0.010J	0.018J	16	5U	1U	170	4	7.7	1.4	26	1U	5.26	6.68	450.9	1.123	0.5	14.74
G6M-04-10X	12/14/2005	67	6.3	27	2U	1U	2U	0.016J	0.034	11	5U	1U	164	5U	9.8	1.5	28	1U	5.49	6.78	205.1	1.032	3.4	10.78
G6M-04-10X	03/22/2006	76	9.1J*	32	2U	1U	2U	0.015J	0.025J	25	5U	.1U	200	5.6	10U	1.44	23.6	1U	5.57	6.74	195.7	0.94	1.45	10.62
G6M-04-10X	06/20/2006	87	10	47	2U	1U	2U	0.013J	0.012J	18	5U	0.1U	240	5U	10U	1.69	25.2	1U	5.08	6.23	248.8	1.512	1.9	10.93
G6M-04-10X	09/19/2006	65	6.8	32	2U	1U	2U	0.026	0.025J	13	5U	0.10U	240	2.2J	8	1.27	22.2	1U	5.21	6.94	273.9	1.66	4.68	12.18
G6M-04-10X	12/13/2006	64	7.2	35	2U	1U	2U	0.008J	0.011J	28	5U	0.1U	280	5U	-	-	27	1U	5.38	7.9	39.3	2.16	0.59	11.34
G6M-04-10X	03/28/2007	56	5.9	26	2U	1U	2U	0.017J	0.054	21	5U	0.21	290J*	5U*	-	-	27.9	1U	5.21	6.37	77.9	1.947	3.71	10.56
G6M-04-10X	06/12/2007	28	2.4	9.9	2U	1U	2U	0.010J	0.065	18	5U	0.1U	250	5U	-	-	31.2	1U	5.35	6.31	230.7	3.15	14	15.88
G6M-04-10X	09/11/2007	35	3.4	13	2U	1U	2U	0.008J	0.010J	13	6U	0.1U	270	5U	10U	1.4	2000	1U	5.29	8.98	-40.6	2.617	10.5	14.25
G6M-04-10X	12/11/2007	20	2U	6.4	2U	1U	2U	0.010J	0.028	5.3	5U	0.1U	230	5U*	-	-	34.7	1U	5.46	5.62	27.7	3.66	2.8	14.5
G6M-04-10X	03/11/2008	22	2.1	9.7	2U	1U	2U	0.004J	0.010J	4.1	5U	0.16	250	5U	-	-	28	1U	4.99	6.42	213.5	2.89	0	13.63
G6M-04-10X	10/15/2008	18	1.6	8.4	0.5U	0.5U	0.5U	1.2U	1.5U	6.1	8.0U	0.2U	265	10U	30	1.4	27	0.03U	5.28	6.58	247.1	3.339	1.4	11.75
G6M-04-10X	05/07/2009	15	1.2	5	0.5U	0.5U	0.5U	1.3U	1.6U	0.76	8.0U	0.2U	213	10U	20UJ	1.2	33	0.03U	5.20	5.86	196.8	2.229	1.53	11.22
G6M-04-10X	10/20/2009	9.8	4.8	5.2	0.5U	0.5U	0.27J	1.3U	1.6U	19	8U	0.139U	197	10U	20U	1.1	29	0.03U	5.20	5.72	226.2	2.651	2.68	11.56
G6M-04-10X	04/21/2010	24	1.5	6.5	0.5U	0.5U	0.5U	1.3U	1.6U	87	5.0U	0.1U	200	10U	25	1.4	31	0.03U	5.26	5.13	187.2	2.760	4.00	14.4
G6M-04-10X	10/06/2010	24	1.8	7.9	0.5U	0.5U	0.5U	1.2U	1.5U	3.7	5U	0.1U	208	10U	25	1.8	28	0.03U	5.18	5.63	225.7	2.937	0.00	12.4
G6M-04-10X	10/04/2011	9.0	0.5U	1.9	0.5U	0.5U	0.5U	1.2U	1.5U	47	5U	0.1U	173	4.5J	20U	1.3	28	0.03U	5.01	4.46	192.8	1.078	1.16	11.3
G6M-04-10X	10/15/2012	15.0	0.72	1.9	0.5U	0.5U	0.5U	1.2U	1.5U	32	5U	0.103U	224	10U	20U	1.2	35	0.03U	5.53	5.25	204	3.135	0.33	12.88
G6M-04-10X	10/17/2013	6.2	0.28J	0.5J	0.5U	0.5U	0.5U	1.2U	1.5U	5,500	3.3J	1.27	262	2.7J	20U	0.95	37	0.03U	5.32	3.9	164.1	4.698	2.89	13.02
G6M-04-10X	11/03/2014	7.4	0.27J	0.47J	0.5U	0.5U	0.5U	1.2U	1.5U	200	2.5U	1.32	308	5U	20U	1.3J	30J	0.03U	5.27	5.28	148.4	2.562	0.97	12.55
G6M-04-10X	9/9/2015	**2.80**	0.50 U	**0.50 U**	0.50 U	0.50 U	**0.50 U**	5.0 U	5.0 U	5.0 U	2.0 U	**0.114**	**383**	**0.81 U**		0.92	**34.7**	1.0 U	5.38	3.32	169.9	2.257	4.98	13.13
G6M-04-10X	10/13/2015	**3.10**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	10 U	4.0 U	0.10 U	344	1.0 U	**7.2**	**1.10**	**35.4**	2.0 U	5.31	2.86	202.1	3.174	28.5	12.33
G6M-04-11X	09/20/2004	8.5	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.54	3.42	374.7	0.782	16.8	14.39
G6M-04-11X	09/26/2005	7.8	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.96	5.14	94.6	0.39	8.7	10.63
G6M-04-11X	09/20/2006	4	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.24	6	129	0.38	5.99	14.35
G6M-04-11X	09/11/2007	2.1	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.87	6.59	46.5	0.38	14.8	11.82
G6M-04-11X	10/17/2008	1.4	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	6.53	5.62	98.1	0.302	3.5	9.54
G6M-04-11X	10/16/2009	1.1	53	1U	1U	1U	1U	-	-	-	-	-	-	-	-	-	-	-	6.46	7.04	176	0.225	4.2	9.76
G6M-04-11X	10/08/2010	0.41J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	6.71	6.95	152.6	0.247	3.15	9.59
G6M-04-11X	10/06/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	6.77	2.5	87.7	0.219	4	10.61
G6M-04-11X	10/16/2012	0.62	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	6.36	9.4	161.8	0.224	0	10.14
G6M-04-11X	10/31/2014	0.54	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	6.88	7.12	167.7	0.163	0.91	10.43
G6M-04-12X	09/20/2004	310	7.5	56	2U	1U	2U	-	-	-	5U*	1	44	-	-	-	-	-	11.03	0.86	102.6	2.003	5.22	9.63
G6M-04-12X	09/26/2005	250	6.8	49	2U	1U	2U	-	-	-	15	1U	360	-	-	-	-	-	8.41	1.05	234.2	1.961	1.65	-
G6M-04-12X	09/18/2006	470	9.4	60	2U	1U	2U	-	-	-	6.5	0.10U	550	-	-	-	-	-	7.21	3.22	253.5	1.764	7.11	12.69
G6M-04-12X	09/10/2007	350	11	50	2U	1U	2U	-	-	-	2U	0.1U	580	-	-	-	-	-	6.84	1.73	90.2	2.613	29.8	12.19
G6M-04-12X	10/16/2008	360	7.7J	35	10U	10U	10U	-	-	-	3.1J	0.2U	360	-	-	-	-	-	7.23	1.45	91.2	2.623	2.00	12.44
G6M-04-12X	10/19/2009	170	22U	28	10U	10U	10U	-	-	-	2.3J	0.2U	308	-	-	-	-	-	6.72	1.8	66.7	2.543	5.91	11.5
G6M-04-12X	10/08/2010	100	4.4	22	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	336	-	-	-	-	-	6.57	1.75	208.0	3.632	2.35	10.62
G6M-04-12X	06/09/2011	180	3.9	19	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	209	-	-	-	-	-	7.26	1.38	25.6	2.816	9	10.24
G6M-04-12X	10/04/2011	280	4.6	27	4.0U	4.0U	4.0U	-	-	-	5U	0.1U	200	-	-	-	-	-	6.62	1.06	63.8	2.332	2.44	13.35
G6M-04-12X	05/09/2012	160	5.0U	12	5.0U	5.0U	5.0U	-	-	-	4.1J	0.1U	155	-	-	-	-	-	6.7	1.34	85.1	2.68	1.42	12.32
G6M-04-12X	10/16/2012	120	5.0U	14	5.0U	5.0U	5.0U	-	-	-	5U	0.1U	156	-	-	-	-	-	6.6	2.11	62.5	3.799	2.03	12.96
G6M-04-12X	05/22/2013	220	3.4J	18	5.0U	5.0U	5.0U	-	-	-	3.8J	0.1U	92.5	-	-	-	-	-	6.55	0.87	120.8	2.927	2.58	12.5
G6M-04-12X	10/22/2013	190	3.7J	23	4.0U	4.0U	4.0U	-	-	-	5U	0.1U	106	-	-	-	-	-	6.58	1.6	133.7	2.231	4.88	12.27
G6M-04-12X	06/10/2014	130	2.7	13	0.50U	0.50U	0.50U	-	-	-	5U	0.1U	75	-	-	-	-	-	6.59	0.84	178.9	2.675	13.04	14.4
G6M-04-13X	09/21/2004	8	2U	2U	2U	1U	2U	-	-	-	5U	1U	350	-	-	-	-	-	5.96	8	551.8	0.138	1.75	16.01
G6M-04-13X	09/26/2005	2U	2U	2U	2U	1U	2U	-	-	-	5U	1U	15U	-	-	-	-	-	6.43	10.5	180	0.042	3.8	17.24
G6M-04-13X	09/18/2006	2U	2U	2U	2U	1U	2U	-	-	-	5U	0.10U	15U	-	-	-	-	-	5.65	8.63	213.9	0.076	12.1	13.33
G6M-04-13X	09/12/2007	2U	2U	2U	2U	1U	2U	-	-	-	5U	0.1U	15U	-	-	-	-	-	6.07	8.7	147.4	140	14.1	13.36

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-04-13X	10/17/2008	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	8U	0.2U	50U	-	-	-	-	-	5.22	9.98	124.4	0.046	45	10.56
G6M-04-13X	10/20/2009	25U	16J	25U	25U	25U	25U	-	-	-	2J	0.132U	50U	-	-	-	-	-	5.78	10.61	283.7	0.049	12.2	11.05
G6M-04-13X	10/07/2010	0.29J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.102U	25U	-	-	-	-	-	5.83	8.84	147.3	0.048	2.87	10.33
G6M-04-13X	10/04/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	14.0J	-	-	-	-	-	5.54	9.15	208.7	0.024	13.5	11.43
G6M-04-13X	10/16/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	5.1J	-	-	-	-	-	6.28	9.95	108.1	0.047	17.2	11.11
G6M-04-13X	10/22/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	25U	-	-	-	-	-	5.92	10.69	120.9	0.021	45.6	10.28
G6M-04-13X	11/03/2014	0.36J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	2.5U	0.0247U	7.5U	-	-	-	-	-	6.23	6.38	147.6	0.029	35.2	15.24
G6M-04-13X	10/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	0.10 U	15 U	NA	NA	NA	NA	NA	6.85	8.83	114.7	0.045	1.07	14.69
G6M-04-14X	11/16/2004	12	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.3
G6M-04-14X	09/27/2005	6.9	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.88	1.6	333	0.263	18	13.22
G6M-04-14X	09/21/2006	9.4	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.98	3	26.1	0.211	15.7	11.11
G6M-04-14X	10/01/2007	7.1	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	7.69	2.56	80.4	0.363	13.9	10.71
G6M-04-14X	10/21/2008	7.1J	0.21J	0.5UJ	0.5UJ	0.5UJ	0.5UJ	-	-	-	-	-	-	-	-	-	-	-	7.78	2.51	138.8	0.237	45	12.98
G6M-04-14X	10/15/2009	4.5J	250	10U	10U	10U	10U	-	-	-	-	-	-	-	-	-	-	-	7.56	3.6	-69.7	0.25	4.58	11.54
G6M-04-14X	01/15/2010	4.5	0.22J	0.5U	0.75U	0.75U	1.0U	-	-	-	-	-	-	-	-	-	-	-	7.73	25.3	166.2	0.293	12.5	11.64
G6M-04-14X	10/08/2010	2.4	0.25J	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	7.55	1.92	72.7	0.307	100.4	12.54
G6M-04-14X	10/05/2011	2.2	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	6.8	0.1U	25U	-	-	-	-	-	7.68	2.62	99.9	0.172	20.4	11.07
G6M-04-14X	10/15/2012	3.3	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	9.6	0.194	7.7J	-	-	-	-	-	7.71	2.58	-10.9	0.297	21.7	16.33
G6M-04-14X	10/18/2013	1.7	0.34J	0.5U	0.5U	0.5U	0.5U	-	-	-	8.2	0.1U	7.5U	-	-	-	-	-	7.89	1.25	94	0.479	27.1	15.03
G6M-04-14X	10/31/2014	1.8	0.40J	0.5U	0.5U	0.5U	0.5U	-	-	-	2.5U	0.0507U	7.5U	-	-	-	-	-	7.93	0.4	54.4	0.423	8.26	15.56
G6M-04-14X	10/26/2015	**1.70**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	**9.8**	**0.0713 J**	15 U	NA	NA	NA	NA	NA	7.89	1.44	79.2	0.482	18.9	13.11
G6M-04-15X	09/21/2004	5.2	2U	5.3	2U	1U	2U	-	-	-	5U*	4.8	8,100	-	-	-	-	-	5.26	0.82	410	2.64	0.23	11.25
G6M-04-15X	09/28/2005	9.1	2U	6.4	2U	1U	2U	-	-	-	33	1.8	4,400	-	-	-	-	-	5.11	0.39	248.1	0.674	0.29	11.78
G6M-04-15X	09/20/2006	3.5	2U	5.2	2U	1U	2U	-	-	-	20	2	4,300	-	-	-	-	-	4.60	1.07	-100.3	1.555	0.95	11.07
G6M-04-15X	09/11/2007	2.7	2U	2U	2U	1U	2U	-	-	-	18	0.75	2,100	-	-	-	-	-	6.21	3.21	85.1	1.353	3.5	11.29
G6M-04-15X	10/17/2008	4.8	1.0	2.3	0.5U	0.5U	0.5U	-	-	-	36.3	3.01	3,010	-	-	-	-	-	6.34	1.5	-8.1	0.910	4	11.1
G6M-04-15X	10/19/2009	1.9	14	3	0.5U	0.5U	0.5U	-	-	-	48.9	5	3,130	-	-	-	-	-	6.19	0.31	24.4	0.799	4.68	11.1
G6M-04-15X	10/08/2010	0.65	0.34J	3.2	0.5U	0.5U	0.5U	-	-	-	59.1	4.76	2,900	-	-	-	-	-	6.14	0.3	3.2	0.704	1.34	10.85
G6M-04-15X	10/06/2011	0.52	0.5U	3.7	0.5U	0.5U	0.5U	-	-	-	55.5	3.75	3,470	-	-	-	-	-	6.12	0.05	37.3	0.446	4.89	19.25
G6M-04-15X	10/16/2012	1.0	0.5U	3.9	0.5U	0.5U	0.5U	-	-	-	111	11.1	4,300	-	-	-	-	-	6.15	0.49	-48.6	0.76	1.08	14.33
G6M-04-15X	10/18/2013	0.97	0.27J	2.2	0.5U	0.5U	0.5U	-	-	-	112	14.5	3,530	-	-	-	-	-	5.68	0.24	14.1	0.838	1.33	18.79
G6M-04-15X	11/04/2014	1.60	0.29J	2.2	0.5U	0.5U	0.5U	-	-	-	135	33.4	14,000	-	-	-	-	-	6.08	0.14	-16	1.937	3.61	12.98
G6M-04-15X	10/14/2015	**0.76 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	**103**	**45.0**	**21,200**	NA	NA	NA	NA	NA	5.93	0.69	-38.2	4.011	1.24	13.62
G6M-04-22X	09/21/2004	900	24	110	2U	1U	2U	-	-	-	5U	1U	990	-	-	-	-	-	6.30	4.78	192.2	0.897	19	13.17
G6M-04-22X	09/28/2005	210	6.8	45	2.5	1U	2U	-	-	-	5U	1U	120	-	-	-	-	-	5.52	6.13	391.3	0.757	21	14.07
G6M-04-22X	09/20/2006	200	8.7	54	2U	1U	2U	-	-	-	5U	0.43	4,500	-	-	-	-	-	5.68	2.8	197.8	1.048	6.98	15.37
G6M-04-22X	09/11/2007	95	12	75	2U	1U	9.4	-	-	-	390	250	44,000	-	-	-	-	-	6.92	0.28	-160.8	2.25	20.7	13.43
G6M-04-22X	10/17/2008	18	3.7	53	0.44J	1U	26	-	-	-	439	421	15,900	-	-	-	-	-	6.34	0.28	-106.1	2.104	18	12.88
G6M-04-22X	10/19/2009	7.2	9.7	16	0.5U	0.5U	4.9	-	-	-	320	355	9,360	-	-	-	-	-	6.26	1.27	-48.7	2.181	290	14.32
G6M-04-22X	10/08/2010	0.39J	2.2	7.1	0.23J	0.5U	4.7	-	-	-	522	210	3,020	-	-	-	-	-	6.32	2.51	-59.7	1.691	22.2	14.77
G6M-04-22X	10/06/2011	0.5U	0.5U	13	0.5U	0.5U	7.5	-	-	-	534	232	15,800	-	-	-	-	-	6.25	0.39	-53.4	0.016	6.47	12.2
G6M-04-22X	10/12/2012	0.5U	0.5U	5.7	0.5U	0.5U	6.6	-	-	-	657	162	9,080	-	-	-	-	-	6.41	0.6	-66.8	1.701	8.66	12.39
G6M-04-22X	10/18/2013	-	-	-	-	-	-	-	-	-	767	-	-	-	-	-	-	-	6.12	0.29	-68.7	1.113	14.3	12.78
G6M-04-22X	11/04/2014	0.5U	0.5U	2	0.72	0.5U	4.6	-	-	-	667	150	1,600	-	-	-	-	-	6.39	0.2	-64	0.951	42.9	13.26
G6M-04-22X	10/13/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	**223**	NA	NA	NA	NA	NA	NA	NA						
G6M-04-31X	09/21/2004	1,600	2U	4.2	2U	1U	2U	-	-	-	5U	1U	190	-	-	-	-	-	5.69	5.1	211	1	2.99	13.27
G6M-04-31X	09/28/2005	1,900	5U	5.2	5U	5U	5U	-	-	-	5U	1U	35	-	-	-	-	-	5.63	3.66	305.4	0.388	2.2	9.28
G6M-04-31X	09/20/2006	600	6.1	2.5	2U	1U	2U	-	-	-	5U	0.10U	15U	-	-	-	-	-	6.52	0.28	-108.5	0.729	3.56	9.22
G6M-04-31X	09/11/2007	340	260	330	2.8	1.3	2U	-	-	-	5U	0.1	890	-	-	-	-	-	6.38	5.61	101.6	0.217	6.9	10.90
G6M-04-31X	10/17/2008	110	72	340	20U	20U	730	-	-	-	103	68.4	9,710	-	-	-	-	-	6.43	2	-72.7	0.636	9	9.42
G6M-04-31X	10/21/2009	86	11	270	10U	10U	560	-	-	-	311	181	16,900	-	-	-	-	-	5.82	1.96	-102.01	0.626	6.23	10.26
G6M-04-31X	10/08/2010	3.1	1.1	7.4	0.30J	0.5U	31	-	-	-	428	127	9,620	-	-	-	-	-	6.41	0.93	-107.6	0.728	1.21	9.54
G6M-04-31X	10/06/2011	18	5.3	38	0.5U	0.5U	37	-	-	-	635	223	15,800	-	-	-	-	-	6.62	0.07	-112.4	1.333	2.89	11.23
G6M-04-31X	10/12/2012	25	31	61	2.0U	2.0U	72	-	-	-	556	181	8,940	-	-	-	-	-	6.62	0.43	-104.6	1.193	4.58	11.36
G6M-04-31X	10/18/2013	-	-	-	-	-	-	-	-	-	498	-	-	-	-	-	-	-	6.36	1.71	-87.6	1.656	1.13	10.83
G6M-04-31X	11/04/2014	0.5U	0.51	6.9	0.23J	0.5U	3.4	-	-	-	468	121	9,690	-	-	-	-	-	6.51	0.12	-95.5	1.775	9.01	11.58
G6M-04-31X	10/13/2015	NA	NA	NA	NA	NA	NA	NA	NA	NA	**420**	NA	NA	NA	NA	NA	NA	NA	5.93	0.84	-144.3	3.98	9.80	8.97
G6M-06-01X	03/30/2006	30	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.03	3.73	-87.8	0.652	70.7	8.22
G6M-06-01X	03/30/2007	72	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.73	2.87	138.5	1.005	10.21	10.01
G6M-06-01X	09/13/2007	83	2U	2.1	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.60	10.68	-93.9	0.967	6.3	12.69
G6M-06-01X	12/14/2007	110	2U	2.3	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.96	2.43	132.9	0.991	3.9	17.46
G6M-06-01X	10/16/2008	71	1.8	1.4	1U	1U	1U	-	-	-	-	-	-	-	-	-	-	-	5.51	3.08	118.6	0.956	20	10.8

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-06-01X	10/15/2009	170	28	6.3J	8U	8U	8U	-	-	-	8U	0.321	50U	-	-	-	-	-	5.82	2.69	85.3	0.832	0.13	13.69
G6M-06-01X	10/04/2010	120	3.4J	7.2	4U	4U	4U	-	-	-	5U	0.211U	33.2U	-	-	-	-	-	6	1.72	57.1	1.16	25.1	13.21
G6M-06-01X	06/08/2011	190	7.7	7.2	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	25U	-	-	-	-	-	5.81	1.39	122	0.979	4.01	17.13
G6M-06-01X	10/06/2011	96	30	46	1.3U	1.3U	3.5	-	-	-	3.7J	0.139	38.5	-	-	-	-	-	6.22	0.59	40.8	0.825	13.1	11
G6M-06-01X	05/08/2012	310	18	16	10U	10U	10U	-	-	-	5U	0.1U	9.4J	-	-	-	-	-	6.14	0.65	87.4	0.943	2.59	13.07
G6M-06-01X	10/10/2012	180	7.6	9.1	4.0U	4.0U	4.0U	-	-	-	5U	0.0522 J	8.8 J	-	-	-	-	-	5.94	0.54	56.2	0.819	2.61	10.6
G6M-06-01X	05/21/2013	170	30	17	5.0U	5.0U	2.0J	-	-	-	5U	0.1U	25U	-	-	-	-	-	5.96	0.36	81	1.058	8.89	13.06
G6M-07-01X	10/15/2008	26	0.24J	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	7.78	2.22	53.9	0.591	608	12.35
G6M-07-01X	10/20/2009	21	15	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	7.44	4.11	171.9	0.532	283	27.28
G6M-07-01X	10/07/2010	50	0.31J	0.25J	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	7.03	3.62	139	0.414	4.78	10.05
G6M-07-01X	10/05/2011	11	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	11.5J	-	-	-	-	-	7.06	4.43	72.9	0.285	130	11.95
G6M-07-01X	10/12/2012	19	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	.0886 J	10.8 J	-	-	-	-	-	6.92	3.56	59	0.437	30.2	11.92
G6M-07-01X	10/17/2013	15	0.37J	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	5.4J	-	-	-	-	-	6.86	4.34	95.1	0.45	16.4	12.71
G6M-07-02X	12/12/2007	50	2U	2U	2U	1U	2U	0.024J	0.022J	0.73	5U	0.1U	64	5U*	-	-	16.2	1U	5.9	7.54	194.2	0.148	5.4	9.8
G6M-07-02X	03/11/2008	1,800	2U	2U	2U	1U	2U	0.014J	0.019J	7.1	5U	0.1U	35	5U	-	-	26	1U	5.7	7.5	165.5	0.108	0	10.96
G6M-07-02X	10/15/2008	170	5.0U	5.0U	5.0U	5.0U	5.0U	1.2U	10	12,000	5.5J	0.2U	21.2J	10U	20U	0.13U	11	0.030UJ	5.34	9.25	93.2	0.067	19	10.69
G6M-07-02X	05/11/2009	46	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	7	7.1	0.2U	5.8J	5.7J	20U	0.062	8.6J	0.030UJ	6.17	9.4	115.7	0.055	4	11.27
G6M-07-02X	10/20/2009	30J	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	6.2J	6.6	0.2U	50U	10U	20U	0.13U	7.2	0.03UJ	6	9.34	128.9	0.053	9.35	14.5
G6M-07-02X	04/21/2010	63	2U	2U	2U	2U	2U	1.2U	1.5U	3,200	6.2	0.176U	25U	10U	30	0.0098J	6.8	0.03U	6.10	0.33	139.3	0.034	12	16.26
G6M-07-02X	10/06/2010	26J	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	28	3.4J	0.1U	25U	10U	32	0.21	5.6	0.03U	5.31	6.13	170	0.053	5.48	12.95
G6M-07-02X	10/04/2011	700	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	46,000	4.6J	0.1U	79.8	10U	31	0.13U	4.4J	0.03U	5.17	0.09	176.5	0.045	8.2	10.89
G6M-07-02X	10/11/2012	90	190	6.4	5.0U	5.0U	5.0U	1.2U	1.5U	46,000J	5U	0.286	40.1	10U	20U	0.056J	6.4	0.03U	6.28	1.60	76.1	0.068	11.31	19.81
G6M-07-02X	10/17/2013	1,000	8.7J	20U	20U	20U	20U	1.2U	1.5U	520J	5U	0.1U	31.7	10U	21	0.13U	4.5J	0.03U	6.03	4.25	143	0.060	1.17	20.19
G6M-07-02X	11/03/2014	14,000	40J	31J	50U	50U	50U	1.2U	1.5U	6,200	2.2J	0.421J	43.3	5U	22	0.13U	4.2J	0.03U	5.85	0.23	70.2	0.040	12.1	9.22
G6M-07-02X	12/11/2014	6,200	57	50U	50U	50U	50U	-	-	-	-	-	-	-	-	-	-	-	5.39	0.51	218.1	0.098	0.85	7.38
G6M-07-02X	10/13/2015	**482**	**13.0**	1.0 U	**3.1 J**	1.0 U	1.0 U	10 U	10 U	**3,200 J**	4.0 U	**0.303**	**32.8**	1.0 U	**10.3**	0.11 U	**10.2**	2.0 U	5.86	0.27	59.3	0.055	5.95	15.55
G6M-13-01X	01/30/2014	12	0.42 J	0.73	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	6.21	1.64	188.4	0.86	38	16.43
G6M-13-01X	10/28/2014	150	2.8	7.80	0.5U	0.5U	0.5U	-	-	-	2.5U	0.025U	26.8J	-	-	-	-	-	6.25	1.77	100.3	0.495	9.14	12.81
G6M-13-01X	6/22/2015	**15.5**	**0.65 J**	**1.30**	0.50 U	0.50 U	0.50 U				**2.3 J**	0.050 U	**8.7 J**						5.80	0.89	172.2	0.848	1.11	17.46
G6M-13-01X	10/16/2015	**26.3**	**1.10**	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	**0.0613 J**	**16**	NA	NA	NA	NA	NA	5.57	0.52	42.7	0.727	22.1	13.66
G6M-13-02X	01/30/2014	120	20	34	0.34J	0.5U	14	-	-	-	-	-	-	-	-	-	-	-	6.44	0.88	53.9	1.099	3.11	16.01
G6M-13-02X	06/11/2014	170	54	81	0.53	0.29J	6	-	-	-	3.2J	0.472	32.5	-	-	-	-	-	6.05	0.71	144.8	0.9	4.29	11.56
G6M-13-02X	11/03/2014	210	39	95	5U	5U	6.7	-	-	-	2.5U	0.146UJ	20.3J	-	-	-	-	-	6.31	1.3	75.8	0.625	2.27	5.69
G6M-13-02X	6/26/2015	**105**	**49.6**	**38.1**	0.50 U	0.50 U	**1.10**				**2.1 J**	0.050 U	**9.4 J**						5.99	1.03	101.6	0.917	9.69	17.13
G6M-13-02X	10/16/2015	**69.6**	**30.6**	1.0 U	1.0 U	1.0 U	**1.4 J**	NA	NA	NA	4.0 U	**0.087**	**15**	NA	NA	NA	NA	NA	6.27	0.35	72	1.069	2.97	8.03
G6M-13-03X	01/30/2014	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	5.58	0.69	205	0.2483	1.11	10.87
G6M-13-03X	10/30/2014	0.5J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	2.5U	0.0285U	407	-	-	-	-	-	6.39	1.65	183.6	0.1922	15.3	6.67
G6M-13-03X	10/16/2015	**0.57 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	0.10 U	**362**	NA	NA	NA	NA	NA	5.53	1.58	157.6	2.539	36.6	11.90
G6M-13-04X	01/30/2014	41	51	68	2.7	0.90 J	150	-	-	-	-	-	-	-	-	-	-	-	6.57	0.98	-36.4	1.414	4.6	12.6
G6M-13-04X	06/10/2014	25	31	29	2.7	0.66	130	2.7J	12J	3,600J	360	49J	5,900	2.5J	280J	0.13U	9.3 B	0.030U	6.42	0.58	-49.4	1.212	12.9	-
G6M-13-04X	10/29/2014	1.7	17	69	1.6	0.56	72	4.7	41	32,000	321	5.45J	6,170J	13	310	0.13U	3.5J	0.03U	6.65	0.42	-95.2	1.081	5.55	12.07
G6M-13-04X	6/22/2015	0.50 U	**1.80**	**2.20**	0.50 U	0.50 U	**1.40**	5.0 U	5.0 U	**719**	**360**	**29.3**	**3,840 J**	**3.20**	**129**	0.11 U	**30.5 J**	1.0 U	6.95	0.7	-156.6	0.800	0.8	17.28
G6M-13-04X	10/15/2015	**18.7**	**18.9**	**52.1**	**0.76 J**	1.0 U	**32.7**	10 U	**18.6**	**9,470**	**388**	**33.1**	**7,930**	**2.8**	**269**	**0.16**	**5.8 J**	2.0 U	6.6	0.29	-69.4	1.595	7.5	12.33
G6M-13-05X	01/30/2014	250	10U	16	10U	10U	10U	-	-	-	-	-	-	-	-	-	-	-	8.63	0.37	-86.6	1.112	3.09	11.35
G6M-13-05X	06/10/2014	1,200	12	70	0.40J	0.54	0.50U	-	-	-	10.7	0.299 J	556	-	-	-	-	-	7.65	0.46	-107	0.515	8.19	11.34
G6M-13-05X	11/04/2014	1,700	13J	77	32U	32U	32U	-	-	-	6.6	0.233	565	-	-	-	-	-	7.43	0.47	-93.6	0.417	9.73	18.31
G6M-13-05X	6/16/2015	**1,520**	**12.0**	**61.5**	0.50 U	0.50 U	0.50 U				**5.20**	0.05 U	**229**						7.04	1.63	57.0	0.398	33.2	12.71
G6M-13-05X	10/13/2015	**1,120**	**11.0**	**62.7**	1.0 U	1.0 U	1.0 U	NA	NA	NA	2.3 J	0.10 U	**235**	NA	NA	NA	NA	NA	7.22	0.99	59.5	0.525	2.14	11.23
G6M-13-06X	01/30/2014	3.9J	8U	300	8U	8U	95	-	-	-	-	-	-	-	-	-	-	-	6.61	0.33	-38.3	2.521	35.9	10.81
G6M-13-06X	06/12/2014	0.5U	0.44J	180	0.68	0.37J	330	1.3UJ	33J	18,000J	444	365	16,900	160	710J	0.13U	0.68J	0.03U	6.42	0.24	-88.9	1.71	13.7	19.03
G6M-13-06X	10/30/2014	0.5U	0.5U	14	0.7	0.5U	15	1.2U	63	79,000	558	274	12,500	42	580	0.13U	0.42J	0.03U	6.31	0.24	-99	1.943	20.1	18.31
G6M-13-06X	6/16/2015	0.50 U	0.50 U	**3.90**	**0.98 J**	0.50 U	**6.00**	10 U	**27.3**	**10,300**	**546**	**246**	**16,900**	**54.5**	**510**	**0.15**	**1.0 J**	1.0 U	6.25	0.11	-40.1	1.989	31.9	11.27
G6M-13-06X	9/9/2015	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**4.0 J**	5.0 U	**36.6**	**18,200**	**511**	**269**	**22,500**	**82.2**		**0.11**	**10 U**	6.50	6.02	0.16	-53.6	1.745	4.09	12.15
G6M-13-06X	10/14/2015	5.0 U	5.0 U	**3.2 J**	5.0 U	5.0 U	5.0 U	10 U	**30.2**	**11,300**	**531**	**260**	**21,300**	**61.5**	**434**	**0071 J**	**1.70**	**1.50**	5.71	1.19	100.7	0.904	1.46	19.27
G6M-93-13X	10/15/2001	0.55J	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.30	9.9	355	6	1.2	14.88
G6M-93-13X	09/20/2004	3.8	2U	2U	2U	1U	2U	0.0081	0.014	0.89	5U	1	15U	1U	23	1.3J*	10	2.7J*	6.14	13.07	250.7	0.059	4.31	12.36
G6M-93-13X	12/13/2004	2U	2U	2U	2U	1U	2U	0.005U	0.005U	3.8	5U	1U	15U	5U	20	1.2	9.6M	2U	6.16	10.41	192.5	0.08	1.42	14.8
G6M-93-13X	03/29/2005	2U	2U	2U	2U	1U	2U	0.0063	0.28	3.1	5U	1UM	15U	0.6J	22	0.2U	9.1	2U	6.24	10.4	97.3	0.09	0.64	15.91
G6M-93-13X	06/28/2005	2U	2U	2U	2U	1U	2U	0.023	0.02	9.4	2U	1U	10U	4.9	41.2	0.081	8.2	1U	11.30	11.43	146.1	0.275	2.46	13.31
G6M-93-13X	09/26/2005	2U	2U	2U	2U	1U	2U	0.006J	0.018J	4.9	5U	1U	15U	3.1	27	0.083	9.5	1U	6.04	7.98	191.8	0.126	18.2	15.19
G6M-93-13X	12/13/2005	2U	2U	2U	2U	1U	2U	0.008J	0.011J	9.3	5U	1U	15U*	4.4J	41	3.4	9.4	1U	6.48	9.55	69.6	0.086	0.5	13.7
G6M-93-13X	03/21/2006	2U	2U	2U	2U	1U	2U	0.025U	0.046	9.5	5U	0.1U	19	6.8	24	0.2U	6.83	1U	6.87	9.55	-9.4	0.058	0.61	13

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-93-13X	06/19/2006	2U	2U	2U	2U	1U	2U	0.008J	0.008J	5.3	5U	0.1U	28	1.4J	46	0.2UH	4.42	1U	6.33	9.14	190.1	0.087	1.34	11.49
G6M-93-13X	09/18/2006	2U	2U	2U	2U	1U	2U	0.006J	0.014J	5	5U	0.10U	15U	4.6J	22	0.2U	7.76	1U	6.22	9.33	173.6	0.062	4.62	10.39
G6M-93-13X	12/11/2006	2U	2U	2U	2U	1U	2U	0.008J	0.038	11	5U	0.1U	15U	5U	-	-	6.55	1U	6.38	10.68	91.3	0.076	2.23	12.11
G6M-93-13X	03/28/2007	2U	2U	2U	2U	1U	2U	0.005J	0.014J	9.6	5U	0.1U	15U	5U*	-	-	5.74	1U	6.14	9.8	-3.1	0.071	8.73	12.58
G6M-93-13X	06/11/2007	2U	2U	2U	2U	1U	2U	0.034	0.3	13	5U	0.1U	15U	0.4J	-	-	8.96	1U	6.64	10.12	125.4	0.121	3.3	13.98
G6M-93-13X	09/11/2007	3	2U	2U	2U	1U	2U	0.005J	0.025U	2.8	6U	0.1U	15U	0.7J	99	0.2U	12	1U	6.31	9.67	96.7	0.095	7.1	12.44
G6M-93-13X	12/10/2007	2U	2U	2U	2U	1U	2U	0.004J	0.007J	1.1	5U	0.1U	15U	5U*	-	-	6.92	1U	6.25	8.81	71	0.156	0.6	11.83
G6M-93-13X	03/10/2008	2U	2U	2U	2U	1U	2U	0.008J	0.05	10	5U	0.2	12,000	34	-	-	100	1U	6.3	3.84	141	0.953	0	16
G6M-93-13X	10/15/2008	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	5.6	8.0U	0.2U	3,270	10U	110	3.6	34	0.03UJ	6.31	2.97	116.4	0.304	0	15.24
G6M-93-13X	05/07/2009	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	2.2	3.5J	0.2U	50U	10U	67J	0.71	16	0.03U	6.26	6.1	79.6	0.164	1.1	-
G6M-93-13X	10/19/2009	0.5U	15	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	6	8U	0.142U	50U	10U	54	0.058J	9.2	0.03UJ	6.42	4.79	182	0.110	1.01	15.69
G6M-93-13X	04/21/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	440	5.0U	0.115U	25U	6.5J	140	0.13U	10	0.03U	6.19	9.03	37.3	0.109	0.00	15.22
G6M-93-13X	10/06/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	1.2U	1.5U	16	5U	0.1U	25U	10U	63	0.050J	11	0.03U	6.12	4.77	114	0.116	3.42	17.33
G6M-93-13X	9/9/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	10 U	10 U	4.0 U	0.10 U	**207**	NA		**0.11 U**	**49.6**	2.0 U	6.02	0.16	-53.6	1.745	4.09	12.15
G6M-94-18X	10/16/2001	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.71	1.19	100.7	0.904	1.46	19.27
G6M-94-18X	02/25/2002	6,400	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.12
G6M-94-18X	02/27/2002	2,800	-	-	-	-	-	-	-	-	-	-	-	-	-	0.91	-	-	6.11	8.9	147	0.086	45.3	12.14
G6M-94-18X	02/04/2003	37,000	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.46
G6M-94-18X	09/20/2004	3,400	2U	2U	2U	1U	2U	0.011	0.022	1.1	5U	1	15U	1U	18	2	11	4	6.15	9.03	321.7	0.078	3.8	12.07
G6M-94-18X	12/15/2004	2,300	2U	2U	2U	1U	2U	0.005U	0.0085	9.1	5U	1U	15U	5U	110	1.6	10	2U	6.00	9.36	441	0.062	64.7	14
G6M-94-18X	03/31/2005	17,000	1,000U	1,000U	1,000U	1,000U	1,000U	0.011	0.71	0.97	5U	1U	15U	1.1J	14.4	0.23	10	2U	6.17	10.34	171.9	0.063	16.6	13.04
G6M-94-18X	07/01/2005	2,000	2.5U	2.5U	2.5U	2.5U	2.5U	0.051	0.025	2.7	2U	1UJ*	10U	4.7J	14	0.13	9.2	1U	5.77	8.03	247.9	0.083	21.3	12.61
G6M-94-18X	09/27/2005	710	1U	1U	1U	1U	1U	0.032	0.04	0.48	5U	1U	15U	3.8	15.4	0.071	8.8J	1U	5.72	8.82	228.1	0.054	6	12.4
G6M-94-18X	12/16/2005	260	2U	2U	2U	1U	2U	0.042	0.15	0.17	5U	1U	15U	6	10	0.068	14	1U	6.21	8.74	188.5	0.096	98.3	10.96
G6M-94-18X	03/21/2006	66	2U	2U	2U	1U	2U	0.025U	0.016J	23	5U	0.16	15U	5.5	12	0.2U	14.6	1U	6.39	10.48	440.4	0.078	188	-
G6M-94-18X	06/20/2006	46	2U	2U	2U	1U	2U	0.004J	0.008J	6.5	5U	100U	15U	1.6J	25U*	0.2U	11.3	1U	5.43	7.18	1022.5	0.073	5.43	12.7
G6M-94-18X	09/18/2006	41	2U	2U	2U	1U	2U	0.006J	0.021J	19	5U	0.10U	15U	4.9J	15	0.2U	9.66	1U	5.84	7.15	204.3	0.111	18.2	11.05
G6M-94-18X	12/12/2006	36	2U	2U	2U	1U	2U	0.004J	0.052	15	5U	0.10U	15U	2.2J	-	-	10.5	1U	6.22	6.15	157.3	0.07	354	10.67
G6M-94-18X	03/29/2007	700	2U	2U	2U	1U	2U	0.004J	0.018J	9.2	5U	0.1U	15U	2J	-	-	8.59	1U	6.11	5.32	-27.8	0.087	3.89	14.53
G6M-94-18X	06/11/2007	2,100	2U	2U	2U	1U	2U	0.007J	0.006J	0.22	5U	0.1U	15U	2.4J	-	-	11.5	1U	6.29	7.12	134.0	0.080	98.6	13.39
G6M-94-18X	09/12/2007	330	2U	2U	2U	1U	2U	0.025U	0.025U	2.6	6U	0.1U	15U	0.6J	25	0.2U	6.1	1U	6.25	7.46	139.3	0.159	122.9	10.65
G6M-95-19X	10/15/2001	110	6.6	42	1.5J	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.46	6.24	202	2.87	8.5	9.84
G6M-95-19X	09/20/2004	41	2.9	16	2U	1U	2U	-	-	-	5U	1	210	-	-	-	-	-	5.45	7.92	467.5	4.17	3.1	14.08
G6M-95-19X	09/26/2005	21	2U	5.4	2U	1U	2U	-	-	-	8.3	1U	160	-	-	-	-	-	4.00	4.51	595.3	4.361	0.72	14.45
G6M-95-19X	09/19/2006	12	2U	2U	2U	1U	2U	-	-	-	5U	0.10U	160	-	-	-	-	-	3.82	6.77	281	4.236	2.41	11.78
G6M-95-19X	09/12/2007	21	2U	4	2U	1U	2U	-	-	-	5U	0.1U	200	-	-	-	-	-	5.28	7.62	175.1	6.566	0.4	12.46
G6M-95-19X	10/15/2008	14J	0.39J	1.6J	0.5U	0.5U	0.5U	-	-	-	8U	0.2U	212	-	-	-	-	-	5.35	6.63	267.9	5.306	0.9	12.15
G6M-95-19X	10/16/2009	20U	540	20U	20U	20U	20U	-	-	-	8U	0.2U	153	-	-	-	-	-	5.22	4.53	232	4.529	1.49	11.54
G6M-95-19X	01/15/2010	6.9	0.5U	0.46J	0.75U	0.75U	1.0U	-	-	-	-	-	-	-	-	-	-	-	5.46	4.09	243.8	4.733	2.17	10.45
G6M-95-19X	10/07/2010	1.8	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	186	-	-	-	-	-	5.34	3.35	159.4	4.211	3.88	9.77
G6M-95-19X	10/07/2011	2.2	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	242	-	-	-	-	-	5.51	2.9	132.2	2.319	1.1	12.69
G6M-95-19X	10/15/2012	3.3	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	1,450	-	-	-	-	-	5.53	2.8	225.1	7.618	0.19	9.91
G6M-95-19X	10/18/2013	2.4	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	2,250	-	-	-	-	-	5.49	1.44	154.9	3.827	5.42	10.34
G6M-95-19X	11/03/2014	3	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	2.5U	0.0847U	1,190	-	-	-	-	-	5.73	3.06	202.5	2.189	2.78	10.00
G6M-95-19X	10/14/2015	**1.90**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	0.10 U	**739**	NA	NA	NA	NA	NA	5.85	1.10	170.4	4.126	1.43	10.94
G6M-95-20X	10/16/2001	4.4	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.90	7.2	212	0.27	4.1	11.2
G6M-95-20X	02/25/2002	5	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.59	12.37	155.7	0.171	7.67	11.53
G6M-95-20X	02/27/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.7	-	-	-	-	-	-	-	10.42
G6M-95-20X	09/21/2004	2.8	2U	2U	2U	1U	2U	-	-	-	5U	1U	15U	-	-	-	-	-	5.76	8.88	205.5	0.544	0	11.25
G6M-95-20X	09/26/2005	2.3	2U	2U	2U	1U	2U	-	-	-	5U	1U	15U	-	-	-	-	-	5.62	8.75	328.7	0.741	0.95	11.42
G6M-95-20X	09/19/2006	2.2	2U	42	2U	1U	2U	-	-	-	71	350	39,000	-	-	-	-	-	6.31	0.76	-108	2.715	4.19	12.17
G6M-95-20X	09/12/2007	2U	2U	11	2U	1U	2U	-	-	-	160	110	15,000	-	-	-	-	-	6.49	3.19	-114.3	0.74	73.7	12.6
G6M-95-20X	10/15/2008	0.38J	0.2J	2.5	0.5U	0.5U	0.5U	-	-	-	97.2	45.6	5,250	-	-	-	-	-	6.45	0.49	-104.4	0.511	4.2	9.54
G6M-95-20X	10/16/2009	0.5U	37J	3.1	0.5U	0.5U	0.5U	-	-	-	166	206	7,660	-	-	-	-	-	6.61	0.29	-81.4	0.898	8.81	13.42
G6M-95-20X	10/06/2010	0.5U	0.5U	5.1	0.5U	0.5U	1.8	-	-	-	149	546	12,200	-	-	-	-	-	6.49	0.11	-124.3	2.047	36.6	14.15
G6M-95-20X	10/07/2011	0.5U	0.5U	1.5	0.5U	0.5U	0.5U	-	-	-	108	57.8	3,610	-	-	-	-	-	6.59	0.10	-112.9	0.234	4	14.3
G6M-95-20X	10/15/2012	0.5U	0.5U	1.0	0.5U	0.5U	0.5U	-	-	-	112	67.9	3,140	-	-	-	-	-	6.58	0.60	-98.2	0.526	4.83	12.73
G6M-95-20X	10/18/2013	0.5U	0.29J	0.59	0.5U	0.5U	0.5U	-	-	-	79.9	30	1,760	-	-	-	-	-	6.56	0.18	-79.5	0.41	3.37	12.63
G6M-95-20X	10/31/2014	2.7	0.53	0.5U	0.5U	0.5U	0.5U	-	-	-	7.9	20.3	1,160	-	-	-	-	-	6.59	0.16	-105.1	0.688	4.03	10.88
G6M-95-20X	10/13/2015	**1.20**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	**32.2**	**11.0**	**614**	NA	NA	NA	NA	NA	6.61	0.55	-55	0.722	2.86	12.15
G6M-96-13B	10/15/2001	3,600	39	220	12	1U	1.1J	-	-	-	-	-	-	-	-	-	-	-	6.10	2.9	219	0.12	6.8	12.55
G6M-96-13B	02/25/2002	5,200	34	200	1.4J	1U	1.5J	-	-	-	-	-	-	-	-	-	-	-	6.40	3.85	181.5	1.142	6.59	13.56

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-96-13B	01/31/2003	3,800	31	190	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.13
G6M-96-13B	09/20/2004	4,500	35	210	2U	1U	2.1	0.022	0.12	1.7	5U	1	15U	1U	38	5.4J*	19	2	6.30	3.57	186.4	1.035	0.5	11.41
G6M-96-13B	12/13/2004	2,500	24	150	2U	1U	2U	0.05	0.025	24	5U	1U	23	5U	35	5	31M	2U	6.26	2.57	316.5	0.787	2.68	12.51
G6M-96-13B	03/28/2005	4,500	200U	180J	200U	200U	200U	0.17	0.22	37	5U	2.6M	1,600	5.7	47	0.46	17	2UJ*	6.24	0.87	21.2	0.943	0.68	10.08
G6M-96-13B	08/10/2005	2,800	190	1,500	3.6	4.8	6.8	0.15	0.44	2.9	32	24J*	8,100	140	98.9	0.23	4.6	5.3	4.35	0.16	-35.6	0.838	3.5	-
G6M-96-13B	09/26/2005	3,700	140	570	5U	5U	5U	0.054	0.33	18	44	51J	12,000	200	134	0.28	11	11	4.98	1.32	-45.9	1.071	4.54	13.5
G6M-96-13B	12/13/2005	3,400	130	350	10U	5U	10U	0.069	0.35	31	46.3	63J*	12,100	140	150	0.05U	11	4.5	5.51	0.13	-52.1	0.851	0.9	16.38
G6M-96-13B	03/20/2006	2,100	250	400	2U	1.2	2.5	0.036	0.42	97	38	96	17,000	360	300	0.207	6.77	2.4	5.68	0.17	-161.5	0.759	7.1	15.13
G6M-96-13B	06/20/2006	1,900	280	370	2U	1U	3.5	0.044	0.27	200	48J*	100	16,000	110	310	0.2U	4.21	4.8	5.46	0.62	-86.8	1.252	2.63	13.27
G6M-96-13B	09/18/2006	880	370	530	2U	1.3	9.4	0.022J	0.43	2,400	150	110	20,000	300	370	0.262	4.56	3	6.14	0.48	-120.9	1.555	2.19	12.5
G6M-96-13B	12/11/2006	830	340	620	2U	1.6	7.3	0.020J	0.047	9,000	190	130	27,000	360	-	-	6.06	1.2	6.28	14.07	-260	1.93	2.1	11.04
G6M-96-13B	03/27/2007	940	290	590	2.6	2.1	26	0.025U	0.96	22,000	250	230	35,000J*	140	-	-	4.3	1.6	5.71	0.1	-16.8	1.861	1.79	12.5
G6M-96-13B	06/11/2007	1,200	280	610	2U	1.7	55	0.025U	0.68	22,000	200	200	15U	260	-	-	8.17	2.2	6.24	0.15	-97.5	1.87	1322	12.04
G6M-96-13B	09/10/2007	2,600	130J*	590	2U	1.6	38	0.036	6.3	32,000	240	210	25,000	270	410	0.2U	580	2.8	6.25	0.4	-136.3	1.866	15.5	12.96
G6M-96-13B	12/11/2007	750	99	830	2U	1.5	110	0.005J	3.6	26,000	260	230	25,000	240	-	-	429	2.4	6.11	1.92	-25.7	1.907	8	11.98
G6M-96-13B	03/10/2008	1,200	140	1,000	2U	1.7	140	0.025U	8.3	29,000	240	240	26,000	210	-	-	5U	2	6.18	1.55	-90.2	1.958	6.4	11.33
G6M-96-13B	10/15/2008	7.3J	6.5J	490	10U	10U	350	1.2U	5.7	9,700	172	290	39,500	91.8U	470	0.13U	21	0.03UJ	6.19	0.90	-59.2	2.046	11	12.96
G6M-96-13B	05/07/2009	190	75	310	10U	10U	95	1.2U	13	46,000	169	323	38,600	74	740J	0.13U	32	0.03U	6.09	0.10	-97.6	1.909	4	10.53
G6M-96-13B	10/19/2009	440	140	290	10U	10U	89	1.2U	9.2	52,000	173	325	36,000	54	630	0.022U	53	0.041	6.32	1.53	-93.1	2.054	13.6	-
G6M-96-13B	04/21/2010	93	29	100	2.0U	2.0U	57	1.3U	15	37,000	217	400J	39,100	130	610	0.13U	0.71J	0.041	6.21	0.13	18.2	2.496	10.99	-
G6M-96-13B	10/06/2010	360	150	150	1.5	0.70	65	1.2U	18	96,000	222	366	37,500	57	95	0.045J	1.1J	0.03U	6.19	0.22	-103.4	2.547	12.9	12.34
G6M-96-13B	06/09/2011	740	90	270	1.9	1.4	86	3.7	44	110,000	242	304	25,100	75	300	0.023J	0.49J	0.03U	6.22	0.09	-112	2.126	13.1	11.49
G6M-96-13B	10/04/2011	160	24	79	8.0U	8.0U	43	1.2U	1.5U	98,000	284	335	25,300	73	620	0.13U	0.35J	0.03U	6.36	0.02	-77.8	1.733	20	10.82
G6M-96-13B	05/09/2012	130	47	150	5.0U	5.0U	38	44	100	29,000	298	231	16,600	51	500	0.13U	0.58J	0.13	6.47	1.7	-89.7	1.68	12.1	16.85
G6M-96-13B	10/11/2012	130	48	130	5.0U	5.0U	76	81	190	62,000	282	209	17,100	38	480	0.13U	5.0U	0.14	6.26	0.44	-66.4	2.335	7.09	10.87
G6M-96-13B	05/22/2013	170	55	230	2.7J	5.0U	100	1.1U	86	23,000	395	241	18,600	29	540J	0.13U	5.0U	0.12J	6.23	0.15	-84.3	2.27	13	9.71
G6M-96-13B	10/17/2013	78	38	200	4.0U	4.0U	170	2.4	36	18,000	365	234	17,600	37	560	0.13U	5.0U	0.058	6.46	0.15	-113.1	1.728	17.3	10.91
G6M-96-22A	10/16/2001	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.50	5.1	210	2	0	15.95
G6M-96-22A	02/28/2002	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	0.10U	-	-	5.70	8.37	183.5	1.78	0.5	12.41
G6M-96-22A	09/21/2004	2U	2U	2U	2U	1U	2U	-	-	-	5U	1U	54	-	-	-	-	-	5.75	6.73	187.9	1.885	1.59	11.59
G6M-96-22A	09/29/2005	2U	2U	2U	2U	1U	2U	-	-	-	5U	1U	52	-	-	-	-	-	5.95	4.9	223.1	3.18	0.38	10.75
G6M-96-22A	09/20/2006	2U	2U	2U	2U	1U	2U	-	-	-	5U	0.10U	42	-	-	-	-	-	5.68	4.78	176.3	1.814	1.85	11.03
G6M-96-22A	09/12/2007	2U	2U	2U	2U	1U	2U	-	-	-	6U	0.1U	78	-	-	-	-	-	5.50	6.95	-101.1	1.404	5	12.38
G6M-96-22A	10/17/2008	0.55	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	8U	0.2U	2,240	-	-	-	-	-	5.57	1.41	123.8	1.378	1.8	10.07
G6M-96-22A	10/16/2009	0.25J	29	0.27J	0.5U	0.5U	0.5U	-	-	-	8U	0.2U	7,120	-	-	-	-	-	5.91	0.25	228.5	2.288	0	11.31
G6M-96-22A	10/07/2010	0.22J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	7,670	-	-	-	-	-	5.72	0.21	141.2	3.623	0	9.31
G6M-96-22A	10/07/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	6,860	-	-	-	-	-	5.6	0.18	59.9	2.144	0	10.13
G6M-96-22A	10/15/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	12,400	-	-	-	-	-	5.82	0.36	110.5	2.915	0	14.55
G6M-96-22A	10/18/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	6,010	-	-	-	-	-	6.05	0.58	177.1	1.524	0	11.1
G6M-96-22A	11/04/2014	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	2.5U	0.0189U	3,160	-	-	-	-	-	6.12	3.75	203.7	0.774	0.86	-
G6M-96-22A	10/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	0.10 U	**3,810**	NA	NA	NA	NA	NA	6.11	2.77	122.9	1.333	0.21	-
G6M-96-22B	10/19/2001	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.76	6.95	176	2.09	0.6	13.13
G6M-96-22B	02/28/2002	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	0.10U	-	-	6.35	7.83	198.5	2.002	1.5	12.89
G6M-96-22B	01/31/2003	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.48
G6M-96-22B	09/21/2004	2U	2U	2U	2U	1U	2U	-	-	-	5U	1U	44	-	-	-	-	-	5.83	6.15	193.9	1.941	2.76	13.86
G6M-96-22B	09/29/2005	2U	2U	2U	2U	1U	2U	-	-	-	5U	1U	48	-	-	-	-	-	6.12	5.57	187.7	3.02	1.43	11.15
G6M-96-22B	09/20/2006	2U	2U	2U	2U	1U	2U	-	-	-	5U	0.10U	44	-	-	-	-	-	5.53	6.51	179	2.183	0.67	10.19
G6M-96-22B	09/12/2007	2U	2U	2U	2U	1U	2U	-	-	-	6U	0.1U	40	-	-	-	-	-	5.73	16.11	-112.1	2.618	13.9	11.86
G6M-96-22B	10/17/2008	0.91	0.5U	0.24J	0.5U	0.5U	0.5U	-	-	-	8U	0.2U	67.3	-	-	-	-	-	5.40	1.77	121.3	1.02	0.85	11.56
G6M-96-22B	10/16/2009	0.3J	23	0.32J	0.5U	0.5U	0.5U	-	-	-	8U	0.135U	25,500	-	-	-	-	-	6.08	0.31	209.1	1.683	0.04	11.52
G6M-96-22B	10/07/2010	0.25J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	3.3J	0.1U	14,600	-	-	-	-	-	6.00	0.48	115.1	2.295	0.49	12.85
G6M-96-22B	10/07/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	9,320	-	-	-	-	-	5.98	0.16	30.7	1.899	0	11.27
G6M-96-22B	10/15/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.120U	9,980	-	-	-	-	-	6.14	0.25	16.4	2.358	1.17	12.41
G6M-96-22B	10/18/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	3.2J	0.1U	14,100	-	-	-	-	-	6.17	0.81	142	2.288	0.31	13.79
G6M-96-22B	11/04/2014	0.21J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	4.6J	0.0169U	7,180	-	-	-	-	-	6.58	0.45	137.4	1.087	3.55	17.20
G6M-96-22B	10/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	0.10 U	**5,610**	NA	NA	NA	NA	NA	6.53	1.34	93.5	1.457	2.18	15.00
G6M-96-24B	10/16/2001	18	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.37	0	81	0.42	19	14.44
G6M-96-24B	03/01/2002	11	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.35	-6.27	106.7	0.43	2.8	17.01
G6M-96-24B	01/31/2003	7.5	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.61
G6M-96-24B	01/12/2004	11	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.41
G6M-96-24B	09/24/2004	13B	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.17	0.2	152.2	0.422	0.44	19.31
G6M-96-24B	12/17/2004	8.1	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.05	0.46	259.6	0.384	2.43	15.12

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
G6M-96-24B	04/13/2005	8.2	1U	2.8	1U	1U	1U	-	-	-	-	-	-	-	-	-	-	-	5.32	0.2	216.6	0.429	2.49	10.84
G6M-96-24B	07/06/2005	7.6	2U	3	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.69	1.34	242.8	0.77	0.02	14.12
G6M-96-24B	09/30/2005	7.2	2U	3.6	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.77	0.29	198.3	1.022	7.7	16.26
G6M-96-24B	12/15/2005	7.4	2U	3.1	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.97	0.14	242.8	0.9	2.1	19.14
G6M-96-24B	03/23/2006	4.2	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.99	0.23	404.5	0.458	1.31	12.78
G6M-96-24B	06/23/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	4.62	0.85	526.9	0.443	0.88	15.18
G6M-96-24B	09/22/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.93	0.3	141	0.407	4.23	16.89
G6M-96-24B	12/14/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.54	0.17	74.8	0.56	0.2	16.2
G6M-96-24B	03/30/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.90	0.5	-43.6	0.62	0.15	12.58
G6M-96-24B	06/13/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.10	0.16	138.9	0.727	220.2	12.48
G6M-96-24B	09/13/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.05	3.93	-95.7	0.689	9.9	11.3
G6M-96-24B	12/12/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.33	0.3	106.2	0.802	0.8	14
G6M-96-24B	10/07/2008	0.4J	0.5U	0.5U	0.5U	0.5U	0.5U	1.3U	1.6U	15	8.0U	0.352U	448	10U	46	0.13U	10	0.03UJ	6.04	0.54	92.4	0.51	30	14.4
G6M-96-24B	01/22/2009	1.4U	2.3U	1.8U	1.3U	1.2U	1.3U	1.2U	1.5U	4.2	8.0U	226J	315	10UJ	32	0.13U	9.3	0.03U	6.16	0.45	149.6	0.479	65	13.4
G6M-96-24B	05/11/2009	0.29J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	5.87	0.20	90.8	0.304	23.1	12
G6M-96-25B	10/15/2001	360	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.81	5.3	142	0.498	3.9	12
G6M-96-25B	02/25/2002	130	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	6.70	11.51	158.5	0.15	9.75	13.7
G6M-96-25B	02/27/2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	13.8
G6M-96-25B	01/31/2003	52	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17
G6M-96-25B	09/20/2004	56	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	4.98	7.63	593	0.589	0	13.7
G6M-96-25B	09/26/2005	40	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.82	6.74	314.1	0.587	1.1	17
G6M-96-25B	09/19/2006	44	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.20	7.64	223.5	0.496	1.46	12.2
G6M-96-25B	09/11/2007	16	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.91	6.29	96.6	0.802	9.5	16.3
G6M-96-25B	10/17/2008	1.7	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	6.80	8.41	89.7	0.151	4	14.5
G6M-96-25B	10/16/2009	1.9	38J	0.5UJ	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	6.27	8.08	183.5	0.404	4.7	10.5
G6M-96-25B	10/08/2010	3.1	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	5.80	6.70	190.2	0.622	1.59	16.3
G6M-96-25B	10/06/2011	0.58	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	6.85	8.11	69.8	0.131	4.5	16.8
G6M-96-25B	10/16/2012	2.0	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	5.87	7.09	181.7	0.572	7.76	12.7
G6M-97-05B	10/03/2011	5.7	0.58	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	25U	-	-	-	-	-	6.21	3.91	166.4	0.357	1.48	12.4
G6M-97-05B	10/12/2012	13	0.73	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	0.0194 J	25U	-	-	-	-	-	6.19	4.13	132	0.649	0.41	14.61
G6M-97-05B	10/16/2013	26	0.70	0.63	0.5U	0.5U	0.5U	-	-	-	5U	0.1U	25U	-	-	-	-	-	6.15	3.88	123.8	0.513	3.86	13.76
G6M-97-05B	10/28/2014	83	1.80	1.7	0.5U	0.5U	0.5U	-	-	-	2.5U	0.0293U	25UJ	-	-	-	-	-	6.21	3.38	112.1	0.499	2.78	11.07
G6M-97-05B	6/19/2015	**89.4**	**4.80**	**2.30**	0.50 U	0.50 U	0.50 U	5.0 U	5.0 U	5.0 U	**3.1 J**	0.05 U	7.5 U	NA	**27.0**	**1.00**	**7.8 J**	1.0 U	6.26	2.73	106.3	0.63	1.72	17.20
G6M-97-05B	10/15/2015	**117**	**6.90**	**3.40**	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	**0.0615 J**	**19**	NA	NA	NA	NA	NA	5.43	3.41	86.9	0.687	1.05	18.92
G6M-97-08B	10/18/2001	92	6.1	36	1.6J	1U	2U	-	-	-	-	-	-	-	-	-	0	-	5.60	4.8	224	0.13	18	14.17
G6M-97-08B	02/26/2002	100	5.9	32	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	5.87	5.13	186.4	1.157	5.3	12.77
G6M-97-08B	09/22/2004	220	9.3	41	2U	1U	2U	0.0075	0.005U	1.3	5U	1U	26	1U	10U	6.1	12	1.5J	5.69	4.66	252.8	1.516	18.3	12.89
G6M-97-08B	12/16/2004	200	7.7	41	2U	1U	2U	0.13	0.072	0.92	5U	1U	25	5U	10U	6.1	12	5.4	5.79	8.78	165	1.633	3.81	16.41
G6M-97-08B	03/30/2005	95	3.4J	16	4U	2U	4U	0.015	0.032	0.54	5U	1U	21	0.4J	12	0.8	7	2U	5.58	8.06	202.8	0.999	9.42	15.56
G6M-97-08B	06/28/2005	140	8	36	1.4	1U	2U	0.016	0.041	35	2U	1J	27	7.1	16.7	1.4	12	1U	11.30	4.94	173.7	1.506	8.16	13.88
G6M-97-08B	09/27/2005	180	7.5	42	2U	1U	2U	0.013J	0.027	0.39	5U	1U	33	4.4	15.9	1.3	16	1U	5.60	5.73	319.2	1.713	2.82	13.47
G6M-97-08B	12/12/2005	120	5.7	27	2U	1U	2U	0.04	0.11	26	5U	1U	28.1	0.6J	23	0.05UJ*	13	1U	5.87	4.19	171.1	1.11	0.7	15.76
G6M-97-08B	03/23/2006	240	8.8	44	2U	1U	2U	0.022J	0.13	12	5U	0.1U	46	5U	13	1.25	13.7	1U	5.85	5.13	181.5	1.44	3.16	14.21
G6M-97-08B	06/21/2006	220	11	35	2U	1U	2U	0.019J	0.086	24	5U	0.17	1,300	16	66	0.809	13.5	1	5.90	2.39	141.1	2.015	1.48	-
G6M-97-08B	09/19/2006	190	14	55	2U	1U	2U	0.078	0.13	18	130	21	13,000	270	300	0.2U	23.6	2.8	5.79	1.58	47.6	2.287	4.58	12.47
G6M-97-08B	12/13/2006	200	11	75	2U	1U	2U	0.004J	0.038	1,700	160	83	20,000	440	-	-	49.6	2.8	6.07	1.43	-72.8	3.107	5.21	13.56
G6M-97-08B	03/30/2007	200	8.5	46	2U	1U	2U	0.028	0.19	6,000	130	170	26,000J*	620	-	-	126	4.6	5.36	0.46	14.8	3.626	1.13	12.47
G6M-97-08B	06/14/2007	140	5.5	37	2U	1U	2U	0.025U	0.021J	7,900	100	370	24,000	760	-	-	120	6.4	5.66	1.68	-45.4	3.659	1	9.9
G6M-97-08B	09/12/2007	170	8.4	43	2U	1U	3	0.004J	0.05	8,400	120	370	18,000	630	650	0.2U	1500	3.2	5.66	2.72	-31.4	3.924	5.5	11.04
G6M-97-08B	12/14/2007	150J*	5.7J*	31J*	2UJ*	1UJ*	4.5J*	0.006J	0.054	10,000	150	280	12,000	520	-	-	92	5.6	5.84	0.75	-45.3	3.673	0	11.83
G6M-97-08B	03/12/2008	150	6.5	32	2U	1U	6.8	0.008J	0.15	9,800	160	190	8,100	270	-	-	38	2.8	5.94	2.15	-66.4	3.091	0	12.36
G6M-97-28X	9/14/2015	**0.57 J**	**62.8**	**37.3**	**1.60**	1.0 U	**22.3**	10 U	10 U	**85.0**	4.0 U	**0.237**	**2,110**	1.10		0.11 U	**12.10**	2.0 U	6.21	0.30	67.7	0.256		14.43
IW-39	01/30/2014	180	4.4	15	4U	4U	4U	-	-	-	-	-	-	-	-	-	-	-	6.56	0.91	44.9	0.78	3.68	12.31
MW-3	10/17/2001	4,300	1,500	540	20U	10U	20U	-	-	-	-	-	-	-	-	-	-	-	5.70	0.9	-127	1.4	3.1	13.73
MW-3	12/19/2001	26	4,000	2,200	20U	6.5J	20U	-	-	-	-	-	-	92	-	-	0.43J	-	6.28	0.43	-46	0.912	7.28	12.98
MW-3	01/03/2002	-	-	-	-	-	-	0.063	0.21	18	180	30	-	44	-	-	-	-	4.77	1.33	-48	2.795	4.4	11.19
MW-3	01/31/2002	-	-	-	-	-	-	-	-	-	-	-	-	38	-	-	-	-	6.64	0	-293	0.999	-	12.17
MW-3	02/13/2002	4,400	1,700	1,600	1.6J	3.7	2U	0.079	0.29	53	190	20	8,300	15	-	0.10U	14	1.0J	6.65	0.75	-71	0.893	1.3	13.54
MW-3	03/13/2002	5,200	640	1,400	1.4J	2.8	2U	0.093	0.37	66	180	16	8,400	7.3	-	0.10U	15	2.0U	6.72	0.25	-75	0.795	1.04	12.21
MW-3	04/02/2002	3,100	1,000	1,700	2.2	4	2U	-	-	-	-	-	-	3.3J	-	-	-	-	6.74	4.28	-120	0.634	2.08	13.17
MW-3	04/17/2002	1,200	1,300	1,600	1.2J	3.4	2U	0.025	0.087	54	240	37	17,000	6.1	-	3	7.9J	1.6J	6.60	4.39	-102	0.771	0.81	12.69
MW-3	05/15/2002	31	23	2,600	3.5	6.7	2U	0.052	0.24	560	260	42	19,000	96	-	0.10U	3.9	1.6J	6.66	0.31	-124	1.46	1.68	14.23

Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
MW-3	06/27/2002	200U	200UJ	1,800	200UJ	100UJ	200UJ*	0.021	0.082	3,900	490J*	140	37,000J	270	-	14	4.4J	2.0U	6.70	1.64	-107	3.804	2.9	13.8
MW-3	07/31/2002	-	-	-	-	-	-	-	-	-	-	-	-	31	-	-	-	-	6.76	0.15	-225	1.606	-	13.9
MW-3	08/26/2002	990	640	580	2.1	4.4	2U	0.053	0.16	14,000	270	-	-	30	320	-	-	-	6.83	0.15	-138	1.285	6.5	18.8
MW-3	10/28/2002	1,900	820	1,700	3.9	4.2	2U	0.3	0.23	6,300	330	39	9,700	6.3	190	0.10U	10	2.0U	6.70	0.4	-129	1.129	5.01	15.7
MW-3	02/03/2003	3	2U	2,900	2U	7.1	2U	0.005U	0.26	28,000	330	120	-	180	580	-	1.0U		6.84	0.3	-159	1.322	6.7	18.2
MW-3	07/16/2003	2.4	2U	2,700	2U	7.5	2.5	0.005U	0.1	23,000	520	170	-	17	450	-	4.0UB	2.0U	7.02	1.09	-138	1.464	39.2	16.1
MW-3	09/24/2003	670	1,100	1,900	2.4	6.9	2U	0.005U	0.012	22,000	460	89	7,900	5.9	-	-	-	-	6.10	9.17	-138	1.222	18.9	15.3
MW-3	01/09/2004	9.7	64	2,000	2U	5.6	2U	0.005U	0.005U	45,000	530	200J	15,000	130	500J	-	1.0U	2.0U	6.73	0.4	-195	1.347	14.6	-
MW-3	03/11/2004	680	620	4,700	2U	7.6	2U	0.005U	0.005U	27,000	420	11	8,400	6.1	200	-	4.4	2U	6.58	0.62	-161	0.972	4.3	13.9
MW-3	06/02/2004	2U	2U	1,800	2U	4.5	2U	0.005U	0.014	31,000	670MSA	150	23,000	290	810	-	0.98JM	2U	6.95	0.1	-149	1.905	38.7	15.7
MW-3	09/21/2004	210	250	1,900	2U	5.2	3.5	0.086	0.005U	28,000	660	200J*	7,200	17	310	1J*	4.3J*	2UM	6.66	0.95	-153.6	0.725	2.27	11.1
MW-3	12/13/2004	2U	2U	750	2U	1U	610	0.092	3.5	17,000	510	160	5,400	8	210	1.1	1.4M	2U	6.62	1.6	-103.3	1.009	15.1	13.9
MW-3	03/28/2005	23J	16J	1,000	50U	50U	280	0.005U	5.1	25,000	670	150M	7,300	21	405	0.2U	1U	7.5J*	6.49	0.34	-134.9	1.26	2.37	14.44
MW-3	08/10/2005	440	80	120	2U	5.1	760	0.061J*	13	22,000	680	180	4,400	43	338	0.05U	2U	8	11.13	0.71	-118.5	1.401	28.9	15.67
MW-3	09/27/2005	1,100	240	180	1.8	9.1	360	0.020J	40	22,000	480	71J	2,500	5.6	96.8	0.05U	9.9J	3.4	6.36	0.21	-91.2	0.66	2.8	14.5
MW-3	12/12/2005	37	67	52	20U	10U	480	0.055	100	26,000	566	100	-	18	180	0.083J*	2U	5.6	6.66	0.11	-152.7	1.087	8	15.7
MW-3	03/20/2006	620	350	120	3.1	3.9	220	0.025U	130	25,000	440	85	3,600	13	110	0.2U	6.31	1U	6.95	0.77	-106.2	0.871	3.71	14.88
MW-3	06/22/2006	2U	2U	4	7.6	1U	6.1	0.023J	180	20,000	520	87	3,300	4J	98	0.2U	1U	1U	6.40	0.22	-127	1.012	4.18	12.97
MW-3	09/20/2006	360	420	130	12	5.6	200	0.015J	95	17,000	580	70	3,300	9.6	70	0.2U	7.88	1.4	6.52	0.28	-108.5	0.729	3.56	13.28
MW-3	12/12/2006	2U	3.1	3.1	16	1U	7.1	0.032	170	24,000	490	92	3,700	7.8	-	-	1U	1U	6.60	0.17	-116	0.99	4.36	12.34
MW-3	03/27/2007	2U	31	19	12	1U	27	0.025U	130	18,000	560	110	3,300J*	5.2	-	-	3.18	1U	6.28	0.19	21	0.944	2.64	13.6
MW-3	06/11/2007	2U	5	5.4	15	1U	8	0.038	150	32,000	570	190	5,000	67	-	-	12.1	2.2	6.56	0.58	-124.7	1.405	17.3	12.26
MW-3	09/11/2007	610	470	100	6.4	2.6	97	-	-	-	530	100	3,600	-	150	0.2U	400	1U	6.76	0.23	-130	1.016	6.8	13.48
MW-3	10/12/2007	-	-	-	-	-	-	0.025U	120	34,000	-	-	-	3.8J	-	-	-	-	-	-	-	-	-	12.51
MW-3	12/13/2007	250	180	59	8.8	2.4	78	0.016J	130	30,000	420	91	4,400	4.1J	-	-	10	1U	6.6	0.27	-159.8	1.04	15.7	19.2
MW-3	03/10/2008	2U	2U	2U	8.3	1U	2U	18	35	29,000	530	140	3,300	16	-	-	5U	2.4	6.46	0.12	-113	1.402	5.5	14.26
MW-3	10/06/2008	5U	5U	5U	11	5U	5U	1.3U	72	28,000	482	112	3,720	10U	210	0.13U	7.0U	0.03UJ	6.49	0.24	-158.6	1.070	9.3	21.5
MW-3	01/21/2009	1.4U	2.3U	1.6J	9.2	1.2U	1.9	3.2	58	40,000	556	114J	3,350	10UJ	160	0.13U	7.0U	0.03U	6.69	0.5	-79.9	1.044	4.01	15.5
MW-3	05/07/2009	2.0U	59	48	17	2.0U	66	1.3	70	47,000	519	115	3,630	7.0J	360J	0.13U	22	0.03U	6.26	1.03	-89.9	1.205	4.54	18.86
MW-3	10/19/2009	2U	35	25	9.4	2U	40	1.2U	36	25,000	551	120	5,330	6.7J	490	0.13U	28	0.03UJ	6.24	0.6	-62.6	1.494	25.6	15.54
MW-3	04/20/2010	0.5UJ	0.48J	0.47J	4.7J	0.5UJ	2.5J	10	19	47,000	526	136J	3,200	9.0J	440	0.13U	3.4J	0.03U	6.33	0.16	5.4	1.445	0.09	11.12
MW-3	10/05/2010	0.5U	4.8	3.4	7.5	0.5U	20	1.2U	69	32,000	444	76	3,560	10U	750	0.13U	4.5J	0.03U	6.20	0.20	-85.9	1.799	0.58	11.94
MW-3	06/08/2011	0.5U	0.66	0.93	4.4	0.5U	17	4.5	18	100,000	374	53.6	2,570	12	690	0.13U	1.7J	0.03U	6.34	0.30	-91.1	1.232	3.56	11.96
MW-3	10/03/2011	0.5U	0.5U	0.52	1.7	0.5U	1.0	1.2U	1.5U	40,000	385	45.8	2,760	10	730	0.13U	0.74J	0.03U	6.47	0.13	-88.1	1.544	0.9	12.14
MW-3	05/08/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	51	110	66,000	276	27	3,140	7.5J	600	0.13U	0.82J	0.03U	6.77	0.08	-107.2	1.856	4.6	12.24
MW-3	10/10/2012	0.5U	0.5U	0.5U	0.54	0.5U	1.2	61	100	36,000	267	25.7	4,810	5.6J	520	0.13U	1.4J	0.03U	6.45	0.51	-87.6	1.738	0.92	12.1
MW-3	05/21/2013	0.5U	0.5U	0.30J	0.39J	0.5U	0.75	1.2U	1.5U	10,000	281	24.7	6,460	4.3J	530J	0.13UJ	0.64J	0.03UJ	6.76	0.12	-105.2	1.277	2.75	11.48
MW-3	10/16/2013	0.5U	0.21J	0.36J	0.32J	0.5U	0.94	12	11	38,000	298	26.6	7,970	5.2J	510	0.13U	1.9J	0.03U	6.75	0.40	-87.4	1.437	0	11.96
MW-3	06/11/2014	0.5U	0.5U	0.5U	0.37J	0.5U	0.83	2.9J	1.6UJ	5,100J	354	34.3J	11,100	8.3J	330J	0.13U	1.2U	0.03U	6.70	0.51	-67.6	1.062	6.18	11.84
MW-3	10/29/2014	0.5U	0.27J	0.68	0.38J	0.5U	0.53	3.8	1.5U	13,000	334	30.1J	10,500J	5.2J	370	0.13U	2.4J	0.03U	6.8	0.34	-110.1	0.756	3.79	11.95
MW-3	6/23/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.0 U	5.0 U	**4,830**	**409**	**37.1**	**11,000**	**5.00**	**366**	0.11 U	**5.1 J**	1.0 U	6.34	1.07	-89.4	1.262	5.85	14.23
MW-3	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.54 J**	10 U	10 U	**4,570**	**420**	**41.9**	**12,600**	4.9	349	0.071	10 U	2.0 U	6.97	0.48	-112.1	1.215	1.38	13.86
MW-7	02/14/2002	5,900	4.5	2U	2U	1U	2U	0.12	0.08	8.4	5U	1U	170J	-	-	-	20	0.6J	6.12	1.58	104	0.787	90	18.84
MW-7	03/14/2002	5,700	4.2	2U	2U	1U	2U	0.094	0.18	5.9J	5U	1U	1,000U	2.0J	-	4.1	22J	2.0U	6.12	2.29	203	0.808	8.85	12.76
MW-7	04/17/2002	4,200	2.9	2U	2U	1U	2U	0.072	0.2	6	2.3J	1U	1,000U	5U	-	4.2	18J	1.6J	6.11	0.5	145	0.656	19.5	
MW-7	05/16/2002	5,700	4.3	2U	2U	1U	2U	0.097	0.2	9	5U	1U	1,000U	5U	-	4.3	18J	2.0UJ	6.05	0.21	185	0.759	23.9	10.92
MW-7	06/27/2002	5,300	3.8J*	2UH	2UH	10H	2UH	-	-	-	5U	1U	170UJ	5U	-	4.2	19J	2.0U	6.13	0.73	163	1.198	100	11.12
MW-7	08/27/2002	4,700	3.5	2U	2U	1U	2U	-	-	-	5U	-	-	5U	29	-	-	-	6.13	0.29	136	0.632	1.86	12.02
MW-7	10/30/2002	5,400	2.7	2U	2U	1U	2U	0.047	0.18	20	5U	1U	200J	5U	23	4.9	16	2.0U	6.05	0.37	66	0.779	3.63	11.85
MW-7	12/14/2002	-	-	-	-	-	-	-	-	-	-	-	-	5U	-	-	-	-	-	-	-	-	-	12.04
MW-7	01/30/2003	4,700	3.1	2U	2U	1U	2U	0.044	0.075	23	5U	1U	-	5U	19	-	16	-	5.80	2.2	171	0.773	1.08	13.43
MW-7	09/24/2003	4,200	3.3	2U	2U	1U	2U	0.015	0.027	58	5U	1U	140	5U	-	-	-	-	3.40	1.43	522	0.691	0.3	
MW-7	01/08/2004	4,300	2.8	2U	2U	1U	2U	0.011	0.026	25	5U	1U	130	5U	27	-	14J	2.0U	6.02	0	198	0.481	15	11.59
MW-7	03/12/2004	3,100	2.7	2U	2U	1U	2U	0.02	0.28	6.3	5U	1U	120	1U	24	-	15M	2U	6.04	0.47	162	0.556	1	13.99
MW-7	06/03/2004	2,900	2.6	2U	2U	1U	2U	0.012	0.034	34	5U	1U	110	1.5J	24	-	15M	2U	5.96	0.31	205.2	0.58	1.92	
MW-7	09/21/2004	2,900	3.4	3.1	2U	1U	2U	-	-	-	5U	1U	110	-	-	-	-	-	5.98	0.21	240.4	0.58	0	11.09
MW-7	09/27/2005	1,600	3.7	5.8	2.5U	2.5U	2.5U	-	-	-	5U	0.2J	110	-	-	-	-	-	4.49	0.93	304.1	0.593	3.39	11.86
MW-7	09/22/2006	4,400	9.8	7.7	2U	1U	2U	-	-	-	5U	0.10U	100	-	-	-	-	-	5.99	1.19	140.9	0.503	3.01	12.70
MW-7	09/11/2007	1,200	11	22	2U	1U	2U	-	-	-	6U	0.1U	110	-	-	-	-	-	5.98	0.32	139.9	0.691	5.9	
MW-7	10/20/2008	600	40	150	20U	20U	20U	-	-	-	8U	0.2U	166	-	-	-	-	-	5.97	1.39	71.9	0.804	2	14.72
MW-7	10/19/2009	97	33	270	10U	10U	10U	-	-	-	4.2J	1.7	2,170	-	-	-	-	-	6.03	0.47	76.7	1.686	1.91	14.58
MW-7	10/06/2010	45	9.5	120	2.5U	2.5U	3.1	-	-	-	5.7	1.46	2,090	-	-	-	-	-	6.53	0.21	-21.6	2.072	4.81	11.46

J = Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

Table 4-2
Groundwater Analytical Results
Area of Contamination 50

		Laboratory Parameters																	Field Parameters					
		PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	Ethane	Ethene	Methane	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	pH	DO	ORP	SpC	Turbidity	Temp
Well ID	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
MW-7	10/06/2011	1.6	3.7	20	0.5U	0.5U	6.8	-	-	-	52.9	5.44	5,070	-	-	-	-	-	6.6	0.49	-48.8	1.717	3	
MW-7	10/12/2012	2.3	2.3	9.9	0.70	0.5U	11	-	-	-	140	20.5	9,900	-	-	-	-	-	6.38	0.65	-65	1.253	0	
MW-7	10/17/2013	1.5	6.9	13	0.24J	0.5U	2.2	-	-	-	156	20.9	9,360	-	-	-	-	-	6.72	0.58	-68.2	1.152	0	10.50
MW-7	11/03/2014	1.7	8.4	13	0.27J	0.5U	1.5	-	-	-	205	29.9	15,300	-	-	-	-	-	6.62	0.41	-74.2	0.878	1.94	10.28
MW-7	10/15/2015	1.0 U	**1.70**	**12.4**	1.0 U	1.0 U	**1.10**	NA	NA	NA	**198**	**30.2**	**15,100**	NA	NA	NA	NA	NA	6.83	0.84	-68.2	0.926	1.50	11.26
XSA-00-88X	07/01/2010	-	-	-	-	-	-	-	-	-	5U	-	-	-	-	-	-	-	6.53	6.49	-42.7	0.743	135	9.82
XSA-00-88X	10/03/2011	6.4	0.5U	0.87	0.5U	0.5U	0.5U	-	-	-	20U	22.2	274	-	-	-	-	-	6.64	6.9	-261.4	0.665	52	12.46
XSA-00-89X	07/01/2010	-	-	-	-	-	-	-	-	-	5U	-	-	-	-	-	-	-	6.45	2.43	-230.4	0.651	>1000	11.89
XSA-00-89X	10/03/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	20U	2.03	556	-	-	-	-	-	6.55	7.51	-316.1	0.631	42	
XSA-00-90X	07/01/2010	-	-	-	-	-	-	-	-	-	5U	-	-	-	-	-	-	-	7.9	3.63	-184.2	203	>1000	18.89
XSA-00-90X	10/03/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	20U	1.27	12.4J	-	-	-	-	-	9.79	7.49	-309.7	0.119	46	11.45
XSA-12-95X	10/12/2012	290	36	66	5.0U	5.0U	10	-	-	-	4.6J	9.53	11,800	-	-	-	-	-	6.53	2.04	-63.9	1.247	45	12.77
XSA-12-95X	10/15/2013	160	51	100	4.7J	5.0U	6.5	-	-	-	12.8	5.17	9,890	-	-	-	-	-	6.59	0.3	-254.4	1.411	24.4	13.11
XSA-12-95X	10/28/2014	110	39	94	5	0.47J	9	-	-	-	8.3	4.47J	9,310J	-	-	-	-	-	6.9	0.18	-315.7	0.906	20.2	14.23
XSA-12-95X	10/19/2015	**26.8**	**19.9**	1.0 U	1.0 U	**6.70**	**7.20**	NA	NA	NA	4.0 U	**4.77**	**10,600**	NA	NA	NA	NA	NA	7.97	1.77	-103.6	1.385	15.3	
XSA-12-96X	10/10/2012	120	4.4	14	2.0U	2.0U	2.0U	-	-	-	5U	3.13	96.8	-	-	-	-	-	6.52	0.72	-87.1	0.782	3.9	12.33
XSA-12-96X	10/15/2013	100	11	17	2.5U	2.5U	3.7	-	-	-	3.7J	0.94	2,840	-	-	-	-	-	6.46	0.27	-271.6	0.824	0.9	15.90
XSA-12-96X	10/28/2014	84	14	22	2.3	0.36J	6	-	-	-	3.2J	0.925J	5,720J	-	-	-	-	-	6.73	0.14	-300.6	0.625	4.83	12.11
XSA-12-96X	10/26/2015	**30.0**	**14.3**	1.0 U	1.0 U	**3.40**	**10.2**	NA	NA	NA	4.0 U	**2.19**	**7,340**	NA	NA	NA	NA	NA	6.34	0.66	-77.9	0.787	9.41	12.98
XSA-12-97X	10/09/2012	2.1	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	1.430 J	44.4	-	-	-	-	-	6.66	1.3	-11.9	0.673	33.8	11.73
XSA-12-97X	10/16/2013	2.9	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	5U	2.25	29.3	-	-	-	-	-	6.74	1.74	-21.9	0.721	19.6	12.06
XSA-12-97X	10/30/2014	5.6	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	2.5U	0.435	9.1J	-	-	-	-	-	6.51	1.52	51.8	0.522	17.5	17.21
XSA-12-97X	10/19/2015	**7.40**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	**0.771**	**15**	NA	NA	NA	NA	NA	6.62	1.39	31.9	0.614	13.9	10.02
XSA-12-98X	10/11/2012	10	0.59	0.50	0.5U	0.5U	0.5U	-	-	-	5U	1.420	18.4 J	-	-	-	-	-	7.75	0.76	-60.1	0.308	8.89	13.14
XSA-12-98X	10/16/2013	5.2	0.34J	0.47J	0.5U	0.5U	0.5U	-	-	-	3.1J	0.1U	6.6J	-	-	-	-	-	7.89	0.51	-39.8	0.413	51	10.53
XSA-12-98X	10/29/2014	5.5	0.37J	0.76	0.5U	0.5U	0.5U	-	-	-	2.5U	0.313	5.6J	-	-	-	-	-	8	0.46	-293.1	0.258	44.8	10.63
XSA-97-59X	07/01/2010	-	-	-	-	-	-	-	-	-	5U	-	-	-	-	-	-	-	6.93	1.77	-211.7	0.504	76.3	
XSA-12-98X	10/19/2015	**6.30**	**0.66 J**	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	4.0 U	**0.174**	15 U	NA	NA	NA	NA	NA	8.04	0.42	-194.4	0.31	3.62	10.70

J = Estimated result
U = non-detect

ug/L = microgram per liter
mg/L = milligram per liter

TABLE 5.1
Low Flow versus Hydrasleeve Sample Comparison
AOC 450 Fall 2015
Former Fort Devens Army Installation
Devens, MA

Client Sample ID:	G6M-13-05X_FAL15		G6M-13-05X_FAL15-H			G6M-07-02X_FAL15		G6M-07-02X_FAL15-H			G6M-03-02X_FAL15		G6M-03-02X_FAL15-H			G6M-04-03X_FAL15		G6M-04-03X_FAL15-H			G6M-97-05B_FA115		G6M-97-05B_FA115-H		
Date Sampled:	10/13/2015		10/13/2015		RPD	10/13/2015		10/13/2015		RPD	10/13/2015		10/13/2015		RPD	10/14/2015		10/14/2015		RPD	10/15/2015		10/15/2015		RPD
GC/MS Volatiles	ug/l		ug/l		%	ug/l		ug/l		%	ug/l		ug/l		%	ug/l		ug/l		%	ug/l		ug/l		%
cis-1,2-Dichloroethene	**62.7**		**75.5**		18.5	**3.1**	**J**	**2.8**		10.1	**6.0**		**3.0**		66.6	**43.0**		**33.2**		25.7	**3.4**		**6.5**		62.6
Tetrachloroethene	**1120**		**1290**		14.1	**482**		**858**		56.1	1.0	U	1.0	U		**5.0**		**13.2**		90.1	**117**		**121**		3.4
Trichloroethene	**11.0**		**12.3**		11.1	**13.0**		**15.7**		18.8	1.0	U	1.0	U		**3.2**		**10.0**		103	**6.9**		**8.5**		20.8
Vinyl chloride	1.0	U	1.0	U		1.0	U	1.0	U		**5.3**		**2.7**		32.5	**6.8**		**5.8**		15.9	1.0	U	1.0	U	

Notes:
µg/L = microgram per liter
U = Non-detect
J = Estimated value
RPD = Relative percent difference

APPENDIX A

ERD INJECTION SUMMARY REPORT – H&S Environmental, Inc.

January 2016

Enhanced Reductive Dechlorination Injection Summary

Former Moore Army Airfield (Area of Concern 50)
Former Fort Devens Army Installation
BRAC Legacy Sites
Devens, Massachusetts

Contract Number: W912WJ-15-C-0002

Prepared For:

Department of the Army
Corps of Engineers – New England District
Concord, Massachusetts

Prepared By

H&S Environmental, Inc.
160 East Main Street, Suite 2F
Westborough, MA 01581

January 2016

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LIST OF ACRONYMS

ABC®	Anaerobic BioChem®
ABC® Ole'	Anaerobic BioChem®+ Oleic Acid
ABC® Ole'+	Anaerobic BioChem®+ Oleic Acid + Zero Valent Iron
AOC	Area of Contamination
bgs	below ground surface
cis-1,2-DCE	*cis*-1,2-dichloroethene
DTW	depth-to-water
Devens	Former Fort Devens Army Installation
DO	dissolved oxygen
DoD	Department of Defense
ERD	enhanced reductive dechlorination
ft	feet
FDSA	Former Drum Storage Area
FDW	Former Dry Well
FID	Flame Ionization Detector
GP	Geoprobe® injection point
H&S	H&S Environmental, Inc.
HGL	HydroGeoLogic, Inc.
IW	Injection Well
LLC	Limited Liability Corporation
LTM	long-term monitoring
LTMP	Long-Term Monitoring Plan
MAAF	former Moore Army Airfield
MiHPT	Membrane Interface Probe-Hydraulic Profiling Tool
ORP	oxidation-reduction potential
PCE	tetrachloroethene
PID	photoionization detector
ppm	parts per million
psi	pounds per square inch
Redox	Redox Tech, LLC
trans-1,2-DCE	*trans*-1,2-dichloroethene
TCE	trichloroethene
TOC	Total Organic Carbon
µg/L	micrograms per liter
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
Wt%	Weight percent
ZVI	Zero Valent Iron

1.0 INTRODUCTION

The AOC 50 Site is located on the northeastern boundary of the former Moore Army Airfield (MAAF), within the former North Post portion of the former Fort Devens Army Installation, Devens, Massachusetts (**Figure 1**). Area 1 (Source Area) and downgradient areas (Areas 2 through 5) are shown on **Figure 2**. Information on the background of the AOC 50 Site is included in Long Term Monitoring Plan (LTMP) (HGL 2012). The following summary provides information on the recently completed Enhanced Reductive Dechlorination (ERD) injections at area of contamination (AOC) 50 monitored by H & S Environmental, Inc., (H & S) and implemented by Redox-Tech.

Event: Spring 2015 (ERD) Injections
Location: AOC 50, Moore Army Airfield
Date: July 21-30, 2015
Contractors: H&S Environmental, Inc. (H&S) and Redox Tech, LLC (Redox).
Personnel: John Fitzgerald, H&S Environmental, Inc.
Sean Enos, H&S Environmental, Inc.
Elizabeth Anderson, H&S Environmental, Inc.
Mike Pedany, Redox-Tech
Keith Precious, Redox-Tech

Products:

This was the 14th ERD injection event using Anaerobic BioChem® (ABC®) as the ERD substrate. A combination of ABC® and Oleic Acid (ABC® Ole') was used in Areas 2 and 3 to increase persistence and prolong treatment of VOCs closer to the source area. Zero Valent Iron (ZVI) was added to ABC® Ole' (ABC® Ole'+) to enhance VOC reduction and stimulate long-term release of the components for bioremediation and create a more reductive environment. This combination was injected directly to deep soils in the source area. ABC® alone was used in downgradient Areas 4 and 5, which was consistent with previous injection programs.

Equipment Used:

Redox-Tech Equipment On Site:

1. One support truck.
2. Trailer (equipment within trailer included poly tank used for mixing/storage of ABC®-Ole'-water mix, one air diaphragm pump, and miscellaneous hoses).
3. Additional poly tanks for mixing/storage of ABC®-Ole'-water mix.
4. Grout pump for mixing ZVI with ABC®-Ole' and injecting with the Geoprobe.
5. Diesel air compressor (rental).
6. ABC®-Ole' totes.
7. Geoprobe®
8. Hydraulic fork lift

H & S Equipment On Site:

1. Flame ionization detector (FID) with carbon tip.
2. Photo ionization detector (PID).
3. Water level indicator.
4. Disposable bailers.

2.0 COMPLETED INJECTION PROGRAM

An injection log provided in **Table 1** identifies each injection location (Geoprobe point or injection well), quantity and type of injected product, and grout pump/wellhead pressures, as well as measured field parameters (depth to water, methane, VOCs). Changes in water level elevations were generally minor. Prior to injection, wells previously identified as slow acceptors of the injection media were surged with a clean disposable bailer. These included wells IW-7, IW-8, IW-11, IW-19S, IW-25, IW-27, IW-28 and IW-35. Surging the wells did not yield any significant changes with injection rates when compared to historical events.

Based on the historical data, June 2015 sampling data (**Figure 4**) and Membrane Interface Probe Hydraulic Profiling Tool (MiHPT) results, the spring 2015injection strategy was planned. The strategy consisted of performing direct push injections to reach deeper impacted soils in the source area as well as supplemental injections at five of the original injection areas. Injections were performed in July 2015 at fifteen (15) Area 1 direct push injection locations, twelve (12) Area 1 injection wells, five (5) Area 2 injection wells, five (5) Area 3 injection wells, seven (7) Area 4 injection wells, and six (6) Area 5 injection wells.

The injection event occurred from July 21-30, 2015. **Table 2** lists pre and post injection event groundwater samples and monitoring data.

2.1 Area 1 (Source Area) Program

The Area 1 injection program included direct injection locations identified during the MiHPT study conducted in 2015. The identified deeper soil impacts were targeted by directly injecting ABC®-Ole'+ through 1.5 inch diameter grouting rods. **Figure 3** shows the injections locations. A concentration of 18% wt. solution of ABC®-Ole'+ was directly injected using a Geoprobe® starting at approximately 64 feet below ground surface (bgs). Approximately 130 gallons of ABC®-Ole'+ solution was injected at 4 ft. intervals from 64 ft. to approximately 40 ft. bgs, for an approximate total of 910 gallons per location. In addition, an injection from 40 to 16 ft bgs of ABC®-Ole'+ was conducted at location GP-14 located upgraded of a relatively shallow area of impact identified during the MiHPT program.

The volume of ERD solution injected at existing Area 1 injection wells was approximately 260 gallons of a ABC®-Ole' mixture at 20% wt. solution. The ZVI was not used in wells due to potential of clogging the well screens. Shallow supplemental injections occurred at IW-7, IW-8, IW-11, and IW-12 located upgradient to the highest areas of impact identified at G6-078-02X. Locations IW-18S and IW-19S are upgradient of a shallow contamination identified in the MiHPT study and subsequently received supplementary injection. The following volumes were injected at Area 1:

- GP-1, GP-2, GP-3, GP-4, GP-5, GP-6, GP-7, GP-8, GP-9, GP-10, GP-11, GP-12, GP-13, GP-14, and GP-15 each received 910 gallons of ABC®-Ole'+/water solution
- IW-7, IW-8, IW-11, IW-12, IW-13D, IW-15D, IW-16D, IW-17D, IW-18D, IW-18S, IW-19D, and IW-19S each received 260 gallons of ABC®-Ole'/water solution.

2.2 Downgradient Areas 2 and 3 Supplemental Injections

Area 2 wells showed fluctuations in tetrachloroethylene (PCE) between 2012 and 2014. Area 2 wells did not receive ERD injections in Fall 2014, five wells received injections of 410 gallons ABC®-Ole' solution in Spring 2015. Groundwater sample data from Fall 2014, pre-injection 2015, and post-injection 2015 can be found in **Table 2**.

Area 3 injections were conducted to address fluctuations in PCE upgradient of the injection transect. Upgradient monitoring well G6M-04-02X was observed to have an increase in PCE from October 2013 (140 µg/L) to October 2014 (480 µg/L), but decreased to 62.2 µg/L in June 2015. The Spring 2015 injections were conducted at five injection locations in Area 3 (IW-24 to IW-28), each receiving 410 gallons of ABC®-Ole' solution.

2.3 Downgradient Areas 4 and 5 Supplemental Injections

Area 4 injections were conducted to address concentrations at former monitoring well G6M-06-01X and its replacement monitoring well G6M-13-02X . The spring 2015 injections included seven injection locations IW-29, IW-30, IW-31, IW-33, IW-34, IW-35, and IW-36. Each received 410 gallons of ABC® solution. The ABC® solution used in Area 4 did not include the addition of Ole' and ZVI to avoid the potential for mobilization of arsenic in downgradient areas.

Area 5 injections were conducted to address VOC concentrations in groundwater observed historically at locations G6M-02-05X, G6M-97-05B and G6M-13-01X and downgradient micro-wells XSA-12-95X, XSA-12-96X, XSA-12-97X and XSA-12-98X. Downgradient monitoring well G6M-13-04X was installed as a replacement for G6M-02-05X and is utilized in the injection program evaluations. Six Area 5 wells received injections of 410 gallons of ABC® solution (IW-1 through IW-6).

2.4 Redox-Tech ERD Injection Procedure

Redox performed substrate mixing on-site to meet the desired concentrations as specified by the Injection Work Plan. Several 500-gallon poly tanks were used as the mixing vessels. The ABC®/Ole'/ZVI/water solution concentrations and injection volumes for the five treatment areas are detailed within **Table 1**.

The injection system layout consisted of a 500-gallon poly tank, one air diaphragm pump, one air compressor, and injection lines. A chemical grout pump was implemented at the Geoprobe locations to move the ERD product into the formation.

Injections were conducted at one Geoprobe location or one injection well at a time.

All injection lines were cleared at the end of each day. Following the completion of all injections, the lines were flushed with water.

3.0 H&S FIELD MONITORING

H&S monitored injection activities and performed pre and post-injection monitoring of existing wellheads. Wellheads were screened using a flame ionization detector (FID) with a carbon tip to monitor for the presence of methane and a photoionization detector (PID) to monitor for VOCs. Depth to water (DTW) measurements were also recorded for each well. Field monitoring parameters and results can be found in **Table 1.**

4.0 ERD INJECTION ISSUES

Some minor issues occurred with the injection of the ERD product into pre-existing wellheads, which were quickly resolved. IW-7, IW-11, IW-19S experienced "daylighting", (product moving to the ground surface rather than into the formation) within the well casings, and IW-17D experienced daylighting outside of the casing. Wells in Areas 2, 3, 4, and 5 experienced no daylighting or other issues.

Direct push injections in the Source Area provided various issues including minor leaking of the rod string at rod joints, and clogging of the rod string with ZVI, but these issues were also quickly resolved. GP-3 and GP-9 experienced clogging from the ZVI, thus the rod string was pulled, cleaned, and re-advanced. During injection at GP-2, groundwater was forced out of adjacent monitoring well G6M-02-08X (located approximately 10 ft from injection point) while injecting at a depth of 54 ft (the adjacent well is screened at this depth). Daylighting occurred in GP-14 when injecting 24 ft bgs. The rod string was subsequently pulled and re-advanced within a foot of the original GP location. GP-15 experienced backpressure from 58 ft bgs to 64 ft bgs, and received no injection at these depths. As a result, injection of 260 gallons of ERD solution was performed at 58 ft bgs to try and ensure adequate injection of ERD product.

5.0 POST-INJECTION GROUNDWATER MONITORING

A post-injection groundwater sampling program was conducted at AOC 50 during the period September 9 to September 14, 2015. Selected monitoring wells in the Area 1 Source Area and in the downgradient Areas were sampled to evaluate the effectiveness of the injection program. Groundwater samples collected from a total of 18 wells at AOC 50 were analyzed by Accutest Laboratories for VOCs, total organic carbon (TOC), alkalinity, nitrates, sulfates, sulfides, dissolved arsenic, iron and manganese, ethane, ethene, and methane. In addition, AOC 50 groundwater monitoring wells were sampled during an annual groundwater sampling event conducted at Devens in October 2015 (**Figure 5**). The results of the post-injection sampling rounds are compared to sampling rounds conducted prior to the July injection event at AOC 50 in **Table 2**.

In addition, biannual groundwater samples were collected during the fall sampling event (October 13 to 16, 2015). These results were included for comparison and evaluation purposes.

6.0 CONCLUSIONS

A review of the pre and post-injection sampling data was conducted using Mann-Kendall statistical analysis, linear observations of analytical trends as well as observed dissolved oxygen, and oxidation-reduction potential values. Mann-Kendall calculations are included in Appendix A. Trends were analyzed in each area of concern and graphically represented in Appendix B. The charts indicate pre and post-injection sampling trends for PCE, TCE and methane (when available in the data set).

6.1 Area 1 - Former Drum Storage Area (FDSA)

ERD injections were completed at injection wells located near the FDSA in the spring of 2015. The injection program utilized injection wells IW-7, IW-8 and IW-11. Overall, PCE concentrations decreased within the FDSA with respect to high historical concentrations see **Table 3**. See **Appendix A** for statistical analysis and **Appendix B** for data trends.

As presented on **Table 2**, groundwater data in the FDSA generally exhibit a decline in PCE and TCE concentrations. Monitoring wells G6M-04-09X and G6M-04-10X are located downgradient of the FDSA and were sampled prior to and after the spring ERD injection program. Historical PCE and TCE concentrations are plotted and provided in **Appendix B.** At location G6M-04-09X, PCE ranged from a high of 7,400 ug/L in September 2004 to non-detect in 2015. Location G6M-04-10X ranged from a high of 420 ug/L in October 2010 to non-detect in 2015. Statistical analysis conducted on wells G6M-04-09X and G6M-04-10X indicate decreasing concentration trends with a greater than 95% confidence factor, see **Appendix A**.

Groundwater concentrations including methane were graphed over time for location G6M-04-10X located downgradient of the FDSA. The trend observed indicates a decline in TCE and PCE concentrations related to the ERD injections. An increase in methane concentrations as well as observed low dissolved oxygen and oxidation-reduction potential in monitored field parameters indicate active reductive dechlorination. **Figure 6** and 7 indicate methane concentrations pre and post injection.

6.2 Area 1 - Former Dry Well Area (FDW)

Monitoring wells included in 2015 sampling near the FDW include G6M-02-08X, G6M-13-05X G6M-03-01X, and G6M-93-13X (**Table 2)**. Monitoring well G6M-02-08X initially demonstrated high PCE concentrations (3,600 ug/l in January 2003), and currently the sample results indicate non detect. The decrease in PCE concentrations is attributed to the ERD injection program. This is observed by reviewing the low dissolved oxygen values, negative ORP and high methane concentrations. The groundwater sampling results for this monitoring well including methane and TCE, are presented in **Appendix B**.

Monitoring well G6M-13-05X was installed in January 2014 to replace G6M-04-12X. The concentration of PCE in groundwater sampled from monitoring well G6M-13-05X increased from 250 µg/L in January 2014 to 1,120 µg/L in October 2015. This has been attributed to a delay response to historical ERD injections **(Appendix B**).

Location G6M-03-01X shows a slight post-injection increase in PCE and TCE; however, the concentrations are lower than fall 2014 monitoring results (**Appendix B**). Concentrations of PCE and TCE at G6M-93-13X have been low to non-detect since October 2001. This trend continues for this well location with PCE and TCE being non detect at this location in 2015.

Statistical analysis conducted on G6M-02-08X PCE and TCE concentrations over time. The results indicated decreasing concentration trends. See **Appendix A**.

6.3 Area 1

Area 1 monitoring included G6M-03-01X. This well is located near the Former Parachute Tower. The concentrations at this monitoring location have fluctuated since its installation in 2009 from 380 µg/L in October 2009 to non-detect in June 2015. Fall sampling indicated an increase in PCE and TCE concentrations most likely attributed to injections of ERD substrate at locations IW-13D, IW-15D and IW16D. **Appendix B** indicates the concentration trends over time. Statistical analysis conducted for this location, indicated a stable concentration trend with a 76.5% confidence factor. See **Appendix A**.

6.4 Area 2

The historical data indicates a definitive overall decreasing concentration trend for PCE since 2007, and that the ERD process is continuing to work toward completion, which is confirmed by a decline in dechlorination by-product concentrations and the sustained evolution of high ethene and methane concentrations. It is noted that the variation in both the 2011 and 2013 data suggest that the rebound periods were short-lived and that the ERD process continues to work toward completion, as demonstrated by non-detections for PCE in both 2011, 2013, 2014, and 2015 with a decline in dechlorination by-product concentrations. See **Appendix B** for data trends.

Monitoring wells sampled in the vicinity of Area 2 in 2015 include G6M-02-01X, G6M-04-01X, G6M-04-02X and G6M-04-03X. Concentrations of PCE at G6M-02-01X remain near the detection limit in October 2015 from at high concentration of 1,900 ug/L detected in September 2007. PCE and TCE concentrations for this location are plotted with methane concentrations in **Appendix B**. Statistical trends for this location indicate No Trend for the TCE concentrations and a decreasing trend for PCE concentrations. The analysis is contained in **Appendix A**.

Concentrations of PCE and TCE at location G6M-04-01X were non-detect in monitoring conducted in 2015 **Appendix B**. Statistical analysis of G6M-04-01X indicates decreasing concentration trends (**Appendix A**).

PCE and TCE at G6M-04-03X are plotted with methane concentrations in **Appendix B.** Increased methane concentrations since 2009 and decreased PCE and TCE concentrations indicates reductive dechlorination is effectively reducing the compounds of concern. Statistical analysis conducted for PCE and TCE at G6M-04-03X indicated decreasing and no trend, respectively. These figures are located in **Appendix A**.

G6M-04-02X is located immediately upgradient of the Area 3 injection well transect. Concentrations of PCE and TCE were detected at this location at 105 ug/l and 30.5 ug/L, respectively in October 2015 (**Appendix B**). Statistical analysis conducted for this well location indicated decreasing concentration trends for PCE and stable concentration trends for TCE, see **Appendix A**.

6.5 Area 3

Groundwater monitoring results for sampled wells near the Area 3 injection transect showed levels of PCE and TCE near or below the limits of detection. Historical methane, PCE and TCE data are presented graphically for monitoring well G6M-03-07X in **Appendix B**. This well showed a high PCE concentration of 1,700 ug/L in September 2004. Elevated methane concentrations, PCE concentrations near or below the limit of detection since December 2007, low dissolved oxygen concentrations and negative ORP values indicate effective reductive dechlorination. Similarly, monitoring well G6M-04-04X indicates the same trends (**Appendix B**). The geochemical environment of groundwater near Area 3 remains reductive and the remnant VOCs are expected to fully degrade. See **Appendix B** for data trends. Statistical analysis performed on G6M 03-07X and G6M-04-04X indicates decreasing concentration trends; see **Appendix A**.

6.6 Area 4

Overall concentrations of PCE and TCE in Area 4 are near the limits of detection for the sampled monitoring wells. PCE and TCE concentrations were detected at monitoring well G6M-13-02X. The historical data for this monitoring well are presented in **Appendix B.** Concentrations of PCE and TCE in this monitoring well are decreasing. Pre-injection monitoring indicated a PCE concentration of 105 ug/L. Post injection PCE concentrations in this well were lower (69.6 ug/l) in October 2015. See **Appendix B** for data trends. Statistical concentration trends indicated stable concentrations for PCE and TCE at this location, see **Appendix A**.

6.7 Area 5

Monitoring wells G6M-13-01X, G6M-13-04X, and G6M-97-05B indicated detections of TCE and PCE in Area 5. These wells are located downgradient and to the west of the Area 5 injection well transect (**Figure 2**).

Concentrations of PCE and TCE detected at G6M-97-05B are plotted on **Appendix B.** The concentration of PCE in this monitoring well has increased from 5.7 ug/l in October 2011 to 117 ug/L in October 2015. Statistical analysis for this location indicates an increasing concentration trend for PCE and TCE. See **Appendix A**. Dissolved oxygen values are over 1.0 mg/L and the ORP is a positive value over 100 indicating aerobic conditions are present. Reductive dechlorination requires an anaerobic condition with dissolved oxygen values less than 1.0 mg/L and negative ORP values. Additional injection events and monitoring should be conducted in this area.

Monitoring well G6M-13-04X PCE concentrations increased from 1.7 ug/l in October 2014 to 18.7 ug/l in October 2015 (**Appendix B**); however, levels are below historical highs and may represent fluctuations due to the ERD events. Dissolved oxygen and ORP values indicate a reducing environment. It is anticipated the PCE and TCE concentrations will decrease as a result of these conditions.

Monitoring well G6M-03-10X is located downgradient from the injection well points and shows PCE and TCE to be non-detect in September 2015 and October 2015 as well as elevated methane, low dissolved oxygen and negative ORP indicating reductive conditions **(Appendix B).**

7.0 RECOMMENDATIONS

The data overall indicate decreasing or stable trends in all the monitoring locations with the exception of G6M-97-05B for PCE and TCE. This well is located in Area 5. The concentrations at this well were 89.4 ppb (PCE) and 4.8 ppb (TCE) when sampled in June 2015 for the pre-injection event. Samples collected during the fall 2015 sampling event indicated an increase to 117 ppb (PCE) and 6.90 ppb (TCE). An evaluation of groundwater flow paths, groundwater concentrations and ABC injection points indicates the well is located near the northwestern edge of the treatment zone in Area 5. It is recommended that additional injections occur upgradient of G6M-97-05B.

It is also recommended additional monitoring be conducted in February 2016 and April 2016 for dissolved oxygen, ORP, methane and VOCs at the following locations:

Area 1

G6M-02-08X
G6M-13-05X
G6M-13-06X
G6M-04-09X
G6M-04-10X
G6M-03-01X

Area 2

G6M-02-01X
G6M-04-03X

Area 3

G6M-04-02X

Area 4

G6M-06-01X (may require redevelopment)
G6M-13-02X

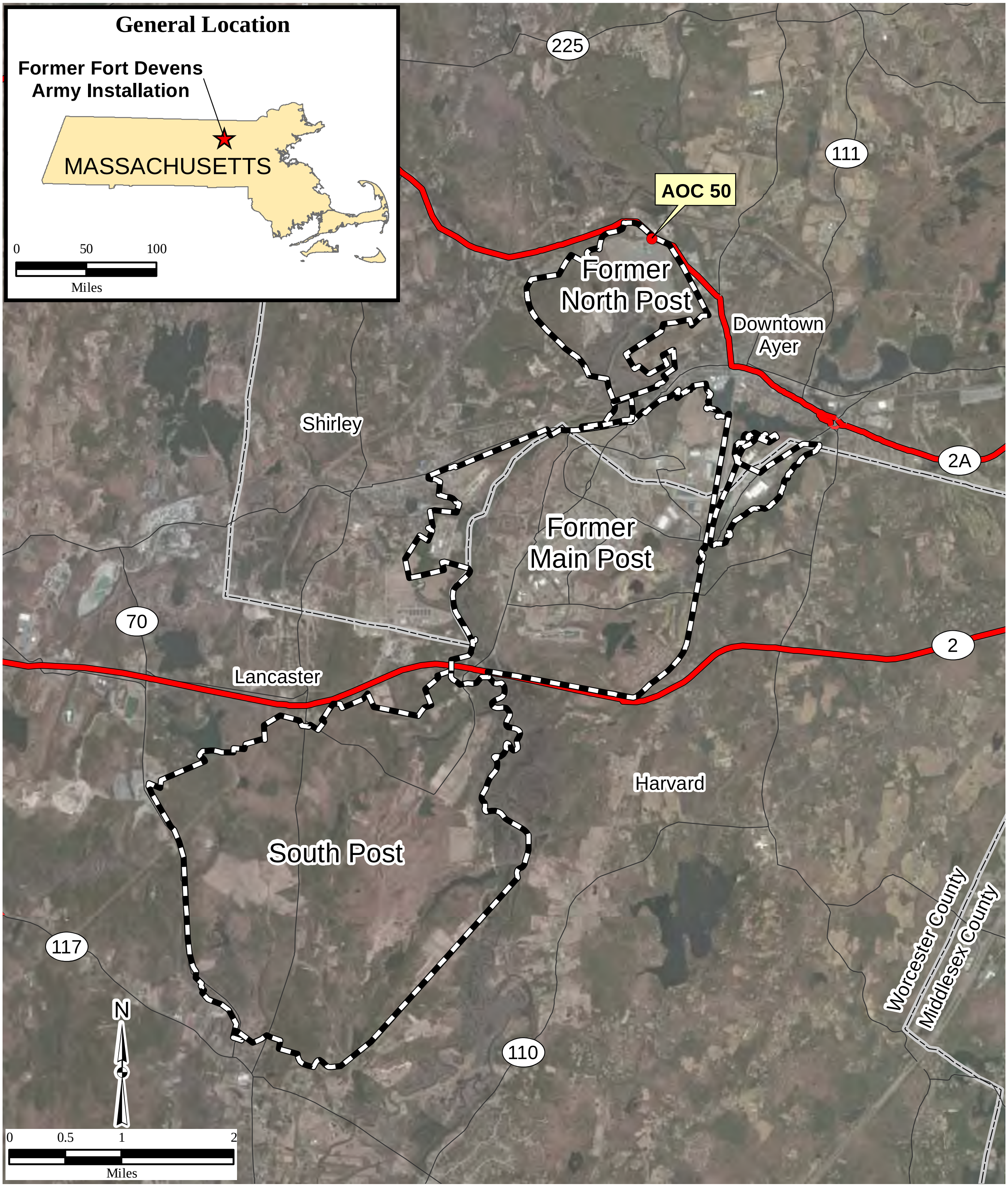
Area 5

G6M-02-05X(may require redevelopment)
G6M-97-05B
G6M-13-04X
G6M-13-01X
G6M-02-07X

Upon review of the data, a new ERD program will be developed.

Wells indicating slow acceptance or daylighting of injected material should be mechanically surged prior to the next injection event. Each well should be developed using a drill rig or similar equipment.

FIGURES



Source: Sovereign,HGL, ESRI, USACE, www.mass.gov,

ESRI Online Bing Maps Aerial

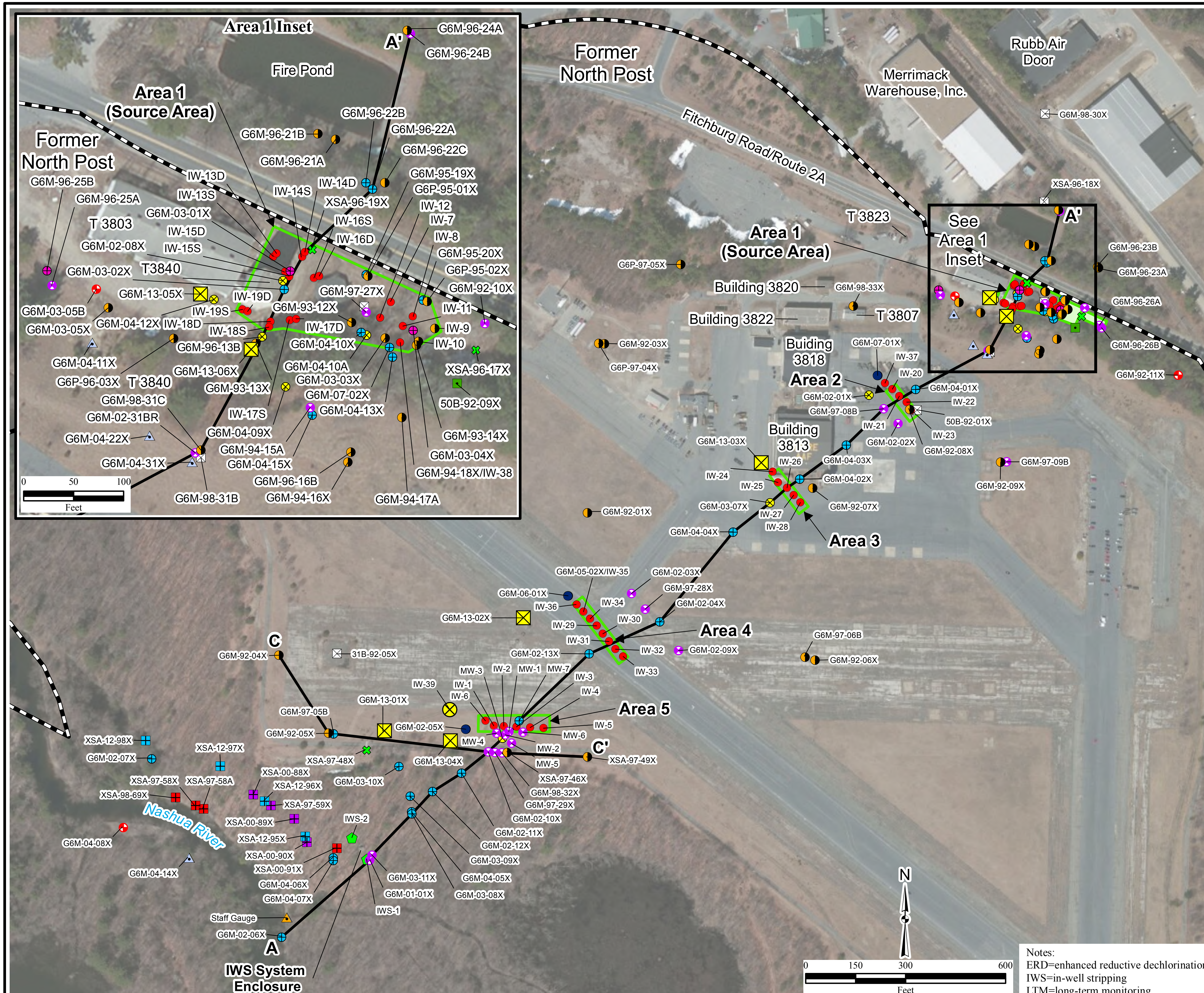
Legend

- Area of Contamination (AOC)
- Major Road
- Highway
- County Line
- Former Fort Devens

Figure 1
Site Location
Former Fort Devens
Army Installation

Sovereign and HGL—2013 Annual O&M and Monitoring Report, AOC 50—Former Fort Devens Army Installation, Devens, MA

Figure 2
Site Layout
Area of Contamination 50



Legend

- ERD LTM Well–Sampled Semi-Annually
- ERD LTM Well–Sampled Annually
- ERD LTM Well–Sampled Biennially
- LTM Well–Sampled Every 3 Years
- LTM Well–Gauge Only
- Monitoring Well
- Monitoring Well Converted to Injection Well (CY2013)
- Monitoring Well–Destroyed
- In-Well Stripping System Well
- MicroWell®–Sampled Annually
- MicroWell®–Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Abandonded Well
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Monitoring Well Installed December 2013/January 2014
- Injection Well Installed January 2014
- G6M-02-11X Well/Gauge/Piezometer Identification
- A——A' Cross Section
- Former Fort Devens Boundary
- ERD Injection Well Transect

Notes:
ERD=enhanced reductive dechlorination
IWS=in-well stripping
LTM=long-term monitoring

\\Gst-srv-01\hglgis\Ft_Devens\AOC50\O&M_Annual_2013\(2-01)Site_Layout_Map.mxd
8/5/2014 AE
Source: HGL, USACE, ArcGIS Online Imagery

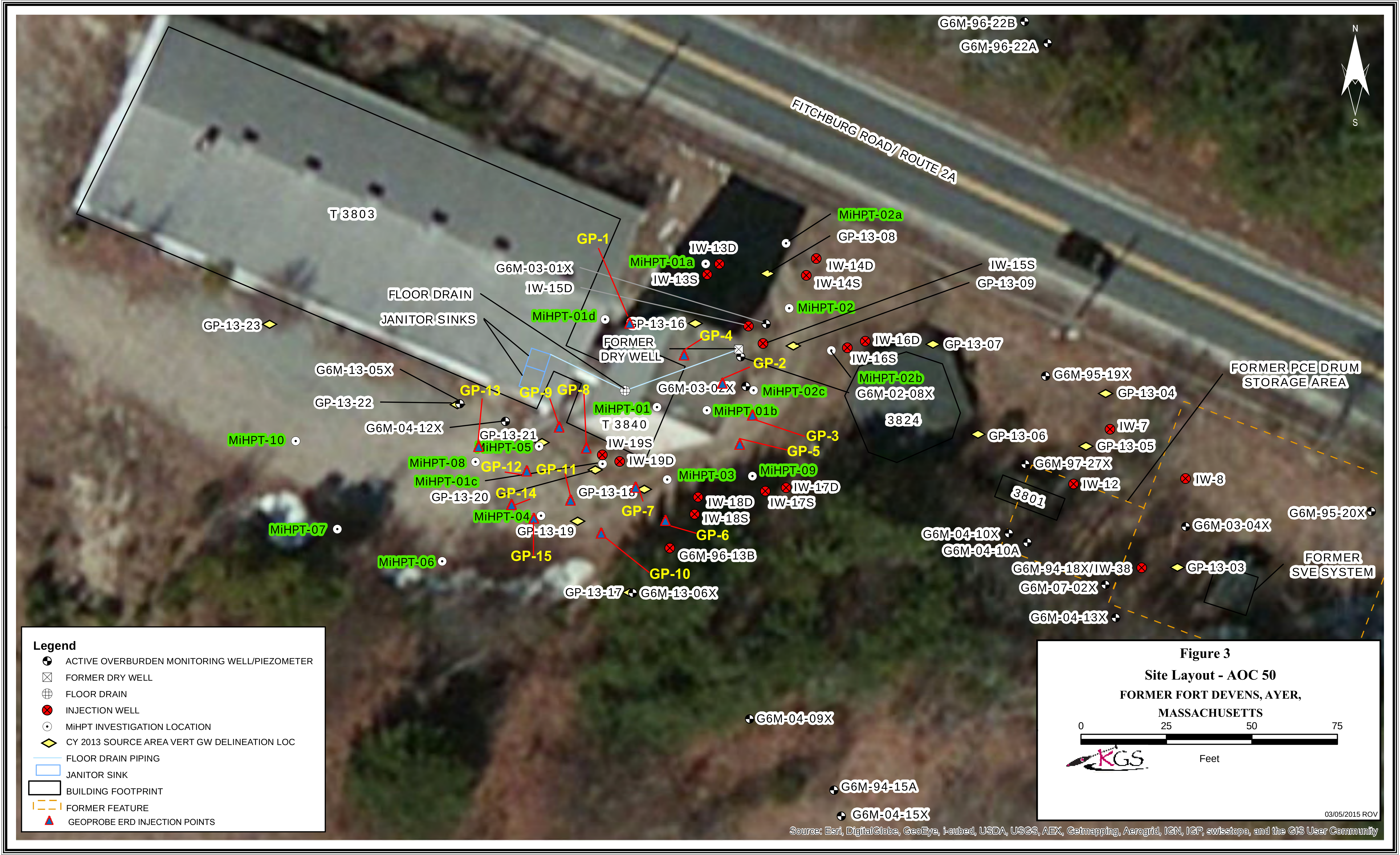
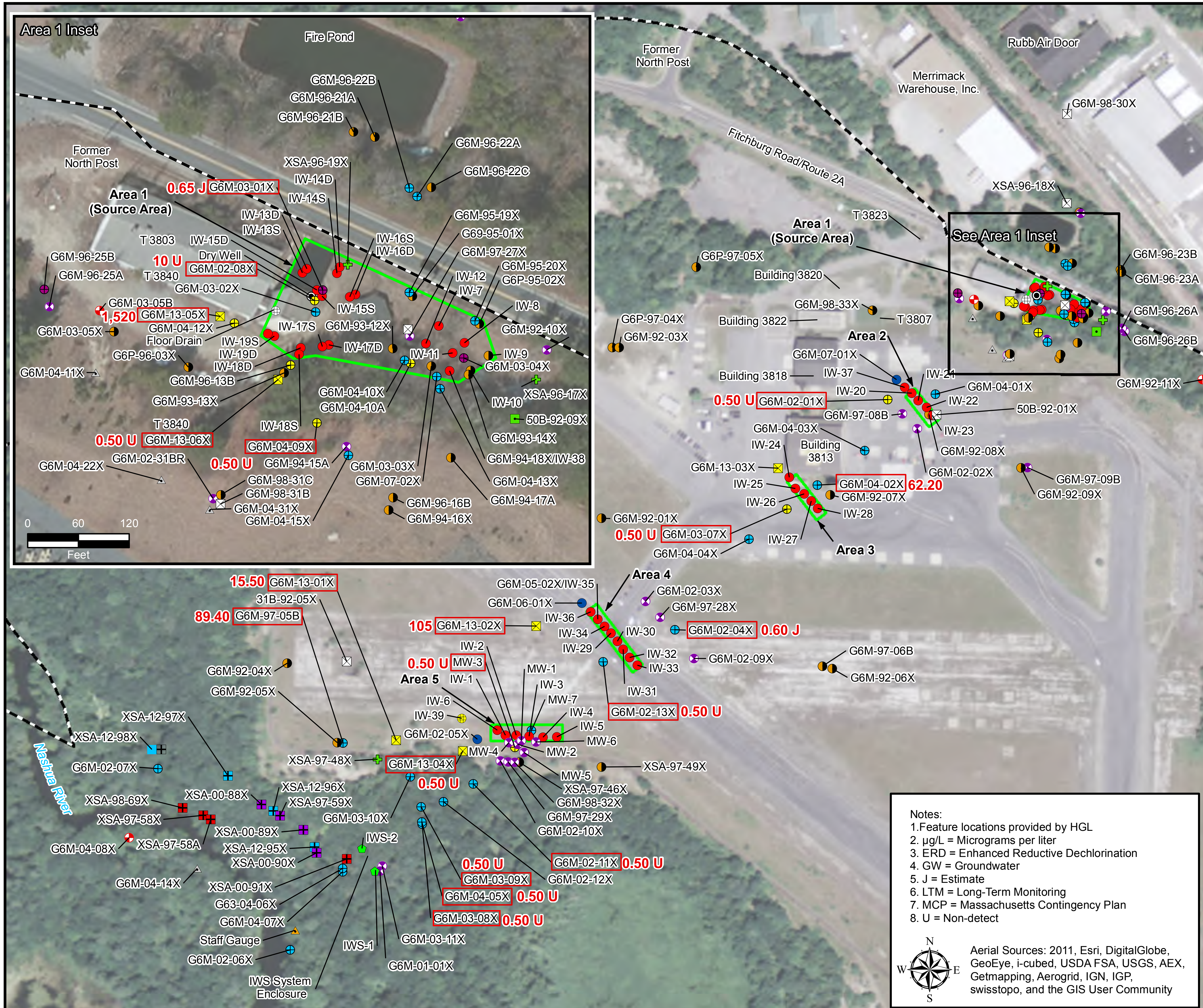


Figure 3

Site Layout - AOC 50

FORMER FORT DEVENS, AYER, MASSACHUSETTS

Figure 4
PCE Concentrations in Groundwater
June 2015



Notes:
1. Feature locations provided by HGL
2. µg/L = Micrograms per liter
3. ERD = Enhanced Reductive Dechlorination
4. GW = Groundwater
5. J = Estimate
6. LTM = Long-Term Monitoring
7. MCP = Massachusetts Contingency Plan
8. U = Non-detect

Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- ERD LTM Well - Sampled Every 3 Years
- LTM Well - Gauge Only
- Monitoring Well
- Monitoring Well Converted to Injection Well (CY2013)
- Monitoring Well - Destroyed
- In-Well Stripping System Well
- MicroWell® - Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Abandoned Well
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Monitoring Well Installed 12/2013-01/2014
- Injection Well Installed 01/2014
- Dry Well
- Floor Drain
- G6M-92-11X Well/Gauge/Piezometer Identification - Sampled for PCE June 2015
- 105 PCE Concentration (µg/L)
- Former Fort Devens Boundary
- ERD Injection Well Transect

References:
HGL. LTMMP 2012.

ERD Injections Report
AOC 50

Former Fort Devens Army Installation and Sudbury Annex
Devens, Massachusetts

H & S Environmental , Inc.
160 East Main Street, Suite 2F, Westborough, MA 01581

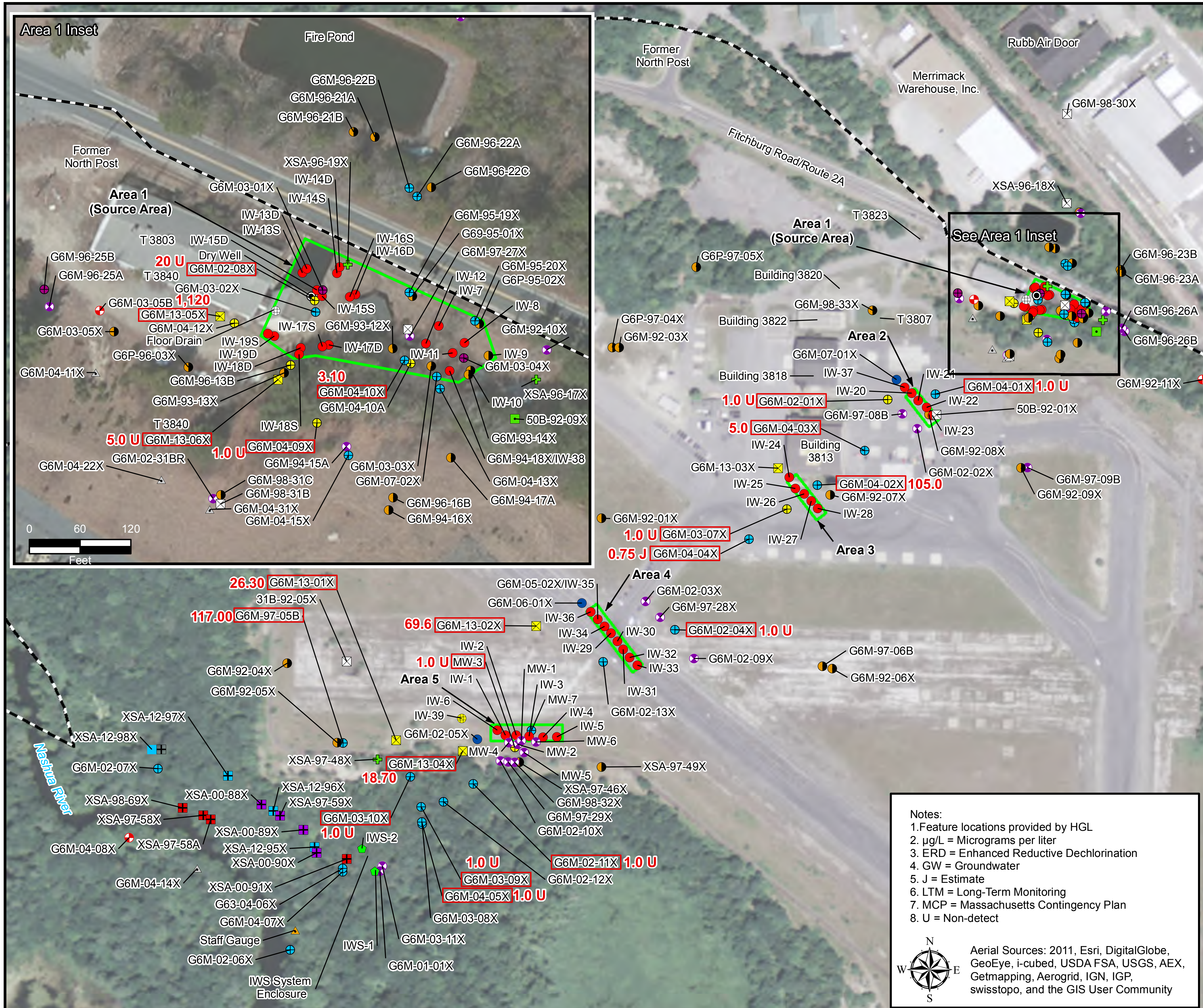
0 150 300
Feet

Date:
01/04/2016

Figure
4

H&S

Figure 5
PCE Concentrations in Groundwater
October 2015



Notes:
1. Feature locations provided by HGL
2. µg/L = Micrograms per liter
3. ERD = Enhanced Reductive Dechlorination
4. GW = Groundwater
5. J = Estimate
6. LTM = Long-Term Monitoring
7. MCP = Massachusetts Contingency Plan
8. U = Non-detect

Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N S E W

Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- ERD LTM Well - Sampled Every 3 Years
- LTM Well - Gauge Only
- Monitoring Well
- Monitoring Well Converted to Injection Well (CY2013)
- Monitoring Well - Destroyed
- In-Well Stripping System Well
- MicroWell® - Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Abandoned Well
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Monitoring Well Installed 12/2013-01/2014
- Injection Well Installed 01/2014
- Dry Well
- Floor Drain
- G6M-92-11X Well/Gauge/Piezometer Identification - Sampled for PCE October 2015
- 69.6 PCE Concentration (µg/L)
- Former Fort Devens Boundary
- ERD Injection Well Transect

References:
HGL. LTMMP 2012.

ERD Injections Report
AOC 50

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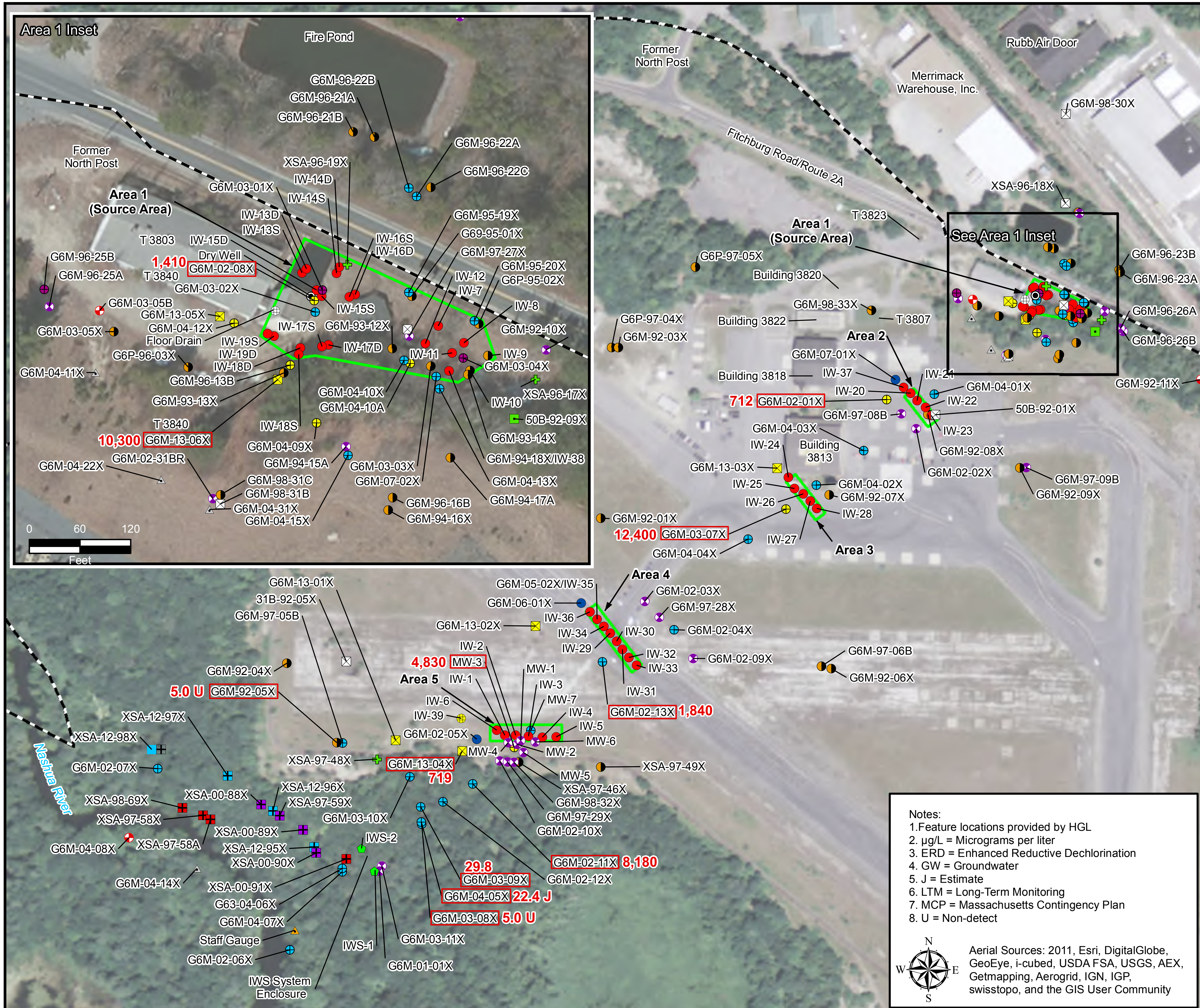
0 150 300 Feet	Date: 01/04/2016	Figure 5	H&S

Figure 6
Methane Concentrations in Groundwater June 2015



Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- ERD LTM Well - Sampled Every 3 Years
- LTM Well - Gauge Only
- Monitoring Well
- Monitoring Well Converted to Injection Well (CY2013)
- Monitoring Well - Destroyed
- In-Well Stripping System Well
- MicroWell® - Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Abandoned Well
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Monitoring Well Installed 12/2013-01/2014
- Injection Well Installed 01/2014
- Dry Well
- Floor Drain
- G6M-92-11X Well/Gauge/Piezometer Identification - Sampled for Methane June 2015
- 29.8 Methane Concentration (µg/L)
- Former Fort Devens Boundary
- ERD Injection Well Transect

References:
HGL. LTMMP 2012.

Notes:
1. Feature locations provided by HGL
2. µg/L = Micrograms per liter
3. ERD = Enhanced Reductive Dechlorination
4. GW = Groundwater
5. J = Estimate
6. LTM = Long-Term Monitoring
7. MCP = Massachusetts Contingency Plan
8. U = Non-detect

N S E W

Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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0 150 300
Feet

Date:
01/04/2016

Figure
6

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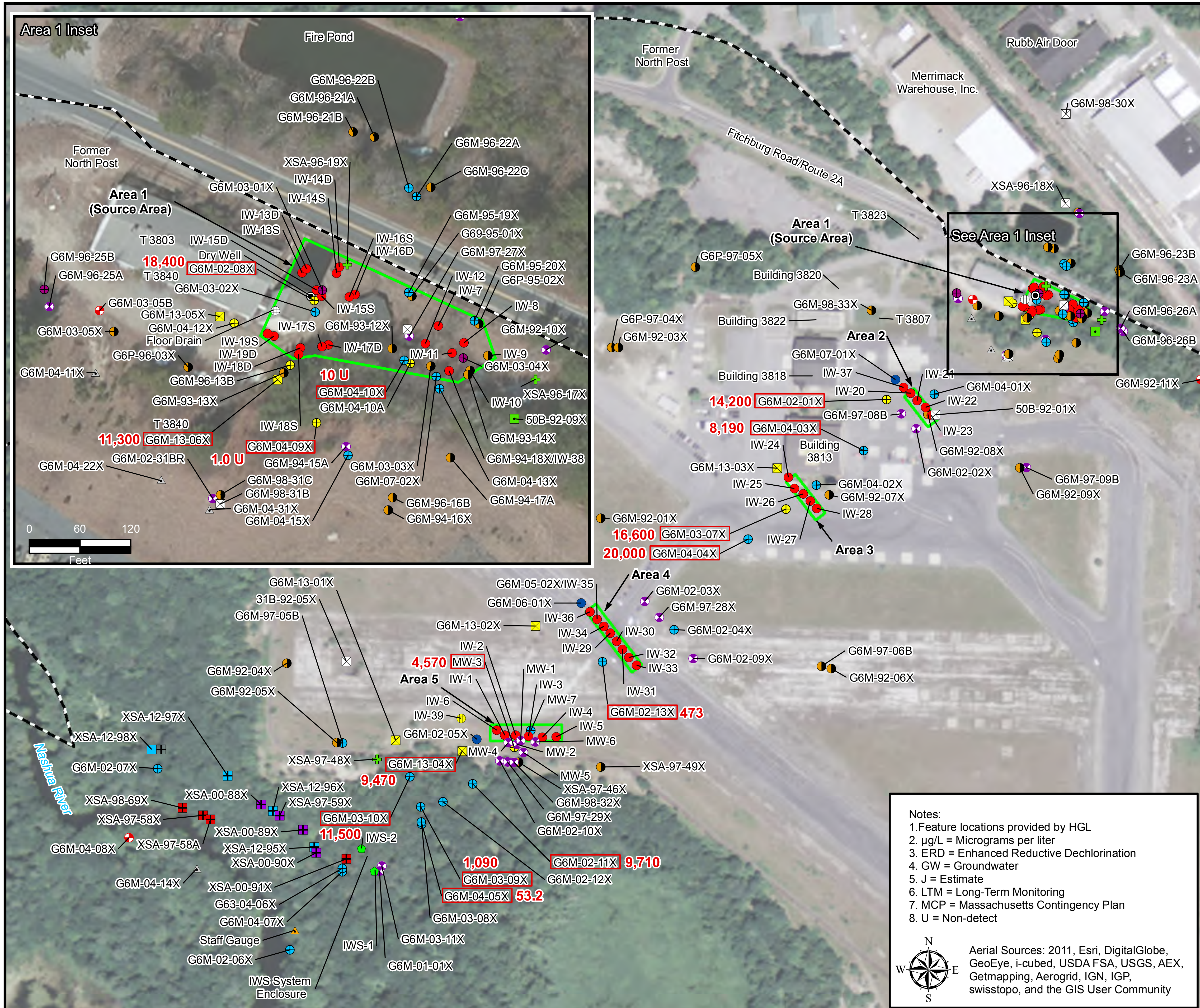

Figure 7
Methane Concentrations in Groundwater October 2015

Legend

- ERD LTM Well - Sampled Semi-Annually
- ERD LTM Well - Sampled Annually
- ERD LTM Well - Sampled Biennially
- ERD LTM Well - Sampled Every 3 Years
- LTM Well - Gauge Only
- Monitoring Well
- Monitoring Well Converted to Injection Well (CY2013)
- Monitoring Well - Destroyed
- In-Well Stripping System Well
- MicroWell® - Sampled Annually
- MicroWell® - Gauge Only
- MicroWell®
- Injection Well
- Staff Gauge
- Abandoned Well
- Historic Vertical Groundwater Profiling Location
- Historic Soil Boring
- Monitoring Well Installed 12/2013-01/2014
- Injection Well Installed 01/2014
- Dry Well
- Floor Drain
- G6M-92-11X Well/Gauge/Piezometer Identification - Sampled for Methane October 2015
- 473 Methane Concentration (µg/L)
- Former Fort Devens Boundary
- ERD Injection Well Transect

References:
HGL. LTMMP 2012.

Notes:
1. Feature locations provided by HGL
2. µg/L = Micrograms per liter
3. ERD = Enhanced Reductive Dechlorination
4. GW = Groundwater
5. J = Estimate
6. LTM = Long-Term Monitoring
7. MCP = Massachusetts Contingency Plan
8. U = Non-detect

N E S W

Aerial Sources: 2011, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

ERD Injections Report
AOC 50

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Devens, Massachusetts

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0 150 300
Feet

Date: 01/04/2016

Figure 7

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TABLES

TABLE 1
ERD INJECTIONS LOG
AOC 50
FORMER FORT DEVENS
AYER, MASSACHUSETTS

LOCATION	MONITORING	LOCATION	AOC 50	INJECTION	DEPTH TO WATER	INJECTION PRODUCT	INJECTION	INJECTION	INJECTION	INJECTION WELL SCREENING RESULTS		
	DATE	TYPE	AREA	DATE	FT. TOC	(AND WATER)	VOLUME (Gal.)	DEPTH (FT. BGS.)	TIME	FID (PPM)	PID (PPM)	COMMENTS
G6M-04-12X	7/21/2015	Monitoring Well	Area 1 - Source Area	-	-	-	-	-	-	0.0	1.2	well is blocked at 15.4 ft with thick orange substance
IW-19S	7/21/2015	Injection Well	Area 1 - Source Area	7/21/2015	NM	ABC+Ole'	260	Screened Interval	11:50 - 12:20	2200.0	0.0	Possible spill or daylighted in casing.
IW-19D	7/21/2015	Injection Well	Area 1 - Source Area	7/21/2015	15.16	ABC+Ole'	260	Screened Interval	14:08 - 14:40	45000+	0.0	
IW-18S	7/21/2015	Injection Well	Area 1 - Source Area	7/21/2015	14.40	ABC+Ole'	260	Screened Interval	12:22 - 12:59	25000+	0.5	
IW-18D	7/21/2015	Injection Well	Area 1 - Source Area	7/21/2015	14.11	ABC+Ole'	260	Screened Interval	13:40 - 14:07	50000+	1.2	
IW-17S	7/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	50000+	1.3	
IW-17D	7/21/2015	Injection Well	Area 1 - Source Area	7/21/2015	NM	ABC+Ole'	260	Screened Interval	13:00 - 13:37	50000+	0.0	Daylighted outside of casing.
IW-15D	7/21/2015	Injection Well	Area 1 - Source Area	7/21/2015	12.18	ABC+Ole'	260	Screened Interval	15:16 - 15:45	50000+	75.0	
IW-15S	7/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	50000+	0.0	
IW-13D	7/21/2015	Injection Well	Area 1 - Source Area	7/22/2015	13.21	ABC+Ole'	260	Screened Interval	008:00 - 08:36	1020.0	1.3	
IW-13S	7/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	50000+	0.0	
IW-14S	7/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	1755.0	0.0	
IW-14D	7/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	25.2	20.2	
IW-16D	7/21/2015	Injection Well	Area 1 - Source Area	7/21/2015	13.50	ABC+Ole'	260	Screened Interval	14:45 - 15:15	50000+	2.0	
IW-16S	7/21/2015	Injection Well	Area 1 - Source Area	-	-	-	-	-	-	755.0	23.5	
IW-7	7/21/2015	Injection Well	Area 1 - Source Area	7/22/2015	13.18	ABC+Ole'	260	Screened Interval	11:05 - 11:49	40.0	3.5	Daylighted within casing.
IW-12	7/21/2015	Injection Well	Area 1 - Source Area	7/22/2015	12.54	ABC+Ole'	260	Screened Interval	11:05 - 11:49	50000+	0.0	
IW-8	7/21/2015	Injection Well	Area 1 - Source Area	7/22/2015	12.65	ABC+Ole'	260	Screened Interval	09:30 - 10:10	50000+	0.0	
IW-11	7/21/2015	Injection Well	Area 1 - Source Area	7/22/2015	13.50	ABC+Ole'	260	Screened Interval	08:45 - 09:20	151.0	0.0	Daylighted within casing.
GP-2	-	Geoprobe Injection	Area 1 - Source Area	7/22/2015	-	ABC+Ole'+Fe	910	40 - 65	09:00 - 11:25	-	-	Groundwater forced out of adjacent well G6M-02-08X (located approximately 10 ft from injection point) at a depth of 54 ft.
GP-1	-	Geoprobe Injection	Area 1 - Source Area	7/22/2015	-	ABC+Ole'+Fe	910	40 - 65	11:30 - 13:30	-	-	
GP-3	-	Geoprobe Injection	Area 1 - Source Area	7/22/2015	-	ABC+Ole'+Fe	910	40 - 65	13:40 - 15:00	-	-	Rod clogged with iron, pull string and re-advance.
GP-4	-	Geoprobe Injection	Area 1 - Source Area	7/23/2015	-	ABC+Ole'+Fe	910	40 - 65	08:30 - 10:25	-	-	Pump trouble 09:00 to 0910.
GP-5	-	Geoprobe Injection	Area 1 - Source Area	7/23/2015	-	ABC+Ole'+Fe	910	40 - 65	10:25 - 11:55	-	-	
IW-33	7/23/2015	Injection Well	Area 4	7/23/2015	60.55	ABC	410	Screened Interval	12:55 - 1335	50000+	1500	
IW-31	7/23/2015	Injection Well	Area 4	7/23/2015	60.58	ABC	410	Screened Interval	14:19 - 15:10	50000+	0.0	
IW-30	7/23/2015	Injection Well	Area 4	7/23/2015	59.05	ABC	410	Screened Interval	15:11 - 15:43	68	415	
IW-29	7/23/2015	Injection Well	Area 4	7/23/2015	60.61	ABC	410	Screened Interval	15:44 - 16:24	50000+	39.3	
IW-34	7/23/2015	Injection Well	Area 4	7/24/2015	60.69	ABC	410	Screened Interval	08:04 - 08:42	50000+	16.3	
iW-36	7/23/2015	Injection Well	Area 4	7/24/2015	61.72	ABC	410	Screened Interval	09:22 - 09:57	3000	0.3	
IW-35	7/23/2015	Injection Well	Area 4	7/24/2015	60.92	ABC	410	Screened Interval	08:45 - 09:21	18.6	0.0	
IW-5	7/24/2015	Injection Well	Area 5	7/24/2015	62.41	ABC	410	Screened Interval	10:09 - 10:43	3600	0.2	
IW-4	7/24/2015	Injection Well	Area 5	7/24/2015	62.84	ABC	410	Screened Interval	10:44 - 11:25	6800	57	
IW-3	7/24/2015	Injection Well	Area 5	7/24/2015	62.74	ABC	410	Screened Interval	11:25 - 12:05	5475	5.0	
IW-2	7/24/2015	Injection Well	Area 5	7/24/2015	63.04	ABC	410	Screened Interval	12:05 - 12:41	50000+	0.0	
IW-1	7/24/2015	Injection Well	Area 5	7/24/2015	63.04	ABC	410	Screened Interval	12:42 - 13:19	50000+	0.1	
IW-6	7/24/2015	Injection Well	Area 5	7/24/2015	65.10	ABC	410	Screened Interval	13:20 - 13:56	50000+	0.0	Heavy slime accumulation in well.
IW-28	7/27/2015	Injection Well	Area 3	7/27/2015	56.62	ABC+Ole'	410	Screened Interval	08:15 - 08:43	50000+	620	
IW-27	7/27/2015	Injection Well	Area 3	7/27/2015	57.31	ABC+Ole'	410	Screened Interval	08:44 - 09:20	50000+	610	
IW-26	7/27/2015	Injection Well	Area 3	7/27/2015	57.86	ABC+Ole'	410	Screened Interval	09:22 - 10:14	50000+	132	
IW-25	7/27/2015	Injection Well	Area 3	7/27/2015	60.84	ABC+Ole'	410	Screened Interval	10:15 - 10:56	8800	7.8	
IW-24	7/27/2015	Injection Well	Area 3	7/27/2015	61.51	ABC+Ole'	410	Screened Interval	10:58 - 11:51	2600	2.7	Heavy slime accumulation in well.
IW-37	7/27/2015	Injection Well	Area 2	7/27/2015	54.08	ABC+Ole'	410	Screened Interval	14:24 - 14:56	4200	3195	
IW-23	7/27/2015	Injection Well	Area 2	7/27/2015	54.38	ABC+Ole'	410	Screened Interval	12:06 - 12:45	3102	1057	
IW-20	7/27/2015	Injection Well	Area 2	7/27/2015	54.26	ABC+Ole'	410	Screened Interval	13:46 - 14:22	23.4	0.0	
IW-21	7/27/2015	Injection Well	Area 2	7/27/2015	54.15	ABC+Ole'	410	Screened Interval	13:19 - 13:45	5326	0.0	
IW-22	7/27/2015	Injection Well	Area 2	7/27/2015	54.07	ABC+Ole'	410	Screened Interval	12:46 - 13:18	3443	0.0	
GP-7	-	Geoprobe Injection	Area 1 - Source Area	7/28/2015	-	ABC+Ole'+Fe	910	40 - 65	08:21 - 10:00	-	-	
GP-9	-	Geoprobe Injection	Area 1 - Source Area	7/29/2015	-	ABC+Ole'+Fe	910	40 - 65	10:21 - 12:55	-	-	Rod clogged with iron, pull string and re-advance. Difficult drilling conditions.
GP-11	-	Geoprobe Injection	Area 1 - Source Area	7/28/2015	-	ABC+Ole'+Fe	910	40 - 65	10:15 - 12:12	-	-	
GP-13	-	Geoprobe Injection	Area 1 - Source Area	7/28/2015	-	ABC+Ole'+Fe	910	40 - 65	13:42 - 15:25	-	-	
GP-6	-	Geoprobe Injection	Area 1 - Source Area	7/29/2015	-	ABC+Ole'+Fe	910	40 - 65	09:30 - 11:32	-	-	
GP-8	-	Geoprobe Injection	Area 1 - Source Area	7/29/2015	-	ABC+Ole'+Fe	910	40 - 65	11:34 - 13:01	-	-	
GP-12	-	Geoprobe Injection	Area 1 - Source Area	7/29/2015	-	ABC+Ole'+Fe	910	40 - 65	13:12 - 14:51	-	-	Compressor failed at 14:52 possible overheating.
GP-15	-	Geoprobe Injection	Area 1 - Source Area	7/30/2015	-	ABC+Ole'+Fe	910	40 - 58	08:16 - 10:01	-	-	Contractor reported backpressure from 58 to 65 ft. No injection.
GP-10	-	Geoprobe Injection	Area 1 - Source Area	7/30/2015	-	ABC+Ole'+Fe	910	40 - 62	10:06 - 11:34	-	-	
GP-14	-	Geoprobe Injection	Area 1 - Source Area Shallow Area	7/30/2015	-	ABC+Ole'+Fe	910	16 - 40	11:36 - 13:35	-	-	

Notes:
TOC: Top of Casing. BGS: Below Ground Surface. PID: Photoionization Detector (measurement of volatiles). FID: Flame Ionization Detector (measurement of methane). PPM: Parts Per Million.
NM: Not Measured.

Table 2
Pre and Post Injection Anlaytical Data
AOC 50
Former Fort Devens

Area	Location	Date	PCE (ug/L)	TCE (ug/L)	*cis*-1,2-DCE (ug/L)	*trans*-1,2-DCE (ug/L)	1,1-DCE (ug/L)	VC (ug/L)	TOC (mg/L)	Alkalinity (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Dissolved Arsenic (ug/L)	Dissolved Iron (ug/L)	Dissolved Manganese (ug/L)	Ethane (ug/L)	Ethene (ug/L)	Methane (ug/L)
Area 1	G6M-02-08X	6/16/2015	10 U	10 U	98.8	10 U	10 U	10 U	1,020	582	0.15	8.6 J	1.0 U	318	455,000	10,200	10 U	10 U	1,410
	G6M-02-08X	9/9/2015	20 U	20 U	83.8	20 U	20 U	20 U	976	-	0.078 J	15.8	4.80	340	428,000	8,780	10 U	10 U	10,600
	G6M-02-08X	10/13/2015	20 U	20 U	83.5	20 U	20 U	20 U	1,280	526	0.11 U	7.1 J	2.0 U	320	483,000	9,410	10 U	10 U	18,400
Area 1	G6M-03-01X	6/18/2015	0.65 J	37.00	52.60	0.50 U	0.55 J	18.80	-	-	-	-	-	-	-	-	-	-	-
	G6M-03-01X	9/10/2015	103.0	66.9	64.9	2.40	1.40	62.8	5.30	-	0.076 J	10.30	2.0 U	46	41,800	7080	10 U	68.9	8,640
Area 1	G6M-04-09X	6/17/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	14.10	-	-	-	-	351	159,000	3,560	-	-	-
	G6M-04-09X	10/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	16.40	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Area 1	G6M-04-10X	11/3/2014	7.4	0.27J	0.47J	0.5U	0.5U	0.5U	5U	20U	1.3J	30J	0.03U	2.5U	1.32	308	1.2U	1.5U	200
	G6M-04-10X	9/9/2015	2.80	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.81 U	-	0.92	34.70	1.0 U	2.0 U	114	383	5.0 U	5.0 U	5.0 U
	G6M-04-10X	10/13/2015	3.10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	7.2	1.10	35.40	2.0 U	4.0 U	100 U	344	10 U	10 U	10 U
Area 1	G6M-13-05X	6/16/2015	1520	12.0	61.50	0.50 U	0.50 U	0.50 U	-	-	-	-	-	5.20	5 U	229	-	-	-
	G6M-13-05X	10/13/2015	1120	11.0	62.70	1.0 U	1.0 U	1.0 U	-	-	-	-	-	2.3 J	100 U	235	-	-	-
Area 1	G6M-13-06X	6/16/2015	0.50 U	0.50 U	3.90	0.98 J	0.50 U	6.00	54.5	510	0.15	1.0 J	1.0 U	546	246,000	16,900	10 U	27.3	10,300
	G6M-13-06X	9/9/2015	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	4.0 J	82.2	-	0.11	10 U	6.50	511	269,000	22,500	5.0 U	36.6	18,200
	G6M-13-06X	10/14/2015	5.0 U	5.0 U	3.2 J	5.0 U	5.0 U	3.3 J	61.5	434	0.071 J	1.7 J	1.5 J	531	260,000	21,300	10 U	30.2	11,300
Area 1	G6M-93-13X	9/9/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	-	0.11 U	49.6	2.0 U	4.0 U	100 U	207	10 U	10 U	10 U
Area 2	G6M-02-01X	10/30/2014	0.5U	0.21J	1.5	0.5U	0.5U	0.87	5U	86	0.13U	2.3J	0.03U	384	47.9	1,820	15	40	24,000
	G6M-02-01X	6/17/2015	0.50 U	0.50 U	0.53 J	0.50 U	0.50 U	0.50 U	6.20	66.6	0.11 U	0.50 U	1.0 U	418	61,900	1,760	5.0 U	6.0 J	712
	G6M-02-01X	9/10/2015	1.0 U	0.5 J	1.0 U	1.0 U	1.0 U	1.0 U	2.10	-	0.061 J	0.96 J	2.0 U	374	60,900	1,750	10 U	5.3 J	8,550
	G6M-02-01X	10/16/2015	1.0 U	1.0 U	0.64 J	1.0 U	1.0 U	1.0 U	2.10	54.6	0.11 U	1.1 J	-	360	56,200	1,750	10 U	10 U	14,200
Area 2	G6M-04-01X	10/31/2014	0.39J	0.52	0.56	0.37J	0.5U	7.9	-	-	-	-	-	164	59.4	28,900	-	-	-
	G6M-04-01X	9/10/2015	1.0 U	1.0 U	0.93 J	1.0 U	1.0 U	0.75 J	18.9	-	0.12	3.6 J	2.0 U	162	31,700	9,040	10 U	10 U	6,240
	G6M-04-01X	10/13/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	-	-	382	96,400	24,400	-	-	-
Area 2	G6M-04-03X	10/30/2014	20.00	15	53	0.38J	0.5U	19	4.7J	420	0.13U	7.5	0.03U	14.4	0.29	114	1.2U	17	6,700
	G6M-04-03X	9/11/2015	10.6	9.3	39.6	1.0 U	1.0 U	5.50	5.30	-	0.068 J	7.0 J	2.0 U	105	22,900	2,720	10 U	10 U	3,450
	G6M-04-03X	10/14/2015	5.0	3.2	43.0	1.0 U	1.0 U	6.80	8.20	337	0.13 J	7.0 J		232	75,100	11,300	10 U	10 U	8,190

Table 2

Pre and Post Injection Anlaytical Data

AOC 50

Former Fort Devens

Area	Location	Date	PCE (ug/L)	TCE (ug/L)	*cis*-1,2-DCE (ug/L)	*trans*-1,2-DCE (ug/L)	1,1-DCE (ug/L)	VC (ug/L)	TOC (mg/L)	Alkalinity (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Dissolved Arsenic (ug/L)	Dissolved Iron (ug/L)	Dissolved Manganese (ug/L)	Ethane (ug/L)	Ethene (ug/L)	Methane (ug/L)
Area 3	G6M-03-07X	10/30/2014	0.5U	0.5U	**0.69**	**2.8**	0.5U	**1.1**	**22**	**180**	0.13U	**0.38J**	0.03U	**355**	**78.5**	**1,400**	1.2U	**1.8**	**54,000**
	G6M-03-07X	6/18/2015	0.50 U	0.50 U	**0.62 J**	**2.10**	0.50 U	**0.77 J**	**27.1**	**262**	0.15 U	0.50 U	1.0 U	**97.1**	**107,000**	**1,810**	5.0 U	**5.7 J**	**12,400**
	G6M-03-07X	9/14/2015	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	**25.2**	-	**0.086 J**	**0.94 J**	2.0 U	**436**	**103,000**	**1,700**	10 U	**6.0 J**	**11,900**
	G6M-03-07X	10/14/2015	1.0 U	1.0 U	**0.59 J**	**1.80**	1.0 U	**0.73 J**	**24.3**	**161**	**0.085 J**	**2.3 J**	-	**441**	**102,000**	**1,660**	10 U	**6.5 J**	**16,600**
Area 3	G6M-04-02X	10/30/2014	**480.00**	**70**	**33**	0.5U	0.5U	**2.7J**	-	-	-	-	-	**160**	**40.5**	**5,980**	-	-	-
	G6M-04-02X	6/18/2015	**62.20**	**20.30**	**15.70**	0.50 U	0.50 U	**1.80**	-	-	-	-	-	**362**	**82,400**	**7,220**	-	-	-
	G6M-04-02X	9/11/2015	**16.2**	**7.4**	**8.8**	1.0 U	1.0 U	**1.80**	**3.30**	-	**0.067 J**	**0.87 J**	2.0 U	**343**	**91,400**	**6,920**	10 U	10 U	**7,390**
	G6M-04-02X	10/16/2015	**105.0**	**30.5**	1.0 U	1.0 U	1.0 U	**1.60**	-	-	-	-	-	**237**	**65,800**	**7,570**	-	-	-
Area 3	G6M-04-04X	9/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.91 J**	**7.50**	-	**0.068 J**	**3.4 J**	2.0 U	**486**	**11900 J**	**10700 J**	10 U	**32.6**	**9,170**
	G6M-04-04X	10/16/2015	**0.76 J**	1.0 U	1.0 U	1.0 U	**2.80**	1.0 U	-	-	-	-		**505**	**115,000**	**10,000**	10 U	**61.3**	**20,000**
Area 4	G6M-02-03X	9/14/2015	**0.82 J**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.10**	-	**1.30**	**9.7 J**	2.0 U	4.0 U	100 U	**78.6**	10 U	10 U	**284**
Area 4	G6M-02-04X	3/11/2014	0.5U	**0.24J**	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	**350**	**15.6**	**971**	-	-	-
	G6M-02-04X	6/26/2015	**0.60 J**	**0.52 J**	**0.91 J**	0.50 U	0.50 U	0.50 U	-	-	-	-	-	**157**	**10,400**	**1,060**	-	-	-
	G6M-02-04X	9/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.60**	-	0.057 U	**9.6 J**	2.0 U	**408**	**20,400**	**995**	10 U	10 U	**4,350**
	G6M-02-04X	10/16/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	-	-	**320**	**15,100**	**1,000**	-	-	-
Area 4	G6M-02-13X	10/29/2014	0.5U	**1.3**	**2.8**	0.5U	0.5U	**1.8**	5U	**280**	0.13U	**0.61J**	0.03U	**128**	**12J**	**7,920J**	1.2U	1.5U	**7,300**
	G6M-02-13X	6/23/2015	0.50 U	**1.70**	**3.40**	0.50 U	0.50 U	**2.50**	**2.90**	**250**	0.11 U	**2.6 J**	1.0 U	**142**	**12,500**	**11,100**	5.0 U	5.0 U	**1,840**
	G6M-02-13X	9/11/2015	1.0 U	**2.8**	**5.2**	1.0 U	1.0 U	**4.90**	**2.30**	-	**0.067 J**	**0.52 J**	2.0 U	**142**	**10,500**	**9,980**	10 U	10 U	**832**
	G6M-02-13X	10/16/2015	1.0 U	**3.6**	**6.1**	1.0 U	1.0 U	**3.3**	**3.20**	**261**	0.11 U	**1.5 J**	-	**114**	**9770**	**12300**	10 U	10 U	**473**
Area 4	G6M-13-02X	3/11/2014	**210.0**	**39**	**95**	5U	5U	**6.7**	-	-	-	-	-	2.5U	0.146UJ	**20.3J**	-	-	-
	G6M-13-02X	6/26/2015	**105**	**49.60**	**38.10**	0.50 U	0.50 U	**1.10**	-	-	-	-	-	**2.1 J**	50 U	**9.4 J**	-	-	-
	G6M-13-02X	10/16/2015	**69.6**	**30.60**	**27.1**	1.0 U	2.0 U	**1.40 J**	-	-	-	-		4.0 U	**87.2 J**	**15.1**	-	-	-
Area 4	G6M-97-28X	9/14/2015	**0.57 J**	**62.80**	**37.30**	**1.60**	1.0 U	**22.30**	1.10	-	0.11 U	**12.10**	2.0 U	4.0 U	**237**	**2110**	10 U	10 U	**85.00**
Area 5	G6M-02-11X	10/29/2014	0.5U	0.5U	**0.42J**	**0.34J**	0.5U	**0.44J**	5U	**340**	0.13U	0.17J	0.03U	**624**	**64.3J**	**4,860J**	**8.1J**	1.5U	**15,000**
	G6M-02-11X	6/26/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	**5.80**	**312**	**0.17**	**2.0 J**	1.0 U	**578**	**51,100**	**10,800**	5.0 U	5.0 U	**8,180**
	G6M-02-11X	9/10/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**5.30**	-	**0.087 J**	**0.78 J**	2.0 U	**546**	**44,400**	**9,920**	**5.5 J**	10 U	**11,500**
	G6M-02-11X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**4.90**	**229**	**0.062 J**	10 U	-	**551**	**44,200**	**10,400**	**5.8 J**	10 U	**9,710**
Area 5	G6M-03-08X	6/18/2015	0.50 U	**0.51 J**	0.50 U	0.50 U	0.50 U	0.50 U	**5.40**	**83.2**	0.11 U	**8.4 J**	1.0 U	**2.5 J**	50 U	**2,320**	5.0 U	5.0 U	5.0 U

Table 2
Pre and Post Injection Anlaytical Data
AOC 50
Former Fort Devens

Area	Location	Date	PCE (ug/L)	TCE (ug/L)	*cis*-1,2-DCE (ug/L)	*trans*-1,2-DCE (ug/L)	1,1-DCE (ug/L)	VC (ug/L)	TOC (mg/L)	Alkalinity (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Dissolved Arsenic (ug/L)	Dissolved Iron (ug/L)	Dissolved Manganese (ug/L)	Ethane (ug/L)	Ethene (ug/L)	Methane (ug/L)
Area 5	G6M-03-09X	10/28/2014	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	5U	**35**	**1.6**	**11**	0.03U	2.5U	**0.268J**	**13.4J**	**1.4**	1.5U	**20**
	G6M-03-09X	6/18/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.70 U	**27.0**	0.057 U	**8.6 J**	1.0 U	2.0 U	50 U	**20.1**	5.0 U	5.0 U	**29.8**
	G6M-03-09X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**27.8**	0.11 U	**11.4**	-	4.0 U	100 U	**57.3**	10 U	10 U	**1,090**
Area 5	G6M-03-10X	9/10/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.50**	-	**0.080 J**	**10.80**	2.0 U	**453**	**68100**	**2020**	10 U	10 U	**8,910**
	G6M-03-10X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.90**	**64.9**	0.11 U	**7.8 J**	-	**457**	**69300**	**2410**	10 U	10 U	**11,500**
Area 5	G6M-04-05X	10/28/2014	**0.42J**	0.5U	0.5U	0.5U	0.5U	0.5U	10U	**39**	**0.31**	**13**	0.03U	**4.1J**	**0.0293**	**12.2 J**	**2.8**	**1.6**	**48**
	G6M-04-05X	6/17/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.81 U	**22.9**	**0.29**	**23.30**	1.0 U	2.0 U	50 U	**11.8 J**	5.0 U	5.0 U	**22.4 J**
	G6M-04-05X	9/10/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	**0.21**	**25.40**	2.0 U	4.0 U	100 U	**7.5 J**	10 U	10 U	10 U
	G6M-04-05X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.10	**31.9**	**0.20**	**21.9**	-	4.0 U	100 U	**19.6**	10 U	10 U	**53.2**
Area 5	G6M-13-01X	10/28/2014	**150.0**	**2.8**	**7.80**	0.5U	0.5U	0.5U	-	-	-	-	-	2.5U	0.025U	**26.8J**	-	-	-
	G6M-13-01X	6/22/2015	**15.50**	**0.65 J**	**1.30**	0.50 U	0.50 U	0.50 U	-	-	-	-	-	**2.3 J**	50 U	**8.7 J**	-	-	-
	G6M-13-01X	10/16/2015	**26.30**	**1.10**	**2.6**	1.0 U	1.0 U	1.0 U	-	-	-	-	-	4.0 U	**61.3J**	**15.60**	-	-	-
Area 5	G6M-13-04X	10/29/2014	**1.70**	**17**	**69**	**1.6**	**0.56**	**72**	**13**	**310**	0.13U	**3.5J**	0.03U	**321**	**5.45J**	**6,170J**	**4.7**	**41**	**32,000**
	G6M-13-04X	6/22/2015	0.50 U	**1.80**	**2.20**	0.50 U	0.50 U	**1.40**	**3.20**	**129**	0.11 U	**30.5 J**	1.0 U	**360**	**29,300**	**3,840 J**	5.0 U	5.0 U	**719**
	G6M-13-04X	10/15/2015	**18.70**	**18.90**	**52.10**	**0.76 J**	1.0 U	**32.70**	**2.80**	**269**	**0.16**	**5.8 J**	-	**388**	**33,100**	**7,930**	10 U	**18.6**	**9,470**
Area 5	G6M-97-05B	6/19/2015	**89.40**	**4.80**	**2.30**	0.50 U	0.50 U	0.50 U	-	**27.0**	**1.00**	**7.8 J**	1.0 U	**3.1 J**	50 U	7.5 U	5.0 U	5.0 U	5.0 U
	G6M-97-05B	10/15/2015	**117.00**	**6.90**	**3.40**	1.0 U	1.0 U	1.0 U	-	-	-	-	-	4.0 U	**61.5J**	**19.4**	-	-	-
Area 5	MW-3	10/29/2014	0.5U	**0.27J**	**0.68**	**0.38J**	0.5U	**0.53**	**5.2J**	**370**	0.13U	2.4J	0.03U	**334**	**30.1J**	**10,500J**	**3.8**	1.5U	**13,000**
	MW-3	6/23/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	**5.00**	**366**	0.11 U	**5.1 J**	1.0 U	**409**	**37,100**	**11,000**	5.0 U	5.0 U	**4,830**
	MW-3	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**0.54 J**	**4.90**	**349**	**0.071 J**	10 U	-	**420**	**41,900**	**12,600**	10 U	10 U	**4,570**

NOTES:
Annual Fall LTM Sampling - October 2015. U: Compound not detected above detection limit.
Post ERD Sampling - September 2015. J: Estimated concentration.
Spring sampling event - June 2015. - Compound not analyzed for.
ug/L = microgram per liter
mg/L = milligram per liter

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			Laboratory Parameters																		Field Parameters					
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
North Plume	G6M-96-22A	10/16/2001	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.50	5.1	210	2	0	12.6
	G6M-96-22A	2/28/2002	2U	2U	2U	2U	1U	2U	-	-	0.10U	-	-	-	-	-	-	-	-	-	5.70	8.37	183.5	1.78	0.5	9.54
	G6M-96-22A	9/21/2004	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1U	54	-	-	-	5.75	6.73	187.9	1.885	1.59	13.42
	G6M-96-22A	9/29/2005	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1U	52	-	-	-	5.95	4.9	223.1	3.18	0.38	14.15
	G6M-96-22A	9/20/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	0.10U	42	-	-	-	5.68	4.78	176.3	1.814	1.85	14.3
	G6M-96-22A	9/12/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	6U	0.1U	78	-	-	-	5.50	6.95	-101.1	1.404	5	12.73
	G6M-96-22A	10/17/2008	0.55	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	8U	0.2U	2,240	-	-	-	5.57	1.41	123.8	1.378	1.8	12.63
	G6M-96-22A	10/16/2009	0.25J	29	0.27J	0.5U	0.5U	0.5U	-	-	-	-	-	-	8U	0.2U	7,120	-	-	-	5.91	0.25	228.5	2.288	0	10.88
	G6M-96-22A	10/7/2010	0.22J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	7,670	-	-	-	5.72	0.21	141.2	3.623	0	12.15
	G6M-96-22A	10/7/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	6,860	-	-	-	5.6	0.18	59.9	2.144	0	12.55
	G6M-96-22A	10/15/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	12,400	-	-	-	5.82	0.36	110.5	2.915	0	13.56
	G6M-96-22A	10/18/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	6,010	-	-	-	6.05	0.58	177.1	1.524	0	12.13
	G6M-96-22A	11/4/2014	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.5U	0.0189U	3,160	-	-	-	6.12	3.75	203.7	0.774	0.86	11.41
North Plume	G6M-96-22B	10/19/2001	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.76	6.95	176	2.09	0.6	12.51
	G6M-96-22B	2/28/2002	2U	2U	2U	2U	1U	2U	-	-	0.10U	-	-	-	-	-	-	-	-	-	6.35	7.83	198.5	2.002	1.5	10.08
	G6M-96-22B	1/31/2003	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-96-22B	9/21/2004	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1U	44	-	-	-	5.83	6.15	193.9	1.941	2.76	13.5
	G6M-96-22B	9/29/2005	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1U	48	-	-	-	6.12	5.57	187.7	3.02	1.43	16.38
	G6M-96-22B	9/20/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	0.10U	44	-	-	-	5.53	6.51	179	2.183	0.67	15.13
	G6M-96-22B	9/12/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	6U	0.1U	40	-	-	-	5.73	16.11	-112.1	2.618	13.9	13.27
	G6M-96-22B	10/17/2008	0.91	0.5U	0.24J	0.5U	0.5U	0.5U	-	-	-	-	-	-	8U	0.2U	67.3	-	-	-	5.40	1.77	121.3	1.02	0.85	12.5
	G6M-96-22B	10/16/2009	0.3J	23	0.32J	0.5U	0.5U	0.5U	-	-	-	-	-	-	8U	0.135U	25,500	-	-	-	6.08	0.31	209.1	1.683	0.04	11.04
	G6M-96-22B	10/7/2010	0.25J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	3.3J	0.1U	14,600	-	-	-	6.00	0.48	115.1	2.295	0.49	12.5
	G6M-96-22B	10/7/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	9,320	-	-	-	5.98	0.16	30.7	1.899	0	12.04
	G6M-96-22B	10/15/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.120U	9,980	-	-	-	6.14	0.25	16.4	2.358	1.17	12.96
	G6M-96-22B	10/18/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	3.2J	0.1U	14,100	-	-	-	6.17	0.81	142	2.288	0.31	11.98
	G6M-96-22B	11/4/2014	0.21J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	4.6J	0.0169U	7,180	-	-	-	6.58	0.45	137.4	1.087	3.55	11.33
North Plume	G6M-96-24B	10/16/2001	18	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.37	0	81	0.42	19	12.96
	G6M-96-24B	3/1/2002	11	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.35	-6.27	106.7	0.43	2.8	10.53
	G6M-96-24B	1/31/2003	7.5	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-96-24B	1/12/2004	11	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-96-24B	9/24/2004	13B	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.17	0.2	152.2	0.422	0.44	12.34
	G6M-96-24B	12/17/2004	8.1	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.05	0.46	259.6	0.384	2.43	11.49
	G6M-96-24B	4/13/2005	8.2	1U	2.8	1U	1U	1U	-	-	-	-	-	-	-	-	-	-	-	-	5.32	0.2	216.6	0.429	2.49	10.82
	G6M-96-24B	7/6/2005	7.6	2U	3	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.69	1.34	242.8	0.77	0.02	16.85
	G6M-96-24B	9/30/2005	7.2	2U	3.6	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.77	0.29	198.3	1.022	7.7	10.87
	G6M-96-24B	12/15/2005	7.4	2U	3.1	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.97	0.14	242.8	0.9	2.1	9.71
	G6M-96-24B	3/23/2006	4.2	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.99	0.23	404.5	0.458	1.31	10.91
	G6M-96-24B	6/23/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	4.62	0.85	526.9	0.443	0.88	15.95
	G6M-96-24B	9/22/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.93	0.3	141	0.407	4.23	12.41
	G6M-96-24B	12/14/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.54	0.17	74.8	0.56	0.2	11.59
	G6M-96-24B	3/30/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.90	0.5	-43.6	0.62	0.15	10.75
	G6M-96-24B	6/13/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.10	0.16	138.9	0.727	220.2	11.03
	G6M-96-24B	9/13/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.05	3.93	-95.7	0.689	9.9	12.38
	G6M-96-24B	12/12/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.33	0.3	106.2	0.802	0.8	10.07
	G6M-96-24B	10/7/2008	0.4J	0.5U	0.5U	0.5U	0.5U	0.5U	10U	46	0.13U	10	0.03UJ	-	8.0U	0.352U	448	1.3U	1.6U	15	6.04	0.54	92.4	0.51	30	11.31
	G6M-96-24B	1/22/2009	1.4U	2.3U	1.8U	1.3U	1.2U	1.3U	10UJ	32	0.13U	9.3	0.03U	0.24J	8.0U	226J	315	1.2U	1.5U	4.2	6.16	0.45	149.6	0.479	65	9.31
	G6M-96-24B	5/11/2009	0.29J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	5.87	0.20	90.8	0.304	23.1	10.13
FDW	G6M-02-08X	5/17/2002	2,300	35	250	2U	1U	5.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-02-08X	1/31/2003	3,600	46	480	2.3	1U	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-02-08X	3/31/2005	1,300	38J	250	50U	50U	50U	15	62	1.1	6.2	2U	-	5U	0.3J	770	0.049	0.79	1.2	7.08	9.1	-50	0.563	24.6	11.44
	G6M-02-08X	7/5/2005	1,000	130	1,800	12U	12U	12U	450	350	0.05U	3.7	8.3	-	33	110	29,000	0.16	0.22	3	4.23	1.66	19.1	1.616	4.72	15.95
	G6M-02-08X	9/27/2005	560	26	1,300	1U	1.8	2.5	1,200	466	0.05U	320J	16	-	270	310J	75U	0.11	0.25	21	5.03	0.33	-68.6	1.965	3.16	13.04
	G6M-02-08X	12/16/2005	300	24	1,200	4U	2U	4U	1,500	520	0.05U	57	9.4	-	4.4B	350J*	15U*	0.19	0.36	2.1	5.46	0.03	-31.4	1.999	66.4	7.98
	G6M-02-08X	3/21/2006	180	25	1,300	2U	2.1	2.3	3,000	1,400	1U	245	14	-	80	470	40,000	0.084	0.24	15	5.46	0.33	-62.5	2.45	6.98	9.64
	G6M-02-08X	6/21/2006	230	30	850	2U	1U	2U	5,700	1,800	1.67	759	40	-	100	970	44,000	0.14	0.23	19	4.80	1.32	-25.2	4.528	45.4	14.95
	G6M-02-08X	9/20/2006	150	25	1,300	2U	1.6	2U	4,400	1,000	2U	655	16	-	77	860	29,000	0.072	0.14	11	5.20	1.57	-14.4	4.503	53.4	18.79
	G6M-02-08X	12/12/2006	140	28	910	2U	1.1	2U	6,400	-	-	13.6	110	-	73	1,000	32,000	0.18	0.17	30	4.93	0.67	-38.3	6.436	108.6	9.72
	G6M-02-08X	3/28/2007	60	14	500	2U	1U	2U	7,200	-	-	1,170	80	-	72	1,200	30,000J*	0.31	0.14	62	4.46	0.21	-144.5	7.243	60.9	15.04
	G6M-02-08X	6/13/2007	110	8.4	420	2U	1U	2U	6,800	-	-	1,160	82	-	130	1,200	33,000	0.092	0.11	180	4.70	1.78	24.1	6.948	1328.4	12.38
	G6M-02-08X	9/13/2007	140	74	1,400	2U	1U	2U	4,400	3,000	0.2U	890	200	-	410	1,100	37,000	0.22	0.17	120	5.34	2.68	-150.5	6.823	28.2	19.59
	G6M-02-08X	12/10/2007	250	66	1,100	2U	2	3.3	7,700	-	-	414	120	-	360	1,200	42,000	0.14	0.23	240	5.17	0.15	-115.7	7.569	10.8	7.42
FDW[2]	G6M-02-08X	3/10/2008	32	5.5	170	2U	1U	2U	11,000	-	-	770	16	-	570	970	20,000	0.36	0.15	280	4.28	0.5	-55.7	7.828	13.8	8.2
	G6M-02-08X	10/6/2008	49	4.5J	81	5U	5U	5U	4,190	1,800	0.13U	610	0.75UJ	-	103J	598	7,630	6.3U	7.9U	3,000	4.52	-0.12	-25.9	4.495	65	11.74
	G6M-02-08X	1/21/2009	29	18U	39	11U	14U	11U	2,900J	3,000	0.13U	710	0.39	.24J	76	474J	6,650	1.2U	1.5U	3,400	4.76	0.15	39.2	3.739	46.4	9.25
	G6M-02-08X	5/7/2009	25	20U	29	20U	20U	20U	3,000	550J	0.092J	410	0.053	0.5UJ	53.2	356	5,130	1.3U	5.8	3,500	3.97	0.4	71.4	3.538	15.4	11.52
	G6M-02-08X	10/20/2009	0.5U	0.5U	0.31J	0.5U	0.5U	0.5U	2,300	40	1.3U	440	0.3UJ	0.12J	70.6	486	6,840	1.3U	1.6U	2,300J	4.61	1.88	79.4	3.973	20.1	11.11
	G6M-02-08X	4/21/2010	11J	2.0UJ	75J	2.0UJ	2.0UJ	2.0UJ	3,400	40	1.3U	130	0.28	0.22	98.9	447 J	8,720	1.3U	1.6U	4,400	4.49	0.10	28.2	3.353	22.3	12.25
	G6M-02-08X	10/7/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	2,400	860	2.6U	100	0.095	0.61J	73.4	381	8,080	1.3U	1.6U	27,000	4.47	0.33	58.0	3.209	4.33	13.10
	G6M-02-08X	6/9/2011	13	0.5U	140	0.5U	0.5U	1.6	2,800	1,100	6.5U	99J	0.38	-	155	473	14,000	1.2U	1.5U	83,000	4.64	0.11	18.9	2.968	11	14.96
	G6M-02-08X	10/4/2011	8.0U	8.0U	210	8.0U	8.0U	8.0U	2,400	230	0.13U	86	0.091	-	194	491	15,900	1.2U	1.5U	28,000	4.81	0.02	18.1	2.376	4.99	12.49
	G6M-02-08X	5/10/2012	9.8	8.0U	270	8.0U	8.0U	8.0U	1,900	730	0.13U	64	1.8	-	184	581	19,000	1.2U	1.5U	14,000	5.16	0.21	-9.9	3.338	3.29	11.07
	G6M-02-08X	10/15/2012	12	4.0U	270	4.0U	4.0U	6.2	1,800	900	0.080J	37	0.096	-	121	523	20,300	1.2U	1.5U	3,600	4.85	0.32	-1	2.915	3.76	12.69
	G6M-02-08X	5/23/2013	20	8.0U	510	8.0U	8.0U	24	1,600	610	0.041J	5.3	3.5J	-	160	460	18,200	1.2U	1.5U	11,000	4.88	0.1	9.4	2.618	4.01	11.14
	G6M-02-08X	10/22/2013	13U	13U	500	13U	13U	51	1,100	630	0.13U	8.9	3.8	-	200	428	15,400	3.6	84	40,000	5.23	0.27	1.1	1.308	10.8	13.73
	G6M-02-08X	6/12/2014	12	1.5	400	0.5U	0.7	140	670	700J	0.13U	1.0J	0.03U	-	241	420	10,100	1.3UJ	1.6UJ	9,400	5.23	0.21	11.2	2.023	6.68	11.46
	G6M-02-08X	11/3/2014	8.3	5U	260	5U	5U	44	1,400	590	0.13U	0.96J	0.03U	-	258	461	10,400	4.4	7.7	26,000	5.28	0.12	-33.6	0.994	33.6	10.42
	G6M-02-08X	6/16/2015	10 U	10 U	98.8	10 U	10 U	10 U	1,020	582	0.15	8.6 J	1.0 U	NA	318	455	10,200	10 U	10 U	1,410	5.28	0.12	-33.6	0.994	33.6	10.42
	G6M-02-08X	9/9/2015	20 U	20 U	83.8	20 U	20 U	20 U	976	-	0.078 J	15.8	4.80	340	428,000	9	10 U	10 U	10,600							
	G6M-02-08X	10/13/2015	20 U	20 U	83.5	20 U	20 U	20 U	1,280	526	0.11 U	7.1 J	2.0 U	320	483,000	9	10 U	10 U	18,400	1,410	5.28	0.12	-33.6	0.994	33.6	10.42

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	Laboratory Parameters																		Field Parameters					
			PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
FDW	G6M-03-02X	5/12/2003	1,300	2U	4.4	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-03-02X	10/11/2004	690	2U	5.6	2U	1U	2U	1U	12	3.7	20	1.7J	-	5U	1U	17	0.051	0.03	2.6	6.29	8.25	97.4	0.321	12.1	14.82
	G6M-03-02X	12/15/2004	200	2U	5	2U	1U	2U	390	29	2.4	30	2U	-	5U	1U	610	0.056	0.063	3.4	5.86	1.75	-132.9	0.382	1.93	8.4
	G6M-03-02X	3/29/2005	340	20U	14J	20U	10U	20U	1,300	366	0.2U	230	6.7J*	-	640	140M	49,000	0.15	0.34	5.1	5.23	0.65	-20.1	1.654	28.7	11.99
	G6M-03-02X	6/29/2005	190	11	91	2.5U	2.5U	2.5U	1,200	431	0.05U	74	11	-	130	220J*	35,000J*	0.29	0.65	43	4.62	1.13	2.9	1.723	29.1	20.17
	G6M-03-02X	9/29/2005	57	7.8	190	2.5U	2.5U	2.5U	850	345	0.05U	62	16	-	150	260J	37,000	0.2	0.29	560	4.94	0.53	-73.7	1.752	23.8	16.73
	G6M-03-02X	12/15/2005	39	8U	190	8U	4U	8U	1,100	550	0.05U	66	16	-	146	290J*	38,000	0.17	0.26	4,300	5.42	4.55	13.9	1.65	19.7	9.6
	G6M-03-02X	3/21/2006	17	2U	140	2U	1U	2U	1,400	1,200	2U	88.4	8.8	-	140	320	37,000	0.016J	0.14	6,700	5.56	0.16	-47.7	1.731	17.3	13.27
	G6M-03-02X	6/21/2006	8.2	2U	160	2U	1U	2U	1,300	1,000	1U	120	9.6	-	240	410	23,000	0.044	0.12	10,000	3.21	0.89	140.1	2.428	11.6	18.8
	G6M-03-02X	9/20/2006	9.7	2.3	230	2U	1U	2U	1,300	570	1U	115	8.4	-	200	440	21,000	0.05	0.2	8,700	5.55	0.71	-27.8	2.029	13.7	13.92
	G6M-03-02X	12/12/2006	6.9	2U	180	2U	1U	2U	890	-	-	53	8	-	170	350	11,000	0.047	0.16	6,800	5.85	1.31	-43.1	2.326	26.7	8.83
	G6M-03-02X	3/28/2007	13	2.2	320	2U	1U	2U	920	-	-	74.5	9.2	-	230	470	14,000J*	0.033	0.11	9,800	5.38	0.17	-62.3	2.523	14.9	12.75
	G6M-03-02X	6/12/2007	11	2U	650	2U	1.4	17	840	-	-	39	8.4	-	200	360	10,000	0.025U	0.14	21,000	5.77	0.38	-59.3	2.268	39.5	15.46
	G6M-03-02X	9/12/2007	12	2.1	800	2U	1U	81	740	790	0.2U	580	20	-	230	350	12,000	0.006J	0.6	17,000	5.44	10.26	-122.8	2.156	18.1	15.57
	G6M-03-02X	12/10/2007	3.8	2U	720	2U	1.8	94	1,000	-	-	24.7	7	-	290	390	29,000	0.005J	1.4	14,000	5.67	6.03	-80.2	2.802	5.3	11.33
	G6M-03-02X	3/10/2008	2U	2U	590	2U	1.8	50	2,000	-	-	50U	4.8	-	320	410	100,000	0.098	3.4	11,000	5.47	0.51	-55.9	3.113	24.5	12.12
	G6M-03-02X	10/15/2008	5U	5U	260	5U	5U	27	454	860	0.13U	59	0.03UJ	-	193	366	108,000	1.2U	10	12,000	5.6	0.75	-28.1	2.376	15	13.35
	G6M-03-02X	5/7/2009	4.0U	4.0U	220	4.0U	4.0U	12	900	1,100J	0.13U	44	0.03U	-	188	396	56,700	1.2U	18	23,000	5.45	0.32	-46.7	1.962	4.81	10.08
	G6M-03-02X	10/19/2009	10U	20U	290	10U	10U	9.5J	290	920	0.13U	300	0.03U	-	205	423	43,400	1.3U	14	18,000	5.99	2.56	-44.2	1.832	11.9	11.46
	G6M-03-02X	4/21/2010	2.0UJ	2.0UJ	120J	2.0UJ	2.0UJ	9.3J	1,200	1,000	0.13U	0.28J	0.03U	-	189	566J	39,600	1.3U	16	16,000	5.85	0.29	18.9	1.902	7.28	12.11
	G6M-03-02X	10/6/2010	0.5U	0.5U	3.2	0.5U	0.5U	0.42J	810	1,100	0.29	0.40J	0.03U	-	118	580	36,100	1.2U	20	35,000	5.65	0.57	-21.1	2.137	5.47	12.75
	G6M-03-02X	10/4/2011	13U	13U	410	13U	13U	30	190	3,300	0.13U	0.51J	0.035	-	379	352	12,400	1.2U	63	47,000	6.32	0.09	-86.1	1.14	13	12
	G6M-03-02X	10/11/2012	2.0U	2.0U	59	2.0U	2.0U	34	140	500	0.051J	5.0U	0.49	-	270	295	10,200	1.2U	540	39,000	6.13	0.46	-68.9	1.31	9.5	12.29
	G6M-03-02X	10/22/2013	1.3U	1.3U	44	1.3U	1.3U	36	57	300	0.13U	5.0U	0.19	-	296	212	6,750	1.2U	200	44,000	6.24	0.41	-68.8	0.609	9.19	12.33
	G6M-03-02X	10/30/2014	0.5U	0.27J	6.6	0.5U	0.5U	6.3	340	450	0.13U	0.23J	0.03U	-	254	251	6,090	1.2U	12	38,000	6.45	0.33	-61.7	0.82	13.6	11.74
FDW	G6M-04-11X	9/20/2004	8.5	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.54	3.42	374.7	0.782	16.8	16.22
	G6M-04-11X	9/26/2005	7.8	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.96	5.14	94.6	0.39	8.7	13.05
	G6M-04-11X	9/20/2006	4	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.24	6	129	0.38	5.99	17.5
	G6M-04-11X	9/11/2007	2.1	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.87	6.59	46.5	0.38	14.8	14.74
	G6M-04-11X	10/17/2008	1.4	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	6.53	5.62	98.1	0.302	3.5	10.78
	G6M-04-11X	10/16/2009	1.1	53	1U	1U	1U	1U	-	-	-	-	-	-	-	-	-	-	-	-	6.46	7.04	176	0.225	4.2	10.62
	G6M-04-11X	10/8/2010	0.41J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	6.71	6.95	152.6	0.247	3.15	10.93
	G6M-04-11X	10/6/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	6.77	2.5	87.7	0.219	4	12.18
	G6M-04-11X	10/16/2012	0.62	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	6.36	9.4	161.8	0.224	0	11.34
	G6M-04-11X	10/31/2014	0.54	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	6.88	7.12	167.7	0.163	0.91	10.56
FDW	G6M-04-12X	9/20/2004	310	7.5	56	2U	1U	2U	-	-	-	-	-	-	5U*	1	44	-	-	-	11.03	0.86	102.6	2.003	5.22	15.88
	G6M-04-12X	9/26/2005	250	6.8	49	2U	1U	2U	-	-	-	-	-	-	15	1U	360	-	-	-	8.41	1.05	234.2	1.961	1.65	14.25
	G6M-04-12X	9/18/2006	470	9.4	60	2U	1U	2U	-	-	-	-	-	-	6.5	0.10U	550	-	-	-	7.21	3.22	253.5	1.764	7.11	14.5
	G6M-04-12X	9/10/2007	350	11	50	2U	1U	2U	-	-	-	-	-	-	2U	0.1U	580	-	-	-	6.84	1.73	90.2	2.613	29.8	13.63
	G6M-04-12X	10/16/2008	360	7.7J	35	10U	10U	10U	-	-	-	-	-	-	3.1J	0.2U	360	-	-	-	7.23	1.45	91.2	2.623	2.00	11.75
	G6M-04-12X	10/19/2009	170	22U	28	10U	10U	10U	-	-	-	-	-	-	2.3J	0.2U	308	-	-	-	6.72	1.8	66.7	2.543	5.91	11.22
	G6M-04-12X	10/8/2010	100	4.4	22	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	336	-	-	-	6.57	1.75	208.0	3.632	2.35	11.56
	G6M-04-12X	6/9/2011	180	3.9	19	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	209	-	-	-	7.26	1.38	25.6	2.816	9	14.4
	G6M-04-12X	10/4/2011	280	4.6	27	4.0U	4.0U	4.0U	-	-	-	-	-	-	5U	0.1U	200	-	-	-	6.62	1.06	63.8	2.332	2.44	12.4
	G6M-04-12X	5/9/2012	160	5.0U	12	5.0U	5.0U	5.0U	-	-	-	-	-	-	4.1J	0.1U	155	-	-	-	6.7	1.34	85.1	2.68	1.42	11.3
	G6M-04-12X	10/16/2012	120	5.0U	14	5.0U	5.0U	5.0U	-	-	-	-	-	-	5U	0.1U	156	-	-	-	6.6	2.11	62.5	3.799	2.03	12.88
	G6M-04-12X	5/22/2013	220	3.4J	18	5.0U	5.0U	5.0U	-	-	-	-	-	-	3.8J	0.1U	92.5	-	-	-	6.55	0.87	120.8	2.927	2.58	13.02
	G6M-04-12X	10/22/2013	190	3.7J	23	4.0U	4.0U	4.0U	-	-	-	-	-	-	5U	0.1U	106	-	-	-	6.58	1.6	133.7	2.231	4.88	12.55
	G6M-04-12X	6/10/2014	130	2.7	13	0.50U	0.50U	0.50U	-	-	-	-	-	-	5U	0.1U	75	-	-	-	6.59	0.84	178.9	2.675	13.04	12.33
FDW	G6M-13-05X	1/30/2014	250	10U	16	10U	10U	10U	-	-	-	-	-	-	-	-	-	-	-	-	8.63	0.37	-86.6	1.112	3.09	10.05
	G6M-13-05X	6/10/2014	1200	12	70	0.40J	0.54	0.50U	-	-	-	-	-	-	10.7	0.299 J	556	-	-	-	7.65	0.46	-107	0.515	8.19	11.95
	G6M-13-05X	11/4/2014	1700	13J	77	32U	32U	32U	-	-	-	-	-	-	6.6	0.233	565	-	-	-	7.43	0.47	-93.6	0.417	9.73	11.92
	G6M-13-05X	6/16/2015	1520	12	61.5	0.50 U	0.50 U	0.50 U							5.2	0.005U	229				7.04	1.63	57	398	33.2	12.71
	G6M-13-05X	10/13/2015	1120	11.0	62.70	1.0 U	1.0 U	1.0 U	-	-	-	-	-		2.3 J	0.10U	235	-	-	-	7.04	1.63	57.0	398	33.2	12.71
FDW	G6M-93-13X	10/15/2001	0.55J	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.30	9.9	355	6	1.2	14.5
	G6M-93-13X	9/20/2004	3.8	2U	2U	2U	1U	2U	1U	23	1.3J*	10	2.7J*	-	5U	1	15U	0.0081	0.014	0.89	6.14	13.07	250.7	0.059	4.31	16.26
	G6M-93-13X	12/13/2004	2U	2U	2U	2U	1U	2U	5U	20	1.2	9.6M	2U	-	5U	1U	15U	0.005U	0.005U	3.8	6.16	10.41	192.5	0.08	1.42	12.95
	G6M-93-13X	3/29/2005	2U	2U	2U	2U	1U	2U	0.6J	22	0.2U	9.1	2U	-	5U	1UM	15U	0.0063	0.28	3.1	6.24	10.4	97.3	0.09	0.64	10.89
	G6M-93-13X	6/28/2005	2U	2U	2U	2U	1U	2U	4.9	41.2	0.081	8.2	1U	-	2U	1U	10U	0.023	0.02	9.4	11.30	11.43	146.1	0.275	2.46	19.81
	G6M-93-13X	9/26/2005	2U	2U	2U	2U	1U	2U	3.1	27	0.083	9.5	1U	-	5U	1U	15U	0.006J	0.018J	4.9	6.04	7.98	191.8	0.126	18.2	20.19
	G6M-93-13X	12/13/2005	2U	2U	2U	2U	1U	2U	4.4J	41	3.4	9.4	1U	-	5U	1U	15U*	0.008J	0.011J	9.3	6.48	9.55	69.6	0.086	0.5	9.22
	G6M-93-13X	3/21/2006	2U	2U	2U	2U	1U	2U	6.8	24	0.2U	6.83	1U	-	5U	0.1U	19	0.025U	0.046	9.5	6.87	9.55	-9.4	0.058	0.61	7.38
	G6M-93-13X	6/19/2006	2U	2U	2U	2U	1U	2U	1.4J	46	0.2UH	4.42	1U	-	5U	0.1U	28	0.008J	0.008J	5.3	6.33	9.14	190.1	0.087	1.34	15.55
	G6M-93-13X	9/18/2006	2U	2U	2U	2U	1U	2U	4.6J	22	0.2U	7.76	1U	-	5U	0.10U	15U	0.006J	0.014J	5	6.22	9.33	173.6	0.062	4.62	16.43
	G6M-93-13X	12/11/2006	2U	2U	2U	2U	1U	2U	5U	-	-	6.55	1U	-	5U	0.1U	15U	0.008J	0.038	11	6.38	10.68	91.3	0.076	2.23	12.81
	G6M-93-13X	3/28/2007	2U	2U	2U	2U	1U	2U	5U*	-	-	5.74	1U	-	5U	0.1U	15U	0.005J	0.014J	9.6	6.14	9.8	-3.1	0.071	8.73	10.93
	G6M-93-13X	6/11/2007	2U	2U	2U	2U	1U	2U	0.4J	-	-	8.96	1U	-	5U	0.1U	15U	0.034	0.3	13	6.64	10.12	125.4	0.121	3.3	13.66
	G6M-93-13X	9/11/2007	3	2U	2U	2U	1U	2U	0.7J	99	0.2U	12	1U	-	6U	0.1U	15U	0.005J	0.025U	2.8	6.31	9.67	96.7	0.095	7.1	16.01
	G6M-93-13X	12/10/2007	2U	2U	2U	2U	1U	2U	5U*	-	-	6.92	1U	-	5U	0.1U	15U	0.004J	0.007J	1.1	6.25	8.81	71	0.156	0.6	11.56
	G6M-93-13X	3/10/2008	2U	2U	2U	2U	1U	2U	34	-	-	100	1U	-	5U	0.2	12,000	0.008J	0.05	10	6.3	3.84	141	0.953	0	5.69
	G6M-93-13X	10/15/2008	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	10U	110	3.6	34	0.03UJ	-	8.0U	0.2U	3,270	1.3U	1.6U	5.6	6.31	2.97	116.4	0.304	0	11.98
	G6M-93-13X	5/7/2009	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	10U	67J	0.71	16	0.03U	-	3.5J	0.2U	50U	1.2U	1.5U	2.2	6.26	6.1	79.6	0.164	1.1	8.03
	G6M-93-13X	10/19/2009	0.5U	15	0.5U	0.5U	0.5U	0.5U	10U	54	0.058J	9.2	0.03UJ	-	8U	0.142U	50U	1.3U	1.6U	6	6.42	4.79	182	0.110	1.01	10.87
	G6M-93-13X	4/21/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	6.5J	140	0.13U	10	0.03U	-	5.0U	0.115U	25U	1.2U	1.5U	440	6.19	9.03	37.3	0.109	0.00	6.67
	G6M-93-13X	10/6/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	10U	63	0.050J	11	0.03U	-	5U	0.1U	25U	1.2U	1.5U	16	6.12	4.77	114	0.116	3.42	11.9
	G6M-93-13X	9/9/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	-	0.11 U	49.6	2.0 U		4.0 U	0.1U	207	10 U	10 U	10 U						
FDW	G6M-95-19X	10/15/2001	110	6.6	42	1.5J	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.46	6.24	202	2.87	8.5	14.8
	G6M-95-19X	9/20/2004	41	2.9	16	2U	1U	2U	-	-	-	-	-	-	5U	1	210	-	-	-	5.45	7.92	467.5	4.17	3.1	15.91
	G6M-95-19X	9/26/2005	21	2U	5.4	2U	1U	2U	-	-	-	-	-	-	8.3	1U	160	-	-	-	4.00	4.51	595.3	4.361	0.72	13.31
	G6M-95-19X	9/19/2006	12	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	0.10U	160	-	-	-	3.82	6.77	281	4.236	2.41	15.19
	G6M-95-19X	9/12/2007	21	2U	4	2U	1U	2U	-	-	-	-	-	-	5U	0.1U	200	-	-	-	5.28	7.62	175.1	6.566	0.4	13.7
	G6M-95-19X	10/15/2008	14J	0.39J	1.6J	0.5U	0.5U	0.5U	-	-	-	-	-	-	8U	0.2U	212	-	-	-	5.35	6.63	267.9	5.306	0.9	13
	G6M-95-19X	10/16/2009	20U	540	20U	20U	20U	20U	-	-	-	-	-	-	8U	0.2U	153	-	-	-	5.22	4.53	232	4.529	1.49	11.49
**	G6M-95-19X	1/15/2010	6.9	0.5U	0.46J	0.75U	0.75U	1.0U	-	-	-	-	-	-	-	-	-	-	-	-	5.46	4.09	243.8	4.733	2.17	10.39
	G6M-95-19X	10/7/2010	1.8	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	186	-	-	-	5.34	3.35	159.4	4.211	3.88	12.11
	G6M-95-19X	10/7/2011	2.2	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	242	-	-	-	5.51	2.9	132.2	2.319	1.1	12.58
	G6M-95-19X	10/15/2012	3.3	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	1,450	-	-	-	5.53	2.8	225.1	7.618	0.19	13.98
	G6M-95-19X	10/18/2013	2.4	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	2,250	-	-	-	5.49	1.44	154.9	3.827	5.42	12.44
	G6M-95-19X	11/3/2014	3	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.5U	0.0847U	1,190	-	-	-	5.73	3.06	202.5	2.189	2.78	11.83

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			Laboratory Parameters																		Field Parameters					
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
FDW	G6M-96-13B	10/15/2001	3,600	39	220	12	1U	1.1J	-	-	-	-	-	-	-	-	-	-	-	-	6.10	2.9	219	0.12	6.8	12.4
	G6M-96-13B	2/25/2002	5,200	34	200	1.4J	1U	1.5J	-	-	-	-	-	-	-	-	-	-	-	-	6.40	3.85	181.5	1.142	6.59	10.96
	G6M-96-13B	1/31/2003	3,800	31	190	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-96-13B	9/20/2004	4,500	35	210	2U	1U	2.1	1U	38	5.4J*	19	2	-	5U	1	15U	0.022	0.12	1.7	6.30	3.57	186.4	1.035	0.5	12.7
	G6M-96-13B	12/13/2004	2,500	24	150	2U	1U	2U	5U	35	5	31M	2U	-	5U	1U	23	0.05	0.025	24	6.26	2.57	316.5	0.787	2.68	11.05
	G6M-96-13B	3/28/2005	4,500	200U	180J	200U	200U	200U	5.7	47	0.46	17	2UJ*	-	5U	2.6M	1,600	0.17	0.22	37	6.24	0.87	21.2	0.943	0.68	10.67
	G6M-96-13B	8/10/2005	2,800	190	1,500	3.6	4.8	6.8	140	98.9	0.23	4.6	5.3	-	32	24J*	8,100	0.15	0.44	2.9	4.35	0.16	-35.6	0.838	3.5	14.53
	G6M-96-13B	9/26/2005	3,700	140	570	5U	5U	5U	200	134	0.28	11	11	-	44	51J	12,000	0.054	0.33	18	4.98	1.32	-45.9	1.071	4.54	13.39
	G6M-96-13B	12/13/2005	3,400	130	350	10U	5U	10U	140	150	0.05U	11	4.5	-	46.3	63J*	12,100	0.069	0.35	31	5.51	0.13	-52.1	0.851	0.9	10.65
	G6M-96-13B	3/20/2006	2,100	250	400	2U	1.2	2.5	360	300	0.207	6.77	2.4	-	38	96	17,000	0.036	0.42	97	5.68	0.17	-161.5	0.759	7.1	9.84
	G6M-96-13B	6/20/2006	1,900	280	370	2U	1U	3.5	110	310	0.2U	4.21	4.8	-	48J*	100	16,000	0.044	0.27	200	5.46	0.62	-86.8	1.252	2.63	14.08
	G6M-96-13B	9/18/2006	880	370	530	2U	1.3	9.4	300	370	0.262	4.56	3	-	150	110	20,000	0.022J	0.43	2,400	6.14	0.48	-120.9	1.555	2.19	14.45
	G6M-96-13B	12/11/2006	830	340	620	2U	1.6	7.3	360	-	-	6.06	1.2	-	190	130	27,000	0.020J	0.047	9,000	6.28	14.07	-260	1.93	2.1	11.78
	G6M-96-13B	3/27/2007	940	290	590	2.6	2.1	26	140	-	-	4.3	1.6	-	250	230	35,000J*	0.025U	0.96	22,000	5.71	0.1	-16.8	1.861	1.79	12.46
	G6M-96-13B	6/11/2007	1,200	280	610	2U	1.7	55	260	-	-	8.17	2.2	-	200	200	15U	0.025U	0.68	22,000	6.24	0.15	-97.5	1.87	1322	12.15
	G6M-96-13B	9/10/2007	2,600	130J*	590	2U	1.6	38	270	410	0.2U	580	2.8	-	240	210	25,000	0.036	6.3	32,000	6.25	0.4	-136.3	1.866	15.5	11.54
	G6M-96-13B	12/11/2007	750	99	830	2U	1.5	110	240	-	-	429	2.4	-	260	230	25,000	0.005J	3.6	26,000	6.11	1.92	-25.7	1.907	8	10.45
	G6M-96-13B	3/10/2008	1,200	140	1,000	2U	1.7	140	210	-	-	5U	2	-	240	240	26,000	0.025U	8.3	29,000	6.18	1.55	-90.2	1.958	6.4	9.77
	G6M-96-13B	10/15/2008	7.3J	6.5J	490	10U	10U	350	91.8U	470	0.13U	21	0.03UJ	-	172	290	39,500	1.2U	5.7	9,700	6.19	0.90	-59.2	2.046	11	12.69
	G6M-96-13B	5/7/2009	190	75	310	10U	10U	95	74	740J	0.13U	32	0.03U	-	169	323	38,600	1.2U	13	46,000	6.09	0.10	-97.6	1.909	4	9.91
	G6M-96-13B	10/19/2009	440	140	290	10U	10U	89	54	630	0.022U	53	0.041	-	173	325	36,000	1.2U	9.2	52,000	6.32	1.53	-93.1	2.054	13.6	10.34
	G6M-96-13B	4/21/2010	93	29	100	2.0U	2.0U	57	130	610	0.13U	0.71J	0.041	-	217	400J	39,100	1.3U	15	37,000	6.21	0.13	18.2	2.496	10.99	10.00
	G6M-96-13B	10/6/2010	360	150	150	1.5	0.70	65	57	95	0.045J	1.1J	0.03U	-	222	366	37,500	1.2U	18	96,000	6.19	0.22	-103.4	2.547	12.9	10.94
	G6M-96-13B	6/9/2011	740	90	270	1.9	1.4	86	75	300	0.023J	0.49J	0.03U	-	242	304	25,100	3.7	44	110,000	6.22	0.09	-112	2.126	13.1	11.2
	G6M-96-13B	10/4/2011	160	24	79	8.0U	8.0U	43	73	620	0.13U	0.35J	0.03U	-	284	335	25,300	1.2U	1.5U	98,000	6.36	0.02	-77.8	1.733	20	11.53
	G6M-96-13B	5/9/2012	130	47	150	5.0U	5.0U	38	51	500	0.13U	0.58J	0.13	-	298	231	16,600	44	100	29,000	6.47	1.7	-89.7	1.68	12.1	10.42
	G6M-96-13B	10/11/2012	130	48	130	5.0U	5.0U	76	38	480	0.13U	5.0U	0.14	-	282	209	17,100	81	190	62,000	6.26	0.44	-66.4	2.335	7.09	11.25
	G6M-96-13B	5/22/2013	170	55	230	2.7J	5.0U	100	29	540J	0.13U	5.0U	0.12J	-	395	241	18,600	1.1U	86	23,000	6.23	0.15	-84.3	2.27	13	11.42
	G6M-96-13B	10/17/2013	78	38	200	4.0U	4.0U	170	37	560	0.13U	5.0U	0.058	-	365	234	17,600	2.4	36	18,000	6.46	0.15	-113.1	1.728	17.3	12.17
FDW	G6M-13-06X	1/30/2014	3.9J	8U	300	8U	8U	95	-	-	-	-	-	-	-	-	-	-	-	-	6.61	0.33	-38.3	2.521	35.9	9.8
	G6M-13-06X	6/12/2014	0.5U	0.44J	180	0.68	0.37J	330	160	710J	0.13U	0.68J	0.03U	-	444	365	16,900	1.3UJ	33J	18,000J	6.42	0.24	-88.9	1.71	13.7	10.96
	G6M-13-06X	10/30/2014	0.5U	0.5U	14	0.7	0.5U	15	42	580	0.13U	0.42J	0.03U	-	558	274	12,500	1.2U	63	79,000	6.31	0.24	-99	1.943	20.1	10.69
	G6M-13-06X	6/16/2015	0.50 U	0.50 U	3.9	0.98 J	0.50 U	6	54.5	510	0.15	1.0 J	1.0 U		546	246000	16,900	10 U	27.3	10,300						
	G6M-13-06X	9/9/2015	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	4.0 J	82.2	-	0.11	10 U	6.5		511	269000	22,500	5.0 U	36.6	18,200						
	G6M-13-06X	10/14/2015	5.0 U	5.0 U	3.2 J	5.0 U	5.0 U	3.3 J	61.5	434	0.071 J	1.7 J	1.5 J	-	531	260000	21,300	10 U	30.2	11,300	6.31	0.24	-99	1.943	20.1	10.69
FDW	G6M-96-25B	10/15/2001	360	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.81	5.3	142	0.498	3.9	14.55
	G6M-96-25B	2/25/2002	130	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.70	11.51	158.5	0.15	9.75	11.1
	G6M-96-25B	2/27/2002	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-96-25B	1/31/2003	52	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-96-25B	9/20/2004	56	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	4.98	7.63	593	0.589	0	13.13
	G6M-96-25B	9/26/2005	40	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.82	6.74	314.1	0.587	1.1	12.89
	G6M-96-25B	9/19/2006	44	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.20	7.64	223.5	0.496	1.46	13.48
	G6M-96-25B	9/11/2007	16	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.91	6.29	96.6	0.802	9.5	13.86
	G6M-96-25B	10/17/2008	1.7	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	6.80	8.41	89.7	0.151	4	11.15
	G6M-96-25B	10/16/2009	1.9	38J	0.5UJ	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	6.27	8.08	183.5	0.404	4.7	10.19
	G6M-96-25B	10/8/2010	3.1	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	5.80	6.70	190.2	0.622	1.59	11.86
	G6M-96-25B	10/6/2011	0.58	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	6.85	8.11	69.8	0.131	4.5	11.56
	G6M-96-25B	10/16/2012	2.0	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	5.87	7.09	181.7	0.572	7.76	11.52
FDSA	G6M-04-09X	9/24/2004	7,400	4.2	9	2U	1U	2U	-	-	-	-	-	-	5U	1UJ	160	-	-	-	5.15	3.84	637.6	0.495	0.82	17.2
	G6M-04-09X	9/28/2005	3,200	5U	5U	5U	5U	5U	-	-	-	-	-	-	5U	1U	37	-	-	-	5.92	3.41	678.4	0.169	2.07	15.42
	G6M-04-09X	9/21/2006	190	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	0.10U	50	-	-	-	5.83	8.18	215.6	0.102	5.51	13.18
	G6M-04-09X	9/12/2007	440	22	31	2U	1U	2U	-	-	-	-	-	-	5U	0.83	390	-	-	-	6.22	2.18	49.7	0.179	4.3	14.72
	G6M-04-09X	10/17/2008	4,000	330	410	50U	50U	44	-	-	-	-	-	-	63.4	13.3	5,700	-	-	-	6.23	0.66	-36.2	0.497	9.2	10.24
	G6M-04-09X	10/21/2009	1,600	210	210	50U	50U	51	-	-	-	-	-	-	70.8	13	3,960	-	-	-	5.80	0.58	33.3	0.376	4.53	10.47
	G6M-04-09X	10/8/2010	1,000	420	990	0.79	0.89	7.8	-	-	-	-	-	-	69.9	14.3	15,300	-	-	-	6.17	0.99	-20.8	0.388	1.58	10.72
	G6M-04-09X	6/9/2011	260	140	950	0.56	1.7	200	-	-	-	-	-	-	203	43.3	9,820	-	-	-	6.14	0.35	-49.3	0.562	0.03	13.18
	G6M-04-09X	10/7/2011	20U	23	910	20U	20U	240	45	-	-	-	-	-	291	107	50,900	-	-	-	6.45	0.14	-105.8	0.626	2	10.81
	G6M-04-09X	5/9/2012	970	250	510	40U	40U	340	9.1J	-	-	-	-	-	344	76.7	17,800	-	-	-	6.66	0.08	-85.2	0.495	12.5	10.3
	G6M-04-09X	10/16/2012	260	70	100	20U	20U	350	3.0J	-	-	-	-	-	225	41.7	13,800	-	-	-	6.24	0.31	-79.9	0.289	10.3	10.45
	G6M-04-09X	5/22/2013	5.9	3.6	5.9	0.81	0.5U	9.9	11	-	-	-	-	-	321	135	30,800	-	-	-	6.29	0.15	-84.7	0.812	4.21	10.36
	G6M-04-09X	10/22/2013	0.5U	0.5U	52	0.53	0.5U	38	34	-	-	-	-	-	551	303	27,100	-	-	-	6.64	3.3	-130.9	0.917	18.5	10.69
	G6M-04-09X	6/12/2014	1.4	0.75	12	0.6	0.5U	26	29	-	-	-	-	-	607	315	19,200	-	-	-	6.37	0.26	-82.0	1.392	3.64	10.51
	G6M-04-09X	11/3/2014	0.21J	0.5U	0.43J	0.21J	0.5U	0.83	31	-	-	-	-	-	600	339	16,500	-	-	-	6.59	0.05	-129.2	1.03	21.8	10.25
	G6M-04-09X	6/17/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	14.10						351	159	3,560				6.33	0.64	-65.0	1384	96	14.03
	G6M-04-09X	10/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	16.40	-	-	-	-		1.0 U	0.001U	1.0 U	1.0 U	1.0 U	1.0 U	6.33	0.64	-65.0	1384	96	14.03
FDSA	G6M-04-10A	9/20/2004	2,900	2.5	3.4	2U	1U	2U	1U	41	4.5J*	22	2	-	5U	1	170	0.021	0.03	1.1	5.91	3.75	206.5	0.552	1.7	13.59
	G6M-04-10A	12/14/2004	2,400	2U	2U	2U	1U	2U	5U	25	1.7	13	2U	-	5U	1U	120	0.015	0.096	1500	5.89	2.81	215.4	0.965	2.04	8.84
	G6M-04-10A	3/30/2005	640	40U	40U	40U	40U	40U	52	107	0.33	16	2U	-	8.4	1.2	8,100	0.33	0.07	1.4	5.90	4.22	68.3	1.01	1.76	10.62
	G6M-04-10A	8/11/2005	380	45	390	2U	2U	2U	240	359	.05U	7.8	1U	-	77	87J*	50,000J*	0.24	0.23	3.4	5.65	1.84	11.9	0.977	14.9	19.56
	G6M-04-10A	9/27/2005	340	88	260	1U	1U	1U	330	442	0.084	3.0J	5.9	-	190	230J	76,000	0.08	0.15	110	6.33	1.89	-1.9	1.135	4.3	15.68
	G6M-04-10A	12/14/2005	1,500	180	220	2U	1U	2U	370	480	0.05U	3.7	7.4	-	179	250J*	32,500	0.048	0.13	6,800	6.41	1.57	-64.8	0.985	1.9	9.54
	G6M-04-10A	3/21/2006	4,400	180	450	2U	1U	8.3	180	390	0.2U	4.08	2	-	180	220	8,100	0.025U	0.69	20,000	6.72	0.27	-121.4	0.676	7.51	10.21
	G6M-04-10A	6/20/2006	6,100	650	330	2U	1U	27	120	340	0.2U	4.32	3.2	-	160	220	5,700	0.025U	0.12	16,000	6.34	0.22	-99.8	0.893	9.82	15.4
	G6M-04-10A	9/19/2006	1,000	15	59	2U	1U	14	61	150	0.311	5.2	1.2	-	170	97	5,000	0.23	0.11	11,000	6.56	1.14	-86.9	0.43	6	14
	G6M-04-10A	12/13/2006	450	37	860	2U	1.2	76	73	-	-	1.82	1.6	-	150	96	4,800	0.025U	0.12	22,000	6.91	0.14	-111	0.662	27.3	10.50
	G6M-04-10A	3/28/2007	1,200J*	230J*	680J*	2U	1.6J*	60J*	130	-	-	2.07	1U	-	380	260	27,000J*	0.65	0.26	20,000	6.1	0.19	-89.9	1.188	15.4	12.35
	G6M-04-10A	6/12/2007	760	140	900	2U	2.1	130	190	-	-	1U	2.4	-	310	260	15,000	0.54	1.1	23,000	6.58	0.19	-145.2	1.295	128.5	11.9
	G6M-04-10A	9/11/2007	2,700	99J*	400	2U	1U	91	220	440	0.2U	54	2.4	-	240	290	13,000	0.35	0.47	18,000	6.42	1.72	-138.2	0.864	42.3	11.27
	G6M-04-10A	12/11/2007	830	8.8	280	2U	1U	90	270	-	-	3.57	3	-	330	280	12,000	0.3	0.52	31,000	6.4	1.2	-70.1	1.366	8	10.1
	G6M-04-10A	3/10/2008	200	830	670	3.4	1.8	37	210	-	-	10	2.2	-	340	230	35,000	0.34	0.61	25,000	6.53	0.94	-123.8	1.362	24	10.11
	G6M-04-10A	10/6/2008	4,000	450	990	100U	100U	1,400	34	210	0.13U	12	0.03UJ	-	247	187	9,100	1.3U	11	16,000	6.38	0.21	-168	0.948	15	10.75
	G6M-04-10A	1/21/2009	1,500	390	1,400	1,100U	0.67J	1,200	46J	20U	0.13U	20	0.03UJ	0.10J	250	234J	8	1.2U	9.6	53,000	6.6	0.2	-112.6	0.937	7.02	8.74
	G6M-04-10A	5/7/2009	380	41	390J	10U	10U	420	49	590J	0.13U	24	0.03U	0.13J	292	194	17,200	1.2U	11	34,000	6.4	0.8	-125	1.165	4.2	10
	G6M-04-10A	10/20/2009	2,700	290	2,100	50U	50U	1,400	21	350	0.13U	8.7	0.03U	0.1J	220	127	8,960	1.3U	15	11,000	6.42	0.17	-121.4	0.805	11.43	10.42
	G6M-04-10A	4/21/2010	170	21	170	4.0U	4.0U	130	120	670	0.017J	0.65J	0.03U	0.25	286	297J	18,200J	1.3U	15	21,000J	6.58	0.70	-139.5	0.880	7.00	10.47
	G6M-04-10A	10/6/2010	25	10J	600	20U	20U	190	26	260	0.13U	0.98J	0.03U	0.23J	296	119	4,280	1.2U	14	51,000	6.32	0.17	-85.2	0.694	6.24	10.43
	G6M-04-10A	6/9/2011	110	36	300	0.5U	0.5U	170	63	660	0.13U	1.2J	0.03U	-	295	198	9,140	1.2U	5.7	92,000	6.4	0.39	-105.1	1.243	5.1	10.75
	G6M-04-10A	10/4/2011	850	170	1,100	40U	40U	270	160	750	0.13U	1.1J	0.22	-	322	304	17,600	1.2U	74	36,000	6.07	0.21	-94	0.629	8.18	10.79
	G6M-04-10A	5/10/2012	180	120	610	20U	20U	200	16	340	0.13U	0.70J	0.10	-	367	183	6,700	1.1U	250	46,000	6.49	0.48	-107.7	0.71	9.05	9.62
	G6M-04-10A	10/15/2012	2.0U	2.0U	26	2.0U	2.0U	110	64	340	0.092J	5.0U	0.13J	-	291	185	8,250	1.2U	44	14,000	6.43	0.6	-103.7	0.92	5.5	10.99
	G6M-04-10A	5/23/2013	0.5U	0.5U	13	0.53	0.5U	15	200	650	0.11J	0.84J	0.1J	-	342	400	7,110	1.2U	1.5U	18,000	6.37	1.3	-84.4	1.311	11	10.06
	G6M-04-10A	10/17/2013	360J	92J	130J	10U	10U	14J	150	650	0.13U	1.1J	0.034J	-	292	341	5,000	1.2U	9.4	24,000J	6.37	0.29	-95.5	1.756	9.78	10.77
	G6M-04-10A	6/12/2014	0.5U	0.23J	1.4	0.5U	0.5U	5.1	29	200J	0.13U	17	0.03U	-	264	164	3,730	2.2J	1.6UJ	9,500J	6.36	0.59	-82.7	1.761	10.93	10.24
	G6M-04-10A	11/3/2014	0.5U	0.5U	0.9	0.5U	0.5U	4.4	34	240	0.13U	16J	0.03U	-	288	184	2,100	1.2U	3.6J	21,000	6.62	0.15	-136.9	1.742	16.98	9.75
	G6M-04-10A	6/19/2015	0.50 U	0.50 U	0.50 J	0.50 U	0.50 U	5.0	18.3	278	0.11 U	21.70	1.0 U	NA	274	145	1,940	5.0 U	5.0 U	7,510	6.62	0.51	-94.6	2201	8.06	10.97

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			Laboratory Parameters																		Field Parameters					
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
FDSA	G6M-04-10X	9/20/2004	70	7.5	32	2U	1U	2U	1U	11	6.7J*	21	3.4	-	5U	1	260	0.019	0.039	1	5.59	6.87	246.2	0.902	0.95	14.64
	G6M-04-10X	12/14/2004	65	7.8	35	2U	1U	2U	5U	10U	6.6	23	2U	-	5U	1U	200	0.022	0.053	2.2	5.40	7.57	424.2	0.816	5.5	6.31
	G6M-04-10X	3/31/2005	56	6.8	30	2U	2U	2U	0.4J	10U	1.5	25	2U	-	5U	1U	190	0.022	0.86	1.1	5.18	7.65	256.7	1.337	0.41	11.18
	G6M-04-10X	7/1/2005	50	5.4	23	2U	1U	2U	5.9	43.5	1.7	12	1U	-	4.2	1UJ*	10U	0.035	0.05	12	5.33	6.09	265.2	1.502	0.9	15.77
	G6M-04-10X	9/27/2005	48	4.7	23	2U	1U	2U	4	7.7	1.4	26	1U	-	5U	1U	170	0.010J	0.018J	16	5.26	6.68	450.9	1.123	0.5	13.97
	G6M-04-10X	12/14/2005	67	6.3	27	2U	1U	2U	5U	9.8	1.5	28	1U	-	5U	1U	164	0.016J	0.034	11	5.49	6.78	205.1	1.032	3.4	10.09
	G6M-04-10X	3/22/2006	76	9.1J*	32	2U	1U	2U	5.6	10U	1.44	23.6	1U	-	5U	.1U	200	0.015J	0.025J	25	5.57	6.74	195.7	0.94	1.45	9.82
	G6M-04-10X	6/20/2006	87	10	47	2U	1U	2U	5U	10U	1.69	25.2	1U	-	5U	0.1U	240	0.013J	0.012J	18	5.08	6.23	248.8	1.512	1.9	15.25
	G6M-04-10X	9/19/2006	65	6.8	32	2U	1U	2U	2.2J	8	1.27	22.2	1U	-	5U	0.10U	240	0.026	0.025J	13	5.21	6.94	273.9	1.66	4.68	14.25
	G6M-04-10X	12/13/2006	64	7.2	35	2U	1U	2U	5U	-	-	27	1U	-	5U	0.1U	280	0.008J	0.011J	28	5.38	7.9	39.3	2.16	0.59	11.25
	G6M-04-10X	3/28/2007	56	5.9	26	2U	1U	2U	5U*	-	-	27.9	1U	-	5U	0.21	290J*	0.017J	0.054	21	5.21	6.37	77.9	1.947	3.71	12.63
	G6M-04-10X	6/12/2007	28	2.4	9.9	2U	1U	2U	5U	-	-	31.2	1U	-	5U	0.1U	250	0.010J	0.065	18	5.35	6.31	230.7	3.15	14	14.71
	G6M-04-10X	9/11/2007	35	3.4	13	2U	1U	2U	5U	10U	1.4	2000	1U	-	6U	0.1U	270	0.008J	0.010J	13	5.29	8.98	-40.6	2.617	10.5	13.56
FDSA	G6M-04-10X	12/11/2007	20	2U	6.4	2U	1U	2U	5U*	-	-	34.7	1U	-	5U	0.1U	230	0.010J	0.028	5.3	5.46	5.62	27.7	3.66	2.8	10.45
	G6M-04-10X	3/11/2008	22	2.1	9.7	2U	1U	2U	5U	-	-	28	1U	-	5U	0.16	250	0.004J	0.010J	4.1	4.99	6.42	213.5	2.89	0	8.25
	G6M-04-10X	10/15/2008	18	1.6	8.4	0.5U	0.5U	0.5U	10U	30	1.4	27	0.03U	-	8.0U	0.2U	265	1.2U	1.5U	6.1	5.28	6.58	247.1	3.339	1.4	10.96
	G6M-04-10X	5/7/2009	15	1.2	5	0.5U	0.5U	0.5U	10U	20UJ	1.2	33	0.03U	-	8.0U	0.2U	213	1.3U	1.6U	0.76	5.20	5.86	196.8	2.229	1.53	10.36
	G6M-04-10X	10/20/2009	9.8	4.8	5.2	0.5U	0.5U	0.27J	10U	20U	1.1	29	0.03U	-	8U	0.139U	197	1.3U	1.6U	19	5.20	5.72	226.2	2.651	2.68	10.6
	G6M-04-10X	4/21/2010	24	1.5	6.5	0.5U	0.5U	0.5U	10U	25	1.4	31	0.03U	-	5.0U	0.1U	200	1.3U	1.6U	87	5.26	5.13	187.2	2.760	4.00	10.48
	G6M-04-10X	10/6/2010	24	1.8	7.9	0.5U	0.5U	0.5U	10U	25	1.8	28	0.03U	-	5U	0.1U	208	1.2U	1.5U	3.7	5.18	5.63	225.7	2.937	0.00	10.89
	G6M-04-10X	10/4/2011	9.0	0.5U	1.9	0.5U	0.5U	0.5U	4.5J	20U	1.3	28	0.03U	-	5U	0.1U	173	1.2U	1.5U	47	5.01	4.46	192.8	1.078	1.16	11.17
	G6M-04-10X	10/15/2012	15.0	0.72	1.9	0.5U	0.5U	0.5U	10U	20U	1.2	35	0.03U	-	5U	0.103U	224	1.2U	1.5U	32	5.53	5.25	204	3.135	0.33	11.98
	G6M-04-10X	10/17/2013	6.2	0.28J	0.5J	0.5U	0.5U	0.5U	2.7J	20U	0.95	37	0.03U	-	3.3J	1.27	262	1.2U	1.5U	5,500	5.32	3.9	164.1	4.698	2.89	11.3
	G6M-04-10X	11/3/2014	7.4	0.27J	0.47J	0.5U	0.5U	0.5U	5U	20U	1.3J	30J	0.03U	-	2.5U	1.32	308	1.2U	1.5U	200	5.27	5.28	148.4	2.562	0.97	10.24
	G6M-04-10X	9/9/2015	2.80	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.81 U	-	0.92	34.70	1.0 U		2.0 U	0.114	383	5.0 U	5.0 U	5.0 U						
	G6M-04-10X	10/13/2015	3.10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	7.2	1.10	35.40	2.0 U		4.0 U	0.10U	344	10 U	10 U	10 U						
FDSA	G6M-04-13X	9/21/2004	8	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1U	350	-	-	-	5.96	8	551.8	0.138	1.75	14.39
	G6M-04-13X	9/26/2005	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1U	15U	-	-	-	6.43	10.5	180	0.042	3.8	10.63
	G6M-04-13X	9/18/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	0.10U	15U	-	-	-	5.65	8.63	213.9	0.076	12.1	14.35
	G6M-04-13X	9/12/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	0.1U	15U	-	-	-	6.07	8.7	147.4	140	14.1	11.82
	G6M-04-13X	10/17/2008	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	8U	0.2U	50U	-	-	-	5.22	9.98	124.4	0.046	45	9.54
	G6M-04-13X	10/20/2009	25U	16J	25U	25U	25U	25U	-	-	-	-	-	-	2J	0.132U	50U	-	-	-	5.78	10.61	283.7	0.049	12.2	9.76
	G6M-04-13X	10/7/2010	0.29J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.102U	25U	-	-	-	5.83	8.84	147.3	0.048	2.87	9.59
	G6M-04-13X	10/4/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	14.0J	-	-	-	5.54	9.15	208.7	0.024	13.5	10.61
	G6M-04-13X	10/16/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	5.1J	-	-	-	6.28	9.95	108.1	0.047	17.2	10.14
	G6M-04-13X	10/22/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	5.92	10.69	120.9	0.021	45.6	10.43
	G6M-04-13X	11/3/2014	0.36J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.5U	0.0247U	7.5U	-	-	-	6.23	6.38	147.6	0.029	35.2	9.63
FDSA	G6M-04-15X	9/21/2004	5.2	2U	5.3	2U	1U	2U	-	-	-	-	-	-	5U*	4.8	8,100	-	-	-	5.26	0.82	410	2.64	0.23	14.4
	G6M-04-15X	9/28/2005	9.1	2U	6.4	2U	1U	2U	-	-	-	-	-	-	33	1.8	4,400	-	-	-	5.11	0.39	248.1	0.674	0.29	16.01
	G6M-04-15X	9/20/2006	3.5	2U	5.2	2U	1U	2U	-	-	-	-	-	-	20	2	4,300	-	-	-	4.60	1.07	-100.3	1.555	0.95	17.24
	G6M-04-15X	9/11/2007	2.7	2U	2U	2U	1U	2U	-	-	-	-	-	-	18	0.75	2,100	-	-	-	6.21	3.21	85.1	1.353	3.5	13.33
	G6M-04-15X	10/17/2008	4.8	1.0	2.3	0.5U	0.5U	0.5U	-	-	-	-	-	-	36.3	3.01	3,010	-	-	-	6.34	1.5	-8.1	0.910	4	13.36
	G6M-04-15X	10/19/2009	1.9	14	3	0.5U	0.5U	0.5U	-	-	-	-	-	-	48.9	5	3,130	-	-	-	6.19	0.31	24.4	0.799	4.68	10.56
	G6M-04-15X	10/8/2010	0.65	0.34J	3.2	0.5U	0.5U	0.5U	-	-	-	-	-	-	59.1	4.76	2,900	-	-	-	6.14	0.3	3.2	0.704	1.34	11.05
	G6M-04-15X	10/6/2011	0.52	0.5U	3.7	0.5U	0.5U	0.5U	-	-	-	-	-	-	55.5	3.75	3,470	-	-	-	6.12	0.05	37.3	0.446	4.89	10.33
	G6M-04-15X	10/16/2012	1.0	0.5U	3.9	0.5U	0.5U	0.5U	-	-	-	-	-	-	111	11.1	4,300	-	-	-	6.15	0.49	-48.6	0.76	1.08	11.43
	G6M-04-15X	10/18/2013	0.97	0.27J	2.2	0.5U	0.5U	0.5U	-	-	-	-	-	-	112	14.5	3,530	-	-	-	5.68	0.24	14.1	0.838	1.33	11.11
	G6M-04-15X	11/4/2014	1.60	0.29J	2.2	0.5U	0.5U	0.5U	-	-	-	-	-	-	135	33.4	14,000	-	-	-	6.08	0.14	-16	1.937	3.61	10.28
FDSA	G6M-94-18X	10/16/2001	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.20	8.4	291	7	6.4	12.6
	G6M-94-18X	2/25/2002	6,400	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-94-18X	2/27/2002	2,800	-	-	-	-	-	-	-	0.91	-	-	-	-	-	-	-	-	-	6.11	8.9	147	0.086	45.3	12.07
	G6M-94-18X	2/4/2003	37,000	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-94-18X	9/20/2004	3,400	2U	2U	2U	1U	2U	1U	18	2	11	4	-	5U	1	15U	0.011	0.022	1.1	6.15	9.03	321.7	0.078	3.8	13.89
	G6M-94-18X	12/15/2004	2,300	2U	2U	2U	1U	2U	5U	110	1.6	10	2U	-	5U	1U	15U	0.005U	0.0085	9.1	6.00	9.36	441	0.062	64.7	11.35
	G6M-94-18X	3/31/2005	17,000	1,000U	1,000U	1,000U	1,000U	1,000U	1.1J	14.4	0.23	10	2U	-	5U	1U	15U	0.011	0.71	0.97	6.17	10.34	171.9	0.063	16.6	11.34
	G6M-94-18X	7/1/2005	2,000	2.5U	2.5U	2.5U	2.5U	2.5U	4.7J	14	0.13	9.2	1U	-	2U	1UJ*	10U	0.051	0.025	2.7	5.77	8.03	247.9	0.083	21.3	18.31
	G6M-94-18X	9/27/2005	710	1U	1U	1U	1U	1U	3.8	15.4	0.071	8.8J	1U	-	5U	1U	15U	0.032	0.04	0.48	5.72	8.82	228.1	0.054	6	13.78
	G6M-94-18X	12/16/2005	260	2U	2U	2U	1U	2U	6	10	0.068	14	1U	-	5U	1U	15U	0.042	0.15	0.17	6.21	8.74	188.5	0.096	98.3	11.23
	G6M-94-18X	3/21/2006	66	2U	2U	2U	1U	2U	5.5	12	0.2U	14.6	1U	-	5U	0.16	15U	0.025U	0.016J	23	6.39	10.48	440.4	0.078	188	10.81
	G6M-94-18X	6/20/2006	46	2U	2U	2U	1U	2U	1.6J	25U*	0.2U	11.3	1U	-	5U	100U	15U	0.004J	0.008J	6.5	5.43	7.18	1022.5	0.073	5.43	19.03
	G6M-94-18X	9/18/2006	41	2U	2U	2U	1U	2U	4.9J	15	0.2U	9.66	1U	-	5U	0.10U	15U	0.006J	0.021J	19	5.84	7.15	204.3	0.111	18.2	18.31
	G6M-94-18X	12/12/2006	36	2U	2U	2U	1U	2U	2.2J	-	-	10.5	1U	-	5U	0.10U	15U	0.004J	0.052	15	6.22	6.15	157.3	0.07	354	11.97
	G6M-94-18X	3/29/2007	700	2U	2U	2U	1U	2U	2J	-	-	8.59	1U	-	5U	0.1U	15U	0.004J	0.018J	9.2	6.11	5.32	-27.8	0.087	3.89	11.7
	G6M-94-18X	6/11/2007	2,100	2U	2U	2U	1U	2U	2.4J	-	-	11.5	1U	-	5U	0.1U	15U	0.007J	0.006J	0.22	6.29	7.12	134.0	0.080	98.6	14.88
	G6M-94-18X	9/12/2007	330	2U	2U	2U	1U	2U	0.6J	25	0.2U	6.1	1U	-	6U	0.1U	15U	0.025U	0.025U	2.6	6.25	7.46	139.3	0.159	122.9	12.36
FDSA	G6M-95-20X	10/16/2001	4.4	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.90	7.2	212	0.27	4.1	16
	G6M-95-20X	2/25/2002	5	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.59	12.37	155.7	0.171	7.67	15.24
	G6M-95-20X	2/27/2002	-	-	-	-	-	-	-	-	4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-95-20X	9/21/2004	2.8	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1U	15U	-	-	-	5.76	8.88	205.5	0.544	0	15.69
	G6M-95-20X	9/26/2005	2.3	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1U	15U	-	-	-	5.62	8.75	328.7	0.741	0.95	15.22
	G6M-95-20X	9/19/2006	2.2	2U	42	2U	1U	2U	-	-	-	-	-	-	71	350	39,000	-	-	-	6.31	0.76	-108	2.715	4.19	17.33
	G6M-95-20X	9/12/2007	2U	2U	11	2U	1U	2U	-	-	-	-	-	-	160	110	15,000	-	-	-	6.49	3.19	-114.3	0.74	73.7	18.21
	G6M-95-20X	10/15/2008	0.38J	0.2J	2.5	0.5U	0.5U	0.5U	-	-	-	-	-	-	97.2	45.6	5,250	-	-	-	6.45	0.49	-104.4	0.511	4.2	13.12
	G6M-95-20X	10/16/2009	0.5U	37J	3.1	0.5U	0.5U	0.5U	-	-	-	-	-	-	166	206	7,660	-	-	-	6.61	0.29	-81.4	0.898	8.81	12.14
	G6M-95-20X	10/6/2010	0.5U	0.5U	5.1	0.5U	0.5U	1.8	-	-	-	-	-	-	149	546	12,200	-	-	-	6.49	0.11	-124.3	2.047	36.6	12.46
	G6M-95-20X	10/7/2011	0.5U	0.5U	1.5	0.5U	0.5U	0.5U	-	-	-	-	-	-	108	57.8	3,610	-	-	-	6.59	0.10	-112.9	0.234	4	12.07
	G6M-95-20X	10/15/2012	0.5U	0.5U	1.0	0.5U	0.5U	0.5U	-	-	-	-	-	-	112	67.9	3,140	-	-	-	6.58	0.60	-98.2	0.526	4.83	14
	G6M-95-20X	10/18/2013	0.5U	0.29J	0.59	0.5U	0.5U	0.5U	-	-	-	-	-	-	79.9	30	1,760	-	-	-	6.56	0.18	-79.5	0.41	3.37	13.04
	G6M-95-20X	10/31/2014	2.7	0.53	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	7.9	20.3	1,160	-	-	-	6.59	0.16	-105.1	0.688	4.03	12.61
FDSA	G6M-07-02X	12/12/2007	50	2U	2U	2U	1U	2U	5U*	-	-	16.2	1U	-	5U	0.1U	64	0.024J	0.022J	0.73	5.9	7.54	194.2	0.148	5.4	9.28
	G6M-07-02X	3/11/2008	1,800	2U	2U	2U	1U	2U	5U	-	-	26	1U	-	5U	0.1U	35	0.014J	0.019J	7.1	5.7	7.5	165.5	0.108	0	9.22
	G6M-07-02X	10/15/2008	170	5.0U	5.0U	5.0U	5.0U	5.0U	10U	20U	0.13U	11	0.030UJ	-	5.5J	0.2U	21.2J	1.2U	10	12,000	5.34	9.25	93.2	0.067	19	10.90
	G6M-07-02X	5/11/2009	46	0.5U	0.5U	0.5U	0.5U	0.5U	5.7J	20U	0.062	8.6J	0.030UJ	-	7.1	0.2U	5.8J	1.2U	1.5U	7	6.17	9.4	115.7	0.055	4	9.42
	G6M-07-02X	10/20/2009	30J	0.5U	0.5U	0.5U	0.5U	0.5U	10U	20U	0.13U	7.2	0.03UJ	-	6.6	0.2U	50U	1.3U	1.6U	6.2J	6	9.34	128.9	0.053	9.35	10.26

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	Laboratory Parameters																		Field Parameters					
			PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
FDSA	G6M-07-02X	4/21/2010	63	2U	2U	2U	2U	2U	10U	30	0.0098J	6.8	0.03U	-	6.2	0.176U	25U	1.2U	1.5U	3,200	6.10	0.33	139.3	0.034	12	9.54
	G6M-07-02X	10/6/2010	26J	0.5U	0.5U	0.5U	0.5U	0.5U	10U	32	0.21	5.6	0.03U	-	3.4J	0.1U	25U	1.2U	1.5U	28	5.31	6.13	170	0.053	5.48	11.23
	G6M-07-02X	10/4/2011	700	0.5U	0.5U	0.5U	0.5U	0.5U	10U	31	0.13U	4.4J	0.03U	-	4.6J	0.1U	79.8	1.2U	1.5U	46,000	5.17	0.09	176.5	0.045	8.2	11.36
	G6M-07-02X	10/11/2012	90	190	6.4	5.0U	5.0U	5.0U	10U	20U	0.056J	6.4	0.03U	-	5U	0.286	40.1	1.2U	1.5U	46,000J	6.28	1.60	76.1	0.068	11.31	10.83
	G6M-07-02X	10/17/2013	1,000	8.7J	20U	20U	20U	20U	10U	21	0.13U	4.5J	0.03U	-	5U	0.1U	31.7	1.2U	1.5U	520J	6.03	4.25	143	0.060	1.17	11.58
	G6M-07-02X	11/3/2014	14,000	40J	31J	50U	50U	50U	5U	22	0.13U	4.2J	0.03U	-	2.2J	0.421J	43.3	1.2U	1.5U	6,200	5.85	0.23	70.2	0.040	12.1	8.97
Area 1	G6M-04-22X	9/21/2004	900	24	110	2U	1U	2U	-	-	-	-	-	-	5U	1U	990	-	-	-	6.30	4.78	192.2	0.897	19	15.24
	G6M-04-22X	9/28/2005	210	6.8	45	2.5	1U	2U	-	-	-	-	-	-	5U	1U	120	-	-	-	5.52	6.13	391.3	0.757	21	14.69
	G6M-04-22X	9/20/2006	200	8.7	54	2U	1U	2U	-	-	-	-	-	-	5U	0.43	4,500	-	-	-	5.68	2.8	197.8	1.048	6.98	14.3
	G6M-04-22X	9/11/2007	95	12	75	2U	1U	9.4	-	-	-	-	-	-	390	250	44,000	-	-	-	6.92	0.28	-160.8	2.25	20.7	13.22
	G6M-04-22X	10/17/2008	18	3.7	53	0.44J	1U	26	-	-	-	-	-	-	439	421	15,900	-	-	-	6.34	0.28	-106.1	2.104	18	11.11
	G6M-04-22X	10/19/2009	7.2	9.7	16	0.5U	0.5U	4.9	-	-	-	-	-	-	320	355	9,360	-	-	-	6.26	1.27	-48.7	2.181	290	10.71
	G6M-04-22X	10/8/2010	0.39J	2.2	7.1	0.23J	0.5U	4.7	-	-	-	-	-	-	522	210	3,020	-	-	-	6.32	2.51	-59.7	1.691	22.2	12.98
	G6M-04-22X	10/6/2011	0.5U	0.5U	13	0.5U	0.5U	7.5	-	-	-	-	-	-	534	232	15,800	-	-	-	6.25	0.39	-53.4	0.016	6.47	11.54
	G6M-04-22X	10/12/2012	0.5U	0.5U	5.7	0.5U	0.5U	6.6	-	-	-	-	-	-	657	162	9,080	-	-	-	6.41	0.6	-66.8	1.701	8.66	11.64
	G6M-04-22X	10/18/2013	-	-	-	-	-	-	-	-	-	-	-	-	767	-	-	-	-	-	6.12	0.29	-68.7	1.113	14.3	12.54
	G6M-04-22X	11/4/2014	0.5U	0.5U	2	0.72	0.5U	4.6	-	-	-	-	-	-	667	150	1,600	-	-	-	6.39	0.2	-64	0.951	42.9	11.07
Area 1	G6M-04-31X	9/21/2004	1,600	2U	4.2	2U	1U	2U	-	-	-	-	-	-	5U	1U	190	-	-	-	5.69	5.1	211	1	2.99	16.33
	G6M-04-31X	9/28/2005	1,900	5U	5.2	5U	5U	5U	-	-	-	-	-	-	5U	1U	35	-	-	-	5.63	3.66	305.4	0.388	2.2	15.03
	G6M-04-31X	9/20/2006	600	6.1	2.5	2U	1U	2U	-	-	-	-	-	-	5U	0.10U	15U	-	-	-	6.52	0.28	-108.5	0.729	3.56	15.56
	G6M-04-31X	9/11/2007	340	260	330	2.8	1.3	2U	-	-	-	-	-	-	5U	0.1	890	-	-	-	6.38	5.61	101.6	0.217	6.9	13.11
	G6M-04-31X	10/17/2008	110	72	340	20U	20U	730	-	-	-	-	-	-	103	68.4	9,710	-	-	-	6.43	2	-72.7	0.636	9	11.25
	G6M-04-31X	10/21/2009	86	11	270	10U	10U	560	-	-	-	-	-	-	311	181	16,900	-	-	-	5.82	1.96	-102.01	0.626	6.23	11.78
	G6M-04-31X	10/8/2010	3.1	1.1	7.4	0.30J	0.5U	31	-	-	-	-	-	-	428	127	9,620	-	-	-	6.41	0.93	-107.6	0.728	1.21	11.07
	G6M-04-31X	10/6/2011	18	5.3	38	0.5U	0.5U	37	-	-	-	-	-	-	635	223	15,800	-	-	-	6.62	0.07	-112.4	1.333	2.89	11.29
	G6M-04-31X	10/12/2012	25	31	61	2.0U	2.0U	72	-	-	-	-	-	-	556	181	8,940	-	-	-	6.62	0.43	-104.6	1.193	4.58	11.1
	G6M-04-31X	10/18/2013	-	-	-	-	-	-	-	-	-	-	-	-	498	-	-	-	-	-	6.36	1.71	-87.6	1.656	1.13	11.1
	G6M-04-31X	11/4/2014	0.5U	0.51	6.9	0.23J	0.5U	3.4	-	-	-	-	-	-	468	121	9,690	-	-	-	6.51	0.12	-95.5	1.775	9.01	10.85
Area 1	G6M-03-01X	10/21/2009	380	65	670	25U	25U	25U	-	-	-	-	-	-	-	-	-	-	-	-	6.52	0.88	-153.5	0.559	7.25	11.53
	G6M-03-01X	10/16/2012	200	60	200	10U	10U	550	-	-	-	-	-	-	-	-	-	-	-	-	6.51	0.95	-69.4	1.776	2.28	12.32
	G6M-03-01X	6/12/2014	0.29J	37	19	0.59	0.51	68	-	-	-	-	-	-	-	-	-	-	-	-	6.52	1.95	11.7	0.812	13.1	11.97
	G6M-03-01X	10/31/2014	300	310	98	0.5U	0.5U	34	-	-	-	-	-	-	-	-	-	-	-	-	6.40	0.75	-106.6	1.263	8.57	11.96
	G6M-03-01X	6/18/2015	0.65 J	37.00	52.60	0.50 U	0.55 J	18.80						-							6.36	1.82	19.9	1093	22.9	13.63
	G6M-03-01X	6/18/2015	0.65 J	37.00	52.60	0.50 U	0.55 J	18.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-03-01X	9/10/2015	103.0	66.9	64.9	2.40	1.40	62.8	5.30	-	0.076 J	10.30	2.0 U	-	46	42	7080	10 U	68.9	8,640	-	-	-	-	-	-
Area 1	G6M-03-04X	10/21/2009	4.2U	4.0U	81	4.0U	4.0U	4.1	-	-	-	-	-	-	-	-	-	-	-	-	6.04	0.7	-99.6	0.635	24.5	11
	G6M-03-04X	10/16/2012	0.5U	0.5U	0.5U	0.5U	0.5U	1.3	-	-	-	-	-	-	-	-	-	-	-	-	6.79	0.7	-123	0.622	80.4	11.27
Area 2	G6M-02-01X	2/28/2002	11	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.91	4.7	66.6	0.624	14	13.53
	G6M-02-01X	9/23/2004	24B	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.64	2.54	145	0.784	6.11	19.41
	G6M-02-01X	9/30/2005	110	2U	3.1	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.07	3.82	384.8	0.555	10.9	18.04
	G6M-02-01X	9/20/2006	1,300	12	91	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.19	3.68	-108.2	0.708	9.07	17.33
	G6M-02-01X	12/14/2006	1,600	18	120	2U	1U	2U	5U	-	-	-	-	-	-	-	-	-	-	-	6.54	3.64	-34.8	0.831	2.81	14.32
	G6M-02-01X	3/30/2007	1,700	19	120	2U	1U	2U	3.3J	-	-	9.43	1U	-	5U	0.1U	120J*	0.012J	0.081	-	6.64	4.22	-35.3	0.8	0.78	14.06
	G6M-02-01X	6/14/2007	1,700	16	97	2U	1U	2U	1.9J	-	-	-	-	-	-	-	-	-	-	-	6.72	3.3	69.6	0.853	10.4	14.82
	G6M-02-01X	9/14/2007	1,900	24	150	2U	1U	2U		-	-	-	-	-	-	-	-	-	-	-	6.57	3.32	102.4	0.747	0.1	14.44
	G6M-02-01X	12/13/2007	1,600	21J*	130J*	2U	1U	2U	3.6J	-	-	-	-	-	-	-	-	-	-	-	6.61	2.73	128	0.807	0	12.57
	G6M-02-01X	3/14/2008	520	70	600	2U	2.2	2U	180	-	-	5U	1U	-	150	26	23000	0.052	0.16	12	6.45	0.38	-99.2	1.62	2.7	13.35
	G6M-02-01X	10/7/2008	180	49	360	10U	10U	10U	17.7	200	0.13U	11	0.03UJ	-	141	14.5	5,880	6.3U	9.5	5,000	6.97	0.18	-112.9	1.193	8.4	12.07
	G6M-02-01X	1/21/2009	280	76U	170	1.3U	1.2J	94U	11J	170	0.13U	7.0U	0.03U	0.25J	148	11,200J	4,500	1.3U	24	4,000	7.13	0.39	-142.7	1.279	1.2	11.08
	G6M-02-01X	5/6/2009	610	190	100	10U	10U	54	13	220J	0.059J	8.4	0.03U	0.38J	133	18.7	3,950	1.2U	29	29,000	6.69	0.2	-127.7	1.085	1.15	11.42
	G6M-02-01X	10/20/2009	820	180	76	40U	40U	47	4.6J	130	0.074J	7.6	0.03UJ	0.12J	108	11.8	2,470	1.3U	9	5,000J	6.66	1.24	32.9	0.925	3.52	11.45
	G6M-02-01X	4/21/2010	37J	53J	95J	2U	2U	69J	40	280J	0.024J	4.0J	0.03U	0.20	164	20.5J	4,480	1.3U	43	12,000J	6.70	0.42	-122.0	1.180	1.60	11.63
	G6M-02-01X	10/6/2010	470	120	72	1.4	1.4	84	10U	120	0.13U	5.2	0.03U	0.78J	133	13.7	3,050	1.2U	49	25,000	6.39	0.28	-77.8	1.039	3.65	12.53
	G6M-02-01X	6/9/2011	0.5U	4.3	11	0.69	0.5U	12	90	400	0.11J	3.3J	0.03U	-	173	45.9	7,380	1.2U	230	71,000	6.42	0.3	-86.3	1.423	0	14.56
	G6M-02-01X	10/5/2011	0.5U	0.88	3.6	0.5U	0.5U	7.3	18	190	0.13U	1.4J	0.03U	-	271	27.3	5,470	1.2U	290	72,000J	6.6	0.02	-106	0.681	0.87	12.53
	G6M-02-01X	5/9/2012	250	310	65	8.0U	8.0U	63	2.3J	86	0.13U	6.8	0.081	-	271	10.8	2,050	1.1U	260	41,000	6.66	0.07	-79.2	0.798	1.6	12.38
	G6M-02-01X	10/10/2012	350	120	75	10U	10U	160	10U	120 J	0.13U	6.5	0.36 J	-	220	10.4	2,080	1.2U	250	37,000J	6.64	0.5	-80.5	0.906	3.71	13.24
	G6M-02-01X	5/21/2013	0.25J	4.7	8.4	0.67	0.5U	5.2	43	240J	0.13UJ	3.0J	0.076J	-	272	35.6	7,450	1.2U	220	22,000	6.57	0.14	-91.7	1.439	0.71	14.22
	G6M-02-01X	10/17/2013	0.5U	2.4	11	0.58	0.5U	14	2.6J	140	0.13U	5.0U	0.078	-	323	40.3	4,000	1.2U	450J	52,000	6.66	0.22	-117.5	0.753	2.24	13.12
	G6M-02-01X	6/11/2014	0.5U	0.5U	1.4	0.5U	0.5U	2.6	9.5J	210J	0.13U	1.2U	0.030U	-	449	83.9J	4,260	1.3UJ	16J	5,300J	6.73	0.25	-103.1	1.174	4.68	13.08
	G6M-02-01X	6/17/2015	0.50 U	0.50 U	0.53 J	0.50 U	0.50 U	0.50 U	6.20	66.6	0.11 U	0.50 U	1.0 U		418	61.9	1,760	5.0 U	6.0 J	712						
	G6M-02-01X	9/10/2015	1.0 U	0.5 J	1.0 U	1.0 U	1.0 U	1.0 U	2.10	-	0.061 J	0.96 J	2.0 U		374	60.9	1,750	10 U	5.3 J	8,550						
	G6M-02-01X	10/16/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.10	54.6	0.11 U	1.1 J	-		360	56.2	1,750	10 U	10 U	14,200						
Area 2	G6M-04-01X	9/23/2004	250B	3.6	21	2U	1U	2U	-	-	-	-	-	-	5U	1U	220	-	-	-	6.82	3.92	245.2	2.391	9.42	18.11
	G6M-04-01X	9/28/2005	140	2U	9.2	2U	1U	2U	-	-	-	-	-	-	5.1	1U	170	-	-	-	6.49	5.85	202.3	2.699	7.29	18.59
	G6M-04-01X	9/20/2006	150	2U	7.2	2U	1U	2U	-	-	-	-	-	-	5U	0.10U	220	-	-	-	5.87	4.88	-91.4	2.92	3.53	19.1
	G6M-04-01X	9/14/2007	290	2U	8.6	2U	1U	2U	-	-	-	-	-	-	6U	0.1U	130	-	-	-	6.00	5.21	155.3	2.055	35.8	16.25
	G6M-04-01X	10/20/2008	270J	11J	10UJ	10UJ	10UJ	10UJ	-	-	-	-	-	-	8UJ	0.2UJ	53.1J	-	-	-	7.32	3.37	96.2	0.999	3.5	11.33
	G6M-04-01X	10/20/2009	190	130	360	13U	13U	15	-	-	-	-	-	-	8U	0.107U	113	-	-	-	5.79	2.25	342.4	0.908	4.8	12.12
	G6M-04-01X	10/7/2010	27	19	120	0.68	0.29J	140	-	-	-	-	-	-	5U	1.05	164	-	-	-	6.14	0.29	124.3	1.312	1.55	12.31
	G6M-04-01X	10/5/2011	14	7.6	36	0.71	0.5U	160	-	-	-	-	-	-	3.7J	0.381	261	-	-	-	6.27	0.48	69.9	1.132	3.3	13.02
	G6M-04-01X	10/12/2012	5.5	4.0U	18	4.0U	4.0U	130	-	-	-	-	-	-	3.5 J	0.742	925	-	-	-	6.36	0.38	19.1	1.7	1.85	12.11
	G6M-04-01X	10/17/2013	0.5U	0.78	0.99	0.29J	0.5U	14	-	-	-	-	-	-	6	1.06	8,890	-	-	-	6.46	0.40	17.4	2.509	2.49	12
	G6M-04-01X	10/31/2014	0.39J	0.52	0.56	0.37J	0.5U	7.9	-	-	-	-	-	-	164	59.4	28,900	-	-	-	6.69	0.48	-95.3	1.85	19.6	12.22
	G6M-04-01X	9/10/2015	1.0 U	1.0 U	0.93 J	1.0 U	1.0 U	0.75 J	18.9	-	0.12	3.6 J	2.0 U		162	31.7	9,040	10 U	10 U	6,240						
	G6M-04-01X	10/13/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	-	-		382	96.4	24,400	-	-	-	6.69	0.48	-95.3	1.85	19.6	12.22
Area 2	G6M-04-03X	9/23/2004	440	2U	3.3	2U	1U	2U	1.4	53	5.1	23	2.2	-	5U	1U	3,100	0.22	0.036	100	6.37	3.41	446.5	1.236	12.2	18.36
	G6M-04-03X	9/27/2005	680	14	10	1U	1U	1U	6	81.5	0.35	38J	1U	-	5U	0.6J	3,500	0.19	0.32	52	6.29	0.79	377.5	1.361	9.62	17.15
	G6M-04-03X	9/22/2006	2,600	420	6.3	2U	1U	2U	7.2	190	0.2U	16.6	1U	-	5U	0.10U	2,900	0.049	0.3	17	6.30	0.43	152.1	0.524	3.52	15.3
	G6M-04-03X	9/14/2007	770	68	2.7	2U	1U	2U	1.6J	100	0.2U	24	1U	-	38	0.87	2,300	0.062	0.11	3	7.29	0.49	-110.3	0.294	3.6	15.75
	G6M-04-03X	10/16/2008	160	18	7.6	5U	5U	5U	10U	150J	0.10U	8	0.03U	-	94.8	0.2U	930	1.3U	1.6U	6.2J	10.48	2.01	18	0.539	5.8	14.12
	G6M-04-03X	10/15/2009	16	8.4	8.6	0.5U	0.5U	0.5U	10U	240	0.13U	7U	0.03U	-	148	2.02	3,270	1.3U	1.6U	2,000	8.80	1.49	-46.9	0.227	5.0	13
	G6M-04-03X	10/7/2010	300	52	94	0.62	0.25J	29	10U	120	0.13U	4.8J	0.03U	-	133	5.47	3,910	1.2U	3.5	29,000	6.67	2.47	-35.2	0.345	9.09	13.61
	G6M-04-03X	10/5/2011	7.3	1.8	7.5	0.5U	0.5U	4.6	3.1J	130	0.13U	6.0	0.03U	-	72.9	0.19U	559	1.2U	1.5U	29,000	10.63	0.49	6.3	0.307	0	15.18
	G6M-04-03X	10/10/2012	8.7	1.9	6.3	0.5U	0.5U	16	10U	160	0.096J	8.0	0.03U	-	65.8	0.261	1,320	1.2U	170	38,000	10.65	1.09	-18.4	0.556	6.84	14.93
	G6M-04-03X	10/17/2013	190	87	200	4U	4U	86	2.5J	67	0.13U	8.6	0.03U	-	31.6	32.7	8,450	1.2U	270	51,000	6.55	0.69	-77.3	0.583	28	15.92
	G6M-04-03X	10/30/2014	20	15	53	0.38J	0.5U	19	4.7J	420	0.13U	7.5	0.03U	-	14.4	0.29	114	1.2U	17	6,700	10.6	1.99	-70.1	1.152	24.3	13.55
	G6M-04-03X	9/11/2015	10.6	9.3	39.6	1.0 U	1.0 U	5.50	5.30	-	0.068 J	7.0 J	2.0 U		105	22.9	2,720	10 U	10 U	3,450						
	G6M-04-03X	10/14/2015	5.0	3.2	43.0	1.0 U	1.0 U	6.80	8.20	337	0.13 J	7.0 J			232	75.1	11,300	10 U	10 U	8,190	10.6	1.99	-70.1	1.152	24.3	13.55

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

			Laboratory Parameters																		Field Parameters					
Area of Concern	Well ID	Date	PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
Area 2	G6M-97-08B	10/18/2001	92	6.1	36	1.6J	1U	2U	-	-	-	0	-	-	-	-	-	-	-	-	5.60	4.8	224	0.13	18	15
	G6M-97-08B	2/26/2002	100	5.9	32	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.87	5.13	186.4	1.157	5.3	14.44
	G6M-97-08B	9/22/2004	220	9.3	41	2U	1U	2U	1U	10U	6.1	12	1.5J	-	5U	1U	26	0.0075	0.005U	1.3	5.69	4.66	252.8	1.516	18.3	17.01
	G6M-97-08B	12/16/2004	200	7.7	41	2U	1U	2U	5U	10U	6.1	12	5.4	-	5U	1U	25	0.13	0.072	0.92	5.79	8.78	165	1.633	3.81	13.61
	G6M-97-08B	3/30/2005	95	3.4J	16	4U	2U	4U	0.4J	12	0.8	7	2U	-	5U	1U	21	0.015	0.032	0.54	5.58	8.06	202.8	0.999	9.42	14.41
	G6M-97-08B	6/28/2005	140	8	36	1.4	1U	2U	7.1	16.7	1.4	12	1U	-	2U	1J	27	0.016	0.041	35	11.30	4.94	173.7	1.506	8.16	19.31
	G6M-97-08B	9/27/2005	180	7.5	42	2U	1U	2U	4.4	15.9	1.3	16	1U	-	5U	1U	33	0.013J	0.027	0.39	5.60	5.73	319.2	1.713	2.82	15.12
	G6M-97-08B	12/12/2005	120	5.7	27	2U	1U	2U	0.6J	23	0.05UJ*	13	1U	-	5U	1U	28.1	0.04	0.11	26	5.87	4.19	171.1	1.11	0.7	10.84
	G6M-97-08B	3/23/2006	240	8.8	44	2U	1U	2U	5U	13	1.25	13.7	1U	-	5U	0.1U	46	0.022J	0.13	12	5.85	5.13	181.5	1.44	3.16	14.12
	G6M-97-08B	6/21/2006	220	11	35	2U	1U	2U	16	66	0.809	13.5	1	-	5U	0.17	1,300	0.019J	0.086	24	5.90	2.39	141.1	2.015	1.48	16.26
	G6M-97-08B	9/19/2006	190	14	55	2U	1U	2U	270	300	0.2U	23.6	2.8	-	130	21	13,000	0.078	0.13	18	5.79	1.58	47.6	2.287	4.58	19.14
	G6M-97-08B	12/13/2006	200	11	75	2U	1U	2U	440	-	-	49.6	2.8	-	160	83	20,000	0.004J	0.038	1,700	6.07	1.43	-72.8	3.107	5.21	12.78
	G6M-97-08B	3/30/2007	200	8.5	46	2U	1U	2U	620	-	-	126	4.6	-	130	170	26,000J*	0.028	0.19	6,000	5.36	0.46	14.8	3.626	1.13	15.18
	G6M-97-08B	6/14/2007	140	5.5	37	2U	1U	2U	760	-	-	120	6.4	-	100	370	24,000	0.025U	0.021J	7,900	5.66	1.68	-45.4	3.659	1	16.89
	G6M-97-08B	9/12/2007	170	8.4	43	2U	1U	3	630	650	0.2U	1500	3.2	-	120	370	18,000	0.004J	0.05	8,400	5.66	2.72	-31.4	3.924	5.5	16.2
	G6M-97-08B	12/14/2007	150J*	5.7J*	31J*	2UJ*	1UJ*	4.5J*	520	-	-	92	5.6	-	150	280	12,000	0.006J	0.054	10,000	5.84	0.75	-45.3	3.673	0	12.58
	G6M-97-08B	3/12/2008	150	6.5	32	2U	1U	6.8	270	-	-	38	2.8	-	160	190	8,100	0.008J	0.15	9,800	5.94	2.15	-66.4	3.091	0	12.48
Area 2	G6M-07-01X	10/15/2008	26	0.24J	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	7.78	2.22	53.9	0.591	608	12.2
	G6M-07-01X	10/20/2009	21	15	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	7.44	4.11	171.9	0.532	283	12.39
	G6M-07-01X	10/7/2010	50	0.31J	0.25J	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	7.03	3.62	139	0.414	4.78	12.78
	G6M-07-01X	10/5/2011	11	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	11.5J	-	-	-	7.06	4.43	72.9	0.285	130	13.26
	G6M-07-01X	10/12/2012	19	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	.0886 J	10.8 J	-	-	-	6.92	3.56	59	0.437	30.2	12.62
	G6M-07-01X	10/17/2013	15	0.37J	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	5.4J	-	-	-	6.86	4.34	95.1	0.45	16.4	13.27
Area 3	G6M-03-07X	5/12/2003	1,200	7.2	34	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-03-07X	9/24/2004	1,700	6.3	31	2U	1U	2U	1U	10U	4.3J*	12	1.6J	-	5U	1UJ*	20	0.035	0.28	5.7	5.77	7	168.3	0.341	84.6	18.13
	G6M-03-07X	12/16/2004	1,500	6	35	2U	1U	2U	5U	10U	4.2	12	2.9	-	5U	1U	190	0.026	0.08	0.39	6.02	17.09	321.7	0.348	8.46	13.03
	G6M-03-07X	3/30/2005	1,100	91	140	40U	20U	40U	29	76	0.33	8	2U	-	18	18	10,000	0.078	0.21	1.8	6.33	1.9	-54.6	0.671	0.7	16.73
	G6M-03-07X	6/29/2005	940	78	940	40U	20U	40U	83	118	0.079	6.4	1U	-	31	39J*	15,000J*	0.06	0.34	3.9	11.97	1.12	-20.1	0.915	5.93	23.98
	G6M-03-07X	9/29/2005	300	44	1000	2.3	2.7	1U	290	307	0.05U	3.2	12	-	46	210J	30,000	0.068	0.45	660	6.20	2.7	-62	1.266	7.68	17.97
	G6M-03-07X	12/12/2005	92	22	710	20U	10U	20U	220	320	0.05UJ*	2U	6.2	-	96.1	190	46,600	0.078	0.13	13,000	6.5	0.22	-82.1	1.038	3.6	10.2
	G6M-03-07X	3/24/2006	110	23	430	2U	2	270	260	590	0.2U	1	8.6	-	130	280	48,000	0.010J	2	22,000	6.87	0.17	-130.5	1.39	10.1	13.1
	G6M-03-07X	6/21/2006	9.5	3.6	180	2U	1U	310	280	570	0.2U	1U	4.8	-	140MSA	460	59,000	0.073	21	21,000	5.13	0.7	-170.4	2.258	31.4	19.6
	G6M-03-07X	9/19/2006	47	7.9	260	2U	1U	300	290	460	0.926	1.27	5	-	140	470	44,000	0.037	9.2	25,000	6.48	0.27	-147.2	2.15	15.1	22.98
	G6M-03-07X	12/14/2006	190	30	310	2U	1.3	160	300	-	-	2.44	2.8	-	220	400	38,000	0.025	5.9	26,000	6.37	0.17	-160	2.155	6.19	12.74
	G6M-03-07X	3/29/2007	2U	2U	35	2U	1U	360	130	-	-	1U	4.4	-	190	420	20,000J*	0.08	5.1	15,000	6.32	2.46	-69.3	1.787	39.6	16.04
	G6M-03-07X	6/14/2007	37	8.1	190	2U	1U	200	310	-	-	10.5	2.4	-	220	490	37,000	0.025U	2.3	25,000	6.40	1.31	-159	2.386	9.7	14.01
	G6M-03-07X	9/13/2007	27	13	290	2.2	1.1	140	72	560	0.2U	420	4.8	-	210	500	29,000	0.008J	12	26,000	6.26	3.08	-174.9	2.743	117.6	14.14
	G6M-03-07X	12/14/2007	2.6	2U	9.8	3	1U	120	140	-	-	10U	4	-	270	320	12,000	0.010J	34	25,000	6.51	0.99	-123.7	2.138	70.9	8.48
	G6M-03-07X	3/14/2008	2U	2U	2.3	2U	1U	4.3	130	-	-	5U	4	-	210	230	11,000	0.11	26	30,000	6.41	1.06	-85.5	1.897	235.9	14.74
	G6M-03-07X	10/7/2008	5U	2.2J	5U	21	5U	5U	64.3	190	190	24	0.03UJ	-	246	348	5,370	6.3U	12	14,000	6.24	0.10	-44.4	1.742	16	14.16
	G6M-03-07X	1/22/2009	1.4U	2.3U	1.7J	15	1.7U	3.6	110J	20U	0.13U	37	0.03U	0.10R	227	338J	5,000	1.2U	10	16,000	6.6	1.20	-74.9	1.743	30	11.35
	G6M-03-07X	5/6/2009	0.5U	0.5U	1.8	20	0.5U	2.6	66	720J	0.025J	32	0.03U	0.1UJ	351	361	5,500	1.2U	9.9	28,000	5.88	0.21	-117.9	1.735	20.3	13.04
	G6M-03-07X	10/15/2009	0.27J	0.5U	2.3	19	0.5U	2.2	44	550	0.13U	30	0.03UJ	0.16J	318	251	4,870	1.1U	7.3	16,000	6.25	0.88	-100.4	1.362	5.6	12.69
	G6M-03-07X	4/21/2010	0.5U	0.5U	0.88	5.3	0.5U	1.3	46	320	0.13U	0.11J	0.03U	0.53	339	176J	2,000	1.3U	6.3	27,000	6.46	0.69	-106.3	1.086	8.9	12.57
	G6M-03-07X	10/5/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	16	35	0.13U	0.27J	0.03U	0.18J	346	164	4,650	1.2U	14	48,000	6.35	0.11	-106.1	1.276	4.56	13.39
	G6M-03-07X	6/8/2011	0.5U	0.5U	1.7	7.8	0.5U	2.1	41	460	0.13U	5.0U	0.10	-	381	158	3,540	1.2U	13	72,000	6.25	0.08	-87	0.841	9.82	13.63
	G6M-03-07X	10/5/2011	0.5U	0.5U	0.86	5.6	0.5U	1.4	39	320	0.13U	5.0U	0.049	-	375	133	2,500	1.2U	1.5U	48,000	6.4	0.02	-42	0.764	6	14.45
	G6M-03-07X	5/9/2012	0.5U	0.5U	1.2	4.4	0.5U	0.92	31	320	0.13U	0.35J	0.063	-	388	131	3,090	1.2U	200	74,000	6.52	0.14	-111.7	1.046	2.43	13.23
	G6M-03-07X	10/11/2012	0.5U	0.5U	0.74	3.4	0.5U	1.5	26	270	0.027J	5.0U	0.04	-	365	116	2,900	1.2U	800	97,000	6.5	0.34	-96.2	0.962	4.81	14.9
	G6M-03-07X	5/21/2013	0.5U	0.5U	1	3.4	0.5U	0.77	23	180J	0.13UJ	5.0U	0.03UJ	-	413	114	2,150	1.2U	1.5U	22,000	6.01	0.17	-64.9	0.923	1.28	14.09
	G6M-03-07X	10/16/2013	0.5U	0.5U	0.86	2.9	0.5U	1.3	26	340	0.13U	5.0U	0.065	-	434	120	2,340	1.2U	33	31,000	6.53	0.21	-102.4	0.901	1.01	14.38
	G6M-03-07X	6/11/2014	0.40J	0.5U	0.72	3	0.5U	2.5	45	260J	0.13U	0.52U	0.03J	-	422	105J	1,670	1.3UJ	3.5J	10,000J	6.32	0.28	-48.4	0.787	2.54	14.21
	G6M-03-07X	10/30/2014	0.5U	0.5U	0.69	2.8	0.5U	1.1	22	180	0.13U	0.38J	0.03U	-	355	78.5	1,400	1.2U	1.8	54,000	6.49	0.24	-120.7	0.532	5.63	13.4
	G6M-03-07X	6/18/2015	0.50 U	0.50 U	0.62 J	2.10	0.50 U	0.77 J	27.1	262	0.15 U	0.50 U	1.0 U	-	97.1	107	1,810	5.0 U	5.7 J	12,400	6.4	0.16	-94.9	626	15.1	16.2
	G6M-03-07X	9/14/2015	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	25.2	-	0.086 J	0.94 J	2.0 U	-	436	103	1,700	10 U	6.0 J	11,900						
	G6M-03-07X	10/14/2015	1.0 U	1.0 U	0.59 J	1.80	1.0 U	0.73 J	24.3	161	0.085 J	2.3 J	-	-	441	102	1,660	10 U	6.5 J	16,600	6.40	0.16	-94.9	626	15.1	16.20
Area 3	G6M-04-02X	9/23/2004	1,900	2U	3.8	2U	1U	2U	-	-	-	-	-	-	5U	1U	86	-	-	-	6.59	7.25	152.4	0.704	9.52	22.11
	G6M-04-02X	9/28/2005	1,800	5U	5U	5U	5U	5U	-	-	-	-	-	-	5U	1U	15U	-	-	-	5.21	6.54	294	0.607	12	19.6
	G6M-04-02X	9/20/2006	1,100	170	2.2	2U	1U	2U	-	-	-	-	-	-	5U	0.10U	24	-	-	-	5.22	2.88	-101.5	0.696	10.61	19.32
	G6M-04-02X	9/14/2007	710	98	290	21	1U	2U	-	-	-	-	-	-	48	16	13,000	-	-	-	6.52	2.91	-31.3	1.356	2.3	15.38
	G6M-04-02X	10/16/2008	320	47	290	5U	5U	5U	-	-	-	-	-	-	135	56.6	6,530	-	-	-	6.32	0.74	-143.6	1.302	3.8	13.21
	G6M-04-02X	10/15/2009	400	110	15	8U	8U	8U	-	-	-	-	-	-	78.3	20.8	3,580	-	-	-	6.19	0.9	-25	1.011	4.0	11.85
	G6M-04-02X	10/6/2010	380	54	27	20U	20U	20U	-	-	-	-	-	-	182	40.2	5,530	-	-	-	6.25	0.51	-50.1	1.071	3.53	12.16
	G6M-04-02X	6/8/2011	-	-	-	-	-	-	-	-	-	-	-	-	317	42.7	4,540	-	-	-	6.44	0.76	-95.9	0.678	1.9	17.25
	G6M-04-02X	10/5/2011	630	93	13U	13U	13U	13U	-	-	-	-	-	-	172	18.1	4,370	-	-	-	6.24	0.41	1	0.669	6.6	13.38
	G6M-04-02X	5/8/2012	-	-	-	-	-	-	-	-	-	-	-	-	225	15.5	3,980	-	-	-	6.36	0.2	-25.6	0.475	1.12	11.53
	G6M-04-02X	10/12/2012	160	30	5.0U	5.0U	5.0U	5.0U	-	-	-	-	-	-	228	16.9	4,890	-	-	-	6.33	0.44	-33.5	0.534	2.02	12.65
	G6M-04-02X	5/21/2013	-	-	-	-	-	-	-	-	-	-	-	-	143	7.29	5,400	-	-	-	5.98	0.36	18.3	0.699	0.74	12.4
	G6M-04-02X	10/17/2013	140	31	5.7	4.0U	4.0U	4.0U	-	-	-	-	-	-	231	20.6	6,800	-	-	-	5.70	0.37	-12.3	0.485	3.75	14.53
	G6M-04-02X	6/11/2014	-	-	-	-	-	-	-	-	-	-	-	-	137	13.9J	5,900	-	-	-	6.15	0.62	4.5	0.795	2.48	13.34
	G6M-04-02X	10/30/2014	480	70	33	0.5U	0.5U	2.7J	-	-	-	-	-	-	160	40.5	5,980	-	-	-	6.34	0.28	-63.1	0.628	1.86	12.46
	G6M-04-02X	6/18/2015	62.2	20.3	15.7	0.50 U	0.50 U	1.8							362	82.4	7,220				6.30	0.32	-101	500	10.9	13.09
	G6M-04-02X	9/11/2015	16.2	7.4	8.8	1.0 U	1.0 U	1.80	3.30	-	0.067 J	0.87 J	2.0 U		343	91.4	6,920	10 U	10 U	7,390						
	G6M-04-02X	10/16/2015	105.0	30.5	1.0 U	1.0 U	1.0 U	1.60	-	-	-	-	-		237	65.8	7,570	-	-	-						
Area 3	G6M-13-03X	1/30/2014	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	5.58	0.69	205	0.2483	1.11	11
	G6M-13-03X	10/30/2014	0.5J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.5U	0.0285U	407	-	-	-	6.39	1.65	183.6	0.1922	15.3	13.07

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			Laboratory Parameters																		Field Parameters					
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
Area 3	G6M-04-04X	9/24/2004	2,300	7.8	24	2U	1U	2U	1U	10U	5.5	20	2U	-	5U	1UJ*	560	0.037	0.12	13	5.75	5.05	197.3	1.637	169	15.8
	G6M-04-04X	9/29/2005	1,600	5.4	15	2.5U	2.5U	2.5U	0.5J	5.3	1.4	23	1U	-	5U	1U	430	0.018J	0.06	0.44	5.34	5.66	295.9	1.666	7.39	18.26
	G6M-04-04X	9/19/2006	1,600	45	260	2U	1U	2U	120	190	0.2U	10.2	1.6	-	110	84	31,000	0.12	0.095	33	6.22	0.32	-71.5	1.765	7.64	19.03
	G6M-04-04X	9/13/2007	600	130	210	2	1.2	300	63	270	0.2U	890	1.2	-	280	130	25,000	0.005J	7	18,000	6.57	3.2	-186.6	2.398	3.5	18.12
	G6M-04-04X	10/16/2008	6.0	8.1	48	2.8	2.5U	150J	34.6U	520	0.10U	7	0.03UJ	-	523	248	19,300	1.3U	62	18,000	6.40	2.39	-106.2	2.239	4.0	14.05
	G6M-04-04X	10/15/2009	0.5U	0.5U	4.8	5.2	0.5U	6.9	32	520	0.13U	23J	0.03UJ	-	615	239	16,800	1.3U	61	38,000J	6.47	0.86	-123.0	1.744	5.0	12.85
	G6M-04-04X	10/5/2010	0.5U	0.5U	2.8	2.6	0.5U	3.2	15	81J	0.13U	5.0U	0.03U	-	529	155	16,900	1.2U	210	52,000J	6.35	0.40	-112.0	2.133	3.1	12.87
	G6M-04-04X	10/5/2011	0.5U	0.5U	1.1	4.1	0.5U	2.7	17	350J	0.13U	5.0U	0.049	-	615	145	16,400	1.2U	160	31,000J	6.61	0.10	-88	1.042	5	15.12
	G6M-04-04X	10/11/2012	0.5U	0.5U	0.80	3.7	0.5U	2.6	13	220	0.13U	5.0U	0.052	-	590	133	15,700	1.3U	460	51,000	6.66	0.39	-108.6	1.693	1.53	14.18
	G6M-04-04X	10/16/2013	0.5U	0.5U	1.8	3.1	0.5U	3.0	11	240	0.13U	0.94J	0.049	-	601	114	11,000	3.5	420	44,000	6.57	0.24	-109.9	1.345	4.75	14
	G6M-04-04X	10/30/2014	0.5U	0.5U	0.5U	1.7	0.5U	0.39J	9.0J	180	0.098J	0.18J	0.03U	-	453	113	8,520	1.2U	85	43,000	6.59	0.42	-145.8	1.537	6.54	13.3
	G6M-04-04X	9/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.91 J	7.5	-	0.068 J	3.4 J	2.0 U		486	11.9J	10700 J	10 U	32.6	9,170						
	G6M-04-04X	10/16/2015	0.75 J	1.0 U	1.0 U	1.0 U	2.8	1.0 U	-	-	-	-			505	115	10,000	10 U	61.3	20,000						
Area 4	G6M-02-03X	2/26/2002	210	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	11.61	2.21	11	1.154	18.1	16.08
	G6M-02-03X	9/23/2004	48	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	4.95	1.17	632.1	1.374	3.8	18.88
	G6M-02-03X	9/29/2005	12	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.70	2.9	204.9	1.138	10.67	17.6
	G6M-02-03X	9/18/2006	10	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.20	0.35	219.4	0.993	4.32	17.62
	G6M-02-03X	9/14/2015	0.82 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	-	1.3	9.7 J	2.0 U	-	4.0 U	100 U	78.6	10 U	10 U	284						
Area 4	G6M-02-04X	2/26/2002	470	0.88J	1.3J	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.47	3.4	189.5	0.26	24	14.39
	G6M-02-04X	9/23/2004	170B	2U	2.9	2U	1U	2U	-	-	-	-	-	-	5U	1U	15U	-	-	-	6.29	3.03	175.5	0.453	8.48	17.99
	G6M-02-04X	9/28/2005	150	2U	6.2	2U	1U	2U	-	-	-	-	-	-	5U	1U	15U	-	-	-	5.61	2.75	302.3	0.502	12.6	19.59
	G6M-02-04X	9/20/2006	48	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	0.10U	15U	-	-	-	5.84	4.57	189	0.467	8.45	17.26
	G6M-02-04X	9/13/2007	21	4.2	2U	2U	1U	2U	-	-	-	-	-	-	6U	0.1U	15	-	-	-	6.39	3.13	93	0.927	4.8	14.49
	G6M-02-04X	10/16/2008	9.0	2.5U	150	2.5U	2.5U	2.5U	-	-	-	-	-	-	78.2	8.56	7,370	-	-	-	6.91	1.05	-80	1.126	4	14.85
	G6M-02-04X	10/15/2009	5U	17	120	5U	5U	10	-	-	-	-	-	-	309	82	10,900	-	-	-	6.55	1.52	-139.8	0.766	2.18	12.08
	G6M-02-04X	10/4/2010	5.3	2.6	2.1	0.5U	0.5U	0.5U	-	-	-	-	-	-	101	20.2	1,240	-	-	-	6.48	0.98	-86.9	0.975	2.8	15.6
	G6M-02-04X	6/9/2011	-	-	-	-	-	-	-	-	-	-	-	-	246	28.2	3,180	-	-	-	6.67	0.28	-88.3	0.856	0	14.68
	G6M-02-04X	10/6/2011	0.69	0.80	0.67	0.5U	0.5U	0.5U	-	-	-	-	-	-	292	35.6	2,480	-	-	-	6.84	0.26	-112.5	0.601	3.71	13.32
	G6M-02-04X	5/9/2012	-	-	-	-	-	-	-	-	-	-	-	-	451	43.4	2,510	-	-	-	6.94	0.52	-114.8	0.487	2.9	12.68
	G6M-02-04X	10/9/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	374	30	1,860	-	-	-	6.87	0.43	-129.3	0.591	0	13.7
	G6M-02-04X	5/21/2013	-	-	-	-	-	-	-	-	-	-	-	-	313	28.1	1,890	-	-	-	6.88	0.3	-110.5	0.745	2.26	13.4
	G6M-02-04X	10/16/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	370	23.9	1,390	-	-	-	6.92	0.38	-124.4	0.522	1.32	13.62
	G6M-02-04X	6/11/2014	-	-	-	-	-	-	-	-	-	-	-	-	175	14.2	997	-	-	-	6.6	0.59	-10.8	0.956	3.35	13.21
	G6M-02-04X	11/3/2014	0.5U	0.24J	0.5U	0.5U	0.5U	0.5U							350	15.6	971	-	-	-	7.08	1.42	-111.1	0.55	1.38	13.12
	G6M-02-04X	6/26/2015	0.60 J	0.52 J	0.91 J	0.50 U	0.50 U	0.50 U	-	-	-	-	-		157	10	1,060	-	-	-						
	G6M-02-04X	9/14/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.6	-	0.057 U	9.6 J	2.0 U		408	20	995	10 U	10 U	4,350						
	G6M-02-04X	10/16/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	-	-		320	15.1	1,000	-	-	-						
Area 4	G6M-02-13X	8/2/2002	4,600	4	2U	2U	1U	2U	-	-	-	-	-	-	5U	-	-	-	-	-	6.17	0.54	141	0.665	7.62	19.7
	G6M-02-13X	9/23/2004	5,000	13	16	2U	1U	2U	1U	31	2.3	17	1.8J	-	5U	1U	1,200	0.27	0.15	57	6.37	0.34	170.8	0.618	2.14	17.11
	G6M-02-13X	12/13/2004	4,600	14	21	2U	1U	2U	5U	34	2.5	16M	2U	-	5U	1U	1,300	0.27	0.11	88	5.79	0.89	274.8	0.518	2.63	13.11
	G6M-02-13X	3/30/2005	2,100	64J	210	100U	50U	100U	8.1	60	0.23	13	2U	-	36	4.2	4,000	0.16	0.11	38	5.97	0.89	-22.6	0.735	2.91	14.37
	G6M-02-13X	8/11/2005	2,300	190	460	5.9	2U	2U	66	230	0.05U	2.3	1U	-	150	34J*	12,000J*	0.026	0.045	46	5.82	0.74	-68.8	0.897	5.6	21.32
	G6M-02-13X	9/29/2005	3,700	120	470	10U	10U	10U	37	110	0.05U	8.9	2.4	-	74	22	6,800	0.16	0.12	420	6.41	1.26	-89.1	0.71	6.99	15.51
	G6M-02-13X	12/14/2005	210	50	850	2U	2	2U	290	420	0.083	2U	8.2	-	477	200J*	36,200	0.057	0.087	11,000	6.6	0.11	-134.4	1.389	0.6	13.71
	G6M-02-13X	3/22/2006	660	37J*	640	2U	1U	2U	280	480	0.2U	8.08	3	-	320	170	29,000	0.025U	0.009J	21,000	6.67	0.9	-214.4	1.379	2.37	13.98
	G6M-02-13X	6/22/2006	160	8.8	440	2U	1U	280	140	480	0.2U	1.15	20	-	750	420	30,000	0.025J	0.51	25,000	6.54	0.28	-138.7	2.175	16.1	16.73
	G6M-02-13X	9/18/2006	550	52	160	2U	1U	280	52	140	0.2U	8.09	2.8	-	420	160	9,900	0.15	1.1	24,000	6.12	0.36	-119.3	1.19	6.9	18.3
	G6M-02-13X	12/14/2006	460	20	190	2U	1U	220	140	-	-	4.25	3.6	-	460	260	12,000	0.025	0.35	23,000	6.49	0.19	-73.7	1.748	8.3	15.02
	G6M-02-13X	3/27/2007	460	39	120	2U	1U	170	37	-	-	9.74	1.6	-	400	170	8,400J*	0.031	3.7	27,000	6.08	0.12	-14.6	1.378	11.2	14.76
	G6M-02-13X	6/13/2007	440	45	48	2U	1U	46	78	-	-	12.7	3.6	-	380	300	9,400	0.025U	6.3	26,000	6.58	0.46	-178.7	1.926	47.5	15.48
	G6M-02-13X	9/13/2007	510	150	120	2U	1U	53	18	74	0.2U	480	1U	-	230	88	4,800	0.14	26	20,000	6.54	0.45	-145.3	1.332	18.2	15.43
	G6M-02-13X	12/14/2007	690	84J*	58J*	2U	1U	21J*	11	-	-	13	1U	-	210	46	4,500	0.068	21	16,000	6.51	0.27	-133.2	1.133	3.6	14.28
	G6M-02-13X	3/12/2008	130	96	29	2U	1U	12	17	-	-	9	1U	-	260	68	7,600	0.092	35	21,000	6.48	0.57	-140.5	1.221	7.7	14.68
	G6M-02-13X	10/6/2008	5U	9.7	7.9	5U	5U	7.5	24.3	300	0.13U	11	0.03UJ	-	380	91	4,940	6.5U	8.8	14,000	6.56	0.28	-173.6	1.071	5.2	13.37
	G6M-02-13X	1/21/2009	1.4U	5	5.4	1.3U	1.7U	5.7	11J	200	0.13U	14	0.03U	0.35J	371	72.1J	3,990	.25U	3.8	17,000	6.88	0.28	-121.2	0.821	4	10.99
	G6M-02-13X	5/6/2009	0.5U	5.1	9.8	0.24J	0.5U	6.2	9.4J	300J	0.012J	12	0.03U	0.51J	351	69.4	3,820	1.2U	2.6	26,000	6.01	0.29	-93.4	0.916	2.09	13.81
	G6M-02-13X	10/15/2009	0.92	8.6	16	0.7	0.5U	8.5	7J	370	0.13U	13	0.03UJ	0.26	369	93.3	6,800	1.2U	2.2	7,400	6.47	0.24	-148.8	0.932	1.71	12.34
	G6M-02-13X	4/20/2010	0.5U	0.29J	14	0.42J	0.5U	13	36	500	0.13U	5.0U	0.03U	0.43	322	134J	5,790	1.3U	6.4	44,000	6.47	0.28	-7.3	1.219	2.98	13.69
	G6M-02-13X	10/4/2010	0.30J	1.6	8.3	0.24J	0.5U	8.4	10U	370	0.046J	3.3J	0.03U	0.61	281	58.5	4,690	1.2U	9.5	48,000	6.57	0.18	-124.5	1.168	0.90	14.17
	G6M-02-13X	6/9/2011	-	-	-	-	-	-	-	-	-	-	-	-	302	72.3	6,820	-	-	-	6.49	0.21	-110.8	1.21	2.19	14.51
	G6M-02-13X	10/6/2011	0.5U	0.5U	0.96	0.5U	0.5U	2.4	6.7J	110	0.13U	0.45J	0.056	-	258	36.2	5,690	1.2U	1.5U	12,000	6.65	0.07	-94.6	1.235	2	13.58
Area 4	G6M-02-13X	5/9/2012	-	-	-	-	-	-	-	-	-	-	-	-	205	25.9	6,670	-	-	-	7	0.16	-118.5	1.281	1.01	13.07
	G6M-02-13X	10/11/2012	0.5U	0.83	0.69	0.5U	0.5U	0.5U	2.7J	380	0.013J	5.0U	0.03U	-	159	24.9	8,190	1.3U	87	22,000	6.68	0.34	-109.8	1.195	0	14.16
	G6M-02-13X	5/21/2013	-	-	-	-	-	-	-	-	-	-	-	-	212	22.3	12,500	-	-	-	6.88	0.12	-118	0.9	4.89	14.48
	G6M-02-13X	10/16/2013	0.5U	0.78	1.8	0.27J	0.5U	1.1	2.5J	350	0.13U	5.0U	0.037	-	140	19.1	11,400	1.8	3.9	34,000	6.87	0.37	-110	0.916	0	14.34
	G6M-02-13X	6/11/2014	-	-	-	-	-	-	-	-	-	-	-	-	195	20.4	15,800	-	-	-	6.74	0.27	-85	0.958	3.92	13.69
	G6M-02-13X	10/29/2014	0.5U	1.3	2.8	0.5U	0.5U	1.8	5U	280	0.13U	0.61J	0.03UJ	-	128	12J	7,920J	1.2U	1.5U	7300	6.86	0.26	-81	0.822	6.49	13.41
	G6M-02-13X	6/23/2015	0.50 U	1.7	3.4	0.50 U	0.50 U	2.5	2.9	250	0.11 U	2.6 J	1.0 U		142	13	11,100	5.0 U	5.0 U	1,840	6.74	1.24	-107.2	817	5.37	14.62
	G6M-02-13X	9/11/2015	1.0 U	2.8	5.2	1.0 U	1.0 U	4.9	2.3	-	0.067 J	0.52 J	2.0 U		142	11	9,980	10 U	10 U	832						
	G6M-02-13X	10/16/2015	0.50 U	1.70	3.40	0.50 U	0.50 U	2.50	2.90	261	0.11 U	1.5 J	-		-	-	-	10 U	10 U	473						
Area 4	G6M-06-01X	3/30/2006	30	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.03	3.73	-87.8	0.652	70.7	19.25
	G6M-06-01X	3/30/2007	72	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.73	2.87	138.5	1.005	10.21	14.33
	G6M-06-01X	9/13/2007	83	2U	2.1	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.60	10.68	-93.9	0.967	6.3	18.79
	G6M-06-01X	12/14/2007	110	2U	2.3	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.96	2.43	132.9	0.991	3.9	12.98
	G6M-06-01X	10/16/2008	71	1.8	1.4	1U	1U	1U	-	-	-	-	-	-	-	-	-	-	-	-	5.51	3.08	118.6	0.956	20	13.62
	G6M-06-01X	10/15/2009	170	28	6.3J	8U	8U	8U	-	-	-	-	-	-	8U	0.321	50U	-	-	-	5.82	2.69	85.3	0.832	0.13	13.17
	G6M-06-01X	10/4/2010	120	3.4J	7.2	4U	4U	4U	-	-	-	-	-	-	5U	0.211U	33.2U	-	-	-	6	1.72	57.1	1.16	25.1	14.07
	G6M-06-01X	6/8/2011	190	7.7	7.2	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	5.81	1.39	122	0.979	4.01	15.37
	G6M-06-01X	10/6/2011	96	30	46	1.3U	1.3U	3.5	-	-	-	-	-	-	3.7J	0.139	38.5	-	-	-	6.22	0.59	40.8	0.825	13.1	13.43
	G6M-06-01X	5/8/2012	310	18	16	10U	10U	10U	-	-	-	-	-	-	5U	0.1U	9.4J	-	-	-	6.14	0.65	87.4	0.943	2.59	12.88
	G6M-06-01X	10/10/2012	180	7.6	9.1	4.0U	4.0U	4.0U	-	-	-	-	-	-	5U	0.0522 J	8.8 J	-	-	-	5.94	0.54	56.2	0.819	2.61	14.32
	G6M-06-01X	5/21/2013	170	30	17	5.0U	5.0U	2.0J	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	5.96	0.36	81	1.058	8.89	14.77
Area 4	G6M-13-02X	1/30/2014	120	20	34	0.34J	0.5U	14	-	-	-	-	-	-	-	-	-	-	-	-	6.44	0.88	53.9	1.099	3.11	10.8
	G6M-13-02X	6/11/2014	170	54	81	0.53	0.29J	6	-	-	-	-	-	-	3.2J	0.472	32.5	-	-	-	6.05	0.71	144.8	0.9	4.29	13.69
	G6M-13-02X	11/3/2014	210	39	95	5U	5U	6.7	-	-	-	-	-	-	2.5U	0.146UJ	20.3J	-	-	-	6.31	1.3	75.8	0.625	2.27	13.21
	G6M-13-02X	6/26/2015	105	49.6	38.1	0.50 U	0.50 U	1.1	-	-	-	-	-		2.1 J	50 U	9.4 J	-	-	-						
	G6M-13-02X	10/16/2015	69.6	30.6	1.0 U	1.0 U	2.0 U	1.40 J	-	-	-	-			4.0 U	87.2 J	15.1	-	-	-						

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			Laboratory Parameters																		Field Parameters					
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
Area 5	G6M-02-05X	2/28/2002	130	2U	1.9J	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.15	6.61	181.1	0.597	11	13.1
	G6M-02-05X	1/30/2003	170	2U	2.3	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-02-05X	9/30/2005	200	2U	2.6	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	4.73	3.61	441.8	0.512	7.9	15.72
	G6M-02-05X	9/22/2006	350	2U	2.2	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	5.52	2.14	94.8	0.543	7.38	16.65
	G6M-02-05X	9/12/2007	510	50	7.9	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.39	0.78	-57.8	0.723	30.6	15.78
	G6M-02-05X	10/20/2008	390	17	4.4J	10U	10U	10U	-	-	-	-	-	-	-	-	-	-	-	-	7.00	1.83	-41.9	0.588	3	12.66
	G6M-02-05X	10/19/2009	370	53	10U	10U	10U	10U	10U	57	0.26	19	0.03U	-	49.2	3.82	2,490	1.3U	1.6U	410	6.22	0.31	30.6	0.699	1.4	12.27
	G6M-02-05X	10/5/2010	240	100	4.0J	5U	5U	5U	10U	20U	0.025J	13	0.03U	0.59J	71.2	5.42	2,420	1.2U	1.5U	160	6.25	0.25	-37.5	0.749	5.99	12.42
	G6M-02-05X	6/8/2011	200	230	78	3.7	0.62	18J	2.6J	180	0.13U	11	0.03U	-	105	8.58	2,700	1.2U	10	5,400	6.16	0.24	-42.8	0.708	0	12.53
	G6M-02-05X	10/6/2011	37	140	59	2.0U	2.0U	25	2.1J	530	0.012J	14	0.03U	-	125	10.8	2,300	1.2U	15	6,600	6.18	0.73	-4	0.959	1.4	12.27
	G6M-02-05X	10/6/2011	37	140	59	2.0U	2.0U	25	2.1J	530	0.012J	14	0.03U	-	125	10.8	2,300	1.2U	15	6,600	6.18	0.73	-4	0.959	1.4	12.27
	G6M-02-05X	5/9/2012	140	68	17	0.5U	0.5U	0.5U	10U	75	0.13U	14	0.03U	-	103	8.63	2,060	1.3U	1.6U	3,900	6.19	0.78	9	0.682	1.52	11.6
	G6M-02-05X	10/10/2012	94	44	16	2.0U	2.0U	2.0U	10U	64	0.11J	14	0.03U	-	73	6.78	1,460	1.2U	1.5U	4,400	6.14	1.92	15.2	0.809	0	12.36
	G6M-02-05X	5/21/2013	38J	33J	78	0.48J	0.30J	2.3	10U	100J	0.13UJ	12	0.03UJ	-	84.1	8.43	1,310	1.2U	1.5U	2,200	6.26	0.75	-19.1	0.753	0.77	12.56
Area 5	G6M-02-06X	3/1/2002	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.16	8.91	134.8	0.135	32	11.16
	G6M-02-06X	9/24/2004	5.5B	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.33	9.48	152.8	0.09	0.02	14.01
	G6M-02-06X	9/30/2005	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.22	8.22	66.4	0.107	4.39	12.18
	G6M-02-06X	9/21/2006	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.30	7.84	139.3	0.098	10.85	12.31
	G6M-02-06X	9/14/2007	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	6.94	8.5	-140.7	0.149	7.7	13.26
	G6M-02-06X	10/20/2008	0.47J	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	7.09	7.71	88.8	0.109	6.5	11.26
	G6M-02-06X	10/14/2009	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	8U	0.2U	50U	-	-	-	6.98	8.96	26.1	0.115	0.2	10.88
	G6M-02-06X	10/5/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	6.90	7.66	63.6	0.128	4.38	11.28
	G6M-02-06X	10/7/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.5J	0.1U	25U	-	-	-	6.87	6.3	24.7	0.076	18.6	11.43
	G6M-02-06X	10/10/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	7.11	8.89	16.8	0.134	10.53	11.62
	G6M-02-06X	10/15/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	7.36	9.84	110.9	0.134	2.62	11.76
	G6M-02-06X	10/30/2014	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.155U	6.0J	-	-	-	7.21	7.73	73.1	0.101	2.18	11.39
Area 5	G6M-02-07X	2/26/2002	24	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.34	-0.68	110.3	0.259	46	12.86
	G6M-02-07X	9/23/2004	26B	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.26	1.72	332.8	0.423	25	13.93
	G6M-02-07X	9/30/2005	16	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.69	6.98	121.2	0.389	7.7	12.89
	G6M-02-07X	9/21/2006	11	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.58	3.72	143.6	0.251	14.3	11.54
	G6M-02-07X	9/13/2007	12	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.68	3.78	43.3	0.334	3	12.39
	G6M-02-07X	10/20/2008	9.8J	0.27J	0.5UJ	0.5UJ	0.5UJ	0.5UJ	-	-	-	-	-	-	-	-	-	-	-	-	7.46	3.15	42.8	0.271	12	11.08
	G6M-02-07X	10/15/2009	6.7J	210	10U	10U	10U	10U	-	-	-	-	-	-	8U	0.127U	50U	-	-	-	7.41	1.15	-14	0.413	3	10.8
**	G6M-02-07X	1/15/2010	5.7	0.5U	0.5U	0.75U	0.75U	1.0U	-	-	-	-	-	-	-	-	-	-	-	-	7.53	3.26	150.2	0.344	1.88	10.49
	G6M-02-07X	10/5/2010	4.7	0.24J	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	7.39	2.57	60.3	0.296	1.33	10.50
	G6M-02-07X	10/3/2011	3.6	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	7.54	1.58	26.6	0.198	5.12	11.54
	G6M-02-07X	10/11/2012	4.6	0.5U	0.57	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.0278J	25U	-	-	-	7.68	1.31	98.1	0.352	2.69	11.62
	G6M-02-07X	10/15/2013	1.1	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.9J	0.1U	5.1J	-	-	-	7.62	2.39	99.8	0.911	1.05	11.83
	G6M-02-07X	10/29/2014	3.9	0.27J	0.62	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.4J	0.025U	7.8J	-	-	-	7.41	0.22	10.9	0.535	3.71	11.79
Area 5	G6M-02-11X	8/1/2002	450	2.8	2U	2U	1U	2U	-	-	-	-	-	-	5U	-	-	-	-	-	6.01	0.46	184	0.984	8.13	16.6
	G6M-02-11X	8/28/2002	540J	2U	2U	2U	1U	2U	5U	44	-	-	-	-	5U	-	-	-	-	-	6.05	0.51	173	0.905	6.49	15
	G6M-02-11X	10/29/2002	970	22	3	2U	1U	2U	5U	51	0.10U	17	2.0U	-	5U	1U	1700	-	-	-	6.02	0.49	51	0.92	5.04	12.1
	G6M-02-11X	2/3/2003	710	22	2U	20U	1U	2U	5U	65	-	-	-	-	5U	1U	-	-	-	-	6.22	0.71	178	0.971	12.7	9.8
	G6M-02-11X	7/16/2003	530	54	33	2U	1U	2U	5U	120	-	16M	2.0U	-	5U	1U	-	0.005U	0.014	460	6.31	0.86	166	0.813	11.9	15.4
	G6M-02-11X	9/26/2003	590	31	37	2U	1U	2U	19	-	-	-	-	-	5U	-	1,700	0.005U	0.005U	1,200	6.60	0.41	146	0.921	7.2	13.9
	G6M-02-11X	1/8/2004	300	15	49	2U	1U	2U	5U	150	-	12J	2.0U	-	5U	1U	1,900	0.005U	0.0093	2,300	6.29	0	104	0.729	0.6	10.7
	G6M-02-11X	3/10/2004	160	11	53	2U	1U	2U	1.8	130	-	9.6M	2U	-	5U	1U	2,200	0.005U	0.068	14,000	6.39	0.82	103	0.847	7.5	13.2
	G6M-02-11X	6/4/2004	440	23	54	2U	1U	2U	2.4J	110	-	12M	1.9J	-	5U	1U	1,900	0.005U	0.01	2,300	6.72	12.13	54.5	0.807	21.3	14.12
	G6M-02-11X	9/22/2004	540	50	140	2U	1U	2U	1.2	100	0.5U	12	1.5J	-	5U	1U	2,400	0.005U	0.005U	13,000	6.19	0.96	412.7	0.996	1.25	16.05
	G6M-02-11X	12/15/2004	760	47	120	2U	1U	2U	5U	95	1	15	2U	-	5U	1U	2,100	0.005U	0.021	9,700	6.35	1.36	200.1	0.675	21.2	8.61
	G6M-02-11X	3/28/2005	1,100	41	45	40U	40U	40U	3.6J	90	0.2U	13	2UJ*	-	5U	1UM	2,200	0.005U	0.065	10,000	6.19	1.02	84.3	0.938	48.3	6.55
Area 5	G6M-02-11X	7/1/2005	1,500	90	280	10U	10U	10U	9.4	98.4	0.05U	14	1U	-	2.1	1UJ*	1,800	0.028	0.42	15,000	5.78	0.37	221.6	0.806	6.66	15.58
	G6M-02-11X	9/27/2005	240	78	260	2U	1U	16	3.4	148	0.05U	5.9J	1U	-	5U	1U	2,500	0.020J	8.1	21,000	5.92	0.4	93.6	0.755	0.69	13.72
	G6M-02-11X	12/12/2005	220	28	50	2U	1U	9.1	5.5	270	1.3J*	3.5	1U	-	7.8	0.2J	3,100	0.082	29	24,000	6.28	0.18	64.8	1.107	8.9	11.09
	G6M-02-11X	3/21/2006	520	94	230	2.3	1U	60	8.2	120	0.2U	8.81	1U	-	5U	0.1U	1,500	0.025U	34	17,000	6.45	12	326.6	0.765	7.15	13.83
	G6M-02-11X	6/22/2006	130	44	20	20	1U	9.2	6.1	210	0.2U	2.45	1U	-	5U	1U*	6,300	0.051	78	22,000	6.19	0.27	59.7	1.231	5.04	16.04
	G6M-02-11X	9/22/2006	37	17	8.6	2.8	1U	4	9.8	180	0.2U	4.87	1U	-	6.9	0.58	9,300	0.089	15	21,000	5.93	1.22	-158.9	1.079	4.55	14.87
	G6M-02-11X	12/13/2006	45	7.9	3.6	4.4	1U	2U	9.3	-	-	1.06	1.2	-	22	1	16,000	0.24	19	28,000	6.39	0.19	169.6	1.277	6.94	12.998
	G6M-02-11X	3/27/2007	38	21	3.6	9.8	1U	2U	10	-	-	-	-	-	120	7.1	24,000J*	6.8	28	23,000	6.25	0.61	-39.6	0.912	19	12.95
	G6M-02-11X	6/13/2007	30	28	12	10	1U	2.8	12	-	-	9.62	1.6	-	310	6.8	18,000	4.8	33	27,000	6.22	0.65	-36.4	1.198	2.1	14.52
	G6M-02-11X	9/11/2007	4.4	24	7.9	12	1U	4.3	14	270	0.2U	470	1U	-	420	18	18,000	2.8	36	30,000	6.24	3.52	-11.1	1.423	9.7	14.02
	G6M-02-11X	12/13/2007	2.8J*	19J*	6J*	5.5J*	1U	4.4J*	15	-	-	5U	1	-	470	47	18,000	8.3	16	29,000	6.36	0.52	-117.9	1.409	0.5	12.97
	G6M-02-11X	3/11/2008	2U	6.2	2.5	9.7	1U	2U	17	-	-	5U	2.8	-	570	59	27,000	24	5.8	28,000	6.35	0.41	-90.5	1.56	0.3	13.71
	G6M-02-11X	10/16/2008	1.3	7.3	6.9	0.8	0.5U	2.2	21.2U	240	0.10U	9.3	0.03U	-	1,170	116	8,420	1.2U	5.4	39,000	5.8	1.51	-20.6	0.1535	4	12.57
	G6M-02-11X	5/7/2009	0.5U	0.76	0.47J	0.92	0.5U	0.5U	31	370J	0.13U	17	0.03U	-	1,060	125	3,950	3.1	3.5	42,000	6.04	0.24	-117.5	1.605	0.32	11.24
	G6M-02-11X	10/14/2009	0.23J	1.4	0.58	0.63	0.5U	0.46J	8.7J	430	0.13U	9.7	0.03U	-	1,070	126	2,390	1.2U	1.5U	55,000	6.46	0.52	-114.9	1.342	5	10.99
	G6M-02-11X	4/20/2010	0.5U	1.6	24	0.24J	0.5U	5.8	8.7J	500	0.13U	5U	0.03U	-	1,050	106J	3,760	1.2U	2.0	17,000	6.75	0.38	-130.5	0.778	1.5	11.79
	G6M-02-11X	10/5/2010	0.5U	0.94	0.52	0.38J	0.5U	0.66	10U	700	0.13U	1.4J	0.03U	-	956	93.8	1,590	1.2U	1.5U	47,000	6.51	0.72	-136	1.368	0.86	11.69
	G6M-02-11X	6/9/2011	-	-	-	-	-	-	-	-	-	-	-	-	804	91.6	2,480	-	-	-	6.6	0.1	-111.1	1.131	4.53	13.68
	G6M-02-11X	10/3/2011	0.5U	0.5U	0.64	0.5U	0.5U	1.2	7.6J	520	0.13U	5U	0.03U	-	901	99.9	2,670	1.2U	1.5U	19,000	6.58	0.44	-114.4	0.74	0.95	12.08
	G6M-02-11X	5/8/2012	-	-	-	-	-	-	-	-	-	-	-	-	769	84.2	2,560	-	-	-	6.83	0.14	-128.1	1.014	1.03	11.1
	G6M-02-11X	10/10/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	4.2J	390	0.11J	1.3J	0.03U	-	683	69.9	1,840	3.9	1.5U	12,000	6.52	0.28	-122.8	1.341	0.84	11.58
	G6M-02-11X	5/21/2013	-	-	-	-	-	-	-	-	-	-	-	-	649	59.5	3,660	-	-	-	6.7	0.24	-124.88	1.247	0	11.57
	G6M-02-11X	10/16/2013	0.5U	0.5U	0.26J	0.20J	0.5U	0.5U	4.2J	320	0.13U	5.0U	0.03U	-	616	53	3,230	17	1.6U	56,000	6.8	0.22	-114.8	1.243	0.39	11.66
	G6M-02-11X	6/11/2014	-	-	-	-	-	-	-	-	-	-	-	-	573	50	8,010	-	-	-	6.84	0.32	-104.4	1.069	1.38	11.7
	G6M-02-11X	10/29/2014	0.5U	0.5U	0.42J	0.34J	0.5U	0.44J	5U	340	0.13U	0.17J	0.03U	-	624	64.3J	4,860J	8.1J	1.5U	15000	6.96	0.35	-156.8	1.224	0.65	11.58
	G6M-02-11X	6/26/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5.8	312	0.17	2.0 J	1.0 U	NA	578	51.1	10,800	5.0 U	5.0 U	8180	5.98	2.49	-62.1	934	9.2	12.54
	G6M-02-11X	9/10/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.3	-	0.087 J	0.78 J	2.0 U		546	44	9,920	5.5 J	10 U	11,500						
	G6M-02-11X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.90	229	0.062 J	10 U	-		551	44.2	10,400	5.8 J	10 U	9,710	5.98	2.49	-62.1	934	9.2	12.54

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	Laboratory Parameters																		Field Parameters					
			PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
Area 5	G6M-02-12X	8/1/2002	330	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	-	-	-	-	-	6.24	0.64	19	0.924	37.6	18.2
	G6M-02-12X	8/28/2002	520	6.5	2U	2U	1U	2U	5U	54	-	-	-	-	5U	-	-	-	-	-	6.15	0.19	156	0.868	2.96	14.2
	G6M-02-12X	10/29/2002	790	10	2U	2U	1U	2U	2.0J	40	0.10U	17	2.0U	-	5U	1U	1,100	-	-	-	6.14	0.27	68	0.927	2.08	13.5
	G6M-02-12X	2/3/2003	580	4	2U	2U	1U	2U	5U	52	-	-	-	-	5U	1U	-	-	-	-	6.04	-	78	0.947	5.06	12.8
	G6M-02-12X	7/14/2003	-	-	-	-	-	-	5U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-02-12X	9/22/2004	1,000	43	110	2U	1U	2U	1U	84	0.5U	13	2U	-	5U	1U	450	0.005U	0.005U	2,900	5.87	0.35	570.2	0.873	4.95	14.83
	G6M-02-12X	9/27/2005	1,100	38	250	1.4	1U	5.4	3.5	106	0.05U	13J	1U	-	5U	1U	690	0.025U	1.1	14,000	6.11	1.17	238.5	6.92	24.5	14.01
	G6M-02-12X	9/21/2006	190	88	64	23	1U	67	7.6	170	0.2U	5.72	1U	-	5U	0.37	3,200	0.038	46	15,000	6.23	0.17	78	0.799	60.6	14.12
	G6M-02-12X	9/12/2007	62	50	28	4.4	1U	18	2.6J	180	0.2U	340	1	-	20U	0.58	5,500	0.4	8.4	11,000	6.52	3.06	52.8	0.934	5.8	14.83
	G6M-02-12X	10/16/2008	0.37J	7.1	18	1.6	0.5U	4.8	10U	310	0.10U	7U	0.03U	-	174	11.8	15,800	1.2U	3.1	19,000	6.09	0.53	-67.4	1.091	10	12.49
	G6M-02-12X	10/14/2009	0.5U	0.3J	13	0.74	0.5U	1.6	4.6J	350	0.13U	7U	0.03U	-	540	24.4	11,000	1.3U	1.6U	6,900	6.27	1.27	-40.0	1.025	1.5	11.03
	G6M-02-12X	10/5/2010	0.5U	0.5U	5.6	0.27J	0.5U	1.5	10U	810	0.050J	2.8J	0.03U	-	1,040	72.2	13,700	1.2U	2	40,000	6.34	0.58	-88.1	1.217	1.11	11.59
	G6M-02-12X	10/4/2011	0.5U	0.5U	6.3	0.5U	0.5U	4.3	6.4J	440	0.13U	0.33J	0.03U	-	1,020	71.2	9,540	1.2U	1.5U	21,000	6.65	0.48	-89.1	0.807	1.9	11.73
	G6M-02-12X	10/10/2012	0.5U	0.5U	1.0	0.5U	0.5U	1.0	4.0J	320	0.13U	0.59J	0.03U	-	865	65.8	5,010	1.8	1.5U	14,000	6.76	0.7	-111.4	1.068	1.68	11.65
	G6M-02-12X	10/16/2013	0.5U	0.5U	0.7	0.21J	0.5U	0.54	4.2J	83	0.13U	5.0U	0.03U	-	809	61.3	4,910	10	1.5U	55,000	6.85	0.45	-127.7	1.01	1.87	11.75
	G6M-02-12X	10/29/2014	0.5U	0.5U	0.9	0.56	0.5U	0.79	6.2J	330	0.13U	0.22J	0.03U	-	760	56J	4,870J	9.2	1.5U	25,000	6.96	0.83	-103.4	0.995	2.48	11.66
Area 5	G6M-03-08X	5/14/2003	750	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1U	-	-	-	-	-	-	-	-	-	-
	G6M-03-08X	9/22/2004	690	6.3	5.4	2U	1U	2U	1U	16	8.3	13	1.5J	-	5U	1U	15U	0.005U	0.005U	1.8	5.89	1.81	247.6	0.463	3.22	15.28
	G6M-03-08X	12/16/2004	1,100	11	9.6	2U	1U	2U	5U	20	5.7	13	2.9	-	5U	1U	17	0.069	0.03	4.7	5.93	0.7	135.7	0.495	8.98	9.73
	G6M-03-08X	3/31/2005	340	20U	9.6J	20U	20U	20U	0.3J	12	2.3	17	2U	-	5U	1U	15U	0.011	0.45	14	5.94	1.96	166.3	0.205	0.93	12.88
	G6M-03-08X	7/6/2005	780	8.2	15	2U	1U	2U	5.5	28.6	1.8	14	1U	-	4U	1U	10U	0.11	0.068	410	5.85	0.78	236.1	0.463	5.37	15.32
	G6M-03-08X	9/28/2005	620	4.8	14	1U	1U	1U	5U	28.3	1.6	12	1U	-	5U	1U	15U	0.025U	0.009J	2,400M	5.60	3.56	172.3	0.352	8.3	14.79
	G6M-03-08X	12/14/2005	700	8	17	2U	1U	2U	5U	32	1.2	12	1U	-	5U	1U	15UJ	0.025U	0.025U	7,000	6.16	0.54	153.8	0.404	3.7	9.71
	G6M-03-08X	3/22/2006	1,100	21J*	34	2.6	1U	2U	6.5	29	0.586	11.7	1U	-	5U	0.1U	15U	0.025U	0.006J	12,000	6.28	5.43	394.2	0.299	9.75	11.63
	G6M-03-08X	6/21/2006	610	16	48	2U	1U	2U	5U	41J*	0.33	10.2	1U	-	5U	1.8	42	0.004J	0.14	16,000	5.91	0.29	141.6	0.49	21.4	12.93
	G6M-03-08X	9/21/2006	660	47	110	2U	1U	5.2	3.2J	41	0.228	9.64	1U	-	5U	0.10U	15U	0.023J	0.55	14,000	6.00	2.36	122.5	0.325	17.1	14.49
	G6M-03-08X	12/12/2006	750	45	120	2U	1U	7.8	5U	-	-	-	-	-	5U	.01U	15U	0.013	0.59	16,000	5.98	0.22	145	0.350	7.0	12.30
	G6M-03-08X	3/29/2007	570	37	74	2U	1U	11	5U*	-	-	-	-	-	5U	0.1U	15U	0.006J	0.72	14,000	5.79	0.07	21.3	0.392	1.41	13.25
	G6M-03-08X	6/12/2007	740	55	88	2U	1U	14	0.6J	-	-	-	-	-	5U	0.1U	15U	0.025U	0.7	15,000	5.93	0.25	135.2	0.413	41.3	14.12
	G6M-03-08X	9/10/2007	520	75	75	2U	1U	21	5U	42	0.2U	200	1U	-	2U	0.1U	15U	0.025U	1.7	14,000	5.92	2.55	154.2	0.385	9.7	13.25
	G6M-03-08X	12/11/2007	390	53	49	2U	1U	15	5U*	-	-	-	-	-	5U	0.1U	20	0.004J	1.6	15,000	5.76	0.23	129.3	0.437	0.8	12.82
	G6M-03-08X	3/13/2008	390	5	10	2U	1U	2U	5U	-	-	-	-	-	5U	0.1U	20	0.003J	0.051	2,800	5.89	0.22	111.6	0.195	0.3	13.36
	G6M-03-08X	10/20/2008	290	61	140	5U	5U	26	10U	110	0.13U	14	0.03U	-	8U	0.2U	33.2	1.3U	2.1	21,000	6.42	1.58	68.9	0.548	2	10.8
	G6M-03-08X	5/6/2009	120	38	150	4.0U	4.0U	15	10U	190J	0.13U	10	0.03U	-	3.1J	0.2U	144	1.2U	1.6	37,000	5.93	0.32	100.8	0.701	1.5	11.48
	G6M-03-08X	10/14/2009	5U	20	120	5U	5U	11	10U	240	0.13U	8.3	0.03U	-	8.0U	0.139U	1,470	1.3U	1.6U	7,300J	5.91	0.33	152.3	0.643	2.11	10.71
	G6M-03-08X	4/20/2010	26J	9.9J	88J	2UJ	2UJ	1.5J	10U	250	0.13U	7.8	0.03U	-	9.0	0.194U	6,520	1.3U	1.6U	3,500	6.31	0.90	87.9	0.382	0.3	10.62
	G6M-03-08X	10/4/2010	8.2	5.2	80	2U	2U	3.5	10U	360	0.13U	5.5	0.03U	-	3.4J	0.132U	11,300	1.2U	1.5U	890	6.07	0.68	84.9	0.549	0.0	11.03
	G6M-03-08X	6/8/2011	-	-	-	-	-	-	-	-	-	-	-	-	14.1	0.266	16,100	-	-	-	6.28	0.21	49.5	0.686	0.5	11.9
	G6M-03-08X	10/3/2011	4.3	3.4	62	2.5U	2.5U	9.6	10U	360	0.13U	3.2J	0.03U	-	5.1J	0.194J	16,800	1.2U	1.5U	590	6.17	0.43	77.2	0.603	0.51	11.59
	G6M-03-08X	5/8/2012	-	-	-	-	-	-	-	-	-	-	-	-	5.0U	0.127U	17,700	-	-	-	6.58	1.87	39.7	0.618	0.55	10.18
	G6M-03-08X	10/9/2012	0.5U	0.78	9.8	0.76	0.5U	7.4	2.5J	380	0.13U	1.4J	0.03U	-	5U	0.152	18,600	1.3U	3.6	110	6.34	0.43	53.9	0.648	1.42	11.35
	G6M-03-08X	5/22/2013	-	-	-	-	-	-	-	-	-	-	-	-	3.1J	0.117U	12,500	-	-	-	6.56	1.4	36.5	0.591	0.14	11.11
	G6M-03-08X	10/15/2013	0.5U	0.87	2.8	1.2	0.5U	1.6	3.0J	450	0.13U	5.0U	0.03U	-	5.2	0.121U	12,300	1.8	1.5U	360	6.57	0.39	82.7	0.851	0.0	11.55
	G6M-03-08X	6/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	4.3J	0.152	9,850	-	-	-	6.57	1.84	58.9	0.592	6.31	12.1
	G6M-03-08X	6/18/2015	0.50 U	0.51 J	0.50 U	0.50 U	0.50 U	0.50 U	5.40	83.2	0.11 U	8.4 J	1.0 U	NA	2.5 J	0.050U	2,320	5.0 U	5.0 U	5.0 U	6.32	1.11	113.0	273	8.42	13.18
Area 5	G6M-03-09X	5/14/2003	2U	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1U	-	-	-	-	-	-	-	-	-	-
	G6M-03-09X	9/23/2004	3.7B	2U	2U	2U	1U	2U	1U	23	19	15	2.2	-	5U	1U	15U	0.005U	0.005U	1.9	6.23	8.67	176.2	0.13	4.57	14.33
	G6M-03-09X	12/14/2004	2U	2U	2U	2U	1U	2U	5U	25	11	15	2U	-	5U	1U	15U	0.015	0.026	2	6.08	8.17	417.6	0.106	12.1	10.23
	G6M-03-09X	3/29/2005	1.5J	2U	2U	2U	1U	2U	0.3J	18	1.5	13	2U	-	5U	1UM	15U	0.013	0.26	1.4	6.18	6	113.2	0.123	72.4	11.28
	G6M-03-09X	6/30/2005	5.8	2U	2U	2U	1U	2U	15	25.1	1.3	13	1U	-	2U	1UJ*	10U	0.077	0.032	1.2	5.75	2.81	160.2	0.135	53.6	15.19
	G6M-03-09X	9/28/2005	2U	2U	2U	2U	1U	2U	4J	38.2	3.7	13	1U	-	5U	1U	15U	0.006J	0.009J	29M	5.90	10.56	181	0.108	7.6	13.06
	G6M-03-09X	12/13/2005	2U	2U	2U	2U	1U	2U	5U*	53	0.05U	13	1U	-	5U	1U	15U*	0.005J	0.014J	790	6.21	3.06	259.3	172	4.9	11.87
	G6M-03-09X	3/22/2006	2U	2U	2U	2U	1U	2U	7.9	36	1.81	12.1	1U	-	5U	0.1U	20	0.006J	0.016J	39	6.40	3	415.5	0.102	10.83	11.9
	G6M-03-09X	6/23/2006	2U	2U	2U	2U	1U	2U	5U	39	2.65	13.2	1U	-	5U	0.1U	15U	0.025U	0.042	390	5.92	4.55	164.9	0.156	16.9	16.01
	G6M-03-09X	9/21/2006	2U	2U	2U	2U	1U	2U	0.8J	36	2.51	9.19	1UJ*	-	5U	0.10U	15U	0.014J	0.12	140	6.71	2.24	127.6	0.212	4.56	13.03
	G6M-03-09X	12/13/2006	2U	2U	2U	2U	1U	2U	5U	-	-	-	-	-	5U	0.10U	15U	0.025U	0.019J	870	6.21	3.38	142.8	0.162	5.6	11.77
	G6M-03-09X	3/29/2007	2U	2U	2U	2U	1U	2U	1.8J	-	-	-	-	-	5U	0.1U	15U	0.006J	0.032	1,600	6.08	0.16	16.4	0.217	2.45	12.47
	G6M-03-09X	6/13/2007	3.8	2U	2U	2U	1U	2U	0.5J	-	-	-	-	-	5U	0.1U	15U	0.005J	0.011J	870	6.26	0.36	111	0.154	7.6	13.34
	G6M-03-09X	9/10/2007	2U	2U	2U	2U	1U	2U	5U	53	2.01	20	1U	-	6U	0.1U	15U	0.025U	0.025U	18,000	6.26	2.74	128	0.193	9.9	13.22
	G6M-03-09X	12/11/2007	2U	2U	2U	2U	1U	2U	5U*	-	-	-	-	-	5U	0.1U	15U	0.006J	0.022J	2,200	6.03	0.11	110.3	0.19	2.1	12.43
	G6M-03-09X	3/12/2008	2U	2U	2U	2U	1U	2U	5U	-	-	-	-	-	5U	0.11	18	0.027	0.016J	5,200	6.33	0.24	24.6	0.159	0.5	13.27
	G6M-03-09X	10/20/2008	0.37J	0.5U	0.5U	0.5U	0.5U	0.5U	10U	48	0.84	19	0.03U	-	8U	0.2U	50U	1.3U	1.6U	1,600	5.98	0.24	177.8	0.129	6.5	10.23
	G6M-03-09X	5/6/2009	0.78	0.5U	0.5U	0.5U	0.5U	0.5U	10U	52J	0.9	14	0.03U	-	8U	0.2U	50U	1.2U	1.5U	340	5.99	0.33	104	0.171	1	11.2
	G6M-03-09X	10/14/2009	0.35J	0.5U	0.5U	0.5U	0.5U	0.5U	10U	53	0.32	13	0.03U	-	8U	0.2U	50U	1.2U	1.5U	230	5.49	0.26	-89.9	0.161	0	10.62
	G6M-03-09X	4/20/2010	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	10U	90	0.13U	12	0.03U	-	5U	0.1U	25U	1.3U	1.6U	700	6.19	0.40	166	0.102	0.6	10.99
	G6M-03-09X	10/4/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	10U	44	0.86	12	0.03U	-	5U	0.1U	25U	1.2U	1.5U	35J	5.90	1.18	146.6	0.159	0.6	11.02
	G6M-03-09X	6/8/2011	-	-	-	-	-	-	-	-	-	-	-	-	5U	1.68	11.4J	-	-	-	5.99	0.42	122.8	0.154	0.4	13.75
	G6M-03-09X	10/3/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	10U	35	0.39	11	0.03U	-	20U	0.2U	50U	1.2U	1.5U	230	5.82	0.61	163.2	0.107	0.23	11.45
	G6M-03-09X	5/8/2012	-	-	-	-	-	-	-	-	-	-	-	-	5.0U	0.1U	25U	-	-	-	6.12	2.27	186.4	0.095	0.71	10.57
	G6M-03-09X	10/9/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	10U	25	2.8	8.9	0.03U	-	5U	0.1U	6.2 J	1.3U	1.6U	2.6	5.71	4.36	167.9	0.136	0.58	11.36
	G6M-03-09X	5/22/2013	-	-	-	-	-	-	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	6.01	0.46	172.9	0.084	1.83	11.07
	G6M-03-09X	10/15/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	10U	29	0.82	10	0.03U	-	5U	0.1U	9.6J	1.2U	1.5U	7,600	6.08	1.16	150.3	0.144	0	11.41
	G6M-03-09X	6/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	5U	0.0219U	7.4J	-	-	-	5.89	0.54	163.9	0.102	2.49	11.51
	G6M-03-09X	10/28/2014	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	5U	35	1.6	11	0.03U	-	2.5U	0.268J	13.4J	1.4	1.5U	20	6.24	1.65	124.1	0.139	2.78	11.28
	G6M-03-09X	6/18/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.70 U	27	0.057 U	8.6 J	1.0 U	NA	2.0 U	0050U	20.1	5.0 U	5.0 U	29.8	5.39	0.45	169.7	191	2.25	11.35
	G6M-03-09X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	27.8	0.11 U	11.40	-		4.0 U	0.10U	57.3	10 U	10 U	1,090.0						

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			Laboratory Parameters																		Field Parameters					
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
Area 5	G6M-03-10X	5/14/2003	15	2U	2U	2U	1U	2U	-	-	-	-	-	-	5U	1.0U	-	-	-	-	-	-	-	-	-	-
	G6M-03-10X	9/22/2004	27	2U	2U	2U	1U	2U	1U	51	2.8	12	1.5J	-	5U	1U	340	0.05	0.68	680	6.28	1.28	-77.2	0.539	20.5	15.41
	G6M-03-10X	12/14/2004	19	2U	44	2U	1U	2U	5U	110	3.8	21	2U	-	5U	1U	880	0.02	0.025	1.9	6.52	0.94	62	0.801	1.57	12.1
	G6M-03-10X	3/29/2005	14	0.98J	68	1.2J	1U	2U	5.9	146	0.2U	12	2U	-	5U	1UM	1,200	0.005U	0.38	2,600	6.44	0.59	-14.5	0.869	6.77	11.09
	G6M-03-10X	6/30/2005	3.6	2U	2U	2U	1U	2U	19	199	0.1	11	1U	-	2U	1UJ*	1,900	0.026	0.021	8,600	5.18	0.39	273.2	0.702	5.06	16.6
	G6M-03-10X	9/28/2005	6.7	2U	2U	2U	1U	2U	0.6J	140	0.2	16	1U	-	5U	1U	720	0.025U	0.020J	1,100M	6.43	4.3	74.1	0.588	7.36	13.41
	G6M-03-10X	12/13/2005	3.4	2U	2U	2U	1U	2U	5U*	250	0.48	8.4	1U	-	6.9	1U*	3,020	0.009J	0.027	12,000	6.73	0.15	57.2	1.032	1.3	12.12
	G6M-03-10X	3/23/2006	9.9	2U	2U	2U	1U	2U	3.5J	170	0.2U	8.9	1U	-	5U	0.22	3,800	0.020J	0.052	7,000	6.64	0.67	36.6	0.663	5.39	13.94
	G6M-03-10X	6/22/2006	2.6	2U	2U	2U	1U	2U	5J	200	0.2U	4.44	1U	-	5U	0.74	7,300	0.004J	0.042	14,000	4.87	0.64	610.8	0.77	0.64	15.96
	G6M-03-10X	9/20/2006	2.2	2U	2U	2U	1U	2U	6	180	0.2U	6.95	1U	-	5U	0.21	6,200	0.006J	0.14	14,000	6.41	1.26	-140.2	0.856	3.9	14.07
	G6M-03-10X	12/13/2006	2.8	2U	3.4	2U	1U	2U	2J	-	-	-	-	-	5U	0.27	8,500	0.025U	0.025U	20,000	6.45	0.26	168.2	0.870	5.0	13.61
	G6M-03-10X	3/29/2007	2.2	2.1	4.2	2U	1U	2U	4.8J	-	-	-	-	-	8.6	0.3	9,100J*	0.007J	0.16	24,000	6.20	0.32	-60.7	0.97	2.99	14.16
	G6M-03-10X	6/11/2007	2.5	2U	4.1	2U	1U	2U	6.7	-	-	-	-	-	23	1	11,000	0.025U	0.095	29,000	6.27	0.41	45.5	0.947	8.5	15.66
	G6M-03-10X	9/10/2007	2U	2U	3.8	2U	1U	2U	3.5J	150	0.2U	290	1U	-	29	0.4	8,100	0.1	0.057	620	6.28	0.24	61.3	0.859	13.6	14.23
	G6M-03-10X	12/12/2007	2U	2U	2.8	2U	1U	2U	5.8	-	-	-	-	-	26	0.33	9,200	0.025U	0.043	20,000	6.14	0.66	69.8	0.755	7.5	13.06
	G6M-03-10X	3/11/2008	16	8.7	16	2U	1U	4	5J	-	-	-	-	-	91	15	9,200	0.04	59	28,000	6.32	0.22	-62.9	1.029	7.3	13.92
	G6M-03-10X	10/20/2008	1.0	2.0	5.4	0.5U	0.5U	1.0	170	170	0.13U	8.3	0.03U	-	248	7.07	10,300	1.3U	1.6U	21,000	5.98	0.21	-10.9	0.781	8.2	11.8
	G6M-03-10X	5/6/2009	1	5	9.1	0.5U	0.5U	1.5	11	230J	0.0076J	9.3	0.03U	-	522	54.4	9,210	1.2U	1.5U	31,000	5.91	0.33	-64.0	1.04	0.5	12.45
	G6M-03-10X	10/14/2009	0.6	3.7	10	0.5U	0.5U	2.2	7.4J	310	0.13U	21	0.03U	-	518	57.8	7,410	1.3U	1.6U	9,000J	6.32	0.67	-62.2	0.896	1.2	11.31
	G6M-03-10X	4/20/2010	1.2	5.6	2.0	0.21J	0.5U	1.1	4.7J	130	0.13U	6.5	0.03U	-	648	60.5J	4,910	1.2U	1.5U	4,100	6.78	0.77	-101.1	0.799	1.4	12.28
	G6M-03-10X	10/4/2010	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	10U	230	0.13U	5.9	0.03U	-	475	58.1	5,650	1.2U	6.2	20,000	6.52	0.22	-115.6	0.729	0.5	12.15
	G6M-03-10X	6/9/2011	-	-	-	-	-	-	-	-	-	-	-	-	520	53.9	2,550	-	-	-	6.74	0.58	-118.8	0.704	4.62	13.95
	G6M-03-10X	10/3/2011	0.5U	2.7	1.2	0.5U	0.5U	0.53	3.0J	100	0.21	7.6	0.030U	-	528	54.5	3,980	1.2U	1.5U	9,800	6.75	0.10	-85.8	0.633	0.85	12.27
	G6M-03-10X	5/8/2012	-	-	-	-	-	-	-	-	-	-	-	-	480	56	4,070	-	-	-	7	0.15	-119.1	0.817	0.77	11.38
	G6M-03-10X	10/9/2012	0.5U	0.55	0.5U	0.5U	0.5U	0.5U	10U	100	0.13U	8.4	0.03U	-	456	47.5	2,280	22	1.6U	13,000	6.88	0.43	-109.6	0.94	0	12.14
	G6M-03-10X	5/22/2013	-	-	-	-	-	-	-	-	-	-	-	-	514	57.1	2,340	-	-	-	6.8	0.16	-137.6	1.111	0.4	11.61
	G6M-03-10X	10/15/2013	0.5U	0.68	0.52	0.5U	0.5U	0.5U	10U	80	0.042U	9.2	0.03U	-	452	50.6	2,770	1.8	1.5U	23,000	6.87	4.57	-122.7	1.018	0.19	12.27
	G6M-03-10X	6/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	510	51.9	2,400	-	-	-	6.82	0.51	-88	0.857	Overrange	12.45
	G6M-03-10X	10/29/2014	0.5U	0.77	0.92	0.5U	0.5U	0.41J	5U	92	0.13U	8.6	0.03U	-	418	42.9J	3,090J	1.2U	1.5U	14000	7.02	0.29	-122.4	0.787	4.94	11.74
	G6M-03-10X	6/22/2015	15.5	0.65 J	1.3	0.50 U	0.50 U	0.50 U	-	-	-	-	-		2.3 J	50 U	8.7 J	-	-	-						
	G6M-03-10X	9/10/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.5	-	0.080 J	10.8	2.0 U	-	453	68100	2,020	10 U	10 U	8910						
	G6M-03-10X	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.9	64.9	0.11 U	7.8 J	-	-	457	69300	2,410	10 U	10 U	11,500						
Area 5	G6M-04-05X	9/22/2004	140	2U	2U	2U	1U	2U	1U	14	4.9	14	2U	-	5U	1U	15U*	0.005U	0.0092	1.3	6.10	9.68	233.9	0.099	0.68	14.76
	G6M-04-05X	12/15/2004	17	2U	2U	2U	1U	2U	5U	14	7.5	13	2U	-	5U	1U	15U	0.005U	0.016	1.4	5.87	1.17	228.7	0.098	1.04	12.74
	G6M-04-05X	3/30/2005	130	10U	10U	10U	5U	10U	0.5J	14	1.2	10	2U	-	5U	1U	15U	0.0074	0.028	15	6.04	2.8	123.1	0.093	1.92	13.84
	G6M-04-05X	6/30/2005	200	2U	2U	2U	1U	2U	2.4	15.9	0.87	8.9	1U	-	2U	1UJ*	10U	0.041	0.022	96	5.48	0.88	207.1	0.094	8.19	15.41
	G6M-04-05X	9/29/2005	110	2U	2U	2U	1U	2U	5U	3.3	0.98	14	1U	-	5U	1U	33	0.006J	0.012J	220	6.08	0.2	215.3	0.061	2.1	13.53
	G6M-04-05X	12/14/2005	36	2U	2U	2U	1U	2U	5U	21	1.6	11	1U	-	5U	1U	15U	0.007J	0.016J	550	6.10	0.23	179.3	0.091	0.3	12.8
	G6M-04-05X	3/22/2006	330	2U	2U	2U	1U	2U	3.4J	13	1.11	9.33	1U	-	5U	0.1U	15U	0.025U	0.019J	2,200	6.21	0.77	343.3	0.062	0.86	12.51
	G6M-04-05X	6/22/2006	38	2U	2U	2U	1U	2U	5U	22J*	1.82	9.01	1U	-	5U	0.1U	15U	0.025U	0.082	33	4.40	2.55	760.6	0.083	0	13.87
	G6M-04-05X	9/22/2006	30	2U	2U	2U	1U	2U	5U	15	1.51	10.8	1U	-	5U	0.10U	15U	0.009J	0.084	140	5.78	1.48	-127.3	0.123	0.34	13.53
	G6M-04-05X	12/12/2006	8.7	2U	2U	2U	1U	2U	5U	-	-	-	-	-	5U	0.1U	15U	0.025U	0.010J	850	5.66	0.39	156.7	0.105	0	13.04
	G6M-04-05X	3/29/2007	16	2U	2U	2U	1U	2U	1.4J	-	-	-	-	-	5U	0.12	15U	0.025U	0.022J	460	5.79	0.13	57.9	0.185	0.01	13.16
Area 5	G6M-04-05X	6/12/2007	12	2U	2U	2U	1U	2U	0.4J	-	-	-	-	-	5U	0.1U	15U	0.005J	0.041	330	5.89	0.52	168.2	0.116	4.4	14.24
	G6M-04-05X	9/10/2007	43	2U	2U	2U	1U	2U	5U	20	1.61	17	1U	-	2U	0.1U	15U	0.24	0.089	340	5.89	2.6	142.8	0.103	3.9	13.59
	G6M-04-05X	12/11/2007	7.2	2U	2U	2U	1U	2U	5U*	-	-	-	-	-	5U	0.19	15U	0.025U	0.013J	1,900	5.75	0.23	134.1	0.118	0.6	12.99
	G6M-04-05X	3/13/2008	2.5	2U	2U	2U	1U	2U	5U	-	-	-	-	-	5U	0.1U	17	0.009J	0.020J	1,300	5.9	0.18	121	0.129	0.2	14.02
	G6M-04-05X	10/20/2008	3.7	0.5U	0.5U	0.5U	0.5U	0.5U	10U	30	1.5	10	0.03U	-	8U	0.2U	50U	1.3U	1.6U	3,300	5.92	0.73	80	0.152	0	10.96
	G6M-04-05X	5/6/2009	16	0.38J	0.84	0.5U	0.5U	0.27J	10U	49J	0.37	17	0.03U	-	8U	0.2U	50U	1.3U	1.6U	2,200	5.72	0.2	125.5	0.187	0	11.41
	G6M-04-05X	10/14/2009	8.2	0.5U	0.29J	0.5U	0.5U	0.5U	10U	29	0.39	15	0.03U	-	8.0U	0.127U	60U	1.3U	1.6U	2,000J	5.62	0.5	184	0.203	0	10.7
	G6M-04-05X	4/20/2010	2.3J	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	10U	80	0.30	15	0.03U	-	5U	0.1U	25U	1.2U	1.5U	3,200	5.92	0.4	152.5	0.144	0.20	11.28
	G6M-04-05X	10/4/2010	0.28J	0.5U	0.5U	0.5U	0.5U	0.5U	10U	30	1.7	13	0.03U	-	5U	0.1U	25U	1.2U	1.5U	18	5.67	1.51	145.5	0.131	0.8	11.37
	G6M-04-05X	6/8/2011	-	-	-	-	-	-	-	-	-	-	-	-	5U	0.1U	12.7J	-	-	-	5.78	0.12	134.1	0.193	1	11.81
	G6M-04-05X	10/3/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	2.3J	39	0.47	19	0.03U	-	20U	0.2U	11.4J	1.2U	1.5U	2,000	5.76	0.20	158.9	0.174	0.44	11.49
	G6M-04-05X	5/8/2012	-	-	-	-	-	-	-	-	-	-	-	-	5.0U	0.1U	10.9J	-	-	-	6.01	0.83	157.2	0.16	0.56	10.48
	G6M-04-05X	10/9/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	10U	32	0.063J	16	0.03U	-	5U	0.1U	21.8 J	1.3U	1.6U	1,800	5.76	0.27	108.4	0.171	0.84	11.31
	G6M-04-05X	5/22/2013	-	-	-	-	-	-	-	-	-	-	-	-	2.7J	0.1U	25U	-	-	-	5.9	0.25	134.1	0.156	1.75	11.08
	G6M-04-05X	10/15/2013	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	10U	60	0.13U	18	0.03U	-	5U	0.1U	15.4J	1.3U	1.6U	28,000	6.01	0.47	145.8	0.199	0.00	11.56
	G6M-04-05X	6/12/2014	-	-	-	-	-	-	-	-	-	-	-	-	2.4J	0.195U	13.3J	-	-	-	6.09	0.41	86.2	0.193	0.68	11.56
	G6M-04-05X	10/28/2014	0.42J	0.5U	0.5U	0.5U	0.5U	0.5U	10U	39	0.31	13	0.03U	-	4.1J	0.0293	12.2JJ	2.8	1.6	48	6.49	0.62	81.9	0.182	0.48	11.24
	G6M-04-05X	6/17/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.81 U	22.9	0.29	23.30	1.0 U	NA	2.0 U	0.050U	11.8 J	5.0 U	5.0 U	22.4 J						
Area 5	G6M-04-06X	9/22/2004	160	2U	2U	2U	1U	2U	1U	110	5.3	8.7	2U	-	5U*	1U	15U	0.056	0.005U	3.4	11.01	9.17	-0.6	0.341	1.34	15.84
	G6M-04-06X	12/16/2004	24	2U	2U	2U	1U	2U	5U	54	7.9	10	2.9	-	21	1U	15U	0.017	0.028	0.47	10.89	9.42	106.9	0.254	2.26	12.77
	G6M-04-06X	3/30/2005	37	2U	2U	2U	1U	2U	5U	37	2	12	2U	-	7.5	1U	15U	0.0087	0.051	0.58	9.47	10.46	10.6	0.235	0.32	15.25
	G6M-04-06X	7/1/2005	140	2U	2U	2U	1U	2U	2.8J	10.3	1.5	25	1U	-	2U	1UJ*	190	0.034	0.056	9.7	9.08	9.77	457.2	0.214	0.95	17.23
	G6M-04-06X	9/29/2005	32	2U	2U	2U	1U	2U	5.4	70.4	1.9	12	1U	-	11	1U	15U	0.009J	0.018J	0.7	9.32	9.43	390.6	0.192	1.99	15.18
	G6M-04-06X	12/15/2005	26	2U	2U	2U	1U	2U	7.6	39	1.9	12	1U	-	80.9	1U	150	0.009J	0.022J	3.3	9.74	10.17	151.2	0.226	0.3	11.92
	G6M-04-06X	3/23/2006	100	2U	2U	2U	1U	2U	5U	23	1.71	9.29	1U	-	5U	0.1U	15U	0.006J	0.036	3.1	8.94	9.46	452.5	0.188	1.72	14.07
	G6M-04-06X	6/23/2006	190	2U	2U	2U	1U	2U	5U	41	1.69	9.43	1U	-	13J*	0.1U	15U	0.012J	0.041	10	8.66	9.75	165.3	0.254	3.55	17.68
	G6M-04-06X	9/21/2006	45	2U	2U	2U	1U	2U	1.9J	31	1.03	10.9	1U	-	5U	0.10U	15U	0.016J	0.11	6.3	9.46	9.75	66.6	0.347	1.45	15.25
	G6M-04-06X	12/11/2006	37	2U	2U	2U	1U	2U	5U	-	-	-	-	-	5U	0.1U	15U	0.010J	0.044	4.3	9.67	9.67	108	0.257	4.4	13.15
	G6M-04-06X	3/29/2007	18	2U	2U	2U	1U	2U	5U*	-	-	-	-	-	5U	0.1U	15U	0.011J	0.021J	13	8.99	14.57	150.7	0.137	11.1	14.14
	G6M-04-06X	6/12/2007	25	2U	3.5	2U	1U	2U	5U	-	-	-	-	-	5U	0.1U	15U	0.010J	0.061	19	8.82	10.12	118.1	0.272	4.9	14.76
	G6M-04-06X	9/10/2007	23	2U	3	2U	1U	2U	5U	38	1.32	82	1U	-	8U	0.1U	15U	0.005J	0.007J	0.13	8.14	6.73	50.1	0.248	9.9	14.36
	G6M-04-06X	12/12/2007	22	2U	6.3	2U	1U	2U	5U*	-	-	-	-	-	5U	0.1U	15U	0.004J	0.025U	0.21	7.36	12.25	81.7	0.335	0.2	13.2
	G6M-04-06X	3/14/2008	14	2U	2.4	2U	1U	2U	5U	-	-	-	-	-	5U	0.1U	15U	0.005J	0.025U	2.8	7.29	10.89	186.9	0.224	0.3	14.17
	G6M-04-06X	10/16/2008	24	0.68	2.2	0.5U	0.5U	0.5U	10U	34	1.47U	11	0.03U	-	8.5	0.2U	11.5J	1.3U	1.6U	2	7.69	9.11	209.6	0.198	1	12.29
	G6M-04-06X	5/6/2009	13	0.51	1.8	0.5U	0.5U	0.5U	10U	44	1.3	14	0.03U	-	6.9	0.2U	50U	1.3U	1.6U	1.6	7.35	9.41	9.2	0.209	1.9	11.61
	G6M-04-06X	10/14/2009	10	0.46J	1.8	0.5U	0.5U	0.5U	10U	44	1.3	11	0.03U	-	7.4U	0.2U	50U	1.3U	1.6U	22J	7.15	9.4	150	0.197	0	11.08
	G6M-04-06X	4/20/2010	3.0J	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	10U	60	1.8	11	0.03U	-	7.3	0.1U	25U	1.2U	1.5U	150	6.75	2.86	27.1	0.147	0.0	11.84
	G6M-04-06X	10/4/2010	0.95	0.5U	0.5U	0.5U	0.5U	0.5U	10U	57	1.8	9.1	0.03U	-	6.1	0.1U	25U	1.2U	1.5U	2,000	6.50	0.38	121.6	0.216	0.0	11.37
	G6M-04-06X	10/3/2011	4.0	0.5U	2.0	0.5U	0.5U	0.5U	10U	71	0.74	11	0.03U	-	4.7J	0.2U	10.7J	1.2U	1.5U	9,200	6.06	1.46	70.2	0.133	0.24	13.13
	G6M-04-06X	10/9/2012	3.7	0.5U	0.5U	0.5U	0.5U	0.5U	10U	62	0.48	16	0.03U	-	5U	0.1U	21.2 J	1.2U	1.5U	14,000	6.05	0.31	135.7	0.239	0	11.56
	G6M-04-06X	10/15/2013	4.5	0.37J	0.55	0.5U	0.5U	0.5U	10U	140	0.13U	12	0.03U	-	5U	0.1U	88.2	1.2U	1.5U	36,000	6.09	1.07	171.1	0.242	0.04	11.76
	G6M-04-06X	10/28/2014	1.2	0.78	0.41J	0.5U	0.5U	0.5U	5U	70	0.29	15	0.03U	-	2.5U	0.0243U	157J	8.1J	1.5U	1,200	6.51	0.29	164.7	0.205	1.63	11.46

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	PCE (µg/L)	TCE (µg/L)	*cis*-1,2-DCE (µg/L)	*trans*-1,2-DCE (µg/L)	1,1-DCE (µg/L)	VC (µg/L)	TOC[1] (mg/L)	Alkalinity (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Phosphate	Dissolved Arsenic (µg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (µg/L)	Ethane (µg/L)	Ethene (µg/L)	Methane (µg/L)	pH (SU)	DO (mg/L)	ORP (mV)	SpC (mS/cm)	Turbidity (NTUs)	Temp °C
			Laboratory Parameters																		Field Parameters					
Area 5	G6M-04-07X	9/22/2004	900	2.7	8.4	2U	1U	2U	1U	56	5.4	32	2U	-	5U	1U	260	0.061	0.12	3.1	7.10	3.42	110.1	0.243	9.28	14.61
	G6M-04-07X	12/17/2004	1,100	2	9.3	2U	1U	2U	0.6J	43	6.4M	14	2U	-	28	1U	47	0.11	2.2	2.1	7.51	1.98	-38.9	0.246	74.7	10.34
	G6M-04-07X	3/29/2005	240	10U	10U	10U	5U	10U	0.5J	43.2	1.5	14	2U	-	12	1UM	27	0.031	0.64	1.9	6.88	4.19	22	0.229	4.2	12.76
	G6M-04-07X	7/5/2005	170	2U	2U	2U	1U	2U	5U*	41.1	1.7	14	1U	-	4	1U	37	0.07	0.042	1.8	5.83	5.44	369.9	0.186	23.4	17.93
	G6M-04-07X	9/29/2005	470	3	8.3	2U	1U	2U	5U	1U	1.9	16	1U	-	5U	1U	43	0.010J	0.010J	2.4	6.19	0.86	478.3	0.277	6.62	14.21
	G6M-04-07X	12/14/2005	390	2U	2	2U	1U	2U	6.1	40	1.6	13	1U	-	3.8B	1U	17.9	0.006	0.016	7.9	6.65	4.72	149.3	0.218	34.1	11.92
	G6M-04-07X	3/23/2006	260	2U	2U	2U	1U	2U	5U	36	1.57	13.3	1U	-	5U	0.1U	15U	0.005J	0.029	250	6.28	2.14	619.7	0.267	4.09	13.9
	G6M-04-07X	6/23/2006	150	2U	2U	2U	1U	2U	0.3J	30	1.28	12.5	1U	-	5U	0.1U	24	0.005J	0.022J	22	6.29	5.5	117.8	0.24	8.07	16.14
	G6M-04-07X	9/21/2006	110	2U	2U	2U	1U	2U	3.4J	32	2.54	10	1U	-	5U	0.10U	19	0.014J	0.088	2.4	6.34	4.43	99.8	0.197	2.63	13.66
	G6M-04-07X	12/11/2006	87	2U	2U	2U	1U	2U	5U	-	-	-	-	-	5U	0.10U	15	0.007J	0.033	2.2	6.65	6.99	116.4	0.134	10.52	13.13
	G6M-04-07X	3/29/2007	45	2U	2U	2U	1U	2U	5U*	-	-	-	-	-	5U	0.1U	17J*	0.006J	0.018J	5.2	6.55	10.3	143.7	0.123	3.71	13.01
	G6M-04-07X	6/12/2007	44	2U	2U	2U	1U	2U	1.2J	-	-	-	-	-	5U	0.67	18	0.010J	0.079	46	6.26	8.12	162.7	0.129	16.1	15.25
	G6M-04-07X	9/10/2007	25	2U	2U	2U	1U	2U	5U	19	1.89	45	1U	-	2U	0.1U	15U	0.006J	0.006J	0.11	6.20	8.68	117.7	0.13	31.2	13.65
	G6M-04-07X	12/12/2007	23	2U	2U	2U	1U	2U	5U*	-	-	-	-	-	5U	0.1U	15U	0.004J	0.013J	0.48	6.48	10.14	140.2	0.134	3	12.92
	G6M-04-07X	3/13/2008	19	2U	2U	2U	1U	2U	5U	-	-	-	-	-	5.2	0.1U	15U	0.003J	0.025U	1.6	6.54	10.52	83.4	0.143	0.3	14.01
	G6M-04-07X	10/16/2008	11	0.5U	0.5U	0.5U	0.5U	0.5U	10U	28	1.81U	10	0.03U	-	8.0U	0.2U	15.1J	1.2U	1.5U	390	5.85	1.62	205	0.129	0.45	11.95
	G6M-04-07X	5/6/2009	2.2	0.5U	0.5U	0.5U	0.5U	0.5U	10U	41J	2.3	12	0.03U	-	2.9J	0.2U	50U	1.3U	1.6U	660	5.90	0.7	119.2	0.103	1.25	11.64
	G6M-04-07X	10/14/2009	1.3	0.5U	0.5U	0.5U	0.5U	0.5U	10U	32	1.9	15	0.03U	-	8U	0.2U	50U	1.3U	1.6U	2,500J	6.00	0.35	141.6	0.104	0	10.6
	G6M-04-07X	4/20/2010	13J	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	10U	50	1.5	12	0.03U	-	5U	0.1U	31.8U	1.3U	1.6U	630	5.90	1.11	24.2	0.167	0.0	11.28
	G6M-04-07X	10/4/2010	19	2.2	4.5	0.5U	0.5U	0.5U	10U	43	1.1	10	0.03U	-	5U	0.1U	25U	1.2U	1.5U	5,100	6.06	0.94	116.9	0.181	0.32	11.63
	G6M-04-07X	6/8/2011	-	-	-	-	-	-	-	-	-	-	-	-	5U	0.148	67.9	-	-	-	5.81	1.06	34.1	0.172	0	11.98
	G6M-04-07X	10/3/2011	8.7	1.2	2.2	0.5U	0.5U	0.5U	10U	53	0.59	12	0.03U	-	20U	0.2U	68.0	1.2U	1.5U	8,300	5.76	0.28	-57.7	0.105	0.96	11.89
	G6M-04-07X	5/8/2012	-	-	-	-	-	-	-	-	-	-	-	-	4.0J	0.1U	27.2	-	-	-	6.26	0.35	122	0.198	0.48	10.79
	G6M-04-07X	10/9/2012	31J	6.2	33J	0.5U	0.5U	0.97	10U	99	0.5	10	0.03U	-	5U	0.1U	35.4	1.2U	1.5U	6,400	6.05	0.41	138.9	0.264	0	11.51
	G6M-04-07X	5/22/2013	-	-	-	-	-	-	-	-	-	-	-	-	3.9J	0.1U	51.4	-	-	-	6.14	0.39	154.1	0.22	0	11.28
	G6M-04-07X	10/15/2013	26	5.7	16	0.5U	0.5U	0.5U	10U	110	0.30	11	0.03U	-	3.8J	0.1U	3,480	1.2U	1.5U	37,000	6.24	0.37	218.4	0.262	0.05	11.66
	G6M-04-07X	6/10/2014	-	-	-	-	-	-	-	-	-	-	-	-	3.0J	0.0208UJ	6,710	-	-	-	6.01	0.32	210.9	0.257	5.18	12.09
	G6M-04-07X	10/28/2014	55	11	54	0.31J	0.5U	0.61	5U	130	0.13	9.6	0.03U	-	9.5	0.195J	4,370J	1.3U	1.6U	4,900	6.57	0.24	108	0.254	4.69	11.75
Area 5	G6M-04-08X	9/24/2004	4.2B	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.29	0.81	-75.5	0.632	52.8	14.46
Area 5	G6M-04-14X	11/16/2004	12	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G6M-04-14X	9/27/2005	6.9	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.88	1.6	333	0.263	18	12.69
	G6M-04-14X	9/21/2006	9.4	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.98	3	26.1	0.211	15.7	12.19
	G6M-04-14X	10/1/2007	7.1	2U	2U	2U	1U	2U	-	-	-	-	-	-	-	-	-	-	-	-	7.69	2.56	80.4	0.363	13.9	12.44
	G6M-04-14X	10/21/2008	7.1J	0.21J	0.5UJ	0.5UJ	0.5UJ	0.5UJ	-	-	-	-	-	-	-	-	-	-	-	-	7.78	2.51	138.8	0.237	45	11.5
	G6M-04-14X	10/15/2009	4.5J	250	10U	10U	10U	10U	-	-	-	-	-	-	-	-	-	-	-	-	7.56	3.6	-69.7	0.25	4.58	10.62
**	G6M-04-14X	1/15/2010	4.5	0.22J	0.5U	0.75U	0.75U	1.0U	-	-	-	-	-	-	-	-	-	-	-	-	7.73	25.3	166.2	0.293	12.5	10.24
	G6M-04-14X	10/8/2010	2.4	0.25J	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	7.55	1.92	72.7	0.307	100.4	13.35
	G6M-04-14X	10/5/2011	2.2	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	6.8	0.1U	25U	-	-	-	7.68	2.62	99.9	0.172	20.4	12.32
	G6M-04-14X	10/15/2012	3.3	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	9.6	0.194	7.7J	-	-	-	7.71	2.58	-10.9	0.297	21.7	12.96
	G6M-04-14X	10/18/2013	1.7	0.34J	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	8.2	0.1U	7.5U	-	-	-	7.89	1.25	94	0.479	27.1	12.5
	G6M-04-14X	10/31/2014	1.8	0.40J	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.5U	0.0507U	7.5U	-	-	-	7.93	0.4	54.4	0.423	8.26	12.27
Area 5	MW-3	10/17/2001	4,300	1,500	540	20U	10U	20U	-	-	-	-	-	-	-	-	-	-	-	-	5.70	0.9	-127	1.4	3.1	14
	MW-3	12/19/2001	26	4,000	2,200	20U	6.5J	20U	92	-	-	0.43J	-	-	-	-	-	-	-	-	6.28	0.43	-46	0.912	7.28	14.4
	MW-3	1/3/2002	-	-	-	-	-	-	44	-	-	-	-	-	180	30	-	0.063	0.21	18	4.77	1.33	-48	2.795	4.4	13.4
	MW-3	1/31/2002	-	-	-	-	-	-	38	-	-	-	-	-	-	-	-	-	-	-	6.64	0	-293	0.999	-	12
	MW-3	2/13/2002	4,400	1,700	1,600	1.6J	3.7	2U	15	-	0.10U	14	1.0J	-	190	20	8,300	0.079	0.29	53	6.65	0.75	-71	0.893	1.3	12
	MW-3	3/13/2002	5,200	640	1,400	1.4J	2.8	2U	7.3	-	0.10U	15	2.0U	-	180	16	8,400	0.093	0.37	66	6.72	0.25	-75	0.795	1.04	13.7
	MW-3	4/2/2002	3,100	1,000	1,700	2.2	4	2U	3.3J	-	-	-	-	-	-	-	-	-	-	-	6.74	4.28	-120	0.634	2.08	13.8
	MW-3	4/17/2002	1,200	1,300	1,600	1.2J	3.4	2U	6.1	-	3	7.9J	1.6J	-	240	37	17,000	0.025	0.087	54	6.60	4.39	-102	0.771	0.81	17
	MW-3	5/15/2002	31	23	2,600	3.5	6.7	2U	96	-	0.10U	3.9	1.6J	-	260	42	19,000	0.052	0.24	560	6.66	0.31	-124	1.46	1.68	13.7
	MW-3	6/27/2002	200U	200UJ	1,800	200UJ	100UJ	200UJ*	270	-	14	4.4J	2.0U	-	490J*	140	37,000J	0.021	0.082	3,900	6.70	1.64	-107	3.804	2.9	17
	MW-3	7/31/2002	-	-	-	-	-	-	31	-	-	-	-	-	-	-	-	-	-	-	6.76	0.15	-225	1.606	-	12.2
	MW-3	8/26/2002	990	640	580	2.1	4.4	2U	30	320	-	-	-	-	270	-	-	0.053	0.16	14,000	6.83	0.15	-138	1.285	6.5	16.3
	MW-3	10/28/2002	1,900	820	1,700	3.9	4.2	2U	6.3	190	0.10U	10	2.0U	-	330	39	9,700	0.3	0.23	6,300	6.70	0.4	-129	1.129	5.01	14.5
	MW-3	2/3/2003	3	2U	2,900	2U	7.1	2U	180	580	-	1.0U		-	330	120	-	0.005U	0.26	28,000	6.84	0.3	-159	1.322	6.7	10.5
	MW-3	7/16/2003	2.4	2U	2,700	2U	7.5	2.5	17	450	-	4.0UB	2.0U	-	520	170	-	0.005U	0.1	23,000	7.02	1.09	-138	1.464	39.2	16.3
	MW-3	9/24/2003	670	1,100	1,900	2.4	6.9	2U	5.9	-	-	-	-	-	460	89	7,900	0.005U	0.012	22,000	6.10	9.17	-138	1.222	18.9	16.8
	MW-3	1/9/2004	9.7	64	2,000	2U	5.6	2U	130	500J	-	1.0U	2.0U	-	530	200J	15,000	0.005U	0.005U	45,000	6.73	0.4	-195	1.347	14.6	12.7
	MW-3	3/11/2004	680	620	4,700	2U	7.6	2U	6.1	200	-	4.4	2U	-	420	11	8,400	0.005U	0.005U	27,000	6.58	0.62	-161	0.972	4.3	12.4
	MW-3	6/2/2004	2U	2U	1,800	2U	4.5	2U	290	810	-	0.98JM	2U	-	670MSA	150	23,000	0.005U	0.014	31,000	6.95	0.1	-149	1.905	38.7	14.61
	MW-3	9/21/2004	210	250	1,900	2U	5.2	3.5	17	310	1J*	4.3J*	2UM	-	660	200J*	7,200	0.086	0.005U	28,000	6.66	0.95	-153.6	0.725	2.27	13.76
	MW-3	12/13/2004	2U	2U	750	2U	1U	610	8	210	1.1	1.4M	2U	-	510	160	5,400	0.092	3.5	17,000	6.62	1.6	-103.3	1.009	15.1	11.07
	MW-3	3/28/2005	23J	16J	1,000	50U	50U	280	21	405	0.2U	1U	7.5J*	-	670	150M	7,300	0.005U	5.1	25,000	6.49	0.34	-134.9	1.26	2.37	12.46
	MW-3	8/10/2005	440	80	120	2U	5.1	760	43	338	0.05U	2U	8	-	680	180	4,400	0.061J*	13	22,000	11.13	0.71	-118.5	1.401	28.9	18.92
	MW-3	9/27/2005	1,100	240	180	1.8	9.1	360	5.6	96.8	0.05U	9.9J	3.4	-	480	71J	2,500	0.020J	40	22,000	6.36	0.21	-91.2	0.66	2.8	14.17
	MW-3	12/12/2005	37	67	52	20U	10U	480	18	180	0.083J*	2U	5.6	-	566	100	-	0.055	100	26,000	6.66	0.11	-152.7	1.087	8	12.77
	MW-3	3/20/2006	620	350	120	3.1	3.9	220	13	110	0.2U	6.31	1U	-	440	85	3,600	0.025U	130	25,000	6.95	0.77	-106.2	0.871	3.71	12.89
	MW-3	6/22/2006	2U	2U	4	7.6	1U	6.1	4J	98	0.2U	1U	1U	-	520	87	3,300	0.023J	180	20,000	6.40	0.22	-127	1.012	4.18	16.41
	MW-3	9/20/2006	360	420	130	12	5.6	200	9.6	70	0.2U	7.88	1.4	-	580	70	3,300	0.015J	95	17,000	6.52	0.28	-108.5	0.729	3.56	15.56
	MW-3	12/12/2006	2U	3.1	3.1	16	1U	7.1	7.8	-	-	1U	1U	-	490	92	3,700	0.032	170	24,000	6.60	0.17	-116	0.99	4.36	13.88
	MW-3	3/27/2007	2U	31	19	12	1U	27	5.2	-	-	3.18	1U	-	560	110	3,300J*	0.025U	130	18,000	6.28	0.19	21	0.944	2.64	13.47
	MW-3	6/11/2007	2U	5	5.4	15	1U	8	67	-	-	12.1	2.2	-	570	190	5,000	0.038	150	32,000	6.56	0.58	-124.7	1.405	17.3	15.76
	MW-3	9/11/2007	610	470	100	6.4	2.6	97	-	150	0.2U	400	1U	-	530	100	3,600	-	-	-	6.76	0.23	-130	1.016	6.8	14.21
	MW-3	10/12/2007	-	-	-	-	-	-	3.8J	-	-	-	-	-	-	-	-	0.025U	120	34,000	-	-	-	-	-	-
	MW-3	12/13/2007	250	180	59	8.8	2.4	78	4.1J	-	-	10	1U	-	420	91	4,400	0.016J	130	30,000	6.6	0.27	-159.8	1.04	15.7	12.47
	MW-3	3/10/2008	2U	2U	2U	8.3	1U	2U	16	-	-	5U	2.4	-	530	140	3,300	18	35	29,000	6.46	0.12	-113	1.402	5.5	13.56
	MW-3	10/6/2008	5U	5U	5U	11	5U	5U	10U	210	0.13U	7.0U	0.03UJ	-	482	112	3,720	1.3U	72	28,000	6.49	0.24	-158.6	1.070	9.3	12.47
	MW-3	1/21/2009	1.4U	2.3U	1.6J	9.2	1.2U	1.9	10UJ	160	0.13U	7.0U	0.03U	0.15J	556	114J	3,350	3.2	58	40,000	6.69	0.5	-79.9	1.044	4.01	9.9
	MW-3	5/7/2009	2.0U	59	48	17	2.0U	66	7.0J	360J	0.13U	22	0.03U	0.11J	519	115	3,630	1.3	70	47,000	6.26	1.03	-89.9	1.205	4.54	11.04
	MW-3	10/19/2009	2U	35	25	9.4	2U	40	6.7J	490	0.13U	28	0.03UJ	0.36	551	120	5,330	1.2U	36	25,000	6.24	0.6	-62.6	1.494	25.6	11.83
	MW-3	4/20/2010	0.5UJ	0.48J	0.47J	4.7J	0.5UJ	2.5J	9.0J	440	0.13U	3.4J	0.03U	0.63	526	136J	3,200	10	19	47,000	6.33	0.16	5.4	1.445	0.09	12.36
	MW-3	10/5/2010	0.5U	4.8	3.4	7.5	0.5U	20	10U	750	0.13U	4.5J	0.03U	0.50J	444	76	3,560	1.2U	69	32,000	6.20	0.20	-85.9	1.799	0.58	12.31
	MW-3	6/8/2011	0.5U	0.66	0.93	4.4	0.5U	17	12	690	0.13U	1.7J	0.03U	-	374	53.6	2,570	4.5	18	100,000	6.34	0.30	-91.1	1.232	3.56	13.73
	MW-3	10/3/2011	0.5U	0.5U	0.52	1.7	0.5U	1.0	10	730	0.13U	0.74J	0.03U	-	385	45.8	2,760	1.2U	1.5U	40,000	6.47	0.13	-88.1	1.544	0.9	12.98
	MW-3	5/8/2012	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	7.5J	600	0.13U	0.82J	0.03U	-	276	27	3,140	51	110	66,000	6.77	0.08	-107.2	1.856	4.6	11.19
	MW-3	10/10/2012	0.5U	0.5U	0.5U	0.54	0.5U	1.2	5.6J	520	0.13U	1.4J	0.03U	-	267	25.7	4,810	61	100	36,000	6.45	0.51	-87.6	1.738	0.92	12.17
	MW-3	5/21/2013	0.5U	0.5U	0.30J	0.39J	0.5U	0.75	4.3J	530J	0.13UJ	0.64J	0.03UJ	-	281	24.7	6,460	1.2U	1.5U	10,000	6.76	0.12	-105.2	1.277	2.75	13.54
	MW-3	10/16/2013	0.5U	0.21J	0.36J	0.32J	0.5U	0.94	5.2J	510	0.13U	1.9J	0.03U	-	298	26.6	7,970	12	11	38,000	6.75	0.40	-87.4	1.437	0	12.21
	MW-3	6/11/2014	0.5U	0.5U	0.5U	0.37J	0.5U	0.83	8.3J	330J	0.13U	1.2U	0.03U	-	354	34.3J	11,100	2.9J	1.6UJ	5,100J	6.7	0.51	-67.6	1.062	6.18	13.17
	MW-3	10/29/2014	0.5U	0.27J	0.68	0.38J	0.5U	0.53	5.2J	370	0.13U	2.4J	0.03U	-	334	30.1J	10,500J	3.8	1.5U	13,000	6.8	0.34	-110.1	0.756	3.79	12.69
	MW-3	6/23/2015	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	5	366	0.11 U	5.1 J	1.0 U	NA	409	37.1	11,000	5.0 U	5.0 U	4,830	6.34	1.07	-89.4	1262	5.85	14.23
	MW-3	10/15/2015	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.54 J	4.90	349	0.071 J	10 U	-		420	41.9	12,600	10 U	10 U	4,570						

Table 3
Historical Groundwater Analytical Results
Area of Contamination 50

Area of Concern	Well ID	Date	PCE	TCE	*cis*-1,2-DCE	*trans*-1,2-DCE	1,1-DCE	VC	TOC[1]	Alkalinity	Nitrate	Sulfate	Sulfide	Phosphate	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Ethane	Ethene	Methane	pH	DO	ORP	SpC	Turbidity	Temp
			Laboratory Parameters																		Field Parameters					
			(µg/L)						(mg/L)						(µg/L)	(mg/L)	(µg/L)	(µg/L)			(SU)	(mg/L)	(mV)	(mS/cm)	(NTUs)	°C
Area 5	MW-7	2/14/2002	5,900	4.5	2U	2U	1U	2U	-	-	-	20	0.6J	-	5U	1U	170J	0.12	0.08	8.4	6.12	1.58	104	0.787	90	13.8
	MW-7	3/14/2002	5,700	4.2	2U	2U	1U	2U	2.0J	-	4.1	22J	2.0U	-	5U	1U	1,000U	0.094	0.18	5.9J	6.12	2.29	203	0.808	8.85	13.9
	MW-7	4/17/2002	4,200	2.9	2U	2U	1U	2U	5U	-	4.2	18J	1.6J	-	2.3J	1U	1,000U	0.072	0.2	6	6.11	0.5	145	0.656	19.5	18.8
	MW-7	5/16/2002	5,700	4.3	2U	2U	1U	2U	5U	-	4.3	18J	2.0UJ	-	5U	1U	1,000U	0.097	0.2	9	6.05	0.21	185	0.759	23.9	15.7
	MW-7	6/27/2002	5,300	3.8J*	2UH	2UH	10H	2UH	5U	-	4.2	19J	2.0U	-	5U	1U	170UJ	-	-	-	6.13	0.73	163	1.198	100	18.2
	MW-7	8/27/2002	4,700	3.5	2U	2U	1U	2U	5U	29	-	-	-	-	5U	-	-	-	-	-	6.13	0.29	136	0.632	1.86	16.1
	MW-7	10/30/2002	5,400	2.7	2U	2U	1U	2U	5U	23	4.9	16	2.0U	-	5U	1U	200J	0.047	0.18	20	6.05	0.37	66	0.779	3.63	15.3
Area 5	MW-7	12/14/2002	-	-	-	-	-	-	5U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	MW-7	1/30/2003	4,700	3.1	2U	2U	1U	2U	5U	19	-	16	-	-	5U	1U	-	0.044	0.075	23	5.80	2.2	171	0.773	1.08	13.9
	MW-7	9/24/2003	4,200	3.3	2U	2U	1U	2U	5U	-	-	-	-	-	5U	1U	140	0.015	0.027	58	3.40	1.43	522	0.691	0.3	15.7
	MW-7	1/8/2004	4,300	2.8	2U	2U	1U	2U	5U	27	-	14J	2.0U	-	5U	1U	130	0.011	0.026	25	6.02	0	198	0.481	15	11.1
	MW-7	3/12/2004	3,100	2.7	2U	2U	1U	2U	1U	24	-	15M	2U	-	5U	1U	120	0.02	0.28	6.3	6.04	0.47	162	0.556	1	13.9
	MW-7	6/3/2004	2,900	2.6	2U	2U	1U	2U	1.5J	24	-	15M	2U	-	5U	1U	110	0.012	0.034	34	5.96	0.31	205.2	0.58	1.92	14.44
	MW-7	9/21/2004	2,900	3.4	3.1	2U	1U	2U	-	-	-	-	-	-	5U	1U	110	-	-	-	5.98	0.21	240.4	0.58	0	15.67
	MW-7	9/27/2005	1,600	3.7	5.8	2.5U	2.5U	2.5U	-	-	-	-	-	-	5U	0.2J	110	-	-	-	4.49	0.93	304.1	0.593	3.39	14.5
	MW-7	9/22/2006	4,400	9.8	7.7	2U	1U	2U	-	-	-	-	-	-	5U	0.10U	100	-	-	-	5.99	1.19	140.9	0.503	3.01	15.7
	MW-7	9/11/2007	1,200	11	22	2U	1U	2U	-	-	-	-	-	-	6U	0.1U	110	-	-	-	5.98	0.32	139.9	0.691	5.9	14.88
	MW-7	10/20/2008	600	40	150	20U	20U	20U	-	-	-	-	-	-	8U	0.2U	166	-	-	-	5.97	1.39	71.9	0.804	2	12.97
	MW-7	10/19/2009	97	33	270	10U	10U	10U	-	-	-	-	-	-	4.2J	1.7	2,170	-	-	-	6.03	0.47	76.7	1.686	1.91	13.28
	MW-7	10/6/2010	45	9.5	120	2.5U	2.5U	3.1	-	-	-	-	-	-	5.7	1.46	2,090	-	-	-	6.53	0.21	-21.6	2.072	4.81	12.34
	MW-7	10/6/2011	1.6	3.7	20	0.5U	0.5U	6.8	-	-	-	-	-	-	52.9	5.44	5,070	-	-	-	6.6	0.49	-48.8	1.717	3	13.6
	MW-7	10/12/2012	2.3	2.3	9.9	0.70	0.5U	11	-	-	-	-	-	-	140	20.5	9,900	-	-	-	6.38	0.65	-65	1.253	0	12.26
	MW-7	10/17/2013	1.5	6.9	13	0.24J	0.5U	2.2	-	-	-	-	-	-	156	20.9	9,360	-	-	-	6.72	0.58	-68.2	1.152	0	13.48
	MW-7	11/3/2014	1.7	8.4	13	0.27J	0.5U	1.5	-	-	-	-	-	-	205	29.9	15,300	-	-	-	6.62	0.41	-74.2	0.878	1.94	12.51
Area 5	G6M-97-05B	10/3/2011	5.7	0.58	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	6.21	3.91	166.4	0.357	1.48	12.85
	G6M-97-05B	10/12/2012	13	0.73	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.0194 J	25U	-	-	-	6.19	4.13	132	0.649	0.41	11.27
	G6M-97-05B	10/16/2013	26	0.70	0.63	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	0.1U	25U	-	-	-	6.15	3.88	123.8	0.513	3.86	12.41
	G6M-97-05B	10/28/2014	83	1.80	1.7	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.5U	0.0293U	25UJ	-	-	-	6.21	3.38	112.1	0.499	2.78	13.79
	G6M-97-05B	6/19/2015	89.4	4.80	2.3	0.50 U	0.50 U	0.50 U	NA	27	1	7.8 J	1.0 U	NA	3.1 J	0.050U	7.5 U	5.0 U	5.0 U	5.0 U	6.26	2.73	106.3	630	1.72	17.2
	G6M-97-05B	10/15/2015	117.00	6.90	3.40	1.0 U	1.0 U	1.0 U	-	-	-	-	-		4.0 U	61.5J	19.40	-	-	-						
Area 5	XSA-00-88X	7/1/2010	-	-	-	-	-	-	-	-	-	-	-	-	5U	-	-	-	-	-	6.53	6.49	-42.7	0.743	135	19.2
	XSA-00-88X	10/3/2011	6.4	0.5U	0.87	0.5U	0.5U	0.5U	-	-	-	-	-	-	20U	22.2	274	-	-	-	6.64	6.9	-261.4	0.665	52	14.26
Area 5	XSA-00-89X	7/1/2010	-	-	-	-	-	-	-	-	-	-	-	-	5U	-	-	-	-	-	6.45	2.43	-230.4	0.651	>1000	21.5
	XSA-00-89X	10/3/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	20U	2.03	556	-	-	-	6.55	7.51	-316.1	0.631	42	15.5
Area 5	XSA-00-90X	7/1/2010	-	-	-	-	-	-	-	-	-	-	-	-	5U	-	-	-	-	-	7.9	3.63	-184.2	203	>1000	18.86
	XSA-00-90X	10/3/2011	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	20U	1.27	12.4J	-	-	-	9.79	7.49	-309.7	0.119	46	15.54
Area 5	XSA-97-59X	7/1/2010	-	-	-	-	-	-	-	-	-	-	-	-	5U	-	-	-	-	-	6.93	1.77	-211.7	0.504	76.3	18.84
Area 5	XSA-12-97X	10/9/2012	2.1	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	1.430 J	44.4	-	-	-	6.66	1.3	-11.9	0.673	33.8	11.48
	XSA-12-97X	10/16/2013	2.9	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	2.25	29.3	-	-	-	6.74	1.74	-21.9	0.721	19.6	11.96
	XSA-12-97X	10/30/2014	5.6	0.5U	0.5U	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.5U	0.435	9.1J	-	-	-	6.51	1.52	51.8	0.522	17.5	11.84
Area 5	XSA-12-96X	10/10/2012	120	4.4	14	2.0U	2.0U	2.0U	-	-	-	-	-	-	5U	3.13	96.8	-	-	-	6.52	0.72	-87.1	0.782	3.9	12.14
	XSA-12-96X	10/15/2013	100	11	17	2.5U	2.5U	3.7	-	-	-	-	-	-	3.7J	0.94	2,840	-	-	-	6.46	0.27	-271.6	0.824	0.9	12.24
	XSA-12-96X	10/28/2014	84	14	22	2.3	0.36J	6	-	-	-	-	-	-	3.2J	0.925J	5,720J	-	-	-	6.73	0.14	-300.6	0.625	4.83	12.1
Area 5	XSA-12-98X	10/11/2012	10	0.59	0.50	0.5U	0.5U	0.5U	-	-	-	-	-	-	5U	1.420	18.4 J	-	-	-	7.75	0.76	-60.1	0.308	8.89	11.95
	XSA-12-98X	10/16/2013	5.2	0.34J	0.47J	0.5U	0.5U	0.5U	-	-	-	-	-	-	3.1J	0.1U	6.6J	-	-	-	7.89	0.51	-39.8	0.413	51	12.15
	XSA-12-98X	10/29/2014	5.5	0.37J	0.76	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.5U	0.313	5.6J	-	-	-	8	0.46	-293.1	0.258	44.8	13.86
Area 5	XSA-12-95X	10/12/2012	290	36	66	5.0U	5.0U	10	-	-	-	-	-	-	4.6J	9.53	11,800	-	-	-	6.53	2.04	-63.9	1.247	45	11.12
	XSA-12-95X	10/15/2013	160	51	100	4.7J	5.0U	6.5	-	-	-	-	-	-	12.8	5.17	9,890	-	-	-	6.59	0.3	-254.4	1.411	24.4	11.94
	XSA-12-95X	10/28/2014	110	39	94	5	0.47J	9	-	-	-	-	-	-	8.3	4.47J	9,310J	-	-	-	6.9	0.18	-315.7	0.906	20.2	11.96
Area 5	G6M-13-04X	1/30/2014	41	51	68	2.7	0.90 J	150	-	-	-	-	-	-	-	-	-	-	-	-	6.57	0.98	-36.4	1.414	4.6	10.6
	G6M-13-04X	6/10/2014	25	31	29	2.7	0.66	130	2.5J	280J	0.13U	9.3 B	0.030U	-	360	49J	5,900	2.7J	12J	3,600	6.42	0.58	-49.4	1.212	12.9	13.06
	G6M-13-04X	10/29/2014	1.7	17	69	1.6	0.56	72	13	310	0.13U	3.5J	0.03U	-	321	5.45J	6,170J	4.7	41	32,000	6.65	0.42	-95.2	1.081	5.55	12.35
	G6M-13-04X	6/22/2015	0.50 U	1.8	2	0.50 U	0.50 U	1.4	3.2	129	0.11 U	30.5 J	1.0 U		360	29	3,840 J	5.0 U	5.0 U	719						
	G6M-13-04X	10/15/2015	18.7	18.9	52	0.76 J	1.0 U	32.7	2.8	269	0.16	5.8 J	-		388	33	7,930	10 U	18.6	9,470						
Area 5	G6M-13-01X	1/30/2014	12	0.42 J	0.73	0.5U	0.5U	0.5U	-	-	-	-	-	-	-	-	-	-	-	-	6.21	1.64	188.4	0.86	38	10.01
	G6M-13-01X	10/28/2014	150	2.8	7.80	0.5U	0.5U	0.5U	-	-	-	-	-	-	2.5U	0.025U	26.8J	-	-	-	6.25	1.77	100.3	0.495	9.14	12.69
Area 5	IW-39	1/30/2014	180	4.4	15	4U	4U	4U	-	-	-	-	-	-	-	-	-	-	-	-	6.56	0.91	44.9	0.78	3.68	11.3

Notes:

* Value qualified from reported laboratory data based on data validation results.

** Analyzed by AlphaLabs. Contract Laboratory is Mitkem Labs.

1 Total Organic Carbon

2 Monitoring well has a documented molasses content.

\- Analyte was not sampled.

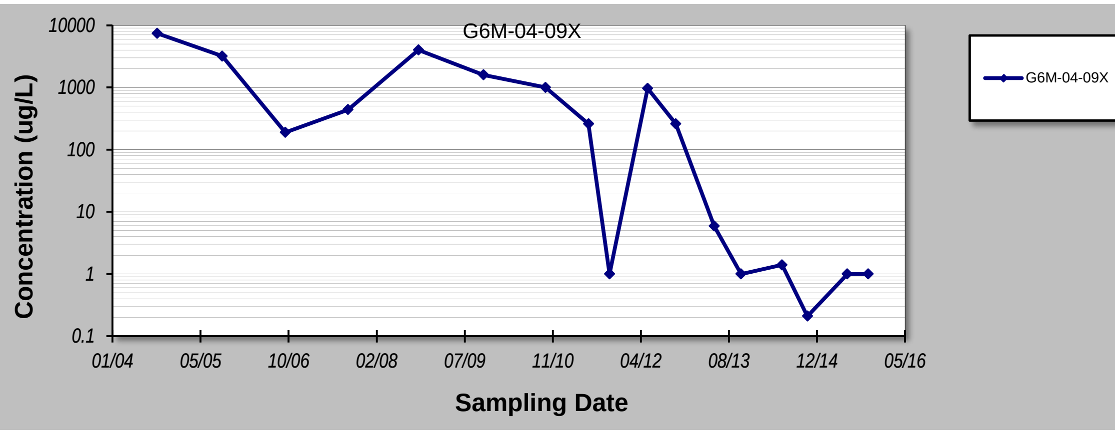
APPENDIX A - MANN-KENDALL CALCULATIONS

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**10-Jun-15**	Job ID:	
Facility Name:	**Devens AOC 50**	Constituent:	**PCE**
Conducted By:		Concentration Units:	**ug/L**

Sampling Point ID: G6M-04-09X

Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
		G6M-04-09X						
1	9/24/2004	7,400						
2	9/28/2005	3,200						
3	9/21/2006	190						
4	9/12/2007	440						
5	10/17/2008	4,000						
6	10/21/2009	1,600						
7	10/8/2010	1,000						
8	6/9/2011	260						
9	10/7/2011	**1**						
10	5/9/2012	970						
11	10/16/2012	260						
12	5/22/2013	5.9						
13	10/22/2013	**1**						
14	6/12/2014	1.4						
15	11/3/2014	**0.21**						
16	6/17/2015	**1**						
17	10/14/2015	**1**						
18								
19								
20								
Coefficient of Variation:		1.76						
Mann-Kendall Statistic (S):		-89						
Confidence Factor:		>99.9%						
Concentration Trend:		Decreasing						



Notes:

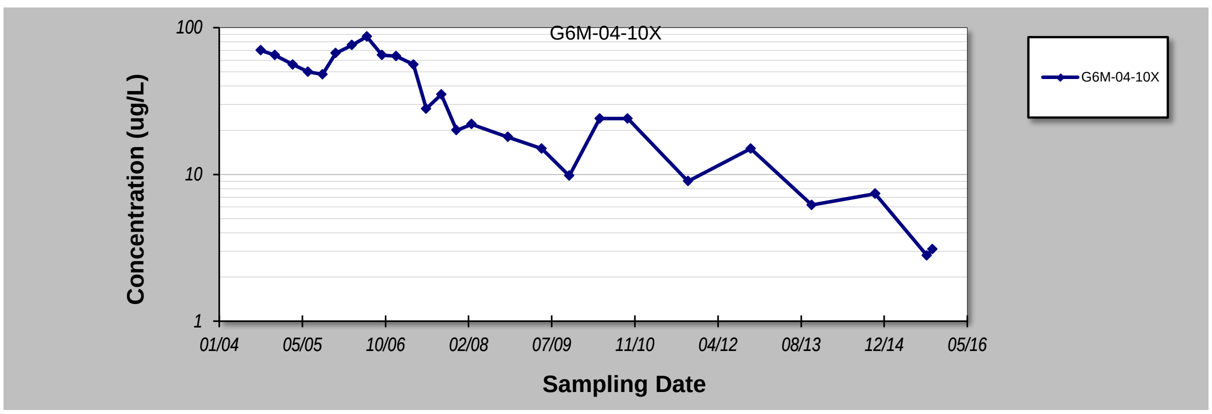
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably 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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	10-Jun-15	Job ID:	
Facility Name:	Devens AOC 50	Constituent:	PCE
Conducted By:		Concentration Units:	ug/L

Sampling Point ID: G6M-04-10X

Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
1	9/20/2004	70						
2	12/14/2004	65						
3	3/31/2005	56						
4	7/1/2005	50						
5	9/27/2005	48						
6	12/14/2005	67						
7	3/22/2006	76						
8	6/20/2006	87						
9	9/19/2006	65						
10	12/13/2006	64						
11	3/28/2007	56						
12	6/12/2007	28						
13	9/11/2007	35						
14	12/11/2007	20						
15	3/11/2008	22						
16	10/15/2008	18						
17	5/7/2009	15						
18	10/20/2009	9.8						
19	4/21/2010	24						
20	10/6/2010	24						
21	10/4/2011	9.0						
22	10/15/2012	15.0						
23	10/17/2013	6.2						
24	11/3/2014	7.4						
25	11/3/2014	7.4						
26	9/9/2015	2.80						
27	10/13/2015	3.10						
28								
29								
30								
	Coefficient of Variation:	0.75						
	Mann-Kendall Statistic (S):	-262						
	Confidence Factor:	>99.9%						
	Concentration Trend:	Decreasing						



Notes:

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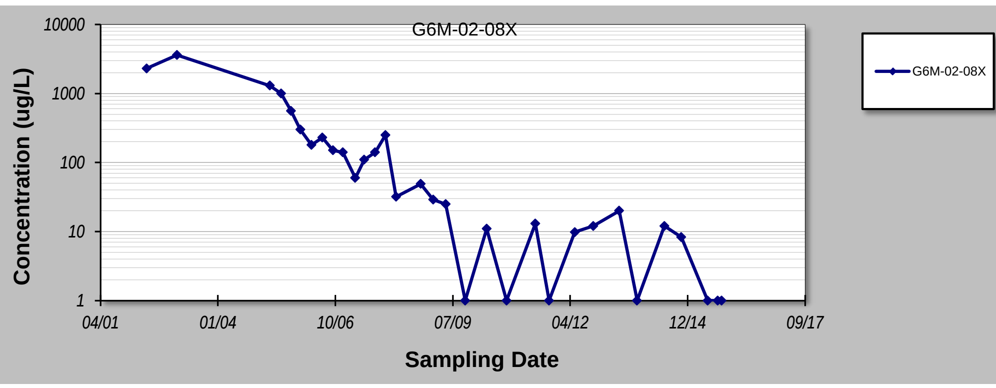
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **10-Jun-15** | Job ID:
Facility Name: **Devens AOC 50** | Constituent: **PCE**
Conducted By: | Concentration Units: **ug/L**

Sampling Point ID: **G6M-02-08X**

Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
1	5/17/2002	2,300						
2	1/31/2003	3,600						
3	3/31/2005	1,300						
4	7/5/2005	1,000						
5	9/27/2005	560						
6	12/16/2005	300						
7	3/21/2006	180						
8	6/21/2006	230						
9	9/20/2006	150						
10	12/12/2006	140						
11	3/28/2007	60						
12	6/13/2007	110						
13	9/13/2007	140						
14	12/10/2007	250						
15	3/10/2008	32						
16	10/6/2008	49						
17	1/21/2009	29						
18	5/7/2009	25						
19	10/20/2009	1						
20	4/21/2010	11						
21	10/7/2010	1						
22	6/9/2011	13						
23	10/4/2011	1						
24	5/10/2012	9.8						
25	10/15/2012	12						
26	5/23/2013	20						
27	10/22/2013	1						
28	6/12/2014	12						
29	11/3/2014	8.3						
30	6/16/2015	1						
31	9/9/2015	1						
32	10/13/2015	1						
33								
34								
35								
Coefficient of Variation:		2.32						
Mann-Kendall Statistic (S):		-389						
Confidence Factor:		>99.9%						
Concentration Trend:		Decreasing						



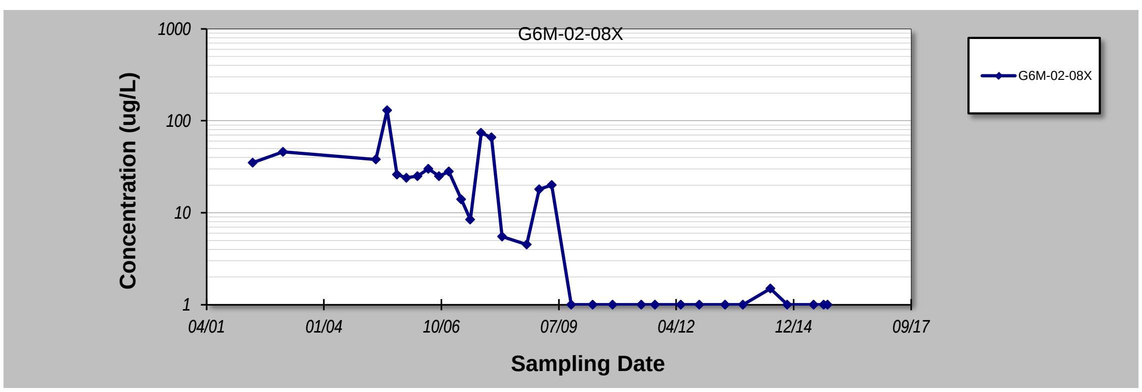
Notes:

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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**10-Jun-15**	Job ID:	
Facility Name:	**Devens AOC 50**	Constituent:	**TCE**
Conducted By:		Concentration Units:	**ug/L**

	Sampling Point ID:	G6M-02-08X						
Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)						
1	5/17/2002	35						
2	1/31/2003	46						
3	3/31/2005	**38**						
4	7/5/2005	130						
5	9/27/2005	26						
6	12/16/2005	24						
7	3/21/2006	25						
8	6/21/2006	30						
9	9/20/2006	25						
10	12/12/2006	28						
11	3/28/2007	14						
12	6/13/2007	8.4						
13	9/13/2007	74						
14	12/10/2007	66						
15	3/10/2008	5.5						
16	10/6/2008	**4.5**						
17	1/21/2009	**18**						
18	5/7/2009	**20**						
19	10/20/2009	**1**						
20	4/21/2010	**1**						
21	10/7/2010	**1**						
22	6/9/2011	**1**						
23	10/4/2011	**1**						
24	5/10/2012	**1**						
25	10/15/2012	**1**						
26	5/23/2013	**1**						
27	10/22/2013	**1**						
28	6/12/2014	1.5						
29	11/3/2014	**1**						
30	6/16/2015	**1**						
31	9/9/2015	**1**						
32	10/13/2015	**1**						
33								
34								
35								
	Coefficient of Variation:	**1.42**						
	Mann-Kendall Statistic (S):	**-309**						
	Confidence Factor:	**>99.9%**						
	Concentration Trend:	Decreasing						



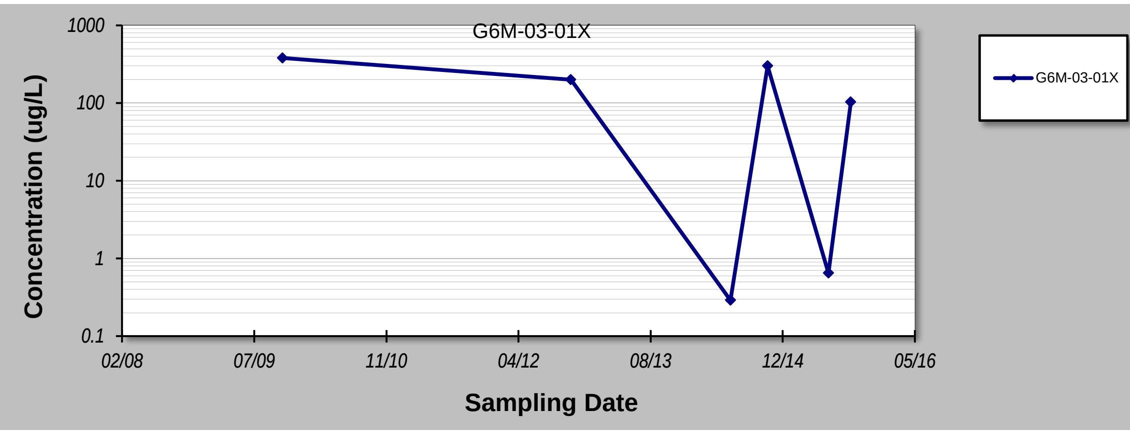
Notes:

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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**10-Jun-15**	Job ID:	
Facility Name:	**Devens AOC 50**	Constituent:	**PCE**
Conducted By:		Concentration Units:	**ug/L**

Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
Sampling Point ID:		G6M-03-01X						
1	10/21/2009	380						
2	10/16/2012	200						
3	6/12/2014	**0.29**						
4	10/31/2014	300						
5	6/18/2015	**0.65**						
6	9/10/2015	**103.0**						
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		**0.96**						
Mann-Kendall Statistic (S):		**-5**						
Confidence Factor:		**76.5%**						
Concentration Trend:		Stable						



Notes:

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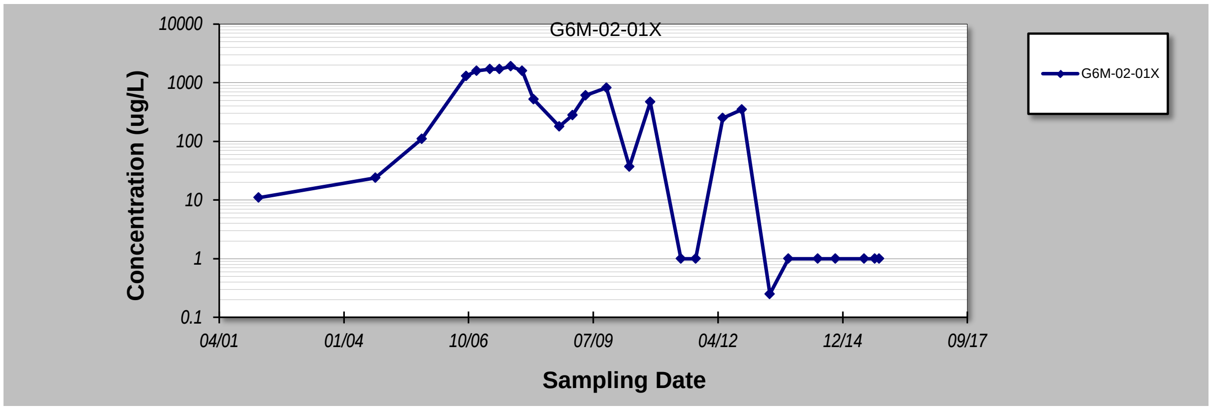
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology 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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	10-Jun-15	Job ID:	
Facility Name:	Devens AOC 50	Constituent:	PCE
Conducted By:		Concentration Units:	ug/L

Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
Sampling Point ID:		G6M-02-01X						
1	2/28/2002	11						
2	9/23/2004	**24**						
3	9/30/2005	110						
4	9/20/2006	1,300						
5	12/14/2006	1,600						
6	3/30/2007	1,700						
7	6/14/2007	1,700						
8	9/14/2007	1,900						
9	12/13/2007	1,600						
10	3/14/2008	520						
11	10/7/2008	180						
12	1/21/2009	280						
13	5/6/2009	610						
14	10/20/2009	820						
15	4/21/2010	**37**						
16	10/6/2010	470						
17	6/9/2011	**1**						
18	10/5/2011	**1**						
19	5/9/2012	250						
20	10/10/2012	350						
21	5/21/2013	**0.25**						
22	10/17/2013	**1**						
23	6/11/2014	**1**						
24	10/30/2014	**1**						
25	6/17/2015	**1**						
26	9/10/2015	**1**						
27	10/16/2015	**1**						
28								
29								
30								
Coefficient of Variation:		1.32						
Mann-Kendall Statistic (S):		-153						
Confidence Factor:		99.9%						
Concentration Trend:		Decreasing						



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.
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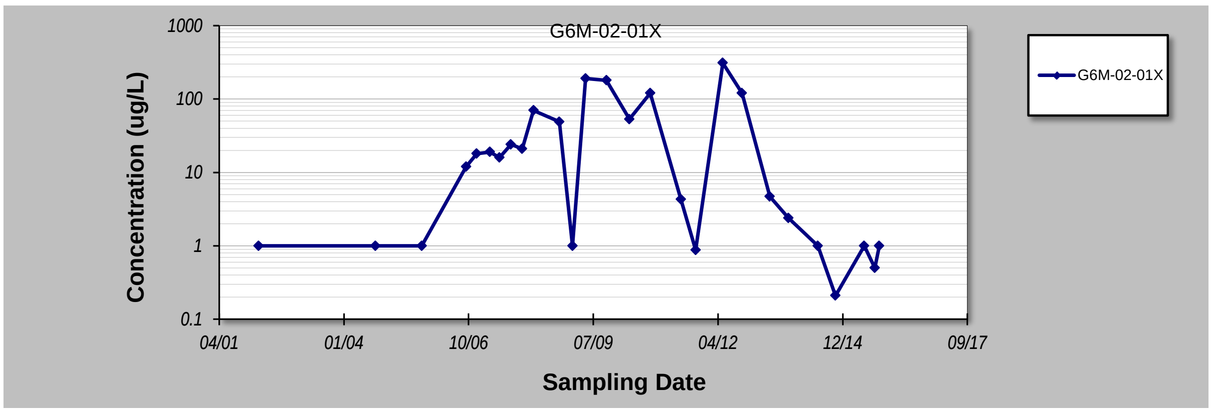
GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-Jun-15	Job ID:	
Facility Name:	AOC 50 Devens	Constituent:	TCE
Conducted By:		Concentration Units:	ug/L

Sampling Point ID: G6M-02-01X

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)						
1	2/28/2002	1						
2	9/23/2004	1						
3	9/30/2005	1						
4	9/20/2006	12						
5	12/14/2006	18						
6	3/30/2007	19						
7	6/14/2007	16						
8	9/14/2007	24						
9	12/13/2007	21						
10	3/14/2008	70						
11	10/7/2008	49						
12	1/21/2009	1						
13	5/6/2009	190						
14	10/20/2009	180						
15	4/21/2010	53						
16	10/6/2010	120						
17	6/9/2011	4.3						
18	10/5/2011	0.88						
19	5/9/2012	310						
20	10/10/2012	120						
21	5/21/2013	4.7						
22	10/17/2013	2.4						
23	6/11/2014	1						
24	10/30/2014	0.21						
25	6/17/2015	1						
26	9/10/2015	0.5						
27	10/16/2015	1						
28								
29								
30								
Coefficient of Variation:		1.68						
Mann-Kendall Statistic (S):		-27						
Confidence Factor:		70.4%						
Concentration Trend:		No Trend						



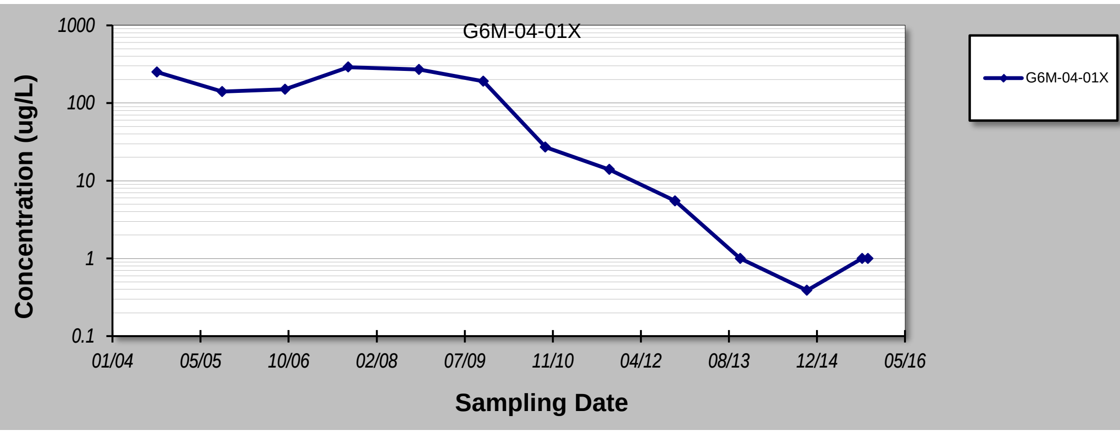
Notes:

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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	10-Jun-15	Job ID:	
Facility Name:	Devens AOC 50	Constituent:	PCE
Conducted By:		Concentration Units:	ug/L

	Sampling Point ID:	G6M-04-01X						
Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
1	9/23/2004	**250**						
2	9/28/2005	140						
3	9/20/2006	150						
4	9/14/2007	290						
5	10/20/2008	**270**						
6	10/20/2009	190						
7	10/7/2010	27						
8	10/5/2011	14						
9	10/12/2012	5.5						
10	10/17/2013	**1**						
11	10/31/2014	**0.39**						
12	9/10/2015	**1**						
13	10/13/2015	**1**						
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.12						
Mann-Kendall Statistic (S):		-53						
Confidence Factor:		>99.9%						
Concentration Trend:		Decreasing						



Notes:

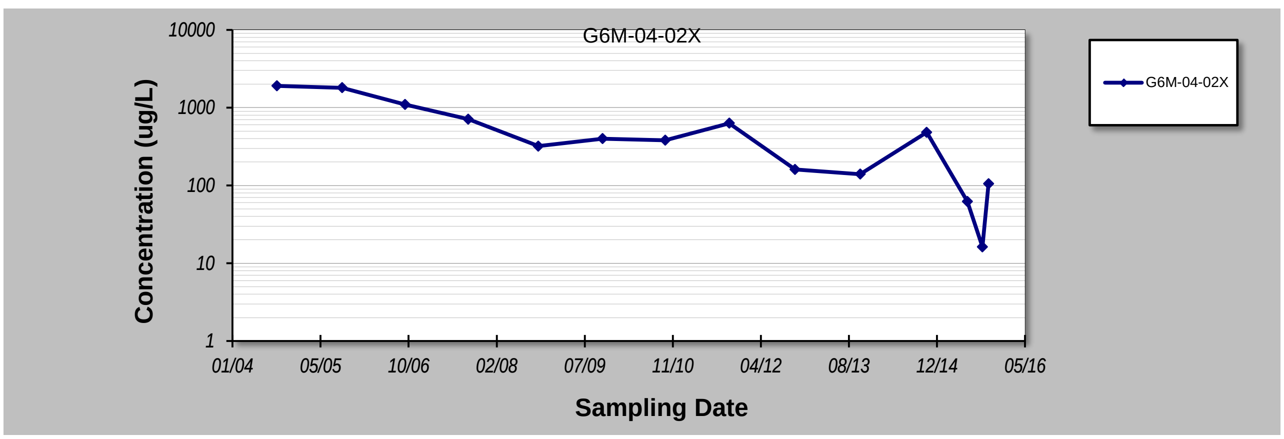
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably 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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **10-Jun-15**
Facility Name: **Devens AOC 50**
Conducted By:
Job ID:
Constituent: **PCE**
Concentration Units: **ug/L**

Sampling Point ID: G6M-04-02X

Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
1	9/23/2004	1,900						
2	9/28/2005	1,800						
3	9/20/2006	1,100						
4	9/14/2007	710						
5	10/16/2008	320						
6	10/15/2009	400						
7	10/6/2010	380						
8	6/8/2011	-						
9	10/5/2011	630						
10	5/8/2012	-						
11	10/12/2012	160						
12	5/21/2013	-						
13	10/17/2013	140						
14	6/11/2014	-						
15	10/30/2014	480						
16	6/18/2015	62.20						
17	9/11/2015	16.2						
18	10/16/2015	105.0						
19								
20								
Coefficient of Variation:		1.04						
Mann-Kendall Statistic (S):		-67						
Confidence Factor:		>99.9%						
Concentration Trend:		Decreasing						



Notes:

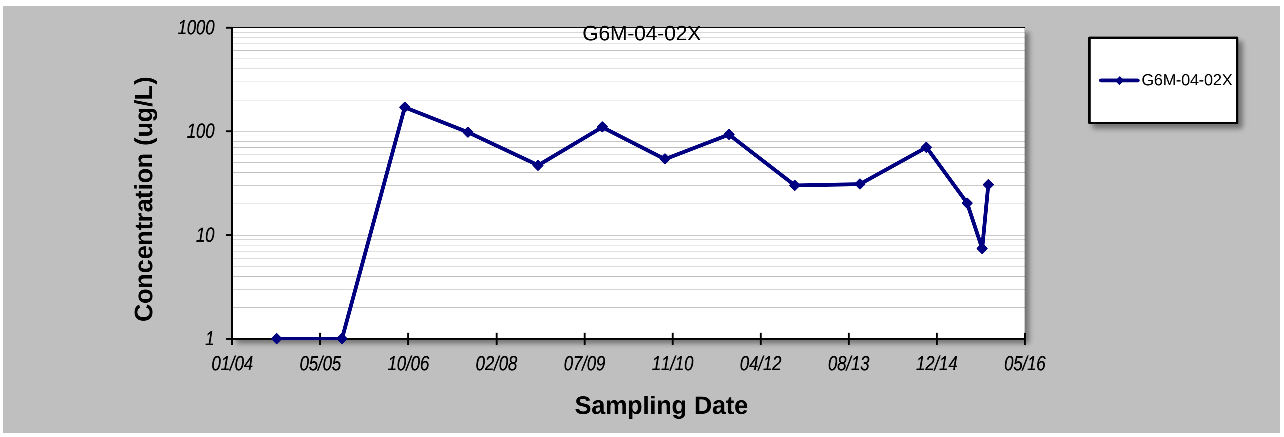
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably 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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-Jun-15	Job ID:	
Facility Name:	AOC 50 Devens	Constituent:	TCE
Conducted By:		Concentration Units:	ug/L

Sampling Point ID: G6M-04-02X

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)						
		G6M-04-02X						
1	9/23/2004	**1**						
2	9/28/2005	**1**						
3	9/20/2006	170						
4	9/14/2007	98						
5	10/16/2008	47						
6	10/15/2009	110						
7	10/6/2010	54						
8	6/8/2011	-						
9	10/5/2011	93						
10	5/8/2012	-						
11	10/12/2012	30						
12	5/21/2013	-						
13	10/17/2013	31						
14	6/11/2014	-						
15	10/30/2014	70						
16	6/18/2015	**20.30**						
17	9/11/2015	**7.4**						
18	10/16/2015	**30.5**						
19								
20								
Coefficient of Variation:		0.89						
Mann-Kendall Statistic (S):		-16						
Confidence Factor:		79.1%						
Concentration Trend:		Stable						



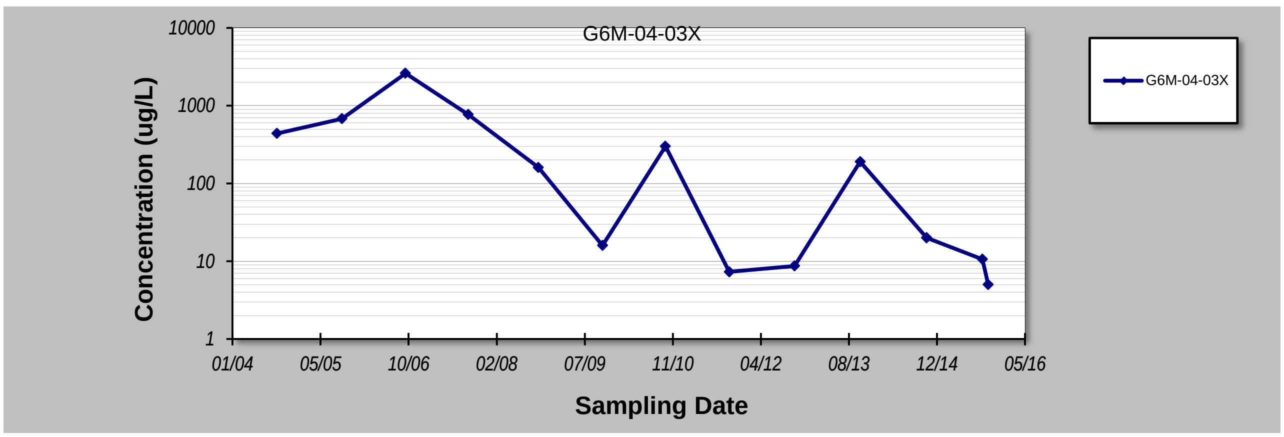
Notes:

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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**10-Jun-15**	Job ID:	
Facility Name:	**Devens AOC 50**	Constituent:	**PCE**
Conducted By:		Concentration Units:	**ug/L**

Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
Sampling Point ID:		G6M-04-03X						
1	9/23/2004	440						
2	9/27/2005	680						
3	9/22/2006	2,600						
4	9/14/2007	770						
5	10/16/2008	160						
6	10/15/2009	16						
7	10/7/2010	300						
8	10/5/2011	7.3						
9	10/10/2012	8.7						
10	10/17/2013	190						
11	10/30/2014	20						
12	10/30/2014	20.00						
13	9/11/2015	10.6						
14	10/14/2015	5.0						
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.85						
Mann-Kendall Statistic (S):		-50						
Confidence Factor:		99.8%						
Concentration Trend:		Decreasing						



Notes:

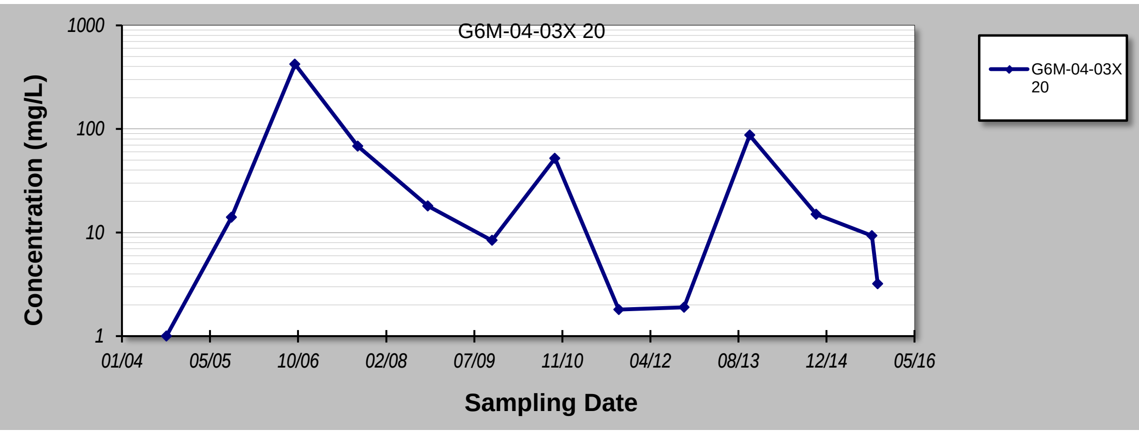
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably 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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**11-Jun-15**	Job ID:	
Facility Name:	**AOC 50 Devens**	Constituent:	**TCE**
Conducted By:		Concentration Units:	**ug/L**

Sampling Point ID: G6M-04-03X

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)						
1	9/23/2004	**1**						
2	9/27/2005	14						
3	9/22/2006	420						
4	9/14/2007	68						
5	10/16/2008	18						
6	10/15/2009	8.4						
7	10/7/2010	52						
8	10/5/2011	1.8						
9	10/10/2012	1.9						
10	10/17/2013	87						
11	10/30/2014	15						
12	9/11/2015	**9.3**						
13	10/14/2015	**3.2**						
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		**2.11**						
Mann-Kendall Statistic (S):		**-8**						
Confidence Factor:		**66.2%**						
Concentration Trend:		No Trend						



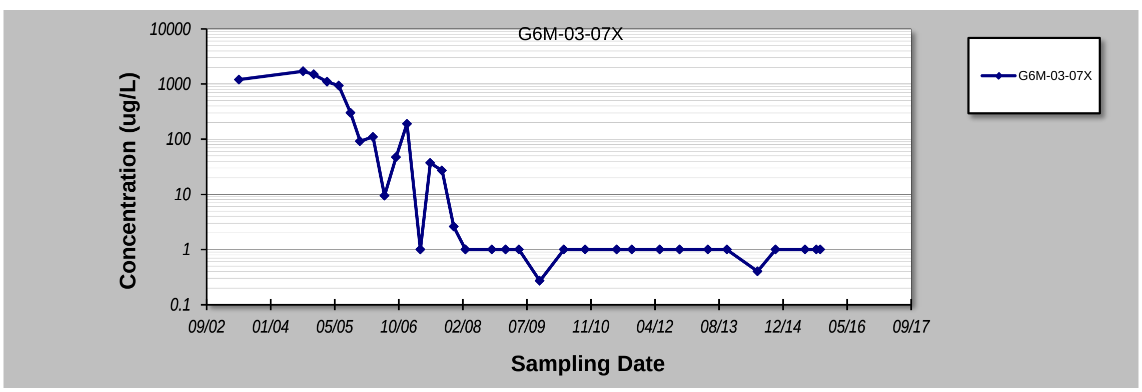
Notes:

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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**10-Jun-15**	Job ID:	
Facility Name:	**Devens AOC 50**	Constituent:	**PCE**
Conducted By:		Concentration Units:	**ug/L**

Sampling Event	Sampling Date	Sampling Point ID: G6M-03-07X						
		PCE CONCENTRATION (ug/L)						
1	5/12/2003	1,200						
2	9/24/2004	1,700						
3	12/16/2004	1,500						
4	3/30/2005	1,100						
5	6/29/2005	940						
6	9/29/2005	300						
7	12/12/2005	92						
8	3/24/2006	110						
9	6/21/2006	9.5						
10	9/19/2006	47						
11	12/14/2006	190						
12	3/29/2007	**1**						
13	6/14/2007	37						
14	9/13/2007	27						
15	12/14/2007	2.6						
16	3/14/2008	**1**						
17	10/7/2008	**1**						
18	1/22/2009	**1**						
19	5/6/2009	**1**						
20	10/15/2009	**0.27**						
21	4/21/2010	**1**						
22	10/5/2010	**1**						
23	6/8/2011	**1**						
24	10/5/2011	**1**						
25	5/9/2012	**1**						
26	10/11/2012	**1**						
27	5/21/2013	**1**						
28	10/16/2013	**1**						
29	6/11/2014	**0.40**						
30	10/30/2014	**1**						
31	6/18/2015	**1**						
32	9/14/2015	**1**						
33	10/14/2015	**1**						
34								
35								
Coefficient of Variation:		**2.16**						
Mann-Kendall Statistic (S):		**-332**						
Confidence Factor:		**>99.9%**						
Concentration Trend:		Decreasing						



Notes:

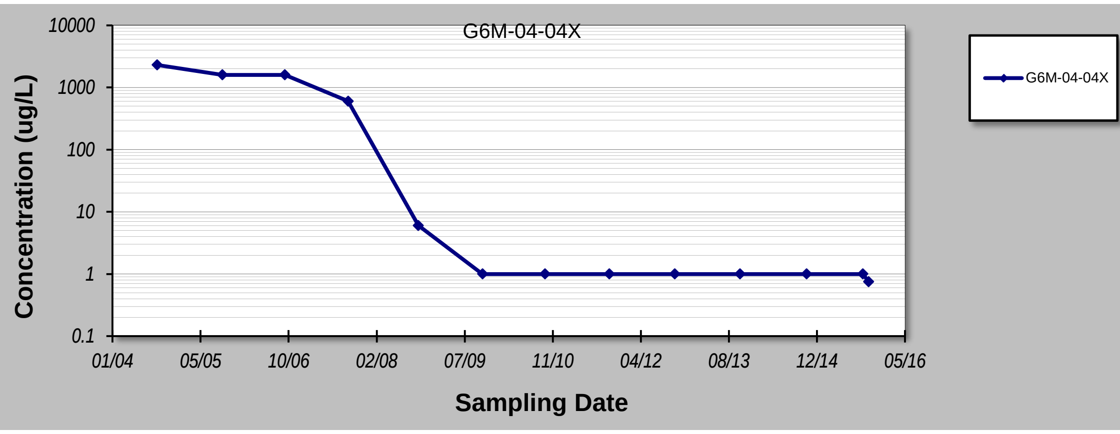
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably 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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	10-Jun-15	Job ID:	
Facility Name:	Devens AOC 50	Constituent:	PCE
Conducted By:		Concentration Units:	ug/L

Sampling Point ID: G6M-04-04X

Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
		G6M-04-04X						
1	9/24/2004	2,300						
2	9/29/2005	1,600						
3	9/19/2006	1,600						
4	9/13/2007	600						
5	10/16/2008	6.0						
6	10/15/2009	1.0						
7	10/5/2010	**1**						
8	10/5/2011	**1**						
9	10/11/2012	**1**						
10	10/16/2013	**1**						
11	10/30/2014	**1**						
12	9/14/2015	1.00						
13	10/16/2015	**0.75**						
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.72						
Mann-Kendall Statistic (S):		-56						
Confidence Factor:		>99.9%						
Concentration Trend:		Decreasing						



Notes:

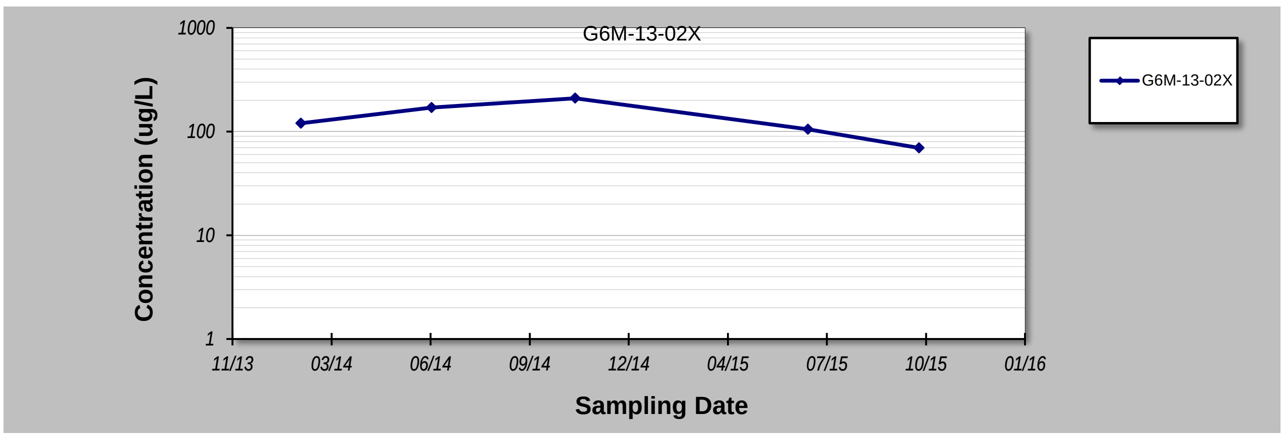
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably 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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **15-Jan-16**
Facility Name: **AOC 50 Devens**
Conducted By:

Job ID:
Constituent: **PCE**
Concentration Units: **ug/L**

Sampling Point ID:		G6M-13-02X						
Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
1	1/30/2014	120						
2	6/11/2014	170						
3	11/3/2014	210						
4	6/26/2015	**105**						
5	10/16/2015	69.6						
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.41						
Mann-Kendall Statistic (S):		-4						
Confidence Factor:		75.8%						
Concentration Trend:		Stable						



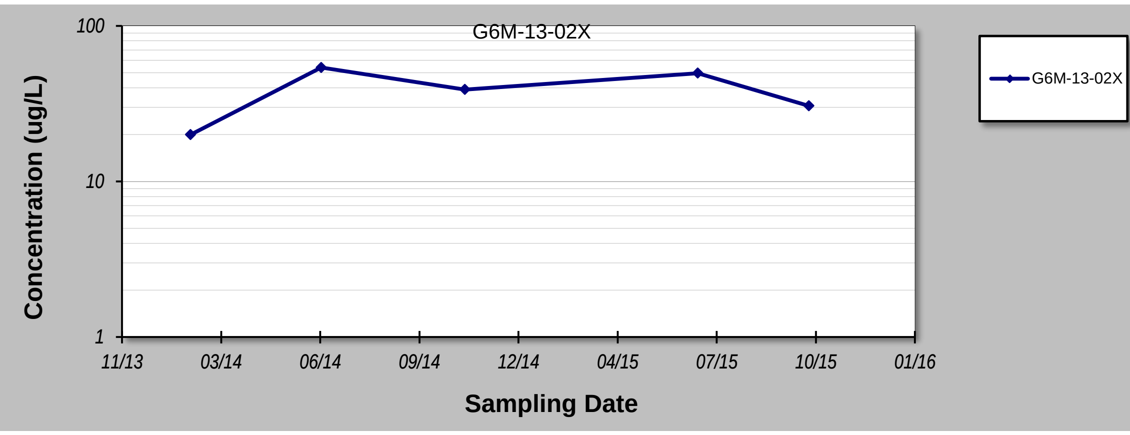
Notes:

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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	15-Jan-16	Job ID:	
Facility Name:	AOC 50 Devens	Constituent:	TCE
Conducted By:		Concentration Units:	ug/L

	Sampling Point ID:	G6M-13-02X						
Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)						
1	1/30/2014	20						
2	6/11/2014	54						
3	11/3/2014	39						
4	6/26/2015	**49.6**						
5	10/16/2015	30.6						
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
	Coefficient of Variation:	0.36						
	Mann-Kendall Statistic (S):	0						
	Confidence Factor:	40.8%						
	Concentration Trend:	Stable						



Notes:

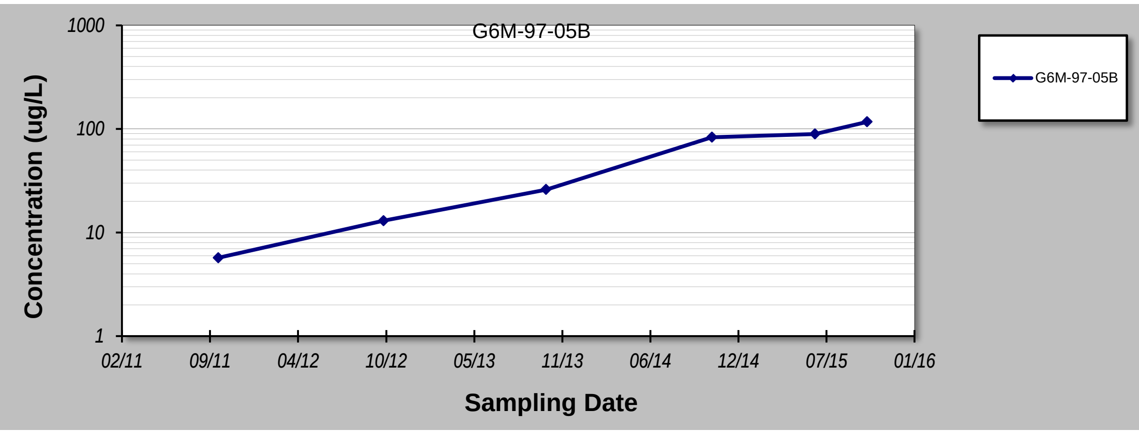
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably 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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	10-Jun-15	Job ID:	
Facility Name:	Devens AOC 50	Constituent:	PCE
Conducted By:		Concentration Units:	ug/L

Sampling Point ID: G6M-97-05B

Sampling Event	Sampling Date	PCE CONCENTRATION (ug/L)						
1	10/3/2011	5.7						
2	10/12/2012	13						
3	10/16/2013	26						
4	10/28/2014	83						
5	6/19/2015	89.40						
6	10/15/2015	117.00						
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.84						
Mann-Kendall Statistic (S):		15						
Confidence Factor:		99.9%						
Concentration Trend:		Increasing						



Notes:

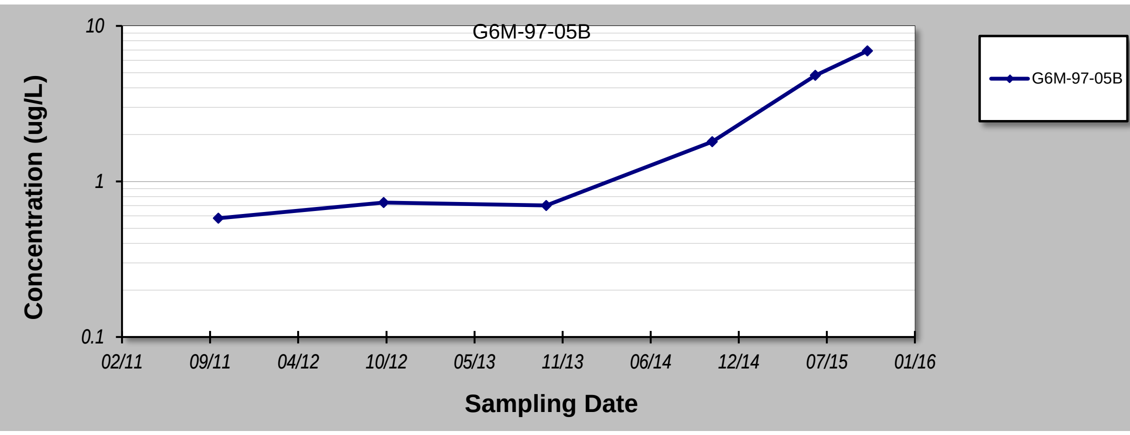
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably 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.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **11-Jun-15**
Facility Name: **AOC 50 Devens**
Conducted By:
Job ID:
Constituent: **TCE**
Concentration Units: **ug/L**

Sampling Point ID: G6M-97-05B

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)						
1	10/3/2011	0.58						
2	10/12/2012	0.73						
3	10/16/2013	0.70						
4	10/28/2014	1.80						
5	6/19/2015	4.80						
6	10/15/2015	6.90						
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.03						
Mann-Kendall Statistic (S):		13						
Confidence Factor:		99.2%						
Concentration Trend:		Increasing						



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.

APPENDIX B – GROUNDWATER DATA TRENDS (CHARTS)

AREA 1 THROUGH AREA 5

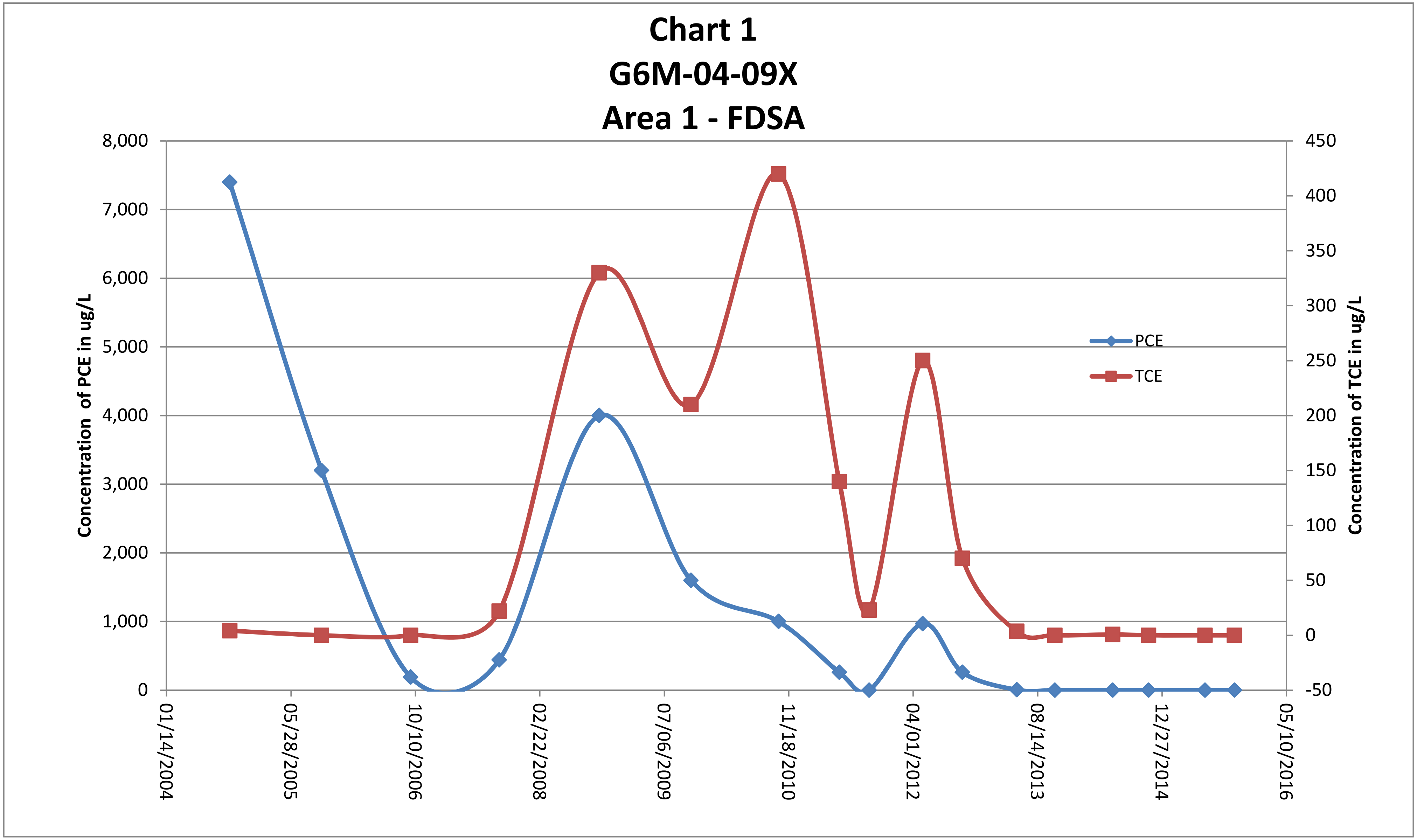


Chart 1
G6M-04-09X
Area 1 - FDSA
Concentration of PCE in ug/L
Concentration of TCE in ug/L
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
450
400
350
300
250
200
150
100
50
0
-50
PCE
TCE
01/14/2004
05/28/2005
10/10/2006
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014
05/10/2016

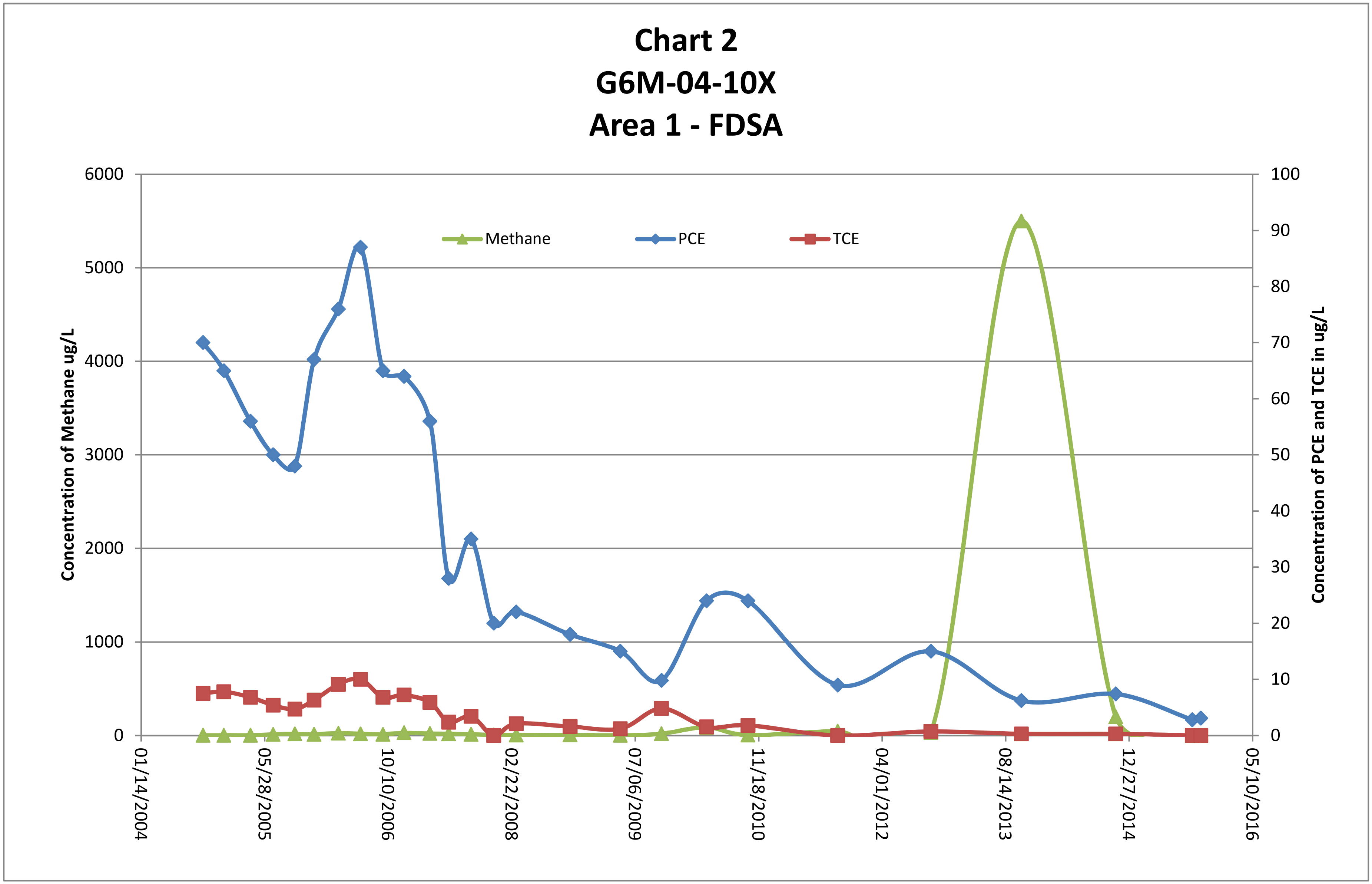


Chart 2
G6M-04-10X
Area 1 - FDSA
Methane
PCE
TCE
Concentration of Methane ug/L
Concentration of PCE and TCE in ug/L
0
1000
2000
3000
4000
5000
6000
0
10
20
30
40
50
60
70
80
90
100
01/14/2004
05/28/2005
10/10/2006
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014
05/10/2016

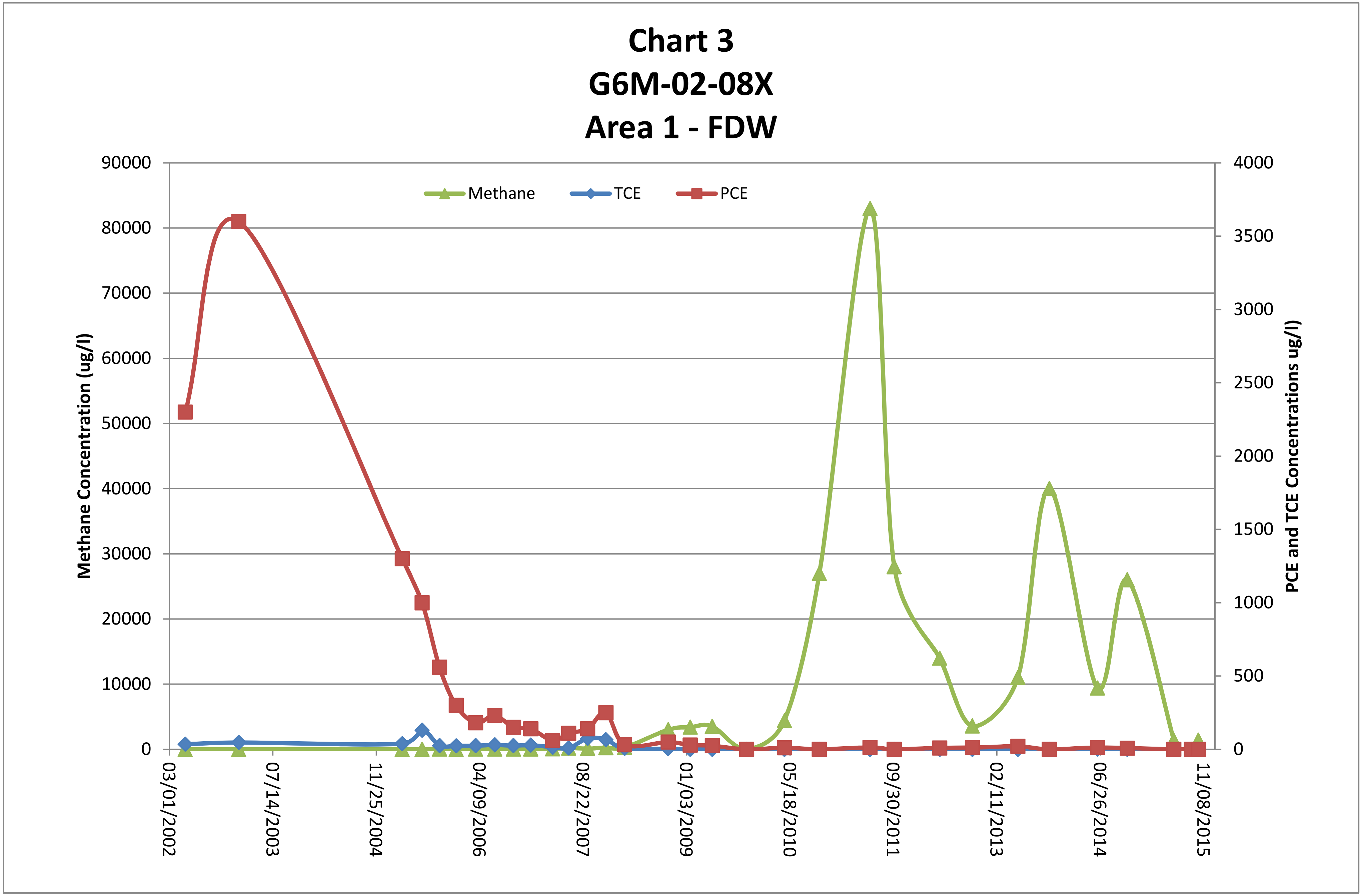


Chart 3
G6M-02-08X
Area 1 - FDW
Methane
TCE
PCE
Methane Concentration (ug/l)
PCE and TCE Concentrations ug/l)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
4000
3500
3000
2500
2000
1500
1000
500
0
03/01/2002
07/14/2003
11/25/2004
04/09/2006
08/22/2007
01/03/2009
05/18/2010
09/30/2011
02/11/2013
06/26/2014
11/08/2015

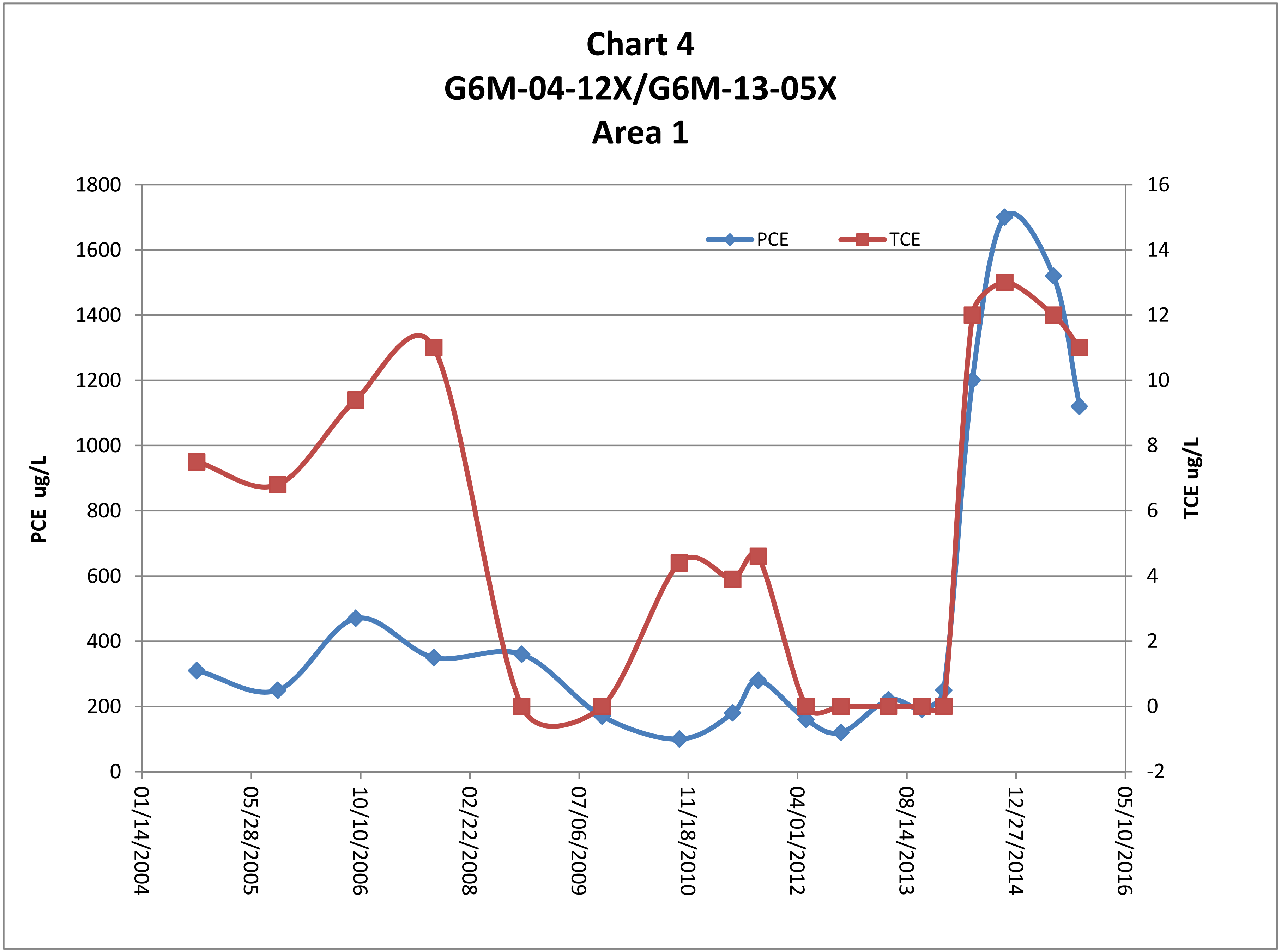


Chart 4
G6M-04-12X/G6M-13-05X
Area 1
PCE
TCE
PCE ug/L
TCE ug/L
1800
1600
1400
1200
1000
800
600
400
200
0
16
14
12
10
8
6
4
2
0
-2
01/14/2004
05/28/2005
10/10/2006
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014
05/10/2016

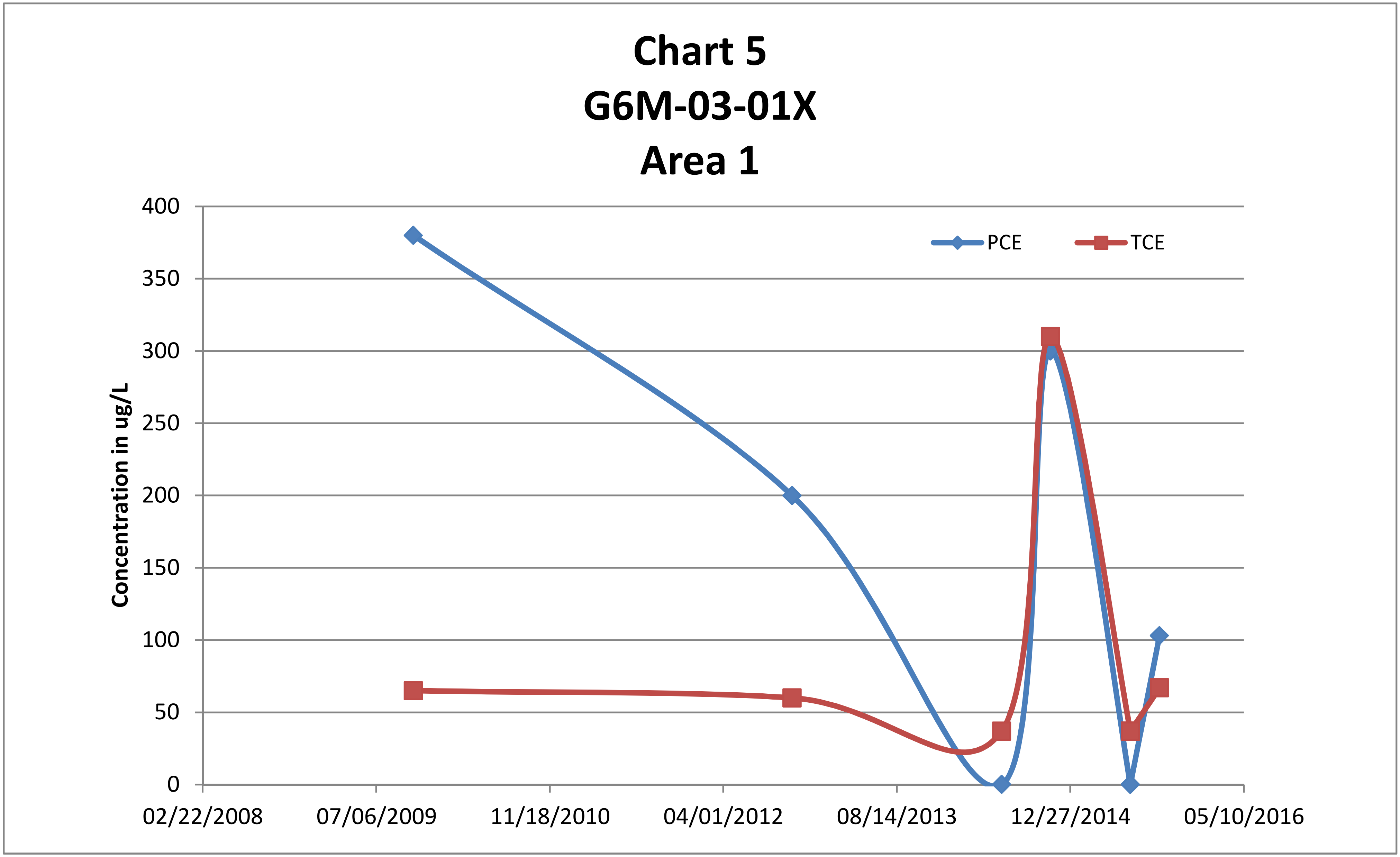


Chart 5
G6M-03-01X
Area 1
Concentration in ug/L
400
350
300
250
200
150
100
50
0
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014
05/10/2016
PCE
TCE

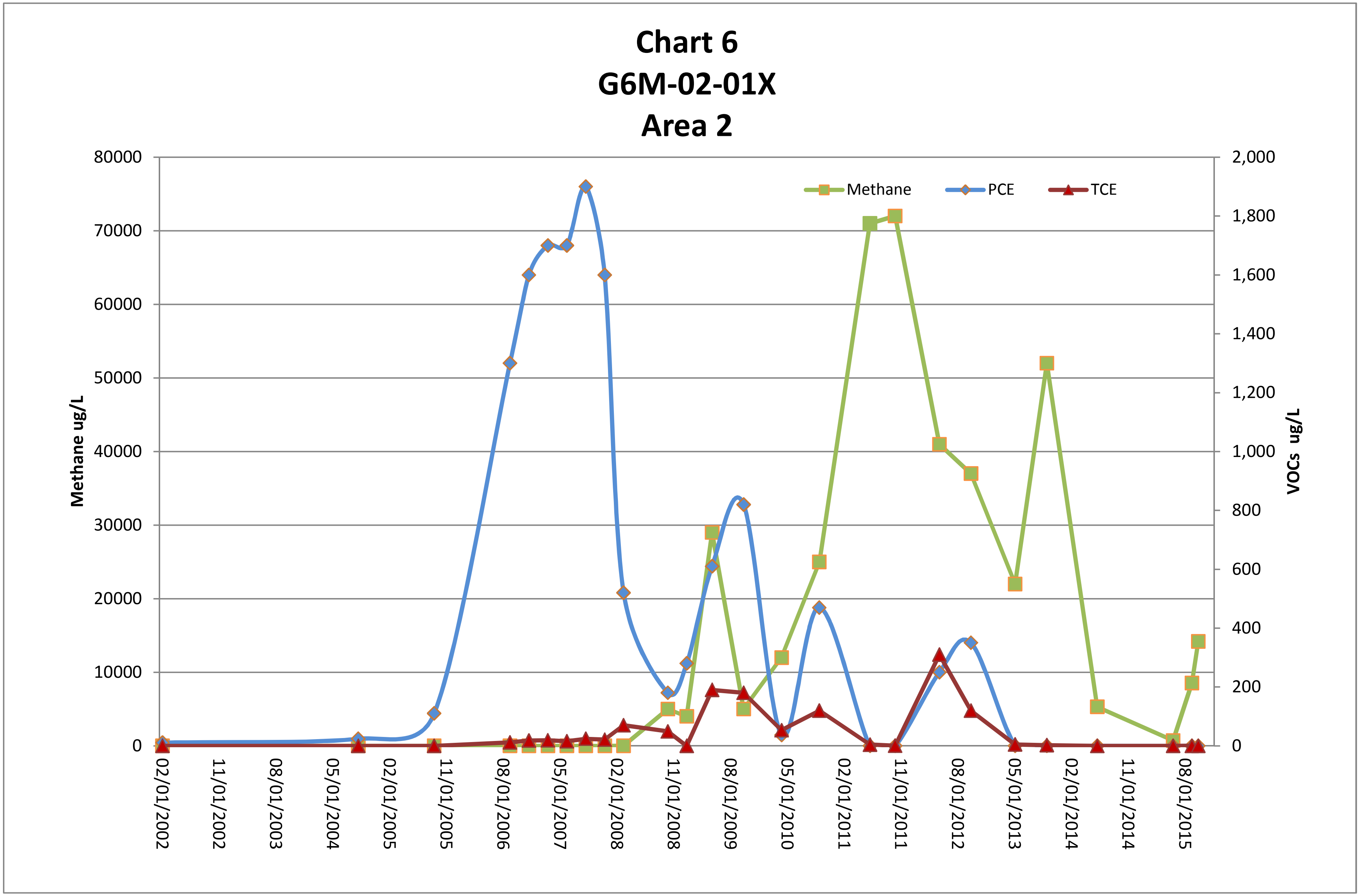


Chart 6
G6M-02-01X
Area 2
Methane ug/L
VOCs ug/L
Methane
PCE
TCE
80000
70000
60000
50000
40000
30000
20000
10000
0
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
02/01/2002
11/01/2002
08/01/2003
05/01/2004
02/01/2005
11/01/2005
08/01/2006
05/01/2007
02/01/2008
11/01/2008
08/01/2009
05/01/2010
02/01/2011
11/01/2011
08/01/2012
05/01/2013
02/01/2014
11/01/2014
08/01/2015

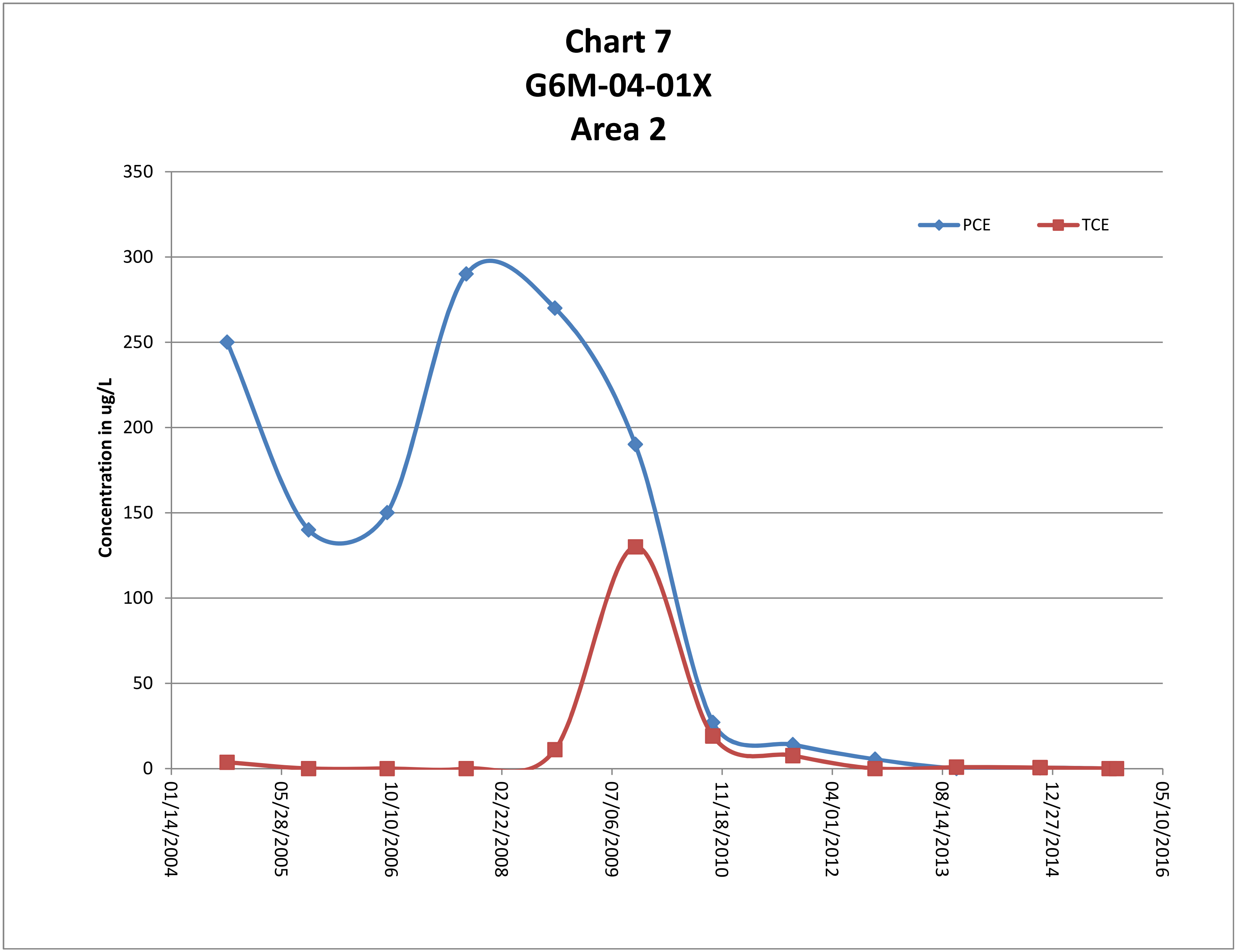


Chart 7
G6M-04-01X
Area 2
Concentration in ug/L
350
300
250
200
150
100
50
0
PCE
TCE
01/14/2004
05/28/2005
10/10/2006
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014
05/10/2016

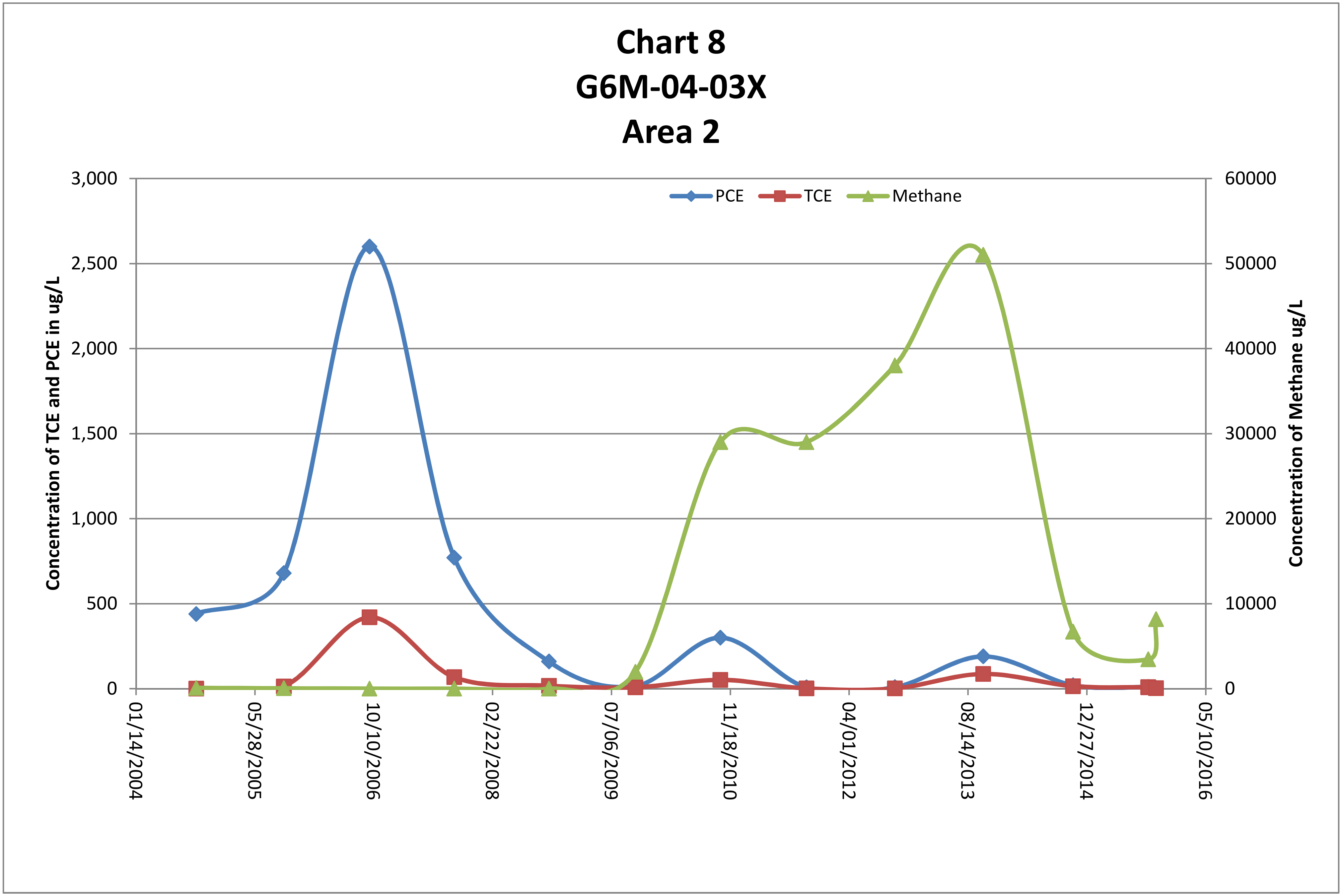


Chart 8
G6M-04-03X
Area 2
PCE
TCE
Methane
Concentration of TCE and PCE in ug/L
Concentration of Methane ug/L
3,000
2,500
2,000
1,500
1,000
500
0
60000
50000
40000
30000
20000
10000
0
01/14/2004
05/28/2005
10/10/2006
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014
05/10/2016

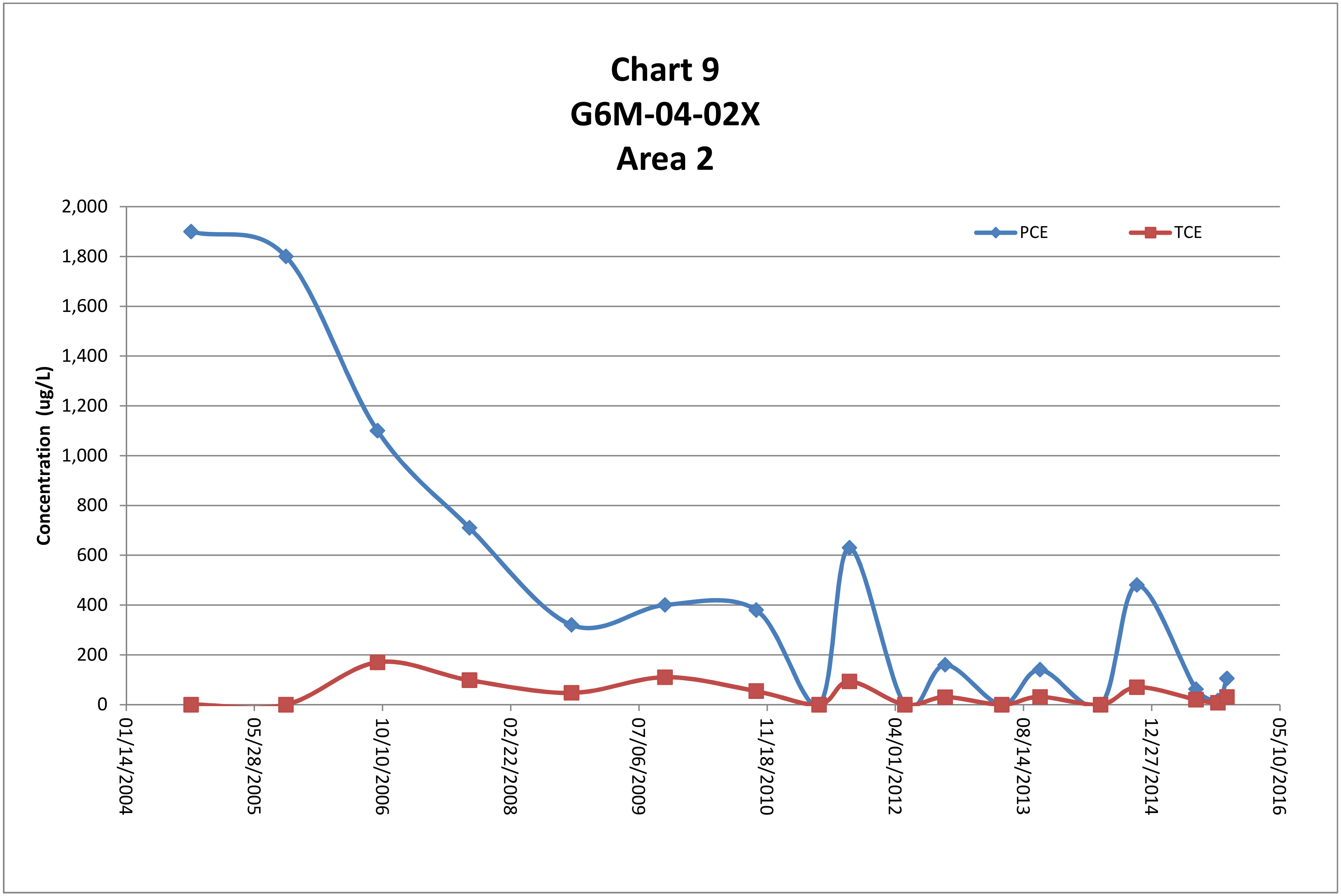


Chart 9
G6M-04-02X
Area 2
PCE
TCE
Concentration (ug/L)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
01/14/2004
05/28/2005
10/10/2006
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014
05/10/2016

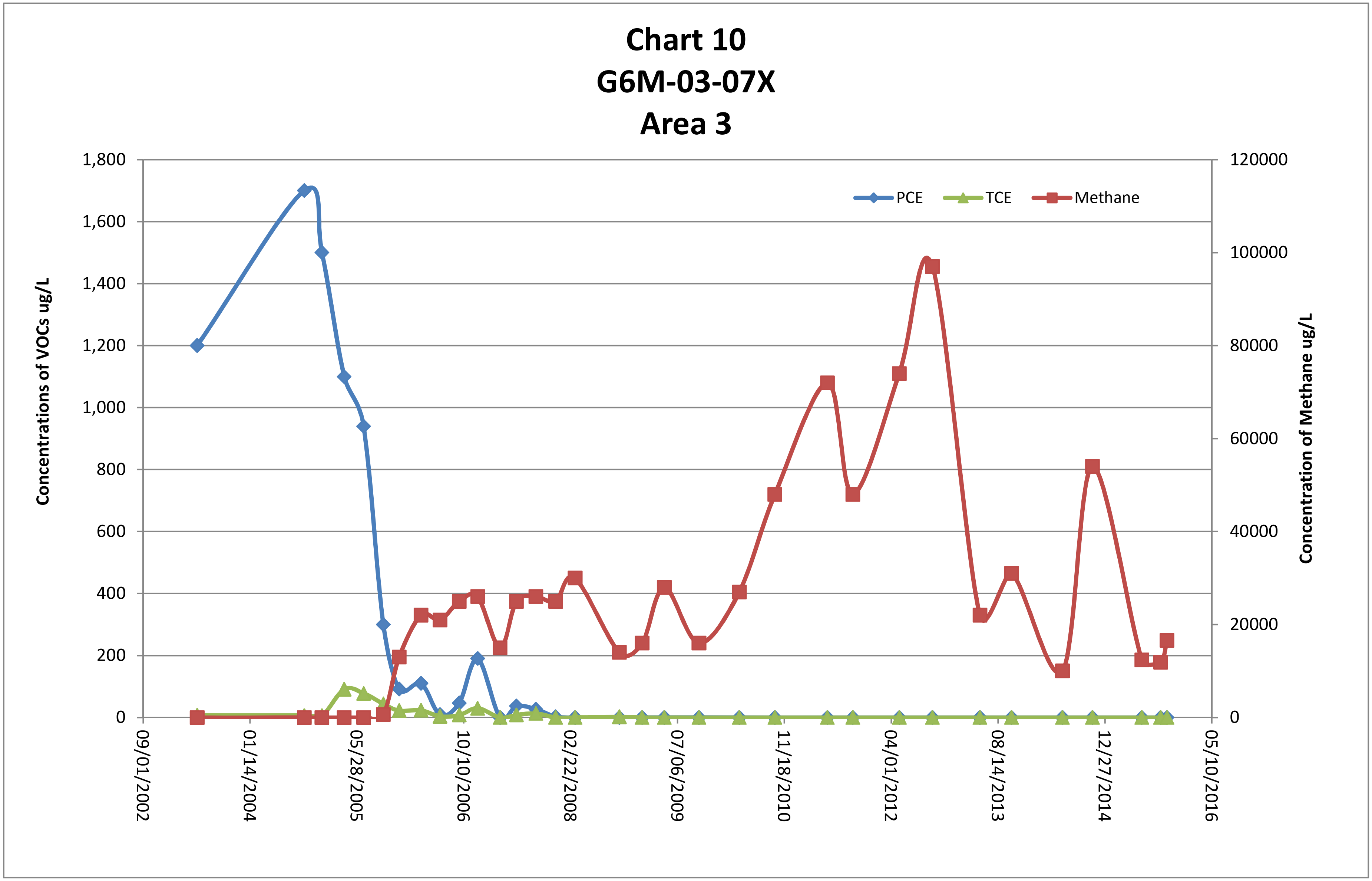


Chart 10
G6M-03-07X
Area 3
PCE
TCE
Methane
Concentrations of VOCs ug/L
Concentration of Methane ug/L
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
120000
100000
80000
60000
40000
20000
0
09/01/2002
01/14/2004
05/28/2005
10/10/2006
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014
05/10/2016

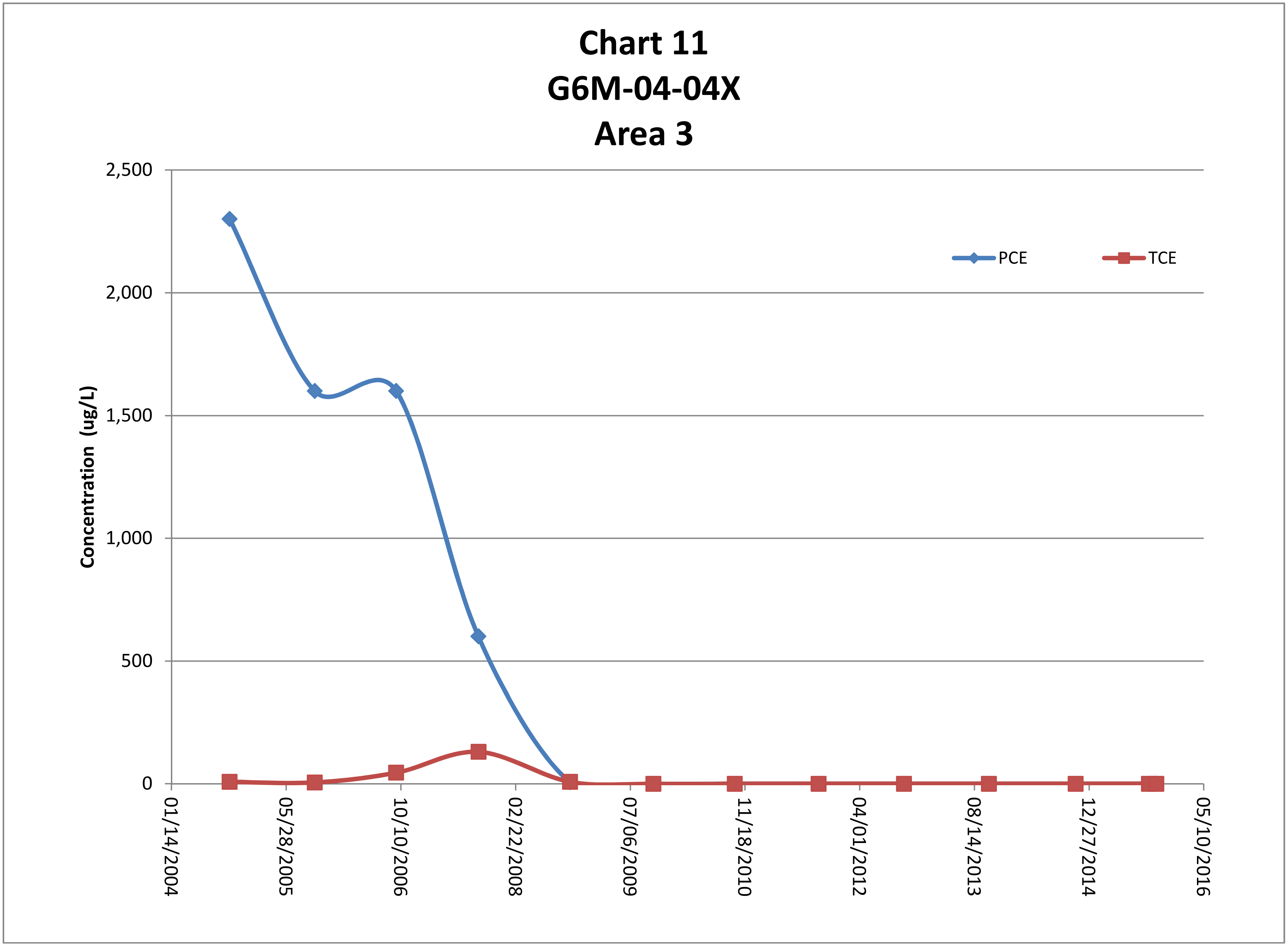


Chart 11
G6M-04-04X
Area 3
Concentration (ug/L)
2,500
2,000
1,500
1,000
500
0
PCE
TCE
01/14/2004
05/28/2005
10/10/2006
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014
05/10/2016

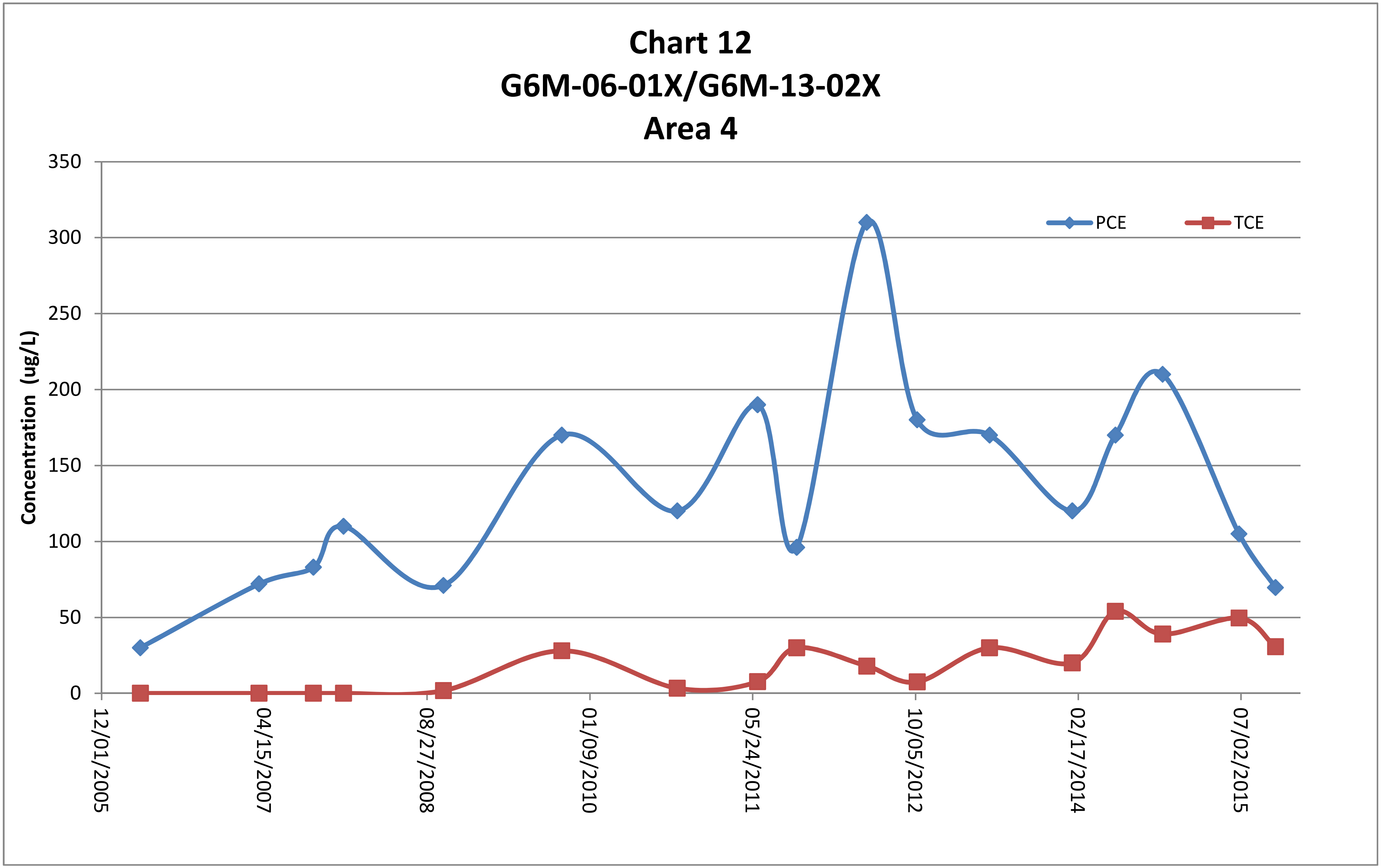


Chart 12
G6M-06-01X/G6M-13-02X
Area 4
Concentration (ug/L)
350
300
250
200
150
100
50
0
PCE
TCE
12/01/2005
04/15/2007
08/27/2008
01/09/2010
05/24/2011
10/05/2012
02/17/2014
07/02/2015

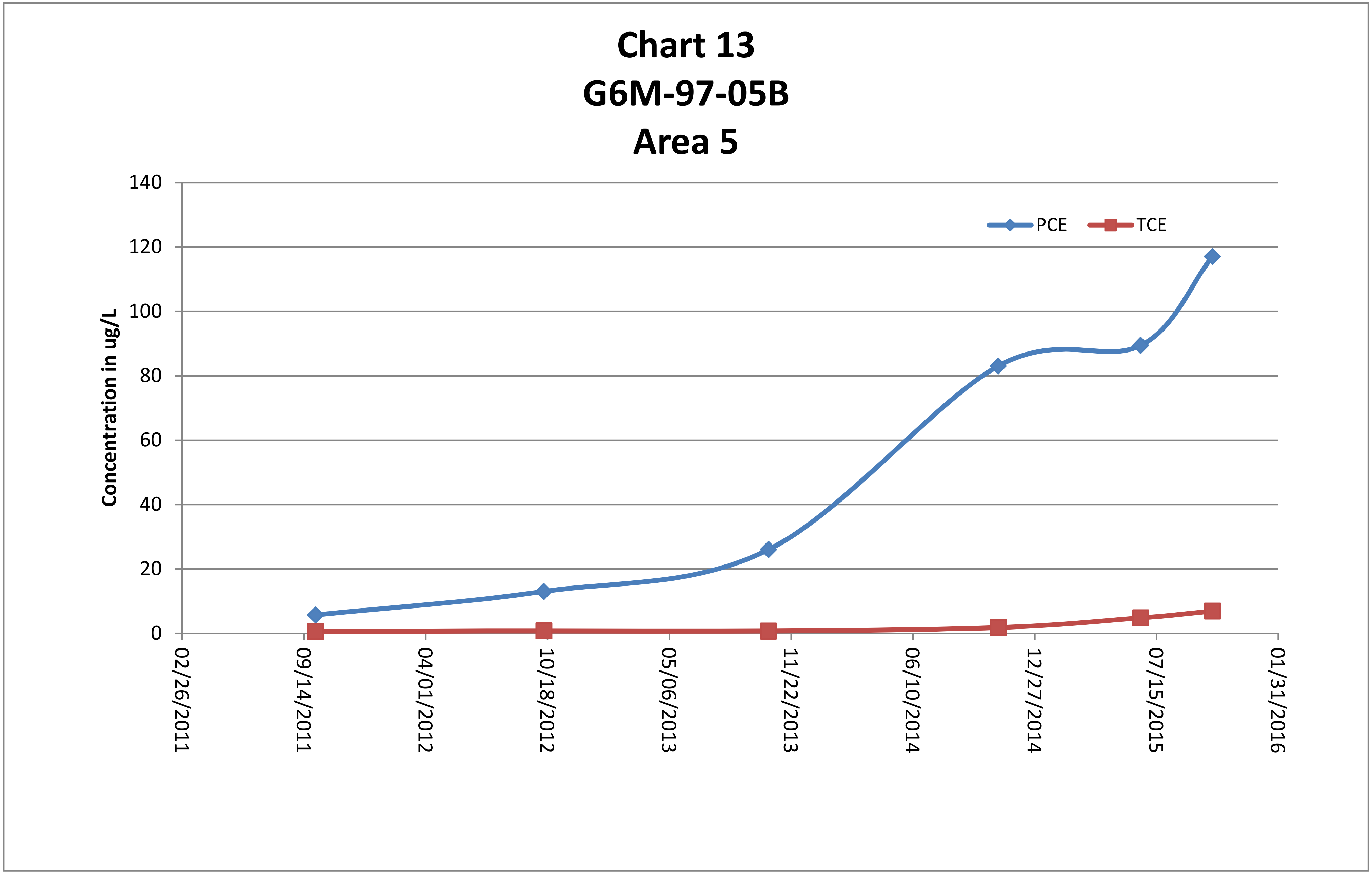


Chart 13
G6M-97-05B
Area 5
Concentration in ug/L
PCE
TCE
0
20
40
60
80
100
120
140
02/26/2011
09/14/2011
04/01/2012
10/18/2012
05/06/2013
11/22/2013
06/10/2014
12/27/2014
07/15/2015
01/31/2016

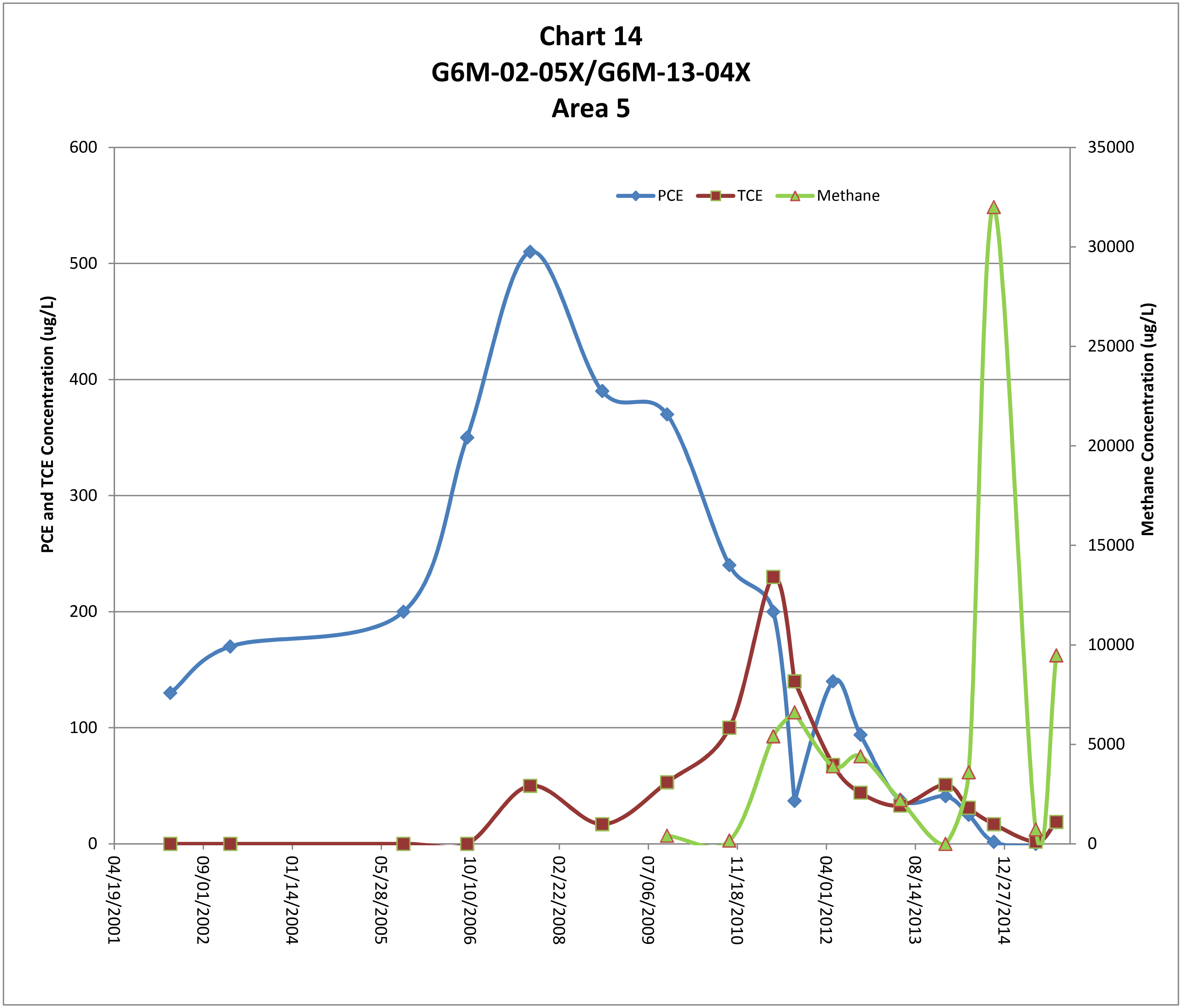


Chart 14
G6M-02-05X/G6M-13-04X
Area 5
PCE
TCE
Methane
PCE and TCE Concentration (ug/L)
Methane Concentration (ug/L)
0
100
200
300
400
500
600
0
5000
10000
15000
20000
25000
30000
35000
04/19/2001
09/01/2002
01/14/2004
05/28/2005
10/10/2006
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014

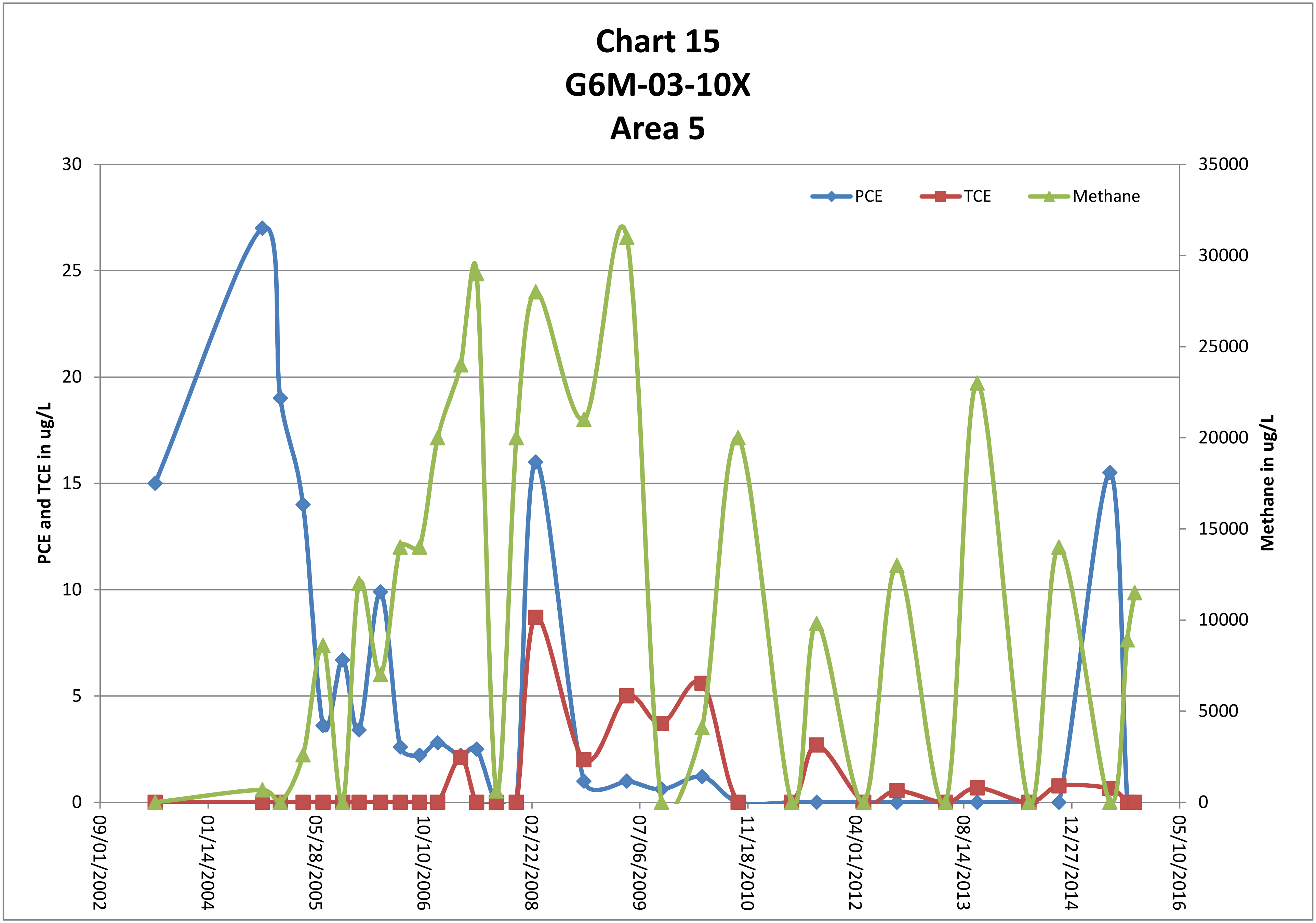


Chart 15
G6M-03-10X
Area 5
PCE
TCE
Methane
PCE and TCE in ug/L
Methane in ug/L
0
5
10
15
20
25
30
0
5000
10000
15000
20000
25000
30000
35000
09/01/2002
01/14/2004
05/28/2005
10/10/2006
02/22/2008
07/06/2009
11/18/2010
04/01/2012
08/14/2013
12/27/2014
05/10/2016

APPENDIX B

Groundwater Monitoring Field Forms

B.1

Spring 2015 Long-Term Monitoring Event

~~53 SCULLEY RD AYRE 8AM~~ ~~ERIN FOLEY~~
~~MATT~~ BEDFORD

6/18/2015

	Location	Well ID	Sampling Rationale	Well Screen	Well Screen	Sample Parameters	Sample
4.81	North	G6M-96-22A	Monitor VOCs and Arsenic in groundwater in	40-50	176 3-166.3	VOCs and Metals	Annual
5.33	Plume	G6M-96-22B	the North Plume.	65.5-70.5	150.9-145.9		
12.85		G6M-04-10A		30-40	193.02-183.02	Full Suite	
		G6M-04-09X	-31.91	55-65	188.46-178.46	VOCs, Metals and TOC	
13.90		G6M-13-06X	Monitor COCs downgradient of ERD Injection Wells in	60-60	172.67-162.67	Full Suite	
13.25		G6M-02-08X	the Source Area and provide pre- injection COC and	60-70	163.2-153 2		
14.31	Area 1	G6M-13-05X	Geochemistry data for ERD injection planning.	45-55	178.3-168 3	VOCs and Metals	Semi-annual
13.72		G6M-07-02X		22.5-27.5	225.83	Full Suite	
13.93		G6M-04-10X		52-62	170.92-160.92		
14.57		G6M-04-13X		30-40	194 71-184 71	VOCs and Metals	
		G6M-04-15X	-42.46	70-80	182.45-172.45		
14.19		G6M-03-02X		28-43	173 2-158.2	Full Suite	
12.33		G6M-95-19X		48-58	174.8-164 8	VOCs and Metals	
12.95	Area 1	G6M-95-20X	Monitor COC trends within the Source Area.	18-23	205.0-200		Annual
19.52		G6M-04-11X	Monitor COC trends and provide plume delineation	35-45	193.42-183.42	VOCs	
71.39		G6M-04-31X3	downgradient of the Cesspool and Dry Well areas.	68-78	186.83-176 83	VOCs and Metals	
96.20	Area 1	G6M-04-22X3		74-84	180.75-170.75		Biennial
13.97	Area 1	G6M-03-01X	Monitor COCs downgradient of ERD Injection Wells in	50-70	173.3-153.3	VOCs	Semi-annual
54.40	Area 2	G6M-02-01X	Monitor TOC and COCs downgradient of ERD Injection	80-95	183 8-168.8	Full Suite	Semi-annual
52.55	Area 2	G6M-04-01X	Monitor COCs upgradient of ERD Injection Wells in the	82-92	180.49-170.49	VOCs and Metals	Annual
	Location	Well ID	Sampling Rationale	Well Screen	Well Screen	Sample Parameters	Sample
55.97	Area 2	G6M-04-03X	Monitor COCs downgradient of ERD Injection Wells in	85-95	180 61-170 61	Full Suite	Annual
56.94	Area 3	G6M-03-07X	Monitor TOC and COCs downgradient of ERD Injection	80-90	183.6-173.6	Full Suite	Semi-Annual
60.18	Area 3	G6M-04-02X1	Monitor COCs upgradient of ERD Injection Wells in the	80-90	184.49-174.98	VOCs and Metals	
58.26		G6M-13-03X4	Southwest Plume.	80-90	185-17-175.17		
58.25	Area 3	G6M-04-04X	Monitor COCs downgradient of ERD Injection Wells in	94-104	159.67-169.67	Full Suite	Annual
60.25	Area 4	G6M-13-02X4	Monitor VOCs on perimeter of Southwest Plume.	115-125	149.62-139.62	VOCs and Metals	Semi-Annual
60.01	Area 4	G6M-02-13X1	Monitor TOC and COCs downgradient of ERD Injection	110-120	154.8-144.8	Full Suite	Annual
60.04	Area 4	G6M-02-04X1	Monitor COCs upgradient of ERD Injection Wells in the	90-105	173 6-158.6	VOCs and Metals	
62.74		MW-3	Monitor TOC and COCs downgradient and adjacent to	126-136	138.7-128.7		
63.36	Area 5	G6M-13-04X4	ERD Injection Wells in the Southwest Plume. Provide	125-135	139 61-129.61	Full Suite	Semi-annual
59.76		G6M-02-12X	Monitor COCs downgradient of the ERD Injection	125-135	138.4-128.4		
61.10		G6M-02-11X1	Wellswithin the Area 5 IRZ.	125-135	140-130		
63.18	Area 5	G6M-03-10X1		120-135	144.2-129.2		
56.13	Area 5	G6M-03-08X1	Monitor COCs and metals downgradient of last ERD	125-140	132.2-117.2		
56.35	(Sentry)	G6M-03-09X1	transect of Injection Wells outside of Area 5 IRZ.	125-140	132.4-117.4	Full Suite	Annual
	Location	Well ID	Sampling Rationale	Well Screen	Well Screen	Sample Parameters	Sample
55.82	Area 5 (IWS)	G6M-04-05X1	Monitor COCs and metals upgradient of the IWS system	100-110	157.33-147.33		
62.03		G6M-04-07X1	and downgradient of the ERD injection transects.	120-130	142 68-132.68		
62.25		G6M-04-06X		95-105	168 07-158.07	Full Suite	Annual
61.85	Area 5	MW-7	Monitor COCs upgradient of ERD Injection Wells in the	125-135	139.7-129.7	VOCs and Metals	Annual
	Area 5	[illegible]	Monitor VOCs along bank of Nashua River	55-65	153.5-143.5	VOCs and Metals	Annual
62.03		G6M-02-07X		30-40	179.5-169.5		
8.90	Nashua River	G6M-04-14X	Monitor VOCs and Metals on the south bank of the	80-90	131 56-121.56	VOCs and Metals	Annual
70.35		XSA-12-95X		120-130	147.43-137.43		
68.60		XSA-12-96X		120-130	147.82-137.82		
73.50		XSA-12-97X		119.75-129.75	148.96-138.96		
65.91		XSA-12-98X		60-70	147.44-137.44	Geochemistry, Metals and	
		[illegible]	Monitor Geochemistry and metals crossgradient and	130-135	147.44-137.44	VOCs2	
64.20	Area 5	G6M-13-01X	downgradient of ERD injection wells at Area 5.	125-135	140.15-130.15	VOCs and Metals	Annual

Notes:

Metals - dissolved arsenic, iron, and manganese

Full Suite- VOCs, metals, nitrate, sulfate/sulfide, alkalinity (fall only), methane, ethane, ethene, and total organic carbon

Field parameters to be measured include: pH, dissolved oxygen, oxidation/reduction potential, specific conductivity, turbidty, and temperature

1 Groundwater monitoring for geochemistry parameters and dissolved metals conducted during the spring LTM event Groundwater monitoring for geochemistry, with samples submitted to laboratory for various analyses, conducted during the fall LTM event

2 MicroWells® XSA-12-95X through XSA-12-98X installed in Spring 2012 Samples will be collected for VOCs and metals laboratory analyses during the subsequent annual sampling events

3 Annual fall LTM sampling of G6M-04-31X and G6M-04-22X for arsenic analysis will be conducted when biennial laboratory samples are not collected Off-year laboratory analysis of arsenic will continue at these wells until it is determined that arsenic has reached its maximum concentrations After off-year analysis of arsenic is discontinued, arsenic will continue to be sampled during the biennial sampling events

4 Monitoring wells installed in CY2013 will replace the existing monitoring wells that were converted to injection wells in CY2013 G6M-13-04X replaces G6M-02-05X (coverted in July 2013); G6M-13-02X replaces G6M-06-01X (converted in July 2013); G6M-13-06X replaces G6M-96-13B (converted in December 2013); G6M-13-05X replaces G6M-04-12X (converted July 2014)

5 New monitoring wells installed in CY2013 (G6M-13 series) were sampled for VOCs in January 2014 as part of the Vertical Groundwater Profiling Investigation

90 FITCHBURG ROAD, AYER.

MONITORING WELL SAMPLING LOG

Low Flow Sampling

PROJECT NAME: Devkins Aexs?	PROJECT LOCATION:		DATE: 6/26/15	WELL ID: GLM-02-11X
PROJECT NUMBER:	WELL DIAMETER (inches): 2	DEPTH TO WATER (feet): 61.13	DEPTH TO BOTTOM (feet):	PID READING (ppm):

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE (see below)	PURGE PUMP TYPE: Bladder pump (Dedicated)	PUMP EQUIPMENT MODEL & SERIAL #:	
			GALLONS:	LITERS:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY

1 GALLON = 3.785 LITERS

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

WELL SCREEN INTERVAL DEPTH (feet)	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1010	PURGING ENDED AT:	TOTAL VOLUME PURGED GALLONS: LITERS:

WATER LEVEL STABLIZATION

DEPTH TO WATER WITH PUMP (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)
1010	50		61.13		Yes	250
1015	50		61.13			250
1020	50		61.13			250
1025	50		61.13			250

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1045	60	61.13	16.5	3.49	5.86	13.46	992	-507	Clear	None
1050	100	↓	12.6	2.89	5.87	12.61	972	-577	↓	↓
1055	100		9.7	2.65	5.90	12.53	959	-60.3		
1100	100		9.4	2.59	5.93	12.49	947	-61.6		
1105	100		9.3	2.57	5.95	12.60	939	-61.8		
1110	100		9.4	2.54	5.97	12.57	937	-62.0		
1115	100	↓	9.2	2.49	5.98	12.54	934	-62.1		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Kevin Anderson HTS	SAMPLER(S) SIGNATURES: Kevin K. Anderson	SAMPLING INITIATED AT: 1045	SAMPLING ENDED AT: 1115
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 100	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #: YSI 556 08H101440	DUPLICATE: Y N
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: µm	Filtration Equipment Type:	

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Is Well Plumb? Y / N PVC Riser: Good / Damaged / None

Evidence of Rain Water Between Steel & PVC? Y / N Concrete Collar: Good / Cracked / Leaking / None

Evendence of Ponding Around Well? Y / N

REMARKS:

MONITORING WELL SAMPLING LOG

Low Flow Sampling

PROJECT NAME: Devens	PROJECT LOCATION:	DATE: 6/26/15	WELL ID: GLM-13-02X-062615
PROJECT NUMBER:	WELL DIAMETER: (inches) 2	DEPTH TO WATER: (feet)	DEPTH TO BOTTOM: (feet) / PID READING: (ppm):

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE: (see below)	PURGE PUMP TYPE:	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY | GALLONS: | LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | 1 GALLON = 3.785 LITERS | TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	GALLONS: / LITERS:

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (uS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1334	100	6.87	10.09	2.59	6.31	18.04	946	55.6	Clear	None
1339			9.91	2.19	6.29	17.61	963	59.7		
1344			9.87	1.82	6.11	17.57	976	76.2		
1349			9.86	2.31	6.05	17.47	980	79.6		
1354			9.82	1.40	6.01	17.49	986	89.2		
1359			9.79	1.09	6.00	17.12	996	99.6		
1404			9.73	1.06	6.00	17.14	995	100.0		
1409			9.69	1.03	5.99	17.13	997	101.6		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Kevin G. Anderson HTS	SAMPLER(S) SIGNATURES: [signature]	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 100	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s: YSI 556 08H101490	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type:		DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate item(s); cross out if not applicable)

Type: Flush Mount / Stand Pipe General Condition: Good / Needs Repair Well Caps: Good / Broken / None Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N Is Well Plumb? Y / N PVC Riser: Good / Damaged / None

Evendence of Ponding Around Weill? Y / N Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

MONITORING WELL SAMPLING LOG

Low Flow Sampling

PROJECT NAME:	PROJECT LOCATION: G6M-13-01X-062215	DATE: 6/22/15	WELL ID:
PROJECT NUMBER:	WELL DIAMETER (inches):	DEPTH TO WATER (feet): 64.22	DEPTH TO BOTTOM (feet): PID READING (ppmv):

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE (see below):	PURGE PUMP TYPE: bladder nitrogen	PUMP EQUIPMENT MODEL & SERIAL #:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY — GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS — TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	GALLONS: / LITERS:
125-135	130		1050		

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME min*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1055	100	64.02	2.37	8.41	7.13	19.24	799	95.8	clear	
1100		64.05	2.50	5.46	6.08	18.80	812	133.4	clear	
1110		64.05	2.46	1.71	5.20	16.87	842	169.4	Clear	
1115		64.05	2.32	1.76	5.04	16.26	842	179.4		
1120		64.05	1.44	1.97	5.11	15.88	843	175.3		
1125			1.82	1.46	5.41	16.23	845	171.6		
1130			1.31	0.95	5.72	16.80	846	172.2		
1135			1.26	0.92	5.75	17.47	848	170.4		
1140		64.05	1.11	0.89	5.80	17.46	848	172.2		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
SL	Slawyer		

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:

FIELD DECONTAMINATION: Y N — FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: — DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST

Type: Flush Mount / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N — Is Well Plumb?: Y / N — PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS: hydrasleeve collected 6/19/15 @1300

MONITORING WELL SAMPLING LOG

Low Flow Sampling

PROJECT NAME:

PROJECT LOCATION: 6WM-97-053 6/1915

DATE: 6-19-15

WELL ID:

PROJECT NUMBER:

WELL DIAMETER (inches): 2"

DEPTH TO WATER (feet): 65.87

DEPTH TO BOTTOM (feet):

PID READING (ppm):

PURGING DATA

TUBING DIAMETER (inches):

TUBING MATERIAL CODE (see below):

PURGE PUMP TYPE: Bladder Nitrogen

PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY

GALLONS: LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

1 GALLON = 3.785 LITERS

TOTAL VOLUME PURGED: GALLONS: LITERS:

WELL SCREEN INTERVAL DEPTH (feet): 130-135

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 130

FINAL PUMP OR TUBING DEPTH IN WELL (feet): 130

PURGING INITIATED AT: 1150

PURGING ENDED AT:

WATER LEVEL STABLIZATION

DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1155	200	65.89	26.61	4.36	6.46	18.91	631	84.0	Clear	—
1200			19.1	4.11	6.45	18.71	631	90.5	Clear	—
1205			11.8	3.17	6.37	17.99	628	95.0	Clear	—
1210			2.09	2.89	6.31	18.17	628	96.5	Clear	—
1215			1.61	2.78	6.31	18.13	629	96.9	Clear	—
1220			3.46	2.74	6.26	17.0[illegible]	629	10[illegible].9	Clear	—
1225			2.10	2.74	6.26	17.05	628	107.1	Clear	—
1230			1.71	2.73	6.25	17.10	627	107.2	Clear	—
1235			1.72	2.73	6.26	17.[illegible]0	630	106.3	Clear	—

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: SJL

SAMPLER(S) SIGNATURES: [signature]

SAMPLING INITIATED AT: 1235

SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):

SAMPLE PUMP FLOW RATE (mL per minute):

FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:

FIELD DECONTAMINATION: Y N

FIELD FILTERED: Y N

FILTER SIZE: ____ µm

Filtration Equipment Type:

DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate items, cross out if not applicable)

Type: Flush Mount / Stand Pipe   General Condition: Good / Needs Repair   Well Caps: Good / Broken / None   Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N   Is Well Plumb?: Y / N   PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N   Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

MONITORING WELL SAMPLING LOG

Low Flow Sampling

PROJECT NAME:	PROJECT LOCATION: G6M-09-10A-061915	DATE: 6-[illegible]-14	WELL ID:
PROJECT NUMBER:	WELL DIAMETER (inches): 2" / DEPTH TO WATER (feet): 12.89	DEPTH TO BOTTOM (feet):	PID READING (ppmv):

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE (see below)	PURGE PUMP TYPE: Peri Pump	PUMP EQUIPMENT MODEL & SERIAL #s:
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY			GALLONS: / LITERS:
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88			1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED: GALLONS: / LITERS:
30-40	35		0905		

WATER LEVEL STABLIZATION DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0910	250	12.91	10.50	0.95	6.83	10.94	2358	-115.8	Clean	—
0915		12.91	10.87	2.50	6.75	10.80	2389	-110.6	—	—
0920			0.68	1.45	6.72	11.02	2392	-103.2	"	—
0925			8.24	1.04	6.69	11.05	2380	-104.0	"	—
0930			8.57	0.81	6.64	10.99	2230	-99.0	"	—
0935			8.37	0.53	6.62	11.01	2193	-95.6	"	—
0940			8.11	0.49	6.62	11.01	2198	-95.4	"	—
0945			8.07	0.53	6.62	11.01	2199	-95.6	"	—
0950			8.06	0.51	6.62	10.97	2201	-94.6	"	—

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
SJZ	[signature]	0950	

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:

FIELD DECONTAMINATION: Y N | FIELD-FILTERED: Y N | FILTER SIZE: ____ µm | Filtration Equipment Type: | DUPLICATE: Y N DUP-01-[illegible]

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate items, cross out if not applicable)

Type: Flush Mount / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N — Is Well Plumb? Y / N — PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

Hydrasleeve sample @ 0900

G6M-09-10A @

MONITORING WELL SAMPLING LOG

Low Flow Sampling

PROJECT NAME:	PROJECT LOCATION: GTeM-13-04X-062215	DATE: 6/22/15	WELL ID:
PROJECT NUMBER:	WELL DIAMETER (inches):	DEPTH TO WATER (feet):	DEPTH TO BOTTOM (feet): / PID READING (ppmv):

PURGING DATA

TUBING DIAMETER (inches): 1/4"	TUBING MATERIAL CODE (see below)	PURGE PUMP TYPE: bladder + microgen	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY — GALLONS: — LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS — TOTAL VOLUME PURGED

WELL SCREEN INTERVAL DEPTH (feet): 125 135	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1350	PURGING ENDED AT:	GALLONS: / LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1405		63.24	4.09	4.20	6.96	31.39	822	-96.5	clear	
1410		63.24	3.13	2.34	6.98	29.74	815	-113.2	clear	
1415		63.24	2.46	1.34	7.00	28.52	812	-134.7		
1420		63.24	1.14	1.18	7.01	27.37	805	-145.1		
1425			1.00	0.99	7.01	26.98	812	-151.8		
1430			0.90	0.90	7.00	26.40	805	-152.2		
1435			0.86	0.78	6.92	26.26	800	-156.4		
1440			0.80	0.70	6.95	27.28	800	-156.6		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 1440	SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:

FIELD DECONTAMINATION: Y N — FIELD-FILTERED: Y N FILTER SIZE: ____ µm — Filtration Equipment Type: — DUP-2-062215 DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST

Type: Flush Mount / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N — Is Well Plumb?: Y / N — PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS: hydrasleeve @ 1285 6/22/15 — MS/MSD

MONITORING WELL SAMPLING LOG

Low Flow Sampling

PROJECT NAME:	PROJECT LOCATION: MW-3-062315	DATE: 6/23/15	WELL ID:
PROJECT NUMBER:	WELL DIAMETER: (inches) / DEPTH TO WATER: (feet)	DEPTH TO BOTTOM: (feet)	PID READING: (ppmv)

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE (see below)	PURGE PUMP TYPE:	PUMP EQUIPMENT MODEL & SERIAL #:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY — GALLONS: — LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED: GALLONS: LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min*)	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
0915	150	61.55	6.48	3.27	5.76	14.86	1351	-56.5		
0920	150		5.96	4.25	5.73	14.45	1358	-55.0		
0925			5.44	2.05	5.85	14.17	1315	-63.4		
0930			4.80	1.66	5.98	14.27	1293	-72.5		
0935			6.13	1.50	6.07	14.33	1286	-79.1		
0940			2.89	1.35	6.19	14.28	1278	-84.0		
0945	150	61.55		1.18	6.28	14.35	1267	-89.7		
0950	150	61.56	5.85	1.07	6.34	14.23	1262	-89.4		

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0950	SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:

FIELD DECONTAMINATION: Y N — FIELD FILTERED: Y N — FILTER SIZE: _____ µm — Filtration Equipment Type: — DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate items, cross out if not applicable)

Type: Flush Mount / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N — Is Well Plumb?: Y / N — PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS

hydrasleeve @ 0900 6/23/15

MONITORING WELL SAMPLING LOG

Low Flow Sampling

PROJECT NAME:	PROJECT LOCATION: GLOM-02-13X		DATE:	WELL ID:
PROJECT NUMBER:	WELL DIAMETER (inches):	DEPTH TO WATER (feet):	DEPTH TO BOTTOM (feet):	PID READING (ppmv):

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE (see below)	PURGE PUMP TYPE:	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY — GALLONS: — LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 — 1 GALLON = 3.785 LITERS — TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet):	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	GALLONS: / LITERS:

WATER LEVEL STABLIZATION — DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1105	250	59.94	21.7	4.01	7.35	26.08	843	103.1	Red/shiny	none
1110	250		5.81	2.58	6.76	14.65	839	-106.1	clear/shiny	
1115	250			1.49	6.75	14.30	826	-107.2	"	
1120			5.37	1.24	6.74	14.62	817	-107.2	"	
1125										
1130										

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:

FIELD DECONTAMINATION: Y N — FIELD-FILTERED: Y N FILTER SIZE: ____ µm Filtration Equipment Type: — DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST

Type: Flush Mount / Stand Pipe — General Condition: Good / Needs Repair — Well Caps: Good / Broken / None — Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N — Is Well Plumb? Y / N — PVC Riser: Good / Damaged / None

Eyendence of Ponding Around Welll? Y / N — Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

hydrasleeve @ 1030

LOST WEIGHT IN WELL

Discharge has mica-like sparkle /glitter

Storm approaching

collected @ 1130

MONITORING WELL SAMPLING LOG

Low Flow Sampling

PROJECT NAME:	PROJECT LOCATION: BUM-02-04X-062615	DATE: 6/26/15		WELL ID:
PROJECT NUMBER:	WELL DIAMETER (inches):	DEPTH TO WATER (feet):	DEPTH TO BOTTOM (feet):	PID READING (ppmv):

PURGING DATA

TUBING DIAMETER (inches):	TUBING MATERIAL CODE (see below):	PURGE PUMP TYPE: bladder + nitrogen	PUMP EQUIPMENT MODEL & SERIAL #s:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY | GALLONS: | LITERS:

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 | 1 GALLON = 3.785 LITERS | TOTAL VOLUME PURGED:

WELL SCREEN INTERVAL DEPTH (feet): 90-105	INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT: 1250	PURGING ENDED AT: 1330	GALLONS: LITERS:

WATER LEVEL STABLIZATION | DEPTH TO WATER WITH PUMP: (feet)

TIME INTERVAL (min)	FLOW RATE (mL/min)	PUMP SETTINGS	DEPTH TO WATER (feet) START	END	Water Level Stable (Yes or No)	VOLUME PURGED DURING INTERVAL (mL)

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TURBIDITY (NTU) (+/- 10%)or <5**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	ORP (mV) (+/- 10mV)**	COLOR (describe)	ODOR (describe)
1255	150	60.94	5.76	1.26	7.62	14.77	1286	-61.4	clear	none
1300	150	60.94	4.01	1.09	7.60	14.80	1290	-60.8	clear	none
1305	150	60.95	2.36	0.96	7.55	14.83	1235	-51.8	clear	none
1310	150	60.95	1.99	0.82	7.43	14.83	1241	-50.5	clear	none
1315	150	60.96	1.72	0.85	7.33	14.46	1242	-47.5	clear	none
1320	150	60.96	1.71	0.72	7.35	14.52	1241	-52.6	clear	
1325	150	60.96	1.68	0.70	7.39	14.65	1240	-58.6	clear	
1330	150	60.96	1.55	0.71	7.39	14.70	1238	-55.4	clear	none

* every 5 or more minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

** EPA stabilization parameters from EPA/540/S-95/504 April 1996

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	FIELD PARAMETER MONITORING EQUIPMENT MODEL & SERIAL #s:

FIELD DECONTAMINATION: Y N | FIELD-FILTERED: Y N FILTER SIZE: _____ µm Filtration Equipment Type: | DUPLICATE: Y N

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

WELL CONDITION CHECKLIST (circle appropriate items, cross out if not applicable)

Type: Flush Mount Stand Pipe | General Condition: Good / Needs Repair | Well Caps: Good / Broken / None | Lock: Good / Broken / None

Evidence of Rain Water Between Steel & PVC? Y / N | Is Well Plumb?: Y / N | PVC Riser: Good / Damaged / None

Evendence of Ponding Around Welll? Y / N | Concrete Collar: Good / Cracked / Leaking / None

REMARKS:

hydrasleeve at 12:30

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 6/18/2015
Project Location:
Project #:
Personnel: Mykel Mendes   Erin Foley

WELL IDENTIFICATION: g6m.03.8x

Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2"
Depth to Water: 49.4
Material: PVC
Depth to Bottom: 111
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: Polyethylene (
Pump S/N:
Purge Start Time: 12:28 PM
Air Source: Nitrogen
Tubing Diameter: .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
12:39 PM	40	56.1	13.89	284	5.58	6.36	59.1	8.59	clear
12:44 PM	40	56.1	13.24	276	2.84	6.36	67.7	8.06	clear
12:49 PM	40	56.1	13.13	274	1.88	6.38	82.1	8.48	clear
12:54 PM	40	56.1	12.89	274	1.45	6.37	99.1	8.07	clear
12:59 PM	40	56.1	13.01	273	1.18	6.27	109.2	8.44	clear
1:04 PM	40	56.1	13.19	273	1.17	6.30	111.7	8.45	clear
1:09 PM	40	56.1	13.18	273	1.11	6.32	113.0	8.42	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N X
FILTER SIZE: .45 µm
DUPLICATE: Y N X
MS/MSD: Y N X

SAMPLED BY (PRINT): Mykel Mendes
SAMPLER(S) SIGNATURES: [signature]
SAMPLING START TIME: 1:10 PM
SAMPLING END TIME: 2:00 PM

NOTES: hydrosleeve sample 6/17/15 @107'. could not get 2" bladder pump down well. used micro bladder 6/18/5
could not get pump deeper than 111 ft.

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 6/18/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Erin Foley Mykel Mendes

WELL IDENTIFICATION: G6M-03-09X **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2" Depth to Water: 56.4

Material: PVC Depth to Bottom: 142

Screen Interval: 125-140

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon Pump S/N QED MP10-1984

Purge Start Time: 10:29 AM Air Source: Nitrogen Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
10:33 AM	200	56.4	11.47	192	7.43	4.20	270.2	7.51	clear
10:38 AM	200	56.4	11.25	190	2.01	3.38	270.3	5.83	clear
10:43 AM	200	56.4	11.32	187	0.92	4.14	229.1	5.25	clear
10:54 AM	200	56.4	11.06	181	0.84	5.11	182.7	4.42	clear
10:59 AM	200	56.4	11.22	184	0.69	5.01	188.4	3.51	clear
11:04 AM	200	56.4	11.33	186	0.48	5.32	174.1	3.40	clear
11:09 AM	200	56.4	11.32	187	0.43	5.37	171.8	2.42	clear
11:14 AM	200	56.4	11.35	191	0.45	5.39	169.7	2.25	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: .45 µm

DUPLICATE: Y N X

MS/MSD: Y N X

SAMPLED BY (PRINT): Erin Foley

SAMPLER(S) SIGNATURES:

SAMPLING START TIME: 11:15 AM

SAMPLING END TIME: 11:30 AM

NOTES: collected Hydra sleeve sample initially, set at 135', sample time: 0940

tank swap out 1048

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 6/17/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-02-01X **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure			
Concrete Pad Intact			
PVC Casing Intact			
Well Gripper Present			
Bolts Present (Pad Wells)			
Locked (Stickup Wells)			

Photograph

Well Information

Diameter: 2" Depth to Water: 54.85

Material: Depth to Bottom:

Screen Interval: 80-95

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type: Teflon-lined P Pump S/N

Purge Start Time: 1:30 PM Air Source: Nitrogen Tubing Diameter: .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
1:35 PM	300	54.87	13.65	696	0.38	6.70	-80.7	34	clear
1:40 PM			13.59	691	0.38	6.71	-81.8	33.8	clear
1:45 PM			13.36	691	0.33	6.73	-84.2	22.3	clear
1:50 PM			13.31	685	0.30	6.74	-86.6	20.4	clear
1:55 PM			13.65	669	0.23	6.80	-91.5	8.54	clear
2:00 PM			13.65	672	0.25	6.80	-91.1	8.43	clear
2:05 PM			13.66	671	0.25	6.80	-91.1	8.45	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N X **DUPLICATE:** Y N X **MS/MSD:** Y N X

FILTER SIZE: _______ µm

SAMPLED BY (PRINT): Samantha Landry

SAMPLER(S) SIGNATURES: [signature]

SAMPLING START TIME: 2:05 PM

SAMPLING END TIME:

NOTES:

Hydra sleeve sample at 1305

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 — Date: 6/18/2015

Project Location: Ayer MAAF/AOC50 — Project #:

Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-0301X — **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			
Locked (Stickup Wells)			

Photograph

Well Information

Diameter: 2" — Depth to Water: 13.89

Material: PVC — Depth to Bottom:

Screen Interval: 60-70

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump — 1 Well Volume (gal): — Tubing Type — Pump S/N geopump

Purge Start Time: 2:15 PM — Air Source: — Tubing Diameter

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
2:20 PM	300	13.90	13.38	1090	2.06	6.45	19.2	51.6	clear
2:25 PM	300	13.90	13.86	1101	1.97	6.38	21.3	31.2	clear
2:30 PM	300	13.90	14.11	1108	2.05	6.39	18.6	29.5	clear
2:35 PM	300	13.90	13.56	1094	1.95	6.39	19.3	25.8	clear
2:40 PM	300	13.90	13.61	1099	1.89	6.36	19.9	23.3	clear
2:45 PM	300	13.90	13.63	1093	1.82	6.36	19.9	22.9	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N (X)

FILTER SIZE: _______ µm

DUPLICATE: Y N

MS/MSD: Y N

SAMPLED BY (PRINT): Samantha Landry

SAMPLER(S) SIGNATURES:

SAMPLING START TIME: 2:45 PM

SAMPLING END TIME:

NOTES:

no hydra sleeve due to bent casing

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 6/18/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-03-07X **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure			
Concrete Pad Intact			
PVC Casing Intact			
Well Gripper Present			
Bolts Present (Pad Wells)			
Locked (Stickup Wells)			

Photograph

Well Information

Diameter: 2" Depth to Water: 56.81

Material: PVC Depth to Bottom:

Screen Interval: 80-90

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N

Purge Start Time: 12:55 PM Air Source: Nitrogen Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
1:00 PM	250	56.84	16.64	613	3.73	6.39	-96.9	12.7	clear
1:05 PM	250	56.84	16.65	613	3.69	6.39	-97.1	23.8	clear
1:10 PM	250	56.84	16.52	627	0.50	6.41	-77.8	13.8	clear
1:15 PM	250	56.84	16.23	623	0.23	6.40	-80.6	16.1	clear
1:20 PM	250	56.84	15.93	621	0.24	6.35	-85.1	16.1	clear
1:25 PM	250	56.84	16.20	629	0.16	6.37	-92.9	15.7	clear
1:30 PM	250	56.84	16.23	630	0.16	6.39	-93.6	14.8	clear
1:35 PM	250	56.84	16.20	626	0.16	6.40	-94.9	15.1	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N X

FILTER SIZE: _______ µm

DUPLICATE: Y N X

MS/MSD: Y N X

SAMPLED BY (PRINT):	SAMPLER(S) SIGNATURES:	SAMPLING START TIME:	SAMPLING END TIME:
Samantha Landry	[signature]	1:35 PM	

NOTES:

hydra sleeve at 1245

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 6/18/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-04-02X **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure			
Concrete Pad Intact			
PVC Casing Intact			
Well Gripper Present			
Bolts Present (Pad Wells)			
Locked (Stickup Wells)			

Photograph

Well Information

Diameter: 2" Depth to Water: 60.20

Material: PVC Depth to Bottom:

Screen Interval: 80-90

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N

Purge Start Time: 10:35 AM Air Source: Nitrogen Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
10:40 AM	275	60.23	13.83	498	0.37	8.17	-182.6	47.8	clear
10:45 AM	275	60.23	13.83	502	0.37	8.10	-184.9	27.3	clear
10:50 AM	275	60.23	13.81	509	0.46	7.64	-184.2	20.2	clear
10:55 AM	275	60.23	13.36	508	0.35	7.23	-173.6	23.0	clear
11:00 AM	275	60.23	13.26	505	0.36	6.78	-129.2	10.4	clear
11:05 AM	275	60.23	13.14	498	0.35	6.38	-106.1	10.7	clear
11:10 AM	275	60.23	13.16	501	0.36	6.35	-103.8	9.95	clear
11:15 AM	275	60.23	13.12	502	0.33	6.28	-101.0	10.2	clear
11:20 AM	275	60.23	13.09	500	0.32	6.30	-101.0	10.9	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N X **DUPLICATE:** Y N X **MS/MSD:** Y N X

FILTER SIZE: _______ µm

SAMPLED BY (PRINT): Samantha Landry

SAMPLER(S) SIGNATURES:

SAMPLING START TIME:

SAMPLING END TIME:

NOTES: hydra sleeve sample at 930

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 6/17/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-04-09X

Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure			
Concrete Pad Intact			
PVC Casing Intact			
Well Gripper Present			
Bolts Present (Pad Wells)			
Locked (Stickup Wells)			

Photograph

Well Information

Diameter: 2"
Depth to Water: 31.84
Material:
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump
1 Well Volume (gal):
Tubing Type
Pump S/N
Purge Start Time: 10:35 AM
Air Source:
Tubing Diameter

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
10:40 AM	200	31.86	13.87	1384	0.72	6.31	-60.8	106	clear
10:45 AM			13.91	1386	0.64	6.32	-62.4	99	clear
10:50 AM			14.05	1376	0.62	6.33	-63.6	100	clear
10:55 AM			14.02	1387	0.65	6.33	-65.8	99	clear
11:00 AM			14.01	1386	0.64	6.34	-65.1	95	clear
11:05 AM			14.05	1385	0.61	6.32	-62.8	93	clear
11:10 AM			14.03	1384	0.64	6.33	-65.0	96	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N
FILTER SIZE: _______ µm
DUPLICATE: Y N
MS/MSD: Y N

SAMPLED BY (PRINT): Samantha Landry
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 11:10 AM
SAMPLING END TIME:

NOTES:

Hydra sleeve sample at 945

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: LTM Sites at Devens
Date: 6/16/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-13-05X
Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure			
Concrete Pad Intact			
PVC Casing Intact			
Well Gripper Present			
Bolts Present (Pad Wells)			
Locked (Stickup Wells)			

Photograph

Well Information

Diameter: 2"
Depth to Water: 14.51
Material: PVC
Depth to Bottom:
Screen Interval: 45-55

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump
1 Well Volume (gal):
Tubing Type
Pump S/N geopump
Purge Start Time: 1:00 PM
Air Source:
Tubing Diameter

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
1:05 PM	250	14.52	13.13	397	2.15	7.60	57.4	42.0	clear
1:10 PM		14.52	12.63	391	1.62	7.26	66.0	52.8	clear
1:15 PM		14.52	12.87	396	1.82	7.16	66.0	52.3	clear
1:20 PM		14.52	12.94	398	1.89	7.14	65.3	40.4	clear
1:25 PM		14.53	13.02	400	1.71	7.10	65.2	38.6	clear
1:30 PM		14.51	12.76	399	1.66	7.04	67.4	33.9	clear
1:35 PM	250	14.53	12.71	398	1.63	7.04	57.0	33.2	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N X
FILTER SIZE: _______ µm
DUPLICATE: Y N X
MS/MSD: Y N X

SAMPLED BY (PRINT): Samantha Landry
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 1:40 PM
SAMPLING END TIME:

NOTES: hydra sleeve sample first 1245

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: ______ Date: 6/16/2015

Project Location: ______ Project #: ______

Personnel: Matt Bedford Julie Godsoe

WELL IDENTIFICATION: G6M-13-06X **Headspace (PID)** ______

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2" Depth to Water: 14.81

Material: PVC Depth to Bottom: ______

Screen Interval: ______

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump 1 Well Volume (gal): ______ Tubing Type Teflon-lined P Pump S/N 3208

Purge Start Time: 1:27 PM Air Source: ______ Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
1:30 PM	175	14.01	11.84	2025	0.59	6.21	-25.9	54.2	cloudy
1:34 PM	175	14.03	11.56	1993	0.54	6.22	-30.3	43.6	cloudy
1:38 PM	175	14.03	11.41	1996	0.27	6.24	-31.6	27.4	cloudy
1:43 PM	175	14.04	11.47	1995	0.21	6.24	-34.2	40.7	cloudy
1:47 PM	175	14.04	11.45	1996	0.18	6.25	-35.2	31.4	clear
1:51 PM	175	14.04	11.47	1991	0.17	6.23	-28.3	20.8	clear
1:56 PM	175	14.04	11.41	1983	0.14	6.25	-23.2	33.4	clear
2:00 PM	175	14.04	11.49	1991	0.11	6.25	-31.0	34.1	clear
2:05 PM	175	14.04	11.26	1984	0.11	6.25	-38.2	34.8	clear
2:10 PM	175	14.04	11.27	1989	0.11	6.25	-40.1	31.9	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N: X
FILTER SIZE: ______ µm

DUPLICATE: Y N: X

MS/MSD: Y N: X

SAMPLED BY (PRINT):	SAMPLER(S) SIGNATURES:	SAMPLING START TIME:	SAMPLING END TIME:
Matt Bedford		2:15 PM	

NOTES: Sampled with Hydra sleeve prior to low flow sampling.

B.2

Fall 2015 Long-Term Monitoring Event

YSI 556 MPS 8/21/15

Demers Cal

ADC 50 ~~ORP~~ - 240 sol'n read 252

gauge
field monitor wells - pH. 7.0

6.59 → 7.0

Area 1 3.76 → 4.0

	DTW	
G6M0301X	14.85	
G6M0412X	— DRY	15.4 Ft.
~~GP13-7~~	←	
G6M1306X	14.69	
G6M0208X	13.49	
G6M0410X	14.26	
G6M0410A	13.65	
G6M0413X	15.50	
G6M0211X	66.87	Area 5
G6M0206X	39.97	* 1 1/2 in well
XSA1295X	inaccessible something stuck	
XSA1296X	unable to find	
G6M0207X	unable to locate	
G6M0310X	63.91	
G6M0203X	59.79	Area 4
G6M0204X	61.76	
G6M0209X	60.89	
G6M0213X	60.76	

Well	mg/L DO	pH	ORP	mS/cm SpeC	T
G6M1306X	.99	5.52	-17.3	1.466	13.17°C
G6M0208X	1.37	4.82	88.8	1.441	16.9
G6M0301X	1.53	5.63	22.5	1.270	15.35
G6M0410X	~~4.60~~ 4.61	8.60	-12.5	2.138	12.64
G6M0410A	0.88	6.45	-16.4	0.855	12.82
G6M0413X	7.71	6.67	49.9	0.085	11.98
G6M0211X	3.21	6.29	44.2	0.570	13.20
G6M0310X	7.19	6.55	146.5	0.512	14.83
G6M0213X	1.32	6.76	-18.3	0.640	14.86
G6M0209X	7.60	~~7.47~~	135	0.143	16.60
G6M0204X	2.84	5.96 ~~6.06~~	-48.3	0.261	14.99
G6M0203X	7.41	6.14	88.2	0.178	14.87
G6M0404X	1.45	6.22	-31.2	0.695	14.08
G6M0402X	1.14	6.20	-88.4	0.309	13.33
G6M0403X	1.61	8.97	-18.8	0.977	13.88
G6M0401X	6.62	10.25	19.8	0.601	13.57

— DTW →

0404X 59.04

0402X 61.07

0403X 56.99

0401X 58.28

FILLED OUT COC's

JOANN SIGNED OFF

LEFT SITE AT ≈ 14:30

8 SEPT 15 REC TANK
WESTBORO – GROTON – WESTBORO
188.2

---

9 SEPT 15 DEVENS
AOC 50 SAMPLING
HOT 95 F HUMID
G6M-96-13B SLUDGE

G6M-04-10X DTW 14.68

G6M-13-06X DTW 15.13A

G6M-02-08X DTW 14.43

G6M-03-01X DTW 14.93

G6M-04-12X SLUDGE

G6M-93-13X
DTW 14.58 ft.

G6M-93-13X

TIME	T°C	pH	ORP	DO mg/L	COND uS/cm	TURB NTU
10:52	19.09	5.40	74	2.31	798	30.4
11:00	19.00	5.39	81.7	1.77	805	13.5
11:05	18.89	5.47	83.2	1.61	731	6.67
11:17	19.01	5.65	87.4	1.46	793	3.80
11:30	19.13	5.67	96.7	1.27	880	1.87
11:38	19.27	5.71	100.7	1.19	904	1.46

PURGED 1 GALLON TOTAL

G6M-13-06X SHEEN?

TIME	T°C	pH	ORP	DO mg/L	COND uS/cm	TURB NTU
1320	12.56	5.97	-51.1	1.66	1670	5.44
1328	12.19	5.98	-50.2	0.54	1738	16.2
1335	12.19	5.97	-52.7	0.35	1691	13.2
1346	12.19	5.99	-51.7	0.26	1741	2.73
1358	12.11	6.02	-53.7	0.22	1700	3.99
1405	12.15	6.02	-53.6	0.16	1745	4.09

PURGED 4 GALLONS TOTAL

1410 SAMPLE TIME

Scale: 1 square = ______

Scale: 1 square = ______

10 SEPT 2015

DEVENS AOC 50

SAMPLING HUMID 75F

CHANCE OF RAIN

G6M - 03 - 01X

PERISTALTIC PUMP FROM SCREENED INTERV

TIME 0928 DTW 15.29 ft

SLIGHT ORG. SHEEN. TOC

TIME	T°C	pH	ORP	DO mg/l	COND mS/cm	TURB NTU
1027	12.85	6.21	-50.6	1.91	1.46	4.33
1036	12.72	6.26	-54.0	0.80	1.880	4.85
1040	12.61	6.29	-54.8	0.72	1.881	4.36
1045	12.57	6.30	-55.0	0.61	1.881	4.38

PURGED 3.5 GALLONS

SAMPLE TIME ~~10:50~~ 11:05 AM

DUPLICATE COLLECTED HERE

DUP-01

BLACK SPECKS IN SAMPLE

G6M-04-03X HANGER.

10 SEPT 15

G6M - 02 - 01

TIME	T°C	pH	ORP	DO mg/l	COND. mS/cm	TURB. NTU
1225	17.51	6.77	-90.6	1.94	1.842	2.27
1235	16.93	6.80	-114.7	0.65	1.559	1.69
1250	16.42	6.78	-119.4	0.33	0.946	1.06

G6M-02-01

TIME	TC	pH	ORP	DO mg/l	COND. mS/cm	TURB. NTU
1258	16.07	6.77	-114.0	0.28	0.842	0.95
1310	16.00	6.77	-110.5	0.24	0.807	0.81

SAMPLE TIME 1310

PURGED 3 GAL TOTAL.

PUMP TROUBLE

G6M - 04 - 01X

TIME	T°C	pH	ORP	DO mg/l	COND. mS/cm	TURB NTU
1458	17.96	7.46	-152.4	2.52	1.952	43
1501	16.99	7.22	-150.9	1.40	1.930	48
1508	16.23	7.22	-153.6	0.78	1.857	49
1517	15.98	7.21	-155.5	0.50	1.883	42.6
1523	16.11	7.18	-152.6	0.49	1.886	42.8
1530	15.91	7.15	-152.7	0.45	1.880	41.6

SAMPLE COLLECTED

1530

LEAVE SITE 1640

Scale: 1 square = ______

Scale: 1 square = ______

9/11/2015 DEVENS AOC 50
RAIN EARLY 60°F
G6M-04-03X

TIME	TEMP	pH	ORP	DO mg/L	COND mS/cm	TURB
0922	16.07	9.97	-190.4	3.25	0.929	40.1
0928	15.29	9.91	-270.4	1.29	0.947	22.[illegible]
0934	14.92	9.79	-202.7	0.71	0.938	18.5[illegible]
0940	14.78	9.53	-182.4	0.46	0.910	16.[illegible]
0948	14.70	9.35	-190.6	0.30	1.092	17.[illegible]
0955	14.65	9.80	-195	0.42	1.089	12.[illegible]
1000	14.63	9.75	-193	0.37	1.084	11.[illegible]
1005	14.60	9.71	-194	0.36	1.079	11.[illegible]

2 GALS PURGED
SAMPLE COLLECTED
@ 1005

9/11/2015 1133
DTW 61.42 ft PUMP TROUBL[illegible]
MW: G6M-04-02X

TIME	TEMP	pH	ORP	DO mg/L	COND mS/cm	TURB NTU
12:46	17.46	6.73	-158.6	4.29	0.566	14.3
12:53	17.22	6.76	-162.2	0.90	0.599	7.63
13:01	16.76	6.69	-141.1	0.64	0.577	5.03
13:05	16.58	6.67	-139.6	0.54	0.553	3.5[illegible]
13:10	14.56	6.65	-140.3	0.48	0.528	2.8[illegible]
13:23	14.02	6.59	-147.8	0.39	0.663	[illegible]

Scale: 1 square = ______

G6M-04-02X
SAMPLED @ 1325
PURGED 2.5 GAL
187.8

SEPT. 14 2015 DEVENS
SUN/DRY/75°F AOC 50

G6M-03-07X DTW: 58.16 FT.
DEDICATED PUMP

TIME	TEMP	pH	ORP	DO mg/L	COND mS/cm	TURB
0830	14.66	6.90	-108.4	6.9	0.531	5.71
0838	14.21	6.40	-105.9	0.92	0.522	4.62
0847	14.20	6.44	-111.6	0.56	0.532	5.22
0855	14.23	6.45	-112.8	0.5[illegible]	0.545	5.16

SAMPLE TIME 0900
PURGED 3 GALS.

G6M-04-04X NO PUMP
DTW: 57.53 ft.
PUMP TROUBLE

TIME	TEMP	pH	ORP	DO mg/L	COND mS/cm	TURB
10:20	15.71	6.62	-110.7	2.95	1.194	11.7
10:25	15.15	6.64	-120.8	0.68	1.266	3.21
10:32	14.86	6.66	-288.4	0.49	1.273	3.08
10:46	14.90	6.69	-198.3	0.30	1.270	3.59
10:50	14.95	6.70	-180.4	0.28	1.264	3.25

PURGED 3 GALS. SAMPLE AT 10:50

Scale: 1 square = ______

BGM-02-04X

14 SEPT. 11:37 DTW: 62.15

				mg/L	mS/cm	NT
TIME	TEMP	pH.	ORP	DO	COND.	TUR
1156	17.70	7.01	-97.1	5.23	0.331	2.8
1202	15.09	6.96	-133.1	0.80	0.366	0.7
1209	14.70	6.99	-147.5	0.50	0.393	1.16
1215	14.58	7.01	-150.9	0.42	0.415	1.3
1220	14.56	7.01	-152.4	0.40	0.426	1.3

TRIP BLANK. TB-2 COLLECTED

SAMPLE TIME 1225

PURGED 3 GALS

---

5 EMPTIES

7 FULL

Scale: 1 square = ______

Scale: 1 square = ______

Checked wells to pumps
04-12X &

color of fertilizer
Foaming green

Well 02-08X

mg/L DO	pH	ORP	mS/cm Spec	°C Temp	Turbid
1.95	5.24	-21.3	1.414	17.28	26.2
0.41	5.28	-17	1.349	14.32	11.9
0.20	5.37	-24.5	1.342	14.02	13.1
0.13	5.42	-31.6	1.339	13.86	13.0
0.09	5.44	-32.9	1.331	13.65	11.3
0.09	5.48	-38.4	1.336	13.68	13.3
0.07	5.49	-39.2	1.337	13.71	12.0

Sampled 12:17

Bent casing
picked up 2 peristaltic &
1 1" bladder pumps
+ 4 rolls string
from Rm.

Red - Fuel green - Zn

Well GCM 04-10X

1:55 pm

DO	pH	ORP	Sp C	Temp	Turb.
4.30	5.48	89.2	2,468	13.82	9.24
4.14	5.36	122.0	2.397	13.22	3.03
3.59	5.40	140.3	2.318	13.17	4.17
3.46	5.39	152.9	2289	13.37	5.05
3.40	5.38	162.8	2270	13.09	5.38
3.36	5.38	166.5	2.260	13.14	5.02
3.32	5.38	169.9	2.257	13.13	4.98

9/10/15

DEVENS AOC 50

p/u DI water @ office
pipe delivery @ 9:00 AM

Sample well:
AREA 1 - 03 01X
+DUP

AREA 5 -
AREA 2 -

AREA 5:
G6M 02-11X 62.34 DTW
G6M ~~03 08X~~ 04 05X 56.78
G6M 03 10X 31.57
AREA 2
G6M 02 01X
G6M 04 01X

Red-field
green Eid

Well 02-11X start @ 12^{15}
sampled @ 13^{30}

DO	pH	ORP	SpeC	Temp	Turbid
5.90	6.23	-21.8	645	13.40	17.6
2.23	5.84	-24.0	650	13.08	[illegible].16
[illegible].78	5.77	-51.9	668	12.92	3.01
[illegible]49	5.99	-81.2	680	12.96	4.02
[illegible]13	6.12	-87.7	689	12.99	3.50
0.[illegible]5	6.18	-88.4	601	12.91	3.45
0.33	6.29	-95.7	745	12.85	3.03

Well 04-05X start 13^{50}
2nd sampled 14^{50}

DO	pH	ORP	SpeC	Temp	Turb.
9.68	7.06	-2.2	249	12.40	2.19
2.70	6.31	33.7	262	12.19	2.02
1.10	5.84	60.8	224	12.11	2.04
0.97	5.81	62.2	229	12.08	2.02
0.88	5.76	65.4	234	12.06	2.01
0.98	5.75	67.1	243	12.07	2.11
0.95	5.75	67.6	245	12.07	2.08

03 10X

DO	pH	ORP	SpC	Temp	Turbid.
10.62	6.45	~~887~~ 68.1	859	12.97	14.13
3.24	6.37	-4.1	792	12.73	3.73
1.63	6.38	-34.8	846	12.73	3.01
1.03	6.41	-51	837	12.71	2.98
0.67	6.46	-78.9	879	12.69	3.01
0.57	6.49	-91.4	836	12.68	3.00
0.52	6.53	-100.7	805	12.60	3.02
0.51	6.54	-104.4	779	12.59	3.01
0.50	6.56	-105.7	736	12.57	2.99
0.51	6.56	-107.5	781	12.58	3.00

Deans 5896428/911

gw.

G6M02-13X 62.23 start 9:15

110-120 ft sample 10:30

DO	pH	ORP	SpC	Temp	Turb.
12.90	7.92	103.7	654	17.57	3.60
3.89	7.19	-12.8	594	14.21	3.55
1.21	6.72	-44.9	551	13.75	3.10
1.09	6.57	-55.1	576	13.61	3.15
0.63	6.47	-64.6	472	13.48	3.01
0.46	6.44	-69.6	559	13.46	
0.37	6.44	-72.1	578	13.40	3.11
0.28	6.43	-74.5	745	13.4	
0.25	6.45	-76.0	619	13.41	2.85

Dewey 9/14/2015
on site 8:00 A.
Met [illegible]
- Sample 5 wells -

Set up on G&M 0203X

G&M 0203X 9:08 AM start
10:30 AM sample

DO	pH	ORP	Temp	SpeC	Turb
6.45	6.49	76.9	13.79	186	4.55
6.37	6.19	88.6	13.74	153	3.29
6.09	6.23	74.1	13.79	342	3.01
5.95	6.17	71.8	13.79	350	3.21
5.83	6.03	77.4	13.78	387	3.01
5.64	6.25	64.6	13.87	300	3.05
5.06	6.31	81.5	14.12	410	3.00
5.45	6.47	49.9	14.00	205	2.55
5.09	6.04	74.6	13.93	267	3.01
[illegible]	5.67	93.2	14.06	722	3.00

GM 97 28X 11:50

DO	pH	ORP	Temp	SpeC	Turb
0.46	6.23	79.8	14.37	257	6.11
0.37	6.22	78.6	14.48	263	0.50
0.34	6.22	76.6	14.54	266	1.41
0.29	6.20	68.3	14.39	261	-
0.30	6.21	67.7	14.43	256	
0.30					

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/14/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Mykel Mendes

WELL IDENTIFICATION: G6M - 04-13X **Headspace (PID)** 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present		X	
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2" Depth to Water: 16.5

Material: PVC Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N geopump 418

Purge Start Time: 9:52 AM Air Source: Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
9:55 AM	500	16.6	9.77	46	11.08	9.69	38.5	1.9	clear
10:00 AM	500	16.6	9.79	45	9.68	8.28	70.2	2.03	clear
10:05 AM	500	16.6	9.82	45	9.43	8.03	76.1	2.04	clear
10:10 AM	500	16.6	9.82	45	9.06	7.40	94.0	1.87	clear
10:15 AM	500	16.6	9.83	45	8.93	7.10	105.4	1.24	clear
10:20 AM	500	16.6	9.83	45	8.90	7.08	106.1	1.33	clear
10:25 AM	500	16.6	9.82	45	8.85	6.94	110.1	1.30	clear
10:28 AM	500	16.6	9.80	45	8.80	6.90	113.0	0.95	clear
10:31 AM	500	16.6	9.82	45	8.83	6.85	114.7	1.07	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: 0.45 µm

DUPLICATE: Y N X

MS/MSD: Y N X

SAMPLED BY (PRINT):	SAMPLER(S) SIGNATURES:	SAMPLING START TIME:	SAMPLING END TIME:
Mykel Mendes		10:31 AM	10:35 AM

NOTES: filtered metals only

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50   Date: 10/13/2015

Project Location: Ayer MAAF/AOC50   Project #:

Personnel: Mykel Mendes

WELL IDENTIFICATION: G6M -04-10X   **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure			
Concrete Pad Intact			
PVC Casing Intact			
Well Gripper Present			
Bolts Present (Pad Wells)			
Locked (Stickup Wells)			

Photograph

Well Information

Diameter: 2"   Depth to Water: 15.15

Material: PVC   Depth to Bottom:

Screen Interval: 52-62

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump   1 Well Volume (gal):   Tubing Type Teflon-lined P   Pump S/N qed 1012

Purge Start Time: 11:15 AM   Air Source: Nitrogen   Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
11:22 AM	200	15.7	10.86	3290	3.63	5.38	142	7.14	clear
11:27 AM	200	15.7	10.90	3283	3.55	5.35	155	10.7	clear
11:32 AM	200	15.7	11.06	3238	3.43	5.39	165.3	34.5	clear
11:37 AM	200	15.7	11.12	3233	3.24	5.33	174.5	45.5	cloudy
11:42 AM	200	15.7	11.13	3205	2.97	5.32	185.5	63.3	cloudy
11:45 AM	200	15.7	11.16	3201	2.94	5.32	186.5	45.1	cloudy
11:48 AM	200	15.7	11.21	3188	2.90	5.32	188.9	41.6	cloudy
12:00 PM	200	15.7	11.52	3194	3.14	5.32	198.7	23.6	cloudy
12:03 PM	200	15.7	11.21	3178	2.85	5.31	201	28.0	cloudy
12:06 PM	200	15.7	11.26	3174	2.86	5.31	202.1	28.5	cloudy

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N X   **DUPLICATE:** Y N X   **MS/MSD:** Y N X

FILTER SIZE: 0.45 µm

SAMPLED BY (PRINT): Mykel Mendes

SAMPLER(S) SIGNATURES:

SAMPLING START TIME: 12:06 PM

SAMPLING END TIME:

NOTES: well was off gasing during purge

Sovereign Consulting Inc.

Federal Projects EPA SOP
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FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/13/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Mykel Mendes Julie Godsoe

WELL IDENTIFICATION: G6M-04-10A **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2" Depth to Water: 14.5

Material: PVC Depth to Bottom:

Screen Interval: 30-40

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N qed mp10 1012

Purge Start Time: 9:45 AM Air Source: Nitrogen Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
9:50 AM	250	14.6	10.38	1511	1.53	6.51	-94.2	23.7	cloudy
9:54 AM	250	14.6	10.29	1559	5.0	6.51	-106.7	21.2	cloudy
9:59 AM	250	14.6	10.29	1635	0.31	6.54	-113.2	22.9	silty
10:04 AM	250	14.6	10.30	1737	0.22	6.53	-117.6	20.1	silty
10:09 AM	250	14.6	10.28	1866	0.16	6.53	-121.2	17.6	silty
10:12 AM	250	14.6	10.28	1962	0.14	6.52	-123.8	15.0	silty
10:15 AM	250	14.6	10.29	2045	0.13	6.52	-120.5	20.2	silty
10:18 AM	250	14.6	10.27	2078	0.10	6.52	-117.9	17.0	silty
10:21 AM	250	14.6	10.30	2125	0.10	6.52	-113.0	21.7	silty
10:24 AM	250	14.6	10.29	2220	0.09	6.51	-106.7	17.1	silty
10:27 AM	250	14.6	10.30	2243	0.10	6.52	-107.9	19.6	silty
10:30 AM	250	14.6	10.28	2286	0.10	6.52	-107.4	12.1	silty
10:33 AM	250	14.6	10.30	2337	0.03	6.53	-117.1	16.1	silty
10:33 AM	250	14.6	10.29	2362	0.07	6.53	-119.1	16.9	silty
10:36 AM	250	14.6	10.28	2367	0.08	6.53	-119.6	17.0	silty

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N

FILTER SIZE: 0.45 µm

DUPLICATE: Y N X

MS/MSD: Y N X

SAMPLED BY (PRINT): Julie Godsoe

SAMPLER(S) SIGNATURES: J A G

SAMPLING START TIME: 10:36 AM

SAMPLING END TIME:

NOTES: strong odor in purge water; lots of iron residue in purge water

filtered metals only

Sovereign Consulting Inc.

Federal Projects EPA SOP
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FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 — Date: 10/15/2015

Project Location: Ayer MAAF/AOC50 — Project #:

Personnel: Erin Foley

WELL IDENTIFICATION: mw-3

Headspace (PID):

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		X
Bolts Present (Pad Wells)			
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2" — Depth to Water: 64.05

Material: PVC — Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump — 1 Well Volume (gal): — Tubing Type: Teflon — Pump S/N: dedicated

Purge Start Time: 10:25 AM — Air Source: Nitrogen — Tubing Diameter:

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
10:30 AM	125	64.05	13.83	1082	9.08	8.19	139.8	14.9	turbid
10:35 AM	125	64.05	12.55	1335	0.97	7.08	-105.5	6.09	clear
10:40 AM	125	64.05	12.60	1330	0.87	7.05	-105.9	3.46	clear
10:45 AM	125	64.05	12.55	1295	0.71	7.02	-107.9	2.02	clear
10:50 AM	125	64.05	12.52	1240	0.65	6.99	-110.5	2.45	clear
10:55 AM	125	64.05	12.55	1220	0.55	6.97	-111.8	3.91	clear
11:00 AM	125	64.05	12.56	1215	0.48	6.97	-112.1	1.38	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (N)

FILTER SIZE: .45 µm

DUPLICATE: Y N — X (N)

MS/MSD: Y N — X (N)

SAMPLED BY (PRINT):	SAMPLER(S) SIGNATURES:	SAMPLING START TIME:	SAMPLING END TIME:
Erin Foley	Erin Foley	11:00 AM	11:30 AM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
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FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/13/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Mykel Mendes

WELL IDENTIFICATION: G6M - 07-02X **Headspace (PID)** 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2" Depth to Water: 15.59

Material: PVC Depth to Bottom:

Screen Interval: 22.2-27.2

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon Pump S/N qed 1012

Purge Start Time: 1:40 PM Air Source: Nitrogen Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
1:43 PM	100	15.86	12.17	58	0.62	5.85	47.5	66.3	cloudy
1:48 PM	100	15.95	11.53	57	0.41	5.84	47.9	69.2	cloudy
1:53 PM	100	15.95	11.52	56	0.27	5.85	50.8	36	cloudy
1:58 PM	100	15.95	11.50	56	0.23	5.85	55.3	16.1	turbid
2:03 PM	100	15.95	11.52	56	0.21	5.85	55.8	14.2	turbid
2:06 PM	100	15.95	11.49	55	0.18	5.85	56.1	8.18	clear
2:09 PM	100	15.95	11.59	55	0.39	5.85	57.1	6.60	clear
2:12 PM	100	15.95	11.55	55	0.35	5.86	58.1	6.56	clear
2:15 PM	100	15.95	11.45	55	0.27	5.86	59.3	5.95	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y [X] N

FILTER SIZE: 0.45 µm

DUPLICATE: Y [X] N

MS/MSD: Y N [X]

SAMPLED BY (PRINT):	SAMPLER(S) SIGNATURES:	SAMPLING START TIME:	SAMPLING END TIME:
Mykel Mendes	[signature]	2:15 PM	

NOTES: dedicated bladder pump, dup2 collected at 1430

collected hydro sleeve at 1335, filtered only metals

Sovereign Consulting Inc.

Federal Projects EPA SOP
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FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/13/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Julie Godsoe

WELL IDENTIFICATION: G6M-95-20X

Headspace (PID):

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2"
Depth to Water: 15.35
Material: PVC
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump
1 Well Volume (gal):
Tubing Type: Teflon-lined P
Pump S/N: 420
Purge Start Time: 1:30 PM
Air Source:
Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
1:36 PM	125	15.75	13.72	573	3.49	7.26	-51.0	11.4	clear
1:41 PM	125	15.75	13.81	590	2.75	6.95	-53.1	5.87	clear
1:46 PM	125	15.78	13.36	630	1.39	6.82	-55.1	6.61	clear
1:50 PM	125	15.78	13.11	691	0.82	6.71	-56.7	3.34	clear
1:55 PM	125	15.78	13.14	705	0.69	6.67	-56.0	2.80	clear
2:00 PM	125	15.80	13.35	721	0.58	6.63	-55.0	3.18	clear
2:05 PM	125	15.80	12.99	723	0.55	6.61	-54.1	4.50	clear
2:09 PM	125	15.80	12.98	722	0.55	6.61	-55.0	2.86	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (Y)
FILTER SIZE: _______ µm
DUPLICATE: Y N — X (N)
MS/MSD: Y N — X (N)

SAMPLED BY (PRINT): Julie Godsoe
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 2:10 PM
SAMPLING END TIME:

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
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FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: LTM Sites at Devens
Date: 10/13/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-03-02X-fal15
Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2"
Depth to Water: 15.65
Material: PVC
Depth to Bottom:
Screen Interval: 173-158

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: Teflon-lined P
Pump S/N:
Purge Start Time: 9:35 AM
Air Source: Nitrogen
Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
9:40 AM		15.65	11.82	760	0.94	5.91	-54.0	29.2	clear
9:45 AM		15.65	11.77	744	0.71	5.74	-52.6	28.2	clear
9:50 AM		15.65	11.68	713	0.45	5.75	.628	32.9	clear
9:55 AM		15.65	11.67	710	0.42	5.74	-63.9	27.5	clear
10:00 AM		15.65	11.66	706	0.39	5.75	-65.4	26.3	clear
10:05 AM		15.65	11.62	697	0.39	5.77	-70.6	23.0	clear
10:10 AM		15.65	11.60	686	0.39	5.80	-78.8	23.8	clear
10:15 AM		15.65	11.60	688	0.39	5.81	-79.6	23.3	clear
10:20 AM		15.65	11.59	679	0.39	5.85	-86.5	23.4	clear
10:25 AM		15.65	11.59	679	0.39	5.85	-86.6	23.1	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: 5 µm
DUPLICATE: Y N X
MS/MSD: Y N X

SAMPLED BY (PRINT): Samantha Landry
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 10:25 AM
SAMPLING END TIME:

NOTES:
hydra sleeve sampled at 1045

Sovereign Consulting Inc.

Federal Projects EPA SOP
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FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/13/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-02-08X **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2" Depth to Water: 15.75

Material: PVC Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N

Purge Start Time: 10:42 AM Air Source: Nitrogen Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
10:47 AM	175	15.75	12.73	2001	0.62	4.95	42.3	23.4	cloudy
10:51 AM	175	15.75	12.58	1994	0.57	4.94	36.2	52.5	turbid
10:55 AM	175	152.75	12.46	1968	0.47	4.96	29.1	40.7	turbid
11:00 AM	175	15.75	12.38	1943	0.44	4.97	24.1	45.7	turbid
11:05 AM		15.75	12.09	1888	0.44	4.98	16.5	44.8	turbid
11:10 AM		15.75	12.05	1862	0.45	4.99	13.7	39.1	turbid
11:15 AM		15.75	12.06	1823	0.37	4.99	9.1	42.8	turbid
11:20 AM		15.78	12.03	1704	0.37	5.01	1.4	47.9	turbid
11:25 AM		15.78	12.02	1693	0.34	5.02	0.4	51.8	turbid
11:30 AM		15.78	12.02	1689	0.33	5.02	0.4	47.8	turbid

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (Y)
FILTER SIZE: 5 µm

DUPLICATE: Y N — X (N)

MS/MSD: Y N — X (N)

SAMPLED BY (PRINT):	SAMPLER(S) SIGNATURES:	SAMPLING START TIME:	SAMPLING END TIME:
Samantha Landry		11:30 AM	

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
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FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/13/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Julie Godsoe

WELL IDENTIFICATION: G6M-13-05X **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2" Depth to Water: 16.33

Material: PVC Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N 420

Purge Start Time: 11:13 AM Air Source: Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
11:14 AM	100	16.34	12.20	530	4.68	8.98	36.6	26.7	cloudy
11:19 AM	100	16.34	12.31	522	2.54	8.38	44.9	17.1	clear
11:23 AM	100	16.34	12.22	524	1.50	7.96	51.9	11.4	clear
11:27 AM	100	16.35	12.23	524	1.32	7.84	54.4	7.66	clear
11:32 AM	100	16.35	12.17	524	1.43	7.75	55.8	8.55	clear
11:37 AM	100	16.35	12.29	525	1.33	7.66	57.5	6.32	clear
11:42 AM	100	16.35	12.21	529	1.4	7.56	59.2	6.5	clear
11:49 AM	100	16.37	12.3	523	1.91	7.3	59.6	3.46	clear
11:55 AM	100	16.37	12.33	525	0.99	7.22	59.5	2.14	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N: X
FILTER SIZE: _______ µm

DUPLICATE: Y N: X

MS/MSD: Y N: X

SAMPLED BY (PRINT): Julie Godsoe

SAMPLER(S) SIGNATURES:

SAMPLING START TIME: 12:00 PM

SAMPLING END TIME: 12:06 PM

NOTES: hydrosleeve samples also taken.

Sovereign Consulting Inc.

Federal Projects EPA SOP
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FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 | Date: 10/16/2015

Project Location: Ayer MAAF/AOC50 | Project #:

Personnel:

WELL IDENTIFICATION: G6M - 13-02X

Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)	X		
Locked (Stickup Wells)			X

Photograph

Well Information

Diameter: 2" | Depth to Water: 61.61

Material: PVC | Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump | 1 Well Volume (gal): | Tubing Type: Teflon-lined P | Pump S/N: QED MP10-1012

Purge Start Time: 11:28 AM | Air Source: Nitrogen | Tubing Diameter: 025

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
12:05 PM	200	61.65	13.34	1009	0.73	6.31	40.6	18.7	clear
12:10 PM	200	61.65	13.24	1021	0.52	6.24	55.3	16.4	clear
12:15 PM	200	61.65	13.08	1032	0.45	6.23	63.2	8.36	clear
12:18 PM	200	61.65	13.10	1036	0.41	6.21	66.8	7.14	clear
12:21 PM	200	61.65	13.16	1039	0.39	6.19	69.4	6.09	clear
12:24 PM	200	61.65	13.18	1054	0.38	6.21	71.3	5.08	clear
12:27 PM	200	61.65	13.21	1062	0.36	6.23	71.9	4.01	clear
12:30 PM	200	61.65	13.11	1069	0.35	6.27	72.0	2.97	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y [X] N | DUPLICATE: Y N [X] | MS/MSD: Y N [X]

FILTER SIZE: 0.45 µm

SAMPLED BY (PRINT): Mykel Mendes

SAMPLER(S) SIGNATURES: [signature]

SAMPLING START TIME: 12:30 PM

SAMPLING END TIME:

NOTES: field filter for metals only

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: LTM Sites at Devens　　Date: 10/16/2015

Project Location: Ayer MAAF/AOC50　　Project #:

Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-13-03X　　**Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2"　　Depth to Water: 59.96

Material: PVC　　Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump　　1 Well Volume (gal):　　Tubing Type: Teflon-lined P　　Pump S/N

Purge Start Time: 12:30 PM　　Air Source: Nitrogen　　Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
12:35 PM	225	59.96	13.69	2456	1.49	5.69	97.3	195	cloudy
12:40 PM		59.96	14.11	2340	1.46	5.72	105.4	150	cloudy
12:45 PM		59.96	14.03	2540	1.34	5.53	149.8	58.9	clear
12:50 PM		59.96	14.22	2543	1.55	5.53	150.3	35.5	clear
12:55 PM		59.96	14.23	2539	1.52	5.53	154.6	38.5	clear
1:00 PM		59.96	14.23	2539	1.58	5.53	157.6	36.6	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N [X under Y]
FILTER SIZE: 5 µm

DUPLICATE: Y N [X under N]

MS/MSD: Y N [X under N]

SAMPLED BY (PRINT): Samantha Landry

SAMPLER(S) SIGNATURES:

SAMPLING START TIME: 1:00 PM

SAMPLING END TIME:

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/15/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Mykel Mendes

WELL IDENTIFICATION: G6M - 02-11X **Headspace (PID)** 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)		X	
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2" Depth to Water: 62.47

Material: PVC Depth to Bottom:

Screen Interval: 125-135

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N qed mp10- 1012

Purge Start Time: 12:30 PM Air Source: Nitrogen Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
12:36 PM	140	62.5	11.59	922	0.83	6.99	-119.2	5.84	clear
12:40 PM	140	62.5	11.67	928	0.42	7.00	-127.1	2.93	clear
12:45 PM	140	62.5	11.73	936	0.40	7.02	-131.4	2.26	clear
12:50 PM	140	62.5	11.74	942	0.32	7.02	-133.4	1.70	clear
12:55 PM	140	62.5	11.85	942	0.26	7.03	-132.7	1.12	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N X   DUPLICATE: Y N X   MS/MSD: Y N X

FILTER SIZE: 0.45 µm

SAMPLED BY (PRINT):	SAMPLER(S) SIGNATURES:	SAMPLING START TIME:	SAMPLING END TIME:
Mykel Mendes		12:55 PM	1:08 PM

NOTES: dedicated bladder ; iron residue particulates in purge water

filtered metals only

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/16/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Mykel Mendes

WELL IDENTIFICATION: G6M -02-13X **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)		X	
Locked (Stickup Wells)			X

Photograph

Well Information

Diameter: 2" Depth to Water: 61.41

Material: PVC Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type: Teflon-lined P Pump S/N: QED MP10-1012

Purge Start Time: 10:07 AM Air Source: Nitrogen Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
10:10 AM	250	61.45	13.54	671	0.80	6.72	-50.1	4.72	clear
10:15 AM	250	61.45	13.40	672	0.44	6.74	-68.0	3.80	clear
10:20 AM	250	61.45	13.36	672	0.38	6.76	-75.8	3.16	clear
10:25 AM	250	61.45	13.31	670	0.35	6.78	-80.7	3.64	clear
10:30 AM	250	61.45	13.32	667	1.23	6.79	-82.9	3.65	clear
10:35 AM	250	61.45	13.33	669	0.39	6.84	-85.6	3.06	clear
10:38 AM	250	61.45	13.36	668	0.32	6.84	-87.8	2.95	clear
10:41 AM	250	61.45	13.43	667	0.31	6.84	-87.2	2.90	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (Y)

FILTER SIZE: _______ µm

DUPLICATE: Y N — X (N)

MS/MSD: Y N — X (N)

SAMPLED BY (PRINT): Mykel Mendes

SAMPLER(S) SIGNATURES:

SAMPLING START TIME: 10:41 AM

SAMPLING END TIME:

NOTES: dedicated bladder pump

filtered metals only

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/15/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Mykel Mendes

WELL IDENTIFICATION: G6M - 03-09X
Headspace (PID) 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2"
Depth to Water: 57.65
Material: PVC
Depth to Bottom:
Screen Interval: 125-140

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: Teflon-lined P
Pump S/N: qed mp10 - 1012
Purge Start Time: 1:24 PM
Air Source: Nitrogen
Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
1:30 PM	100	57.65	10.80	189	1.71	6.65	39.8	9.72	clear
1:35 PM	100	57.65	10.95	147	0.52	6.22	82.5	3.33	clear
1:40 PM	100	57.65	11.03	147	042	6.12	99.2	1.87	clear
1:45 PM	100	57.65	11.49	147	0.38	6.09	105.7	1.52	clear
1:50 PM	100	57.65	10.97	145	0.32	6.03	113.2	1.05	clear
1:55 PM	100	57.65	11.07	145	0.26	6.07	117.7	1.07	clear
2:00 PM	100	57.65	11.09	144	0.22	6.06	123.1	0.81	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: 0.45 µm
DUPLICATE: Y N X
MS/MSD: Y X N

SAMPLED BY (PRINT): Mykel Mendes
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 2:00 PM
SAMPLING END TIME: 2:42 PM

NOTES: dedicated bladder pump
filtered for metals only

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/14/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Mykel Mendes

WELL IDENTIFICATION: G6M - 04-03X
Headspace (PID) 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)	X		
Locked (Stickup Wells)			

Photograph

Well Information

Diameter: 2"
Depth to Water: 57.85
Material: PVC
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type Teflon-lined P
Pump S/N qed 2056
Purge Start Time: 12:04 PM
Air Source: Nitrogen
Tubing Diameter

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
12:13 PM	100	59.2	15.04	1228	3.21	7.18	-96.8	50.8	cloudy
12:18 PM	100	59.2	15.50	1249	1.49	6.89	-82.8	41.6	cloudy
12:23 PM	100	59.2	15.29	1229	1.28	6.86	-78.3	28.9	cloudy
12:28 PM	100	59.2	15.09	1213	1.30	6.83	-74.6	19.5	clear
12:33 PM	100	59.2	14.90	1201	1.35	6.81	-73.1	17.9	clear
12:38 PM	100	59.2	14.88	1197	1.33	6.81	-72.3	14.5	clear
12:41 PM	100	59.2	14.79	1197	1.35	6.80	-70.8	12.7	clear
12:44 PM	100	59.2	14.74	1196	1.24	6.80	-70.0	11.6	clear
12:47 PM	100	59.2	14.72	1202	1.13	6.79	-69.3	10.3	clear
12:50 PM	100	59.2	14.72	1204	1.09	6.79	-68.8	9.59	clear
12:53 PM	100	59.2	14.72	1208	1.03	6.79	-68.4	9.64	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: 0.45 µm
DUPLICATE: Y X N
MS/MSD: Y N X

SAMPLED BY (PRINT): Mykel Mendes
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 12:53 PM
SAMPLING END TIME:

NOTES: hydro sleeve collected at 1140, filtered metals only
Dup1 collected at 1305

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/19/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Dylan Bush

WELL IDENTIFICATION: g6m.02.06x

Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2"
Depth to Water: 8.56
Material: PVC
Depth to Bottom: 66.80
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal): 9.3
Tubing Type: Teflon-lined P
Pump S/N: 10251
Purge Start Time: 1:45 PM
Air Source: Nitrogen
Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
1:55 PM	150	8.81	10.7	112	5.80	7.05	54.1	4.32	clear
2:05 PM	150	8.81	10.85	113	7.50	7.22	68.2	3.01	clear
2:10 PM	150	8.75	10.81	113	7.70	7.24	71.1	2.66	clear
2:15 PM	150	8.75	10.89	114	7.74	7.26	73.6	2.73	clear
2:20 PM	150	8.73	10.89	114	7.92	7.28	77.6	2.57	clear
2:25 PM	150	8.73	10.88	114	8.05	7.29	80.1	2.63	clear
2:30 PM	150	8.73	10.92	114	8.05	7.29	82.5	2.23	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: 0.45 µm
DUPLICATE: Y N X
MS/MSD: Y N X

SAMPLED BY (PRINT): Dylan Bush
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 2:30 PM
SAMPLING END TIME: 2:35 PM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/19/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Dylan Bush

WELL IDENTIFICATION: g6m.04.07x

Headspace (PID):

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2"
Depth to Water: 62.90
Material: PVC
Depth to Bottom: 130.21
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal): 10.8
Tubing Type: Teflon
Pump S/N: N/A
Purge Start Time: 10:57 AM
Air Source: Nitrogen
Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
11:05 AM	100	62.97	10.46	311	1.58	6.49	17.9	2.67	clear
11:15 AM	100	62.98	10.56	312	0.86	6.39	19.5	1.76	clear
11:25 AM	100	62.98	10.60	320	0.63	6.36	21.0	1.65	clear
11:30 AM	100	62.98	10.64	323	0.55	6.35	22.6	1.89	clear
11:35 AM	100	62.98	10.67	324	0.53	6.35	23.3	1.68	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y [X] N
FILTER SIZE: 0.45 µm
DUPLICATE: Y N [X]
MS/MSD: Y N [X]

SAMPLED BY (PRINT): Dylan Bush
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 11:35 AM
SAMPLING END TIME: 11:45 AM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: LTM Sites at Devens
Date: 10/16/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel:

WELL IDENTIFICATION: G6M-02-01X
Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2"
Depth to Water: 56.36
Material: PVC
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type Teflon-lined P
Pump S/N
Purge Start Time: 10:05 AM
Air Source: Nitrogen
Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
10:10 AM	325	56.36	12.82	2325	0.29	6.79	-101.9	11.7	clear
10:15 AM		56.36	12.71	1601	0.16	6.81	-119.5	6.48	clear
10:20 AM		56.36	12.76	1355	0.14	6.83	-125.6	5.05	clear
10:25 AM		56.36	12.63	1161	0.18	6.8	-127.6	3.32	clear
10:30 AM		56.36	12.60	1160	0.17	6.86	-127.7	3.09	clear
10:35 AM		56.36	12.60	1145	0.16	6.86	-127.7	2.63	clear
10:40 AM		56.36	12.70	1106	0.12	6.86	-127.6	2.22	clear
10:45 AM		56.36	12.75	1109	0.10	6.86	-127.9	1.86	clear
10:50 AM		56.36	12.76	1109	0.11	6.86	-128.2	2.79	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: 5 µm
DUPLICATE: Y N X
MS/MSD: Y N X

SAMPLED BY (PRINT): Samantha Landry
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 10:50 AM
SAMPLING END TIME: 10:56 AM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
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FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: LTM Sites at Devens   Date: 10/13/2015

Project Location: Ayer MAAF/AOC50   Project #:

Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-03-01X-fal15   **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2"   Depth to Water: 15.85

Material: PVC   Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump   1 Well Volume (gal):   Tubing Type: Teflon-lined P   Pump S/N

Purge Start Time: 1:35 PM   Air Source: Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
1:40 PM	175	15.89	13.65	1623	0.62	6.17	-64.2	34.7	clear
1:45 PM		15.89	13.38	2082	0.34	6.20	-77.3	20.9	clear
1:50 PM		15.89	13.36	2080	0.34	6.21	-77.4	15.6	clear
1:55 PM		15.89	13.38	2082	0.33	6.21	-77.5	15.3	clear
2:00 PM		15.89	13.70	2078	0.28	6.24	-71.2	5.98	clear
2:05 PM		15.89	13.83	2078	0.31	6.24	-73.8	4.99	clear
2:10 PM		15.89	13.29	2102	0.28	6.28	-82.5	4.68	clear
2:15 PM		15.89	13.28	2103	0.30	6.27	-83.4	3.55	clear
2:20 PM		15.89	13.25	2096	0.28	6.27	-83.5	3.61	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: 5 µm

DUPLICATE: Y N X

MS/MSD: Y N X

SAMPLED BY (PRINT): Samantha Landry

SAMPLER(S) SIGNATURES:

SAMPLING START TIME: 2:20 PM

SAMPLING END TIME:

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/16/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Erin Foley

WELL IDENTIFICATION: G6M-02-04X

Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2"
Depth to Water: 62.5
Material: PVC
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: Teflon-lined P
Pump S/N:
Purge Start Time: 10:13 AM
Air Source: Nitrogen
Tubing Diameter: .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
10:18 AM	275	62.5	13.04	614	0.79	6.68	-80.6	4.11	clear
10:23 AM	275	62.5	13.04	615	0.72	6.69	-81.6	2.06	clear
10:28 AM	275	62.5	13.00	629	0.56	6.73	-89.6	1.49	clear
10:33 AM	275	62.5	12.98	654	0.56	6.76	-93.7	1.41	clear
10:38 AM	275	62.5	13.00	656	0.56	6.77	-95.7	0.94	clear
10:43 AM	275	62.5	13.02	665	0.43	6.78	-97.3	0.86	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: .45 µm
DUPLICATE: Y N X
MS/MSD: Y N X

SAMPLED BY (PRINT): Erin Foley
SAMPLER(S) SIGNATURES: EF
SAMPLING START TIME: 10:43 AM
SAMPLING END TIME: 10:47 AM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/19/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Erin Foley

WELL IDENTIFICATION: G6M-02-07X
Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact		X	
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2"
Depth to Water: 10.0
Material: PVC
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: Teflon-lined P
Pump S/N:
Purge Start Time: 11:32 AM
Air Source: Nitrogen
Tubing Diameter: .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
11:37 AM	350	10	11.14	388	1.17	7.67	109.7	78.9	turbid
11:42 AM	350	10	11.15	380	0.70	7.68	96.8	41.8	turbid
11:47 AM	350	10	11.15	373	0.57	7.67	90.6	19.5	turbid
11:52 AM	350	10	11.15	369	0.51	7.65	86.6	13.7	clear
11:57 AM	350	10	11.12	367	0.47	7.64	84.4	9.73	clear
12:02 PM	350	10	11.15	366	0.42	7.64	82.1	7.06	clear
12:07 PM	350	10	11.12	365	0.38	7.64	79.5	5.81	clear
12:12 PM	350	10	11.11	364	0.40	7.64	77.8	5.34	clear
12:17 PM	350	10	11.12	362	0.35	7.64	75.3	3.69	

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y [X] N
FILTER SIZE: .45 µm
DUPLICATE: Y N [X]
MS/MSD: Y N [X]

SAMPLED BY (PRINT): Erin Foley
SAMPLER(S) SIGNATURES: EF
SAMPLING START TIME: 12:17 PM
SAMPLING END TIME: 12:23 PM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: LTM Sites at Devens
Date: 10/14/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-03-07X
Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2"
Depth to Water: 58.51
Material: PVC
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: Teflon-lined P
Pump S/N:
Purge Start Time: 11:55 AM
Air Source: Nitrogen
Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
12:00 PM	225	58.52	14.84	732	0.53	6.68	-94.9	35.8	clear
12:05 PM		58.53	14.45	730	0.38	6.64	-85.8	20.5	clear
12:10 PM		58.53	14.46	735	0.29	6.56	-82.2	4.91	clear
12:15 PM		58.53	14.39	738	0.31	6.63	-86.1	5.05	clear
12:20 PM		58.52	14.18	750	0.30	6.63	-84.9	5.17	clear
12:25 PM		58.53	14.22	748	0.30	6.63	-83.1	5.07	clear
12:30 PM		58.54	14.03	754	0.24	6.61	-76.6	5.24	clear
12:35 PM		58.54	13.98	755	0.24	6.61	-76.1	5.17	clear
12:40 PM		58.54	13.99	754	0.24	6.61	-76.2	5.37	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: 5 µm
DUPLICATE: Y N X
MS/MSD: Y N X

SAMPLED BY (PRINT): Samantha Landry
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 12:40 PM
SAMPLING END TIME:

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/15/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Erin Foley

WELL IDENTIFICATION: G6M-03-10X

Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2"
Depth to Water: 64.45
Material: PVC
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: Teflon
Pump S/N: dedicated
Purge Start Time: 12:30 PM
Air Source: Nitrogen
Tubing Diameter: .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
12:35 PM	110	64.45	11.69	1146	3.64	7.40	-64.9	6.78	clear
12:40 PM	110	64.45	11.84	1266	1.17	7.03	-101.5	4.78	clear
12:45 PM	110	64.45	11.86	1228	0.75	7.01	-116.5	3.66	clear
12:50 PM	110	64.45	11.86	1219	0.61	7.01	-120.8	2.98	clear
12:55 PM	110	64.45	11.89	1208	0.51	7.03	-127.2	2.11	clear
1:00 PM	110	64.45	11.86	1206	0.49	7.03	-128.0	1.74	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (N)
FILTER SIZE: .45 µm
DUPLICATE: Y N — X (N)
MS/MSD: Y N — X (N)

SAMPLED BY (PRINT): Erin Foley
SAMPLER(S) SIGNATURES: EF
SAMPLING START TIME: 1:00 PM
SAMPLING END TIME: 1:18 PM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/14/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Erin Foley

WELL IDENTIFICATION: G6M-04-01X

Headspace (PID) 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure			X
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)	X		
Locked (Stickup Wells)			X

Photograph

Well Information

Diameter: 2" Depth to Water: 54.2

Material: PVC Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N

Purge Start Time: 12:12 PM Air Source: Nitrogen Tubing Diameter .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
12:17 PM	250	54.25	13.55	2937	0.57	6.89	-128.2	59.5	cloudy
12:22 PM	250	54.25	13.07	3000	0.46	6.67	-120.9	20.3	cloudy
12:27 PM	250	54.25	12.92	2978	0.29	6.70	-127.4	17.3	clear
12:32 PM	250	54.25	12.84	2945	0.19	6.75	-131.5	10.9	clear
12:37 PM	250	54.25	12.86	2914	0.23	6.80	-133.5	12.0	clear
12:42 PM	250	54.25	12.66	2880	0.14	6.81	-135.8	7.06	clear
12:47 PM	250	54.25	12.70	2878	0.10	6.78	-133.0	4.83	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (Y)
FILTER SIZE: .45 µm

DUPLICATE: Y N — X (N)

MS/MSD: Y N — X (N)

SAMPLED BY (PRINT):	SAMPLER(S) SIGNATURES:	SAMPLING START TIME:	SAMPLING END TIME:
Erin Foley	[signature]	12:47 PM	12:55 PM

NOTES: ysi: 14F100066

Sovereign Consulting Inc.

Federal Projects EPA SOP Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/16/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Erin Foley

WELL IDENTIFICATION: G6M-04-02X

Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2"
Depth to Water: 62.50
Material: PVC
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: Teflon-lined P
Pump S/N:
Purge Start Time: 12:20 PM
Air Source: Nitrogen
Tubing Diameter: .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
12:25 PM	275	62.5	13.02	682	0.56	6.50	-106.2	13.8	clear
12:30 PM	275	62.5	12.95	699	0.41	6.50	-98.3	3.50	clear
12:35 PM	275	62.5	12.69	767	0.36	6.40	-76.3	2.91	clear
12:40 PM	275	62.5	12.82	797	0.37	6.33	-64.2	2.75	clear
12:45 PM	275	62.5	12.82	810	0.28	6.32	-58.8	2.61	clear
12:50 PM	275	62.5	12.79	818	0.23	6.32	-56.1	2.43	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (Y)
FILTER SIZE: .45 µm
DUPLICATE: Y N — X (N)
MS/MSD: Y N — X (N)

SAMPLED BY (PRINT): Erin Foley
SAMPLER(S) SIGNATURES: EF
SAMPLING START TIME: 12:50 PM
SAMPLING END TIME: 12:53 PM

NOTES: hydro sleeve collected at 1135

Federal Projects EPA SOP
Low Flow Sampling Log

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Devens
Date: 10/16/2015
Project Location:
Project #:
Personnel: Kevin G Anderson

WELL IDENTIFICATION: G6M-04-04X
Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)	X		
Locked (Stickup Wells)			X

Well Information

Diameter: 2"
Depth to Water:
Screen Interval: 94-104
Material: PVC
Depth to Well Bottom:
Notes:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: HDPE
Tubing Intake Depth: 99
Purge Start Time: 10:00 AM
Purge End Time:
Tubing Diameter: .25
Air Source: Nitrogen

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC CONDUCTIVITY (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
10:20 A	100	59.78	14.67	1455	2.67	6.27	-121.1	6.66	clear
10:25 A	100	59.78	14.16	1623	1.66	5.95	-107.0	3.33	clear
10:30 A	100	59.78	14.10	1672	1.24	5.91	-107.9	5.05	clear
10:35 A	100	59.78	14.08	1672	1.01	5.88	-106.6	2.51	clear
10:40 A	100	59.78	14.36	1702	0.75	5.94	-109.9	3.27	clear
10:45 A	100	59.78	14.59	1720	0.59	5.99	-113.0	3.17	clear
10:50 A	100	59.78	14.58	1727	0.57	5.99	-114.6	3.13	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (Y)
FILTER SIZE: .45 µm
DUPLICATE: Y N — X (N)
MS/MSD: Y N — X (N)

SAMPLED BY (PRINT): Kevin G Anderson
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 10:55 AM
SAMPLING END TIME: 11:25 AM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/15/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Erin Foley

WELL IDENTIFICATION: G6M-04-05X

Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2"
Depth to Water: 56.75
Material: PVC
Depth to Bottom:
Screen Interval: 11-110

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: Teflon
Pump S/N: dedicated
Purge Start Time: 1:33 PM
Air Source: Nitrogen
Tubing Diameter: .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
1:38 PM	225	56.76	11.34	265	1.58	6.65	61.0	3.17	clear
1:43 PM	225	56.76	11.47	264	0.77	6.15	90.8	1.21	clear
1:48 PM	225	56.76	11.49	264	0.67	6.01	100.9	1.58	clear
1:53 PM	225	56.76	11.48	265	0.58	6.06	102.9	2.87	clear
1:58 PM	225	56.76	11.42	263	0.53	5.97	111.3	2.59	clear
2:03 PM	225	56.76	11.46	264	0.50	5.96	116.4	2.44	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y (X) N
FILTER SIZE: .45 µm
DUPLICATE: Y N (X)
MS/MSD: Y N (X)

SAMPLED BY (PRINT): Erin Foley
SAMPLER(S) SIGNATURES: EF
SAMPLING START TIME: 2:03 PM
SAMPLING END TIME: 2:17 PM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/14/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Erin Foley

WELL IDENTIFICATION: G6M-04-09X **Headspace (PID)** 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2" Depth to Water: 33.7

Material: PVC Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N

Purge Start Time: 2:07 PM Air Source: Nitrogen Tubing Diameter .25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
2:12 PM	300	33.8	10.64	1520	1.47	7.19	-167.2	46.0	cloudy
2:17 PM	300	33.85	10.47	1562	0.46	6.61	-133.5	13.7	clear
2:22 PM	300	33.85	10.53	1579	0.32	6.59	-133.4	15.9	clear
2:27 PM	300	33.85	10.51	1584	0.25	6.59	-131.2	18.2	clear
2:32 PM	300	33.85	10.52	1587	0.19	6.60	-132.6	15.1	clear
2:37 PM	300	33.85	10.54	1596	0.14	6.60	-134.5	15.8	clear
2:42 PM	300	33.85	10.50	1604	0.13	6.61	-134.9	15.3	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N **DUPLICATE:** Y N X **MS/MSD:** Y N X

FILTER SIZE: .45 µm

SAMPLED BY (PRINT): Erin Foley

SAMPLER(S) SIGNATURES: EF

SAMPLING START TIME: 2:42 PM

SAMPLING END TIME: 2:47 PM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/26/2015

Project Location: Project #:

Personnel: Erin Foley

WELL IDENTIFICATION: G6M-04-14X **Headspace (PID)** 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2" Depth to Water: 9.59

Material: PVC Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N

Purge Start Time: 10:40 AM Air Source: Nitrogen Tubing Diameter .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
10:45 AM	150	9.66	12.23	456	4.59	7.51	96.9	17.6	clear
10:50 AM	150	9.66	12.29	476	3.29	7.68	90.3	19.6	clear
10:55 AM	150	9.66	12.31	483	2.19	7.80	87.9	16.6	clear
11:00 AM	150	9.66	12.38	483	1.74	7.86	84.7	20.7	clear
11:05 AM	150	9.66	12.41	483	1.60	7.87	83.1	27.3	clear
11:10 AM	150	9.66	12.42	482	1.52	7.88	82.1	25.9	clear
11:15 AM	150	9.66	12.45	482	1.51	7.89	81.4	23.9	clear
11:20 AM	150	9.66	12.45	482	1.47	7.89	80.6	19.6	clear
11:25 AM	150	9.66	12.46	482	1.45	7.89	79.8	19.2	clear
11:30 AM	158	9.66	12.46	482	1.44	7.89	79.2	18.9	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N

FILTER SIZE: .45 µm

DUPLICATE: Y N X

MS/MSD: Y N X

SAMPLED BY (PRINT): Erin Foley

SAMPLER(S) SIGNATURES: Erin Foley

SAMPLING START TIME: 11:30 AM

SAMPLING END TIME: 11:34 AM

NOTES: use 85 Walker Rd Shirley Ma to get to the Oxbow Reserve. From there, continue straight. Road will split to you left and right. Stay straight. Look for orange flagging on right side of road. follow flagging to well

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

H&S ENVIRONMENTAL

Federal Projects EPA SOP

Low Flow Sampling Log

Project Name: Fort Devens Fall 2015 L

Date: 10/14/2015

Project Location: AOC 50

Project #:

Personnel: Sean Enos

WELL IDENTIFICATION: G6M-04-15X

Headspace (PID) 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Well Information

Diameter: 2"

Depth to Water: 44.34

Screen Interval:

Material: PVC

Depth to Well Bottom:

Notes:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump

1 Well Volume (gal):

Tubing Type

Tubing Intake Depth:

Purge Start Time: 11:08 AM

Purge End Time:

Tubing Diameter

Air Source:

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
11:15 A	150	44.34	11.88	3.595	6.21	6.44	-43.0	2.44	clear
11:20 A	150	44.34	11.78	3.717	1.60	6.11	-40.7	2.18	clear
11:25 A	150	44.34	11.77	3.718	1.44	6.10	-40.4	2.18	clear
11:30 A	150	44.34	11.83	3.850	1.01	6.04	-42.0	2.09	clear
11:35 A	150	44.34	11.95	3.920	0.89	5.99	-41.3	2.23	clear
11:40 A	150	44.34	11.88	3.996	0.72	5.94	-38.4	1.46	clear
11:45 A	150	44.34	11.89	4.011	0.69	5.93	-38.2	1.24	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (Y)

FILTER SIZE: 45 µm

DUPLICATE: Y N — X (N)

MS/MSD: Y N — X (N)

SAMPLED BY (PRINT): Sean Enos

SAMPLER(S) SIGNATURES: [signature]

SAMPLING START TIME: 11:47 AM

SAMPLING END TIME: 11:52 AM

NOTES: Groundwater has slight odor

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

H&S ENVIRONMENTAL

Federal Projects EPA SOP

Low Flow Sampling Log

Project Name: Fort Devens Fall 2015 L

Date: 10/13/2015

Project Location: AOC 50

Project #:

Personnel: Sean Enos

WELL IDENTIFICATION: G6M-04-31X

Headspace (PID) 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present		X	
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Well Information

Diameter: 2"

Depth to Water: 47.35

Screen Interval:

Material: PVC

Depth to Well Bottom:

Notes:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump

1 Well Volume (gal):

Tubing Type Teflon

Tubing Intake Depth:

Purge Start Time: 2:35 PM

Purge End Time:

Tubing Diameter

Air Source: Nitrogen

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
3:35 PM	50	47.35	22.46	2.334	4.73	5.56	-96.7	30.0	clear
3:40 PM	50	47.35	23.72	3.486	3.95	5.78	-119.2	29.5	clear
3:45 PM	50	47.35	23.61	3.620	3.86	5.79	-119.5	26.8	clear
3:50 PM	50	47.35	23.17	3.684	2.95	5.81	-119.9	20.4	clear
3:55 PM	50	47.35	22.12	3.754	1.69	5.87	-131.4	16.1	clear
4:00 PM	50	47.35	19.65	3.927	1.24	5.88	-170.1	14.1	clear
4:05 PM	50	47.35	19.06	3.979	0.91	5.92	-143.1	11.9	clear
4:10 PM	50	47.35	18.99	3.978	0.89	5.92	-143.5	10.7	clear
4:15 PM	50	47.35	18.89	3.980	0.84	5.93	-144.3	9.8	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (N)

FILTER SIZE: 45 µm

DUPLICATE: Y N — X (N)

MS/MSD: Y N — X (N)

SAMPLED BY (PRINT): Sean Enos

SAMPLER(S) SIGNATURES: [signature]

SAMPLING START TIME: 4:16 PM

SAMPLING END TIME: 4:20 PM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/15/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Mykel Mendes

WELL IDENTIFICATION: G6M -13-04X **Headspace (PID)** 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2" Depth to Water: 64.75

Material: PVC Depth to Bottom:

Screen Interval: 125-135

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): Tubing Type Teflon-lined P Pump S/N QED MP10-1012

Purge Start Time: 10:32 AM Air Source: Nitrogen Tubing Diameter 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
10:37 AM	100	64.8	12.34	1370	1.81	6.46	-42.9	79.7	silty
10:42 AM	100	64.75	12.46	1562	0.63	6.6	-68.1	19.1	silty
10:47 AM	100	64.8	12.48	1564	0.43	6.62	-69.3	20.8	silty
10:52 AM	100	64.8	12.50	1561	0.37	6.61	-67.9	16.6	turbid
10:57 AM	100	64.8	12.53	1565	0.33	6.59	-66.0	15.4	turbid
11:02 AM	100	64.8	12.58	1573	0.30	6.58	-64.0	13.9	clear
11:07 AM	100	64.8	12.57	1579	0.28	6.59	-63.6	8.46	clear
11:10 AM	100	64.8	12.54	1582	0.27	6.59	-62.3	7.66	clear
11:13 AM	100	64.8	12.40	1596	0.27	6.60	-69.8	7.69	clear
11:16 AM	100	64.8	12.33	1595	0.29	6.60	-69.4	7.50	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N

FILTER SIZE: 0.45 µm

DUPLICATE: Y N X

MS/MSD: Y N X

SAMPLED BY (PRINT): Mykel Mendes

SAMPLER(S) SIGNATURES:

SAMPLING START TIME: 11:16 AM

SAMPLING END TIME:

NOTES: filtered for metals only

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: LTM Sites at Devens
Date: 10/14/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-13-06X
Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2"
Depth to Water: 15.85
Material: PVC
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump
1 Well Volume (gal):
Tubing Type: Teflon-lined P
Pump S/N: geosearch 92202
Purge Start Time: 1:10 PM
Air Source:
Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
1:15 PM	200	15.85	12.41	2046	1.19	6.53	-65.7	11.7	clear
1:20 PM		15.83	11.54	2049	0.52	6.43	-62.7	9.12	clear
1:25 PM		15.82	11.48	2056	0.43	6.49	-68.4	6.55	clear
1:30 PM		15.85	11.51	2053	0.47	6.48	-68.9	4.24	clear
1:35 PM		15.86	11.50	2059	0.39	6.51	-72.4	3.99	clear
1:40 PM		15.9	11.51	2065	0.36	6.52	-74.4	3.69	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: 0.45 µm
DUPLICATE: Y N X
MS/MSD: Y N X

SAMPLED BY (PRINT): Mykel Mendes
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 1:40 PM
SAMPLING END TIME:

NOTES: filtered metals only

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: LTM Sites at Devens
Date: 10/14/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Samantha Landry

WELL IDENTIFICATION: G6M-95-19X
Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2"
Depth to Water: 14.39
Material: PVC
Depth to Bottom:
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump
1 Well Volume (gal):
Tubing Type: Teflon-lined P
Pump S/N:
Purge Start Time: 9:35 AM
Air Source:
Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
9:40 AM	250	14.39	12.26	4023	1.71	6.58	140.1	1.95	clear
9:45 AM		14.39	12.25	4048	1.56	6.27	147.5	2.07	clear
9:50 AM		14.39	12.13	4078	1.32	6.00	157.0	1.11	clear
9:55 AM		14.39	12.08	4107	1.28	5.91	162.5	2.69	clear
10:00 AM		14.39	12.11	4106	1.23	5.89	164.1	0.75	clear
10:05 AM		14.39	12.06	4113	1.15	5.86	167.4	1.66	clear
10:10 AM		14.39	12.08	4110	1.19	5.85	167.7	1.16	clear
10:15 AM		14.39	12.10	4122	1.11	5.85	169.4	0.70	clear
10:20 AM		14.39	12.11	4126	1.10	5.85	170.4	1.43	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X (Y)
FILTER SIZE: 5 µm
DUPLICATE: Y N — X (N)
MS/MSD: Y N — X (Y)

SAMPLED BY (PRINT): Samantha Landry
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 10:20 AM
SAMPLING END TIME:

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50
Date: 10/14/2015
Project Location: Ayer MAAF/AOC50
Project #:
Personnel: Erin Foley

WELL IDENTIFICATION: G6M-96-22A
Headspace (PID) 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2"
Depth to Water: 6.75
Material: PVC
Depth to Bottom: 52.8
Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump
1 Well Volume (gal):
Tubing Type: Teflon-lined P
Pump S/N: 420
Purge Start Time: 9:49 AM
Air Source: Oxygen
Tubing Diameter: .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
9:54 AM	250	6.9	11.98	1259	3.19	6.10	99.1	0.45	clear
9:59 AM	250	6.9	11.84	1301	2.91	6.13	108.5	0.39	clear
10:04 AM	250	6.9	11.85	1316	2.86	6.12	111.1	0.19	clear
10:09 AM	250	6.9	11.86	1317	2.83	6.12	115.9	0.38	clear
10:14 AM	250	6.9	11.78	1340	2.70	6.12	121.5	0.28	clear
10:19 AM	250	6.9	11.73	1333	2.77	6.11	122.9	0.21	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X
FILTER SIZE: .45 µm
DUPLICATE: Y N — X (N)
MS/MSD: Y N — X (N)

SAMPLED BY (PRINT): Erin Foley
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 10:19 AM
SAMPLING END TIME: 10:23 AM

NOTES: WLM: 251920
Turb: 15040C04069

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/14/2015

Project Location: Ayer MAAF/AOC50 Project #:

Personnel: Erin Foley

WELL IDENTIFICATION: G6M-96-22B **Headspace (PID)** 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2" Depth to Water: 7.11

Material: PVC Depth to Bottom: 72.0

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump 1 Well Volume (gal): Tubing Type Teflon Pump S/N 420

Purge Start Time: 10:38 AM Air Source: Oxygen Tubing Diameter .25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
10:43 AM	225	7.2	12.14	1728	0.65	6.82	80.7	3.14	clear
10:48 AM	225	7.2	12.06	1681	0.79	6.80	86.7	2.31	clear
10:53 AM	225	7.2	12.10	1631	0.77	6.72	85.9	1.93	clear
10:58 AM	225	7.2	12.09	1568	0.93	6.44	87.9	1.66	clear
11:03 AM	225	7.2	12.05	1541	1.08	6.61	89.1	2.05	clear
11:08 AM	225	7.2	12.05	1476	1.30	6.53	92.7	2.26	clear
11:13 AM	225	7.2	12.06	1457	1.34	6.53	93.5	2.18	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N
FILTER SIZE: .45 µm

DUPLICATE: Y N X

MS/MSD: Y N X

SAMPLED BY (PRINT): Erin Foley

SAMPLER(S) SIGNATURES:

SAMPLING START TIME: 11:13 AM

SAMPLING END TIME: 11:20 AM

NOTES: wlm: 251920

ysi: 14F100066

Federal Projects EPA SOP
Low Flow Sampling Log

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Fort Devens Fall 2015 L
Date: 10/15/2015
Project Location: AOC 50
Project #:
Personnel: Sean Enos

WELL IDENTIFICATION: G6M-97-05B
Headspace (PID) 0.0

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Well Information
Diameter: 2"
Depth to Water: 66.90
Screen Interval:
Material: PVC
Depth to Well Bottom:
Notes:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump
1 Well Volume (gal):
Tubing Type: Teflon-lined
Tubing Intake Depth:
Purge Start Time: 11:45 AM
Purge End Time:
Tubing Diameter:
Air Source: Nitrogen

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC CONDUCTIVITY (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
12:10 P	100	66.95	15.93	0.687	4.22	4.35	152.4	6.49	clear
12:15 P	100	66.95	16.50	0.687	3.90	4.87	103.9	4.03	clear
12:20 P	100	66.95	16.64	0.685	3.78	4.97	100.6	2.21	clear
12:25 P	100	66.95	16.98	0.684	3.66	5.17	91.5	2.90	clear
12:30 P	100	66.95	17.21	0.687	3.64	5.34	84.6	2.26	clear
12:35 P	100	66.95	17.26	0.687	3.50	5.40	84.6	1.56	clear
12:40 P	100	66.95	17.21	0.687	3.41	5.43	86.9	1.05	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N — X
FILTER SIZE: 45 µm
DUPLICATE: Y N — X
MS/MSD: Y N — X

SAMPLED BY (PRINT): Sean Enos
SAMPLER(S) SIGNATURES:
SAMPLING START TIME: 12:45 PM
SAMPLING END TIME: 1:35 PM

NOTES: Nitrogen tank ran out in middle of samplimg, so had to switch out to new one

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: LTM Sites at Devens | Date: ________

Project Location: Ayer MAAF/AOC50 | Project #: ________

Personnel: Samantha Landry

WELL IDENTIFICATION: MW-7 | **Headspace (PID)** ________

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)	X		

Photograph

Well Information

Diameter: 2" | Depth to Water: 63.32

Material: PVC | Depth to Bottom: ________

Screen Interval: ________

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump | 1 Well Volume (gal): ________ | Tubing Type: Teflon-lined P | Pump S/N: ________

Purge Start Time: 10:45 AM | Air Source: Nitrogen | Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
10:50 AM	200	63.32	13.06	928	4.64	8.04	-29.3	8.87	clear
10:55 AM		63.34	13.14	928	2.05	7.15	-50.3	4.73	clear
11:00 AM		63.34	13.13	928	1.73	7.00	-52.0	3.92	clear
11:05 AM		63.34	13.20	925	1.22	6.90	-57.6	2.89	clear
11:10 AM		63.32	13.12	924	0.97	6.83	-61.5	1.78	clear
11:15 AM		63.32	13.11	923	0.97	6.83	-61.6	1.47	clear
11:20 AM		63.33	13.12	924	0.82	6.82	-64.0	1.44	clear
11:25 AM		63.32	13.15	925	0.85	6.83	-66.1	1.31	clear
11:30 AM		63.32	13.18	926	0.85	6.83	-66.4	1.51	clear
11:35 AM		63.32	13.14	926	0.84	6.83	-68.2	1.50	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y [X] N | DUPLICATE: Y N [X] | MS/MSD: Y N [X]

FILTER SIZE: 5 µm

SAMPLED BY (PRINT):	SAMPLER(S) SIGNATURES:	SAMPLING START TIME:	SAMPLING END TIME:
Samantha Landry		11:45 AM	

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50

Date: 10/23/2015

Project Location: Ayer MAAF/AOC50

Project #:

Personnel: Dylan Bush

WELL IDENTIFICATION: xsa-12-96x

Headspace (PID)

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact			X
Well Gripper Present			X
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 1"

Depth to Water: 68.76

Material: Iron Pipe

Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump

1 Well Volume (gal):

Tubing Type: Polyethylene (

Pump S/N

Purge Start Time: 12:55 PM

Air Source: Nitrogen

Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
1:05 PM	100	69.20	10.28	719	1.11	6.67	-136.8	26.2	clear
1:15 PM	100	69.20	10.55	780	0.81	6.48	-101.6	12.3	clear
1:25 PM	100	69.20	10.60	788	0.72	6.42	-88.0	11.5	clear
1:30 PM	100	69.20	10.41	788	0.66	6.38	-82.6	10.3	clear
1:35 PM	100	69.20	10.33	784	0.68	6.36	-78.5	10.7	clear
1:40 PM	100	69.20	10.63	787	0.66	6.34	-77.9	9.41	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N

FILTER SIZE: 0.45 µm

DUPLICATE: Y N X

MS/MSD: Y N X

SAMPLED BY (PRINT): Dylan Bush

SAMPLER(S) SIGNATURES: DHB

SAMPLING START TIME: 1:40 PM

SAMPLING END TIME: 1:47 PM

NOTES:

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50 Date: 10/19/2015

Project Location: Ayer MAAF/AOC50 Project #: ME

Personnel: Raquel Vella Eric Simpson

WELL IDENTIFICATION: XSA-12-97X **Headspace (PID)** ____

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact	X		
PVC Casing Intact			X
Well Gripper Present			X
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 1" Depth to Water: 70.24

Material: Iron Pipe Depth to Bottom: ____

Screen Interval: ____

SAMPLING TYPE, TUBING DETAILS

Purging Method: Bladder pump 1 Well Volume (gal): ____ Tubing Type: Teflon-lined P Pump S/N: Dedicated

Purge Start Time: 11:07 AM Air Source: Nitrogen Tubing Diameter: 0.25

STABILIZATION PARAMETERS

TIME (min)*	FLOW RATE (mL/min) (100-500 mL/min)**	DEPTH TO WATER (feet) (+/- 0.3')**	TEMP (°C) (+/- 3%)**	SPECIFIC COND (µS/cm) (+/- 3%)**	DISSOLVED OXYGEN (mg/L) (+/- 10%)or <0.5**	pH (+/- 0.1)**	ORP (mV) (+/- 10mV)**	TURBIDITY (NTU) (+/- 10%)or <5**	COLOR/ CLARITY -
11:12 AM	225	73.78	10.27	506	151	9.07	-61.9	54.4	cloudy
11:22 AM	225	74.30	10.42	587	0.83	7.42	-123.0	63.8	cloudy
11:32 AM	220	74.23	10.36	607	1.28	6.88	-49.0	33.6	clear
11:42 AM	220	74.26	10.26	610	1.39	6.77	-8.8	20.9	clear
11:52 AM	220	74.31	10.36	611	1.45	6.72	10.4	17.2	clear
12:02 PM	220	74.43	10.75	612	1.45	6.67	19.7	13.8	clear
12:12 PM	100	72.40	9.91	612	1.52	6.68	26.4	12.3	clear
12:17 PM	75	71.10	6.89	613	1.50	6.66	30.9	10.8	clear
12:27 PM	100	71.65	8.43	611	2.4	6.65	34.4	10.4	clear
12:31 PM	100	71.89	9.65	613	1.54	6.66	29.4	13.9	clear
12:36 PM	100	71.89	9.68	610	1.32	6.67	26.1	14.6	clear
12:41 PM	100	71.89	9.73	608	1.29	6.69	24.8	17.7	clear
12:46 PM	100	71.89	9.68	609	1.30	6.68	25.3	16.80	clear
12:51 PM	100	71.89	10.09	611	1.34	6.65	27.2	13.9	clear
12:57 PM	100	71.89	10.02	613	1.36	6.64	28.8	13.4	clear
1:03 PM	100	71.89	9.87	614	1.37	6.63	30.4	13.2	clear
1:08 PM	100	71.89	10.03	613	1.39	6.62	31.9	13.4	clear
1:12 PM	100	71.89	10.02	614	1.39	6.62	31.9	13.9	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y X N **DUPLICATE:** Y N X **MS/MSD:** Y N X

FILTER SIZE: .45 µm

SAMPLED BY (PRINT): Raquel Vella

SAMPLER(S) SIGNATURES:

SAMPLING START TIME: 1:15 PM

SAMPLING END TIME: 1:25 PM

NOTES: Changed cylinders at 12:20

Sovereign Consulting Inc.

Federal Projects EPA SOP
Low Flow Sampling Log
v.24 Sept 2014

FEDERAL SOP MONITORING WELL LOW FLOW SAMPLING LOG

Project Name: Moore Airfield/AOC50   Date: 10/19/2015

Project Location: Ayer MAAF/AOC50   Project #:

Personnel: Erin Foley

WELL IDENTIFICATION: XSA-12-98X   **Headspace (PID)**

WELL INTEGRITY

	YES	NO	N/A
Protective Casing Secure	X		
Concrete Pad Intact			X
PVC Casing Intact	X		
Well Gripper Present	X		
Bolts Present (Pad Wells)			X
Locked (Stickup Wells)		X	

Photograph

Well Information

Diameter: 2"   Depth to Water: 8.36

Material: PVC   Depth to Bottom:

Screen Interval:

SAMPLING TYPE, TUBING DETAILS

Purging Method: Peristaltic pump   1 Well Volume (gal):   Tubing Type: Polyethylene (Pump S/N

Purge Start Time: 1:18 PM   Air Source: Oxygen   Tubing Diameter: .25

STABILIZATION PARAMETERS

TIME	FLOW RATE (mL/min)	DEPTH TO WATER (feet)	TEMP (°C)	SPECIFIC COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	pH	ORP (mV)	TURBIDITY (NTU)	COLOR/ CLARITY
(min)*	(100-500 mL/min)**	(+/- 0.3')**	(+/- 3%)**	(+/- 3%)**	(+/- 10%)or <0.5**	(+/- 0.1)**	(+/- 10mV)**	(+/- 10%)or <5**	-
1:23 PM	125	8.36	10.68	207	0.83	9.06	-242.4	59.7	turbid
1:28 PM	125	8.36	10.62	271	0.71	8.72	-230.9	28.5	turbid
1:33 PM	125	8.36	10.73	292	0.64	8.49	-218.4	14.2	clear
1:38 PM	125	8.36	10.59	301	0.61	8.33	-209.1	9.51	clear
1:43 PM	125	8.36	10.72	306	0.59	8.21	-200.9	6.76	clear
1:48 PM	125	8.36	10.62	308	0.51	8.08	-197.4	5.30	clear
1:53 PM	125	8.36	10.68	310	0.48	8.05	-196.3	4.45	clear
1:58 PM	125	8.36	10.70	310	0.42	8.04	-194.4	3.62	clear

* every 5 to 10 minutes, depending on volume of flow-through cell, from EPA Region 1 Low-Flow SOP version 3: 1-19-2010

SAMPLING DETAILS

FIELD-FILTERED: Y N: X
FILTER SIZE: .45 µm

DUPLICATE: Y N: X

MS/MSD: Y N: X

SAMPLED BY (PRINT): Erin Foley

SAMPLER(S) SIGNATURES: [signature]

SAMPLING START TIME: 1:58 PM

SAMPLING END TIME: 2:06 PM

NOTES:

APPENDIX C

Laboratory Analytical Reports and Data Quality Evaluation Reports

C.1

Laboratory Analytical Data – CD Only

New England
ACCUTEST
LABORATORIES

07/06/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

Accutest Job Number: MC39371

Sampling Date: 06/16/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
eanderson@hsenv.com

ATTN: Elizabeth Anderson

Total number of pages in report: **117**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

Sections:

1 2 3 4 5 6 7 8 9 10 11

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Accutest Laboratories

Sample Summary

H&S Environmental

Fort Devens, AOC50, Devens, MA

Job No: MC39371

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC39371-1	06/16/15	13:40	SLMB	06/16/15	AQ	Ground Water	G6M-13-05X-061615
MC39371-1F	06/16/15	13:40	SLMB	06/16/15	AQ	Groundwater Filtered	G6M-13-05X-061615
MC39371-2	06/16/15	12:50	SLMB	06/16/15	AQ	Ground Water	G6M-13-05X-061615H
MC39371-2F	06/16/15	12:50	SLMB	06/16/15	AQ	Groundwater Filtered	G6M-13-05X-061615H
MC39371-3	06/16/15	14:15	SLMB	06/16/15	AQ	Ground Water	G6M-13-06X-061615
MC39371-3F	06/16/15	14:15	SLMB	06/16/15	AQ	Groundwater Filtered	G6M-13-06X-061615
MC39371-4	06/16/15	12:50	SLMB	06/16/15	AQ	Ground Water	G6M-13-06X-061615H
MC39371-4F	06/16/15	12:50	SLMB	06/16/15	AQ	Groundwater Filtered	G6M-13-06X-061615H
MC39371-5	06/16/15	15:00	SLMB	06/16/15	AQ	Ground Water	G6M-02-08X-061615
MC39371-5F	06/16/15	15:00	SLMB	06/16/15	AQ	Groundwater Filtered	G6M-02-08X-061615
MC39371-6	06/16/15	13:55	SLMB	06/16/15	AQ	Ground Water	G6M-02-08X-061615H
MC39371-6F	06/16/15	13:55	SLMB	06/16/15	AQ	Groundwater Filtered	G6M-02-08X-061615H

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	H&S Environmental	**Job No**	MC39371
Site:	Fort Devens, AOC50, Devens, MA	**Report Date**	7/6/2015 8:38:48 AM

6 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 06/16/2015 and were received at Accutest on 06/16/2015 properly preserved, at 1.9 Deg. C and intact. These Samples received an Accutest job number of MC39371. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSG5403

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** MSV1461

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39596-4MS, MC39596-4MSD were used as the QC samples indicated.
- MC39596-4MS Recovery(s) for Dichlorodifluoromethane are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for Dichlorodifluoromethane are outside control limits for sample MC39596-4MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- MSV1461-BS for Acetone: Outside control limits. Associated samples are non-detect for this compound.

Matrix: AQ **Batch ID:** MSV1463

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1498

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC39371-3DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for Duplicate for Methane are outside control limits for sample MC39371-3DUP. High RPD due to possible matrix interference and/or sample non-homogeneity.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP24743

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39250-5FMS, MC39250-5FMSD, MC39250-5FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Aluminum, Copper, Iron, Nickel, Potassium, Silver, Zinc are outside control limits for sample MP24743-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 6020A

Matrix: AQ	Batch ID: MP24743A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39250-5FMS, MC39250-5FMSD, MC39250-5FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP24743A-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 7470A

Matrix: AQ	Batch ID: MP24748

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39250-5MS, MC39250-5MSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	Batch ID: N:GP90020

- MC39371-3, 4, 5, 6 for Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	Batch ID: GP19281

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-4MS, MC39401-4DUP were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	Batch ID: R36813

- MC39371-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R36814

- MC39371-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R36815

- MC39371-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R36816

- MC39371-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	Batch ID: GP19256

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-6DUP, MC39401-6MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 2320B

Matrix: AQ **Batch ID:** GN50997

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39250-5DUP, MC39250-5MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ **Batch ID:** GN50984

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-5DUP, MC39401-5MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SW846 9060

Matrix: AQ **Batch ID:** GP19289

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-1MS, MC39401-1MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC39371).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Accutest Labs of New England, Inc.	**Job No**	MC39371
Site:	HSMAW: Fort Devens, AOC50, Devens, MA	**Report Date**	6/24/2015 8:33:57 AM

On 06/19/2015, 4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3.8 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC39371 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP90020

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB97130-3DUP, JB97130-3MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39371-1	**G6M-13-05X-061615**					
cis-1,2-Dichloroethene		61.5	1.0	0.50	ug/l	SW846 8260C
1,2-Dichloropropane		0.57 J	2.0	0.50	ug/l	SW846 8260C
1,1,1,2-Tetrachloroethane		0.62 J	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		1520	100	50	ug/l	SW846 8260C
Trichloroethene		12.0	1.0	0.50	ug/l	SW846 8260C
MC39371-1F	**G6M-13-05X-061615**					
Arsenic		5.2	4.0	2.0	ug/l	SW846 6020A
Barium		40.1 J	50	25	ug/l	SW846 6010C
Calcium		21700	10000	5000	ug/l	SW846 6010C
Magnesium		2620 J	5000	2500	ug/l	SW846 6010C
Manganese		229	15	7.5	ug/l	SW846 6010C
Potassium		6620	5000	2500	ug/l	SW846 6010C
Sodium		77600	25000	13000	ug/l	SW846 6010C
MC39371-2	**G6M-13-05X-061615H**					
cis-1,2-Dichloroethene		66.0	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene		1.6	1.0	0.50	ug/l	SW846 8260C
1,2-Dichloropropane		0.54 J	2.0	0.50	ug/l	SW846 8260C
1,1,1,2-Tetrachloroethane		0.74 J	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		1140	100	50	ug/l	SW846 8260C
Trichloroethene		11.2	1.0	0.50	ug/l	SW846 8260C
MC39371-2F	**G6M-13-05X-061615H**					
Arsenic		4.8	4.0	2.0	ug/l	SW846 6020A
Barium		43.6 J	50	25	ug/l	SW846 6010C
Calcium		19400	5000	2500	ug/l	SW846 6010C
Magnesium		2500 J	5000	2500	ug/l	SW846 6010C
Manganese		185	15	7.5	ug/l	SW846 6010C
Potassium		5630	5000	2500	ug/l	SW846 6010C
Sodium		69600	25000	13000	ug/l	SW846 6010C
Zinc		12.0 J	20	10	ug/l	SW846 6010C
MC39371-3	**G6M-13-06X-061615**					
cis-1,2-Dichloroethene		3.9	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene		0.98 J	1.0	0.50	ug/l	SW846 8260C
Toluene		2.1	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		6.0	1.0	0.50	ug/l	SW846 8260C
Xylene (total)		0.72 J	1.0	0.50	ug/l	SW846 8260C

Summary of Hits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

Lab Sample ID Client Sample ID Analyte	Result/ Qual	LOQ	LOD	Units	Method
Methane	10300	200	100	ug/l	VRSK 175
Ethene	27.3	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3	510	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]	0.15	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.15	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]	1.0 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	54.5	2.0	1.6	mg/l	SW846 9060
MC39371-3F G6M-13-06X-061615					
Aluminum	132 J	200	100	ug/l	SW846 6010C
Arsenic	546	20	10	ug/l	SW846 6020A
Barium	242	50	25	ug/l	SW846 6010C
Cadmium	5.5	4.0	2.0	ug/l	SW846 6010C
Calcium	85900	25000	13000	ug/l	SW846 6010C
Cobalt	38.5 J	50	25	ug/l	SW846 6010C
Iron	246000	2000	1000	ug/l	SW846 6010C
Magnesium	20800	10000	5000	ug/l	SW846 6010C
Manganese	16900	300	150	ug/l	SW846 6010C
Potassium	45400	25000	13000	ug/l	SW846 6010C
Sodium	172000	100000	50000	ug/l	SW846 6010C
MC39371-4 G6M-13-06X-061615H					
cis-1,2-Dichloroethene	4.8	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene	0.91 J	1.0	0.50	ug/l	SW846 8260C
Toluene	0.85 J	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride	6.5	1.0	0.50	ug/l	SW846 8260C
Methane	7850	200	100	ug/l	VRSK 175
Ethene	27.7	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3	524	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate + Nitrite	0.10	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]	1.5 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	42.3	2.0	1.6	mg/l	SW846 9060
MC39371-4F G6M-13-06X-061615H					
Aluminum	129 J	200	100	ug/l	SW846 6010C
Arsenic	148	10	5.0	ug/l	SW846 6020A
Barium	103	50	25	ug/l	SW846 6010C
Calcium	75600	5000	2500	ug/l	SW846 6010C
Cobalt	54.1	50	25	ug/l	SW846 6010C
Iron	149000	1000	500	ug/l	SW846 6010C
Magnesium	17600	5000	2500	ug/l	SW846 6010C
Manganese	14100	75	38	ug/l	SW846 6010C

Summary of Hits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Potassium		42100	25000	13000	ug/l	SW846 6010C
Sodium		158000	50000	25000	ug/l	SW846 6010C
MC39371-5	**G6M-02-08X-061615**					
2-Butanone (MEK)		618	100	100	ug/l	SW846 8260C
cis-1,2-Dichloroethene		98.8	20	10	ug/l	SW846 8260C
Toluene		142	20	10	ug/l	SW846 8260C
Methane		1410	50	25	ug/l	VRSK 175
Alkalinity, Total as CaCO3		582	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.15	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.16	0.10	0.054	mg/l	EPA 353.2
Nitrogen, Nitrite		0.013	0.010	0.0033	mg/l	SM 21 4500 NO2 B
Sulfate [b]		8.6 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1020	50	41	mg/l	SW846 9060
MC39371-5F	**G6M-02-08X-061615**					
Aluminum		381	200	100	ug/l	SW846 6010C
Antimony		4.3 J	6.0	3.0	ug/l	SW846 6010C
Arsenic		318	20	10	ug/l	SW846 6020A
Barium		359	50	25	ug/l	SW846 6010C
Cadmium		4.2	4.0	2.0	ug/l	SW846 6010C
Calcium		39900	25000	13000	ug/l	SW846 6010C
Cobalt		26.3 J	50	25	ug/l	SW846 6010C
Iron		455000	5000	2500	ug/l	SW846 6010C
Magnesium		5470	5000	2500	ug/l	SW846 6010C
Manganese		10200	75	38	ug/l	SW846 6010C
Potassium		103000	50000	25000	ug/l	SW846 6010C
Sodium		77600	25000	13000	ug/l	SW846 6010C
Vanadium		11.6	10	5.0	ug/l	SW846 6010C
MC39371-6	**G6M-02-08X-061615H**					
2-Butanone (MEK)		511	100	100	ug/l	SW846 8260C
cis-1,2-Dichloroethene		133	20	10	ug/l	SW846 8260C
Toluene		113	20	10	ug/l	SW846 8260C
Methane		4060	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		589	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.14	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.15	0.10	0.054	mg/l	EPA 353.2
Nitrogen, Nitrite		0.012	0.010	0.0033	mg/l	SM 21 4500 NO2 B
Sulfate [b]		6.1 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		913	50	41	mg/l	SW846 9060

Summary of Hits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39371-6F	**G6M-02-08X-061615H**					
Aluminum		169 J	200	100	ug/l	SW846 6010C
Antimony		3.0 J	6.0	3.0	ug/l	SW846 6010C
Arsenic		265	20	10	ug/l	SW846 6020A
Barium		330	50	25	ug/l	SW846 6010C
Cadmium		3.2 J	4.0	2.0	ug/l	SW846 6010C
Calcium		36200	25000	13000	ug/l	SW846 6010C
Cobalt		25.1 J	50	25	ug/l	SW846 6010C
Iron		416000	5000	2500	ug/l	SW846 6010C
Magnesium		4930 J	5000	2500	ug/l	SW846 6010C
Manganese		9640	75	38	ug/l	SW846 6010C
Potassium		93000	25000	13000	ug/l	SW846 6010C
Sodium		73100	25000	13000	ug/l	SW846 6010C
Zinc		11.4 J	20	10	ug/l	SW846 6010C

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	G6M-13-05X-061615			
Lab Sample ID:	MC39371-1		**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water		**Date Received:**	06/16/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40512.D	1	06/29/15	JB	n/a	n/a	MSV1461
Run #2	V40561.D	100	06/30/15	JB	n/a	n/a	MSV1463

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	61.5	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.57	2.0	0.50	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-05X-061615		
Lab Sample ID:	MC39371-1	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.62	1.0	0.50	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	1520 [a]	100	50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	12.0	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	105%	72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-05X-061615		
Lab Sample ID:	MC39371-1	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%	93%	85-114%
460-00-4	4-Bromofluorobenzene	99%	96%	70-134%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-05X-061615		
Lab Sample ID:	MC39371-1F	**Date Sampled:**	06/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	5.2	4.0	2.0	ug/l	2	06/18/15	06/25/15	VY	SW846 6020A [4]	SW846 3010A [6]
Barium	40.1 J	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	21700	10000	5000	ug/l	2	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	2620 J	5000	2500	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	229	15	7.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/18/15	06/19/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	6620	5000	2500	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	77600	25000	13000	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18221
(2) Instrument QC Batch: MA18223
(3) Instrument QC Batch: MA18234
(4) Instrument QC Batch: MA18241
(5) Prep QC Batch: MP24743
(6) Prep QC Batch: MP24743A
(7) Prep QC Batch: MP24748

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-05X-061615H			
Lab Sample ID:	MC39371-2		**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water		**Date Received:**	06/16/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40513.D	1	06/29/15	JB	n/a	n/a	MSV1461
Run #2	V40562.D	100	06/30/15	JB	n/a	n/a	MSV1463

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	66.0	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	1.6	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.54	2.0	0.50	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-05X-061615H		
Lab Sample ID:	MC39371-2	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.74	1.0	0.50	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	1140 [a]	100	50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	11.2	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	105%	72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-05X-061615H		
Lab Sample ID:	MC39371-2	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	98%	94%	85-114%
460-00-4	4-Bromofluorobenzene	99%	96%	70-134%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-05X-061615H		
Lab Sample ID:	MC39371-2F	**Date Sampled:**	06/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	4.8	4.0	2.0	ug/l	2	06/18/15	06/25/15	VY	SW846 6020A [4]	SW846 3010A [6]
Barium	43.6 J	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	19400	5000	2500	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	2500 J	5000	2500	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	185	15	7.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/18/15	06/19/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	5630	5000	2500	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	69600	25000	13000	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	12.0 J	20	10	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18221
(2) Instrument QC Batch: MA18223
(3) Instrument QC Batch: MA18234
(4) Instrument QC Batch: MA18241
(5) Prep QC Batch: MP24743
(6) Prep QC Batch: MP24743A
(7) Prep QC Batch: MP24748

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-06X-061615		
Lab Sample ID:	MC39371-3	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40557.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.9	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.98	1.0	0.50	ug/l	J
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-06X-061615			
Lab Sample ID:	MC39371-3		**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water		**Date Received:**	06/16/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	2.1	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	6.0	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.72	1.0	0.50	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-06X-061615		
Lab Sample ID:	MC39371-3	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		85-114%
460-00-4	4-Bromofluorobenzene	97%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-06X-061615		
Lab Sample ID:	MC39371-3	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22025.D	1	06/17/15	TB	n/a	n/a	GBA1498
Run #2	BA22026.D	1	06/17/15	TB	n/a	n/a	GBA1498

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	10300 [a]	200	ug/l	
74-84-0	Ethane	ND	10	ug/l	
74-85-1	Ethene	27.3	10	ug/l	

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-06X-061615		
Lab Sample ID:	MC39371-3	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	510	5.0	3.9	mg/l	1	06/23/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.15	0.11	0.057	mg/l	1	06/24/15 15:20	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.15	0.10	0.054	mg/l	1	06/24/15 15:20	CF	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	0.0033	mg/l	1	06/17/15 17:48	MA	SM 21 4500 NO2 B
Sulfate [b]	1.0 J	10	0.50	mg/l	1	06/23/15 06:37	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/22/15	BF	SM21 4500 S F
Total Organic Carbon	54.5	2.0	1.6	mg/l	2	06/25/15 17:34	MA	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-06X-061615		
Lab Sample ID:	MC39371-3F	**Date Sampled:**	06/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	132 J	200	100	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	546	20	10	ug/l	10	06/18/15	06/25/15	VY	SW846 6020A [4]	SW846 3010A [6]
Barium	242	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	5.5	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	85900	25000	13000	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	38.5 J	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	246000	2000	1000	ug/l	20	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	20800	10000	5000	ug/l	2	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Manganese	16900	300	150	ug/l	20	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/18/15	06/19/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	45400	25000	13000	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	172000	100000	50000	ug/l	20	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18221
(2) Instrument QC Batch: MA18223
(3) Instrument QC Batch: MA18234
(4) Instrument QC Batch: MA18241
(5) Prep QC Batch: MP24743
(6) Prep QC Batch: MP24743A
(7) Prep QC Batch: MP24748

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-06X-061615H		
Lab Sample ID:	MC39371-4	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40558.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	4.8	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.91	1.0	0.50	ug/l	J
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-06X-061615H			
Lab Sample ID:	MC39371-4		**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water		**Date Received:**	06/16/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.85	1.0	0.50	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	6.5	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-06X-061615H		
Lab Sample ID:	MC39371-4	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		85-114%
460-00-4	4-Bromofluorobenzene	97%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-06X-061615H		
Lab Sample ID:	MC39371-4	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22028.D	1	06/17/15	TB	n/a	n/a	GBA1498
Run #2	BA22029.D	1	06/17/15	TB	n/a	n/a	GBA1498

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	7850 [a]	200	ug/l	
74-84-0	Ethane	ND	10	ug/l	
74-85-1	Ethene	27.7	10	ug/l	

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-06X-061615H		
Lab Sample ID:	MC39371-4	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	524	5.0	3.9	mg/l	1	06/23/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	< 0.11	0.11	0.057	mg/l	1	06/24/15 15:22	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.10	0.10	0.054	mg/l	1	06/24/15 15:22	CF	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	0.0033	mg/l	1	06/17/15 17:48	MA	SM 21 4500 NO2 B
Sulfate [b]	1.5 J	10	0.50	mg/l	1	06/23/15 07:01	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/22/15	BF	SM21 4500 S F
Total Organic Carbon	42.3	2.0	1.6	mg/l	2	06/25/15 17:51	MA	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-06X-061615H			
Lab Sample ID:	MC39371-4F		**Date Sampled:**	06/16/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	06/16/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	129 J	200	100	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	148	10	5.0	ug/l	5	06/18/15	06/25/15	VY	SW846 6020A [4]	SW846 3010A [6]
Barium	103	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	75600	5000	2500	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	54.1	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	149000	1000	500	ug/l	10	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	17600	5000	2500	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	14100	75	38	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/18/15	06/19/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	42100	25000	13000	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	158000	50000	25000	ug/l	10	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18221
(2) Instrument QC Batch: MA18223
(3) Instrument QC Batch: MA18234
(4) Instrument QC Batch: MA18241
(5) Prep QC Batch: MP24743
(6) Prep QC Batch: MP24743A
(7) Prep QC Batch: MP24748

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-08X-061615		
Lab Sample ID:	MC39371-5	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40519.D	20	06/29/15	JB	n/a	n/a	MSV1461
Run #2	G144221.D	20	06/30/15	AD	n/a	n/a	MSG5403

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	100 U	200	100	ug/l	
71-43-2	Benzene	10 U	10	10	ug/l	
108-86-1	Bromobenzene	20 U	100	20	ug/l	
74-97-5	Bromochloromethane	10 U	100	10	ug/l	
75-27-4	Bromodichloromethane	10 U	20	10	ug/l	
75-25-2	Bromoform	10 U	20	10	ug/l	
74-83-9	Bromomethane	20 U	40	20	ug/l	
78-93-3	2-Butanone (MEK)	618 [a]	100	100	ug/l	
104-51-8	n-Butylbenzene	20 U	100	20	ug/l	
135-98-8	sec-Butylbenzene	20 U	100	20	ug/l	
98-06-6	tert-Butylbenzene	20 U	100	20	ug/l	
75-15-0	Carbon disulfide	10 U	100	10	ug/l	
56-23-5	Carbon tetrachloride	10 U	20	10	ug/l	
108-90-7	Chlorobenzene	10 U	20	10	ug/l	
75-00-3	Chloroethane	10 U	40	10	ug/l	
67-66-3	Chloroform	10 U	20	10	ug/l	
74-87-3	Chloromethane	20 U	40	20	ug/l	
95-49-8	o-Chlorotoluene	20 U	100	20	ug/l	
106-43-4	p-Chlorotoluene	20 U	100	20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	20 U	100	20	ug/l	
124-48-1	Dibromochloromethane	10 U	20	10	ug/l	
106-93-4	1,2-Dibromoethane	20 U	20	20	ug/l	
95-50-1	1,2-Dichlorobenzene	10 U	20	10	ug/l	
541-73-1	1,3-Dichlorobenzene	10 U	20	10	ug/l	
106-46-7	1,4-Dichlorobenzene	10 U	20	10	ug/l	
75-71-8	Dichlorodifluoromethane	20 U	40	20	ug/l	
75-34-3	1,1-Dichloroethane	10 U	20	10	ug/l	
107-06-2	1,2-Dichloroethane	10 U	20	10	ug/l	
75-35-4	1,1-Dichloroethene	10 U	20	10	ug/l	
156-59-2	cis-1,2-Dichloroethene	98.8	20	10	ug/l	
156-60-5	trans-1,2-Dichloroethene	10 U	20	10	ug/l	
78-87-5	1,2-Dichloropropane	10 U	40	10	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X-061615		
Lab Sample ID:	MC39371-5	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	20 U	100	20	ug/l	
594-20-7	2,2-Dichloropropane	40 U	100	40	ug/l	
563-58-6	1,1-Dichloropropene	10 U	100	10	ug/l	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	10	ug/l	
10061-02-6	trans-1,3-Dichloropropene	10 U	10	10	ug/l	
100-41-4	Ethylbenzene	10 U	20	10	ug/l	
87-68-3	Hexachlorobutadiene	20 U	100	20	ug/l	
591-78-6	2-Hexanone	100 U	100	100	ug/l	
74-88-4	Iodomethane	20 U	100	20	ug/l	
98-82-8	Isopropylbenzene	20 U	100	20	ug/l	
99-87-6	p-Isopropyltoluene	20 U	100	20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	10 U	20	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	40 U	100	40	ug/l	
74-95-3	Methylene bromide	20 U	100	20	ug/l	
75-09-2	Methylene chloride	20 U	40	20	ug/l	
91-20-3	Naphthalene	40 U	100	40	ug/l	
103-65-1	n-Propylbenzene	20 U	100	20	ug/l	
100-42-5	Styrene	10 U	100	10	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	10 U	20	10	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	10	ug/l	
127-18-4	Tetrachloroethene	10 U	20	10	ug/l	
108-88-3	Toluene	142	20	10	ug/l	
87-61-6	1,2,3-Trichlorobenzene	40 U	100	40	ug/l	
120-82-1	1,2,4-Trichlorobenzene	20 U	100	20	ug/l	
71-55-6	1,1,1-Trichloroethane	10 U	20	10	ug/l	
79-00-5	1,1,2-Trichloroethane	10 U	20	10	ug/l	
79-01-6	Trichloroethene	10 U	20	10	ug/l	
75-69-4	Trichlorofluoromethane	20 U	20	20	ug/l	
96-18-4	1,2,3-Trichloropropane	20 U	100	20	ug/l	
95-63-6	1,2,4-Trimethylbenzene	10 U	100	10	ug/l	
108-67-8	1,3,5-Trimethylbenzene	10 U	100	10	ug/l	
108-05-4	Vinyl Acetate	40 U	100	40	ug/l	
75-01-4	Vinyl chloride	10 U	20	10	ug/l	
	m,p-Xylene	20 U	20	20	ug/l	
95-47-6	o-Xylene	10 U	20	10	ug/l	
1330-20-7	Xylene (total)	10 U	20	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%	100%	72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X-061615		
Lab Sample ID:	MC39371-5	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%	99%	85-114%
460-00-4	4-Bromofluorobenzene	97%	99%	70-134%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X-061615		
Lab Sample ID:	MC39371-5	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22030.D	1	06/17/15	TB	n/a	n/a	GBA1498
Run #2	BA22031.D	1	06/17/15	TB	n/a	n/a	GBA1498

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	40.0 ul	23 Deg. C

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	1410 [a]	50	ug/l	
74-84-0	Ethane	ND	10	ug/l	
74-85-1	Ethene	ND	10	ug/l	

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-08X-061615		
Lab Sample ID:	MC39371-5	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	582	5.0	3.9	mg/l	1	06/23/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.15	0.11	0.057	mg/l	1	06/24/15 15:23	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.16	0.10	0.054	mg/l	1	06/24/15 15:23	CF	EPA 353.2
Nitrogen, Nitrite	0.013	0.010	0.0033	mg/l	1	06/17/15 17:48	MA	SM 21 4500 NO2 B
Sulfate [b]	8.6 J	10	0.50	mg/l	1	06/23/15 07:25	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/22/15	BF	SM21 4500 S F
Total Organic Carbon	1020	50	41	mg/l	50	06/25/15 18:07	MA	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-08X-061615		
Lab Sample ID:	MC39371-5F	**Date Sampled:**	06/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	381	200	100	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	4.3 J	6.0	3.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	318	20	10	ug/l	10	06/18/15	06/25/15	VY	SW846 6020A [4]	SW846 3010A [6]
Barium	359	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	4.2	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	39900	25000	13000	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	26.3 J	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	455000	5000	2500	ug/l	50	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	5470	5000	2500	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	10200	75	38	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/18/15	06/19/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	103000	50000	25000	ug/l	10	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	77600	25000	13000	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	11.6	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18221
(2) Instrument QC Batch: MA18223
(3) Instrument QC Batch: MA18234
(4) Instrument QC Batch: MA18241
(5) Prep QC Batch: MP24743
(6) Prep QC Batch: MP24743A
(7) Prep QC Batch: MP24748

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-08X-061615H		
Lab Sample ID:	MC39371-6	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40520.D	20	06/29/15	JB	n/a	n/a	MSV1461
Run #2	G144222.D	20	06/30/15	AD	n/a	n/a	MSG5403

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	100 U	200	100	ug/l	
71-43-2	Benzene	10 U	10	10	ug/l	
108-86-1	Bromobenzene	20 U	100	20	ug/l	
74-97-5	Bromochloromethane	10 U	100	10	ug/l	
75-27-4	Bromodichloromethane	10 U	20	10	ug/l	
75-25-2	Bromoform	10 U	20	10	ug/l	
74-83-9	Bromomethane	20 U	40	20	ug/l	
78-93-3	2-Butanone (MEK)	511 [a]	100	100	ug/l	
104-51-8	n-Butylbenzene	20 U	100	20	ug/l	
135-98-8	sec-Butylbenzene	20 U	100	20	ug/l	
98-06-6	tert-Butylbenzene	20 U	100	20	ug/l	
75-15-0	Carbon disulfide	10 U	100	10	ug/l	
56-23-5	Carbon tetrachloride	10 U	20	10	ug/l	
108-90-7	Chlorobenzene	10 U	20	10	ug/l	
75-00-3	Chloroethane	10 U	40	10	ug/l	
67-66-3	Chloroform	10 U	20	10	ug/l	
74-87-3	Chloromethane	20 U	40	20	ug/l	
95-49-8	o-Chlorotoluene	20 U	100	20	ug/l	
106-43-4	p-Chlorotoluene	20 U	100	20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	20 U	100	20	ug/l	
124-48-1	Dibromochloromethane	10 U	20	10	ug/l	
106-93-4	1,2-Dibromoethane	20 U	20	20	ug/l	
95-50-1	1,2-Dichlorobenzene	10 U	20	10	ug/l	
541-73-1	1,3-Dichlorobenzene	10 U	20	10	ug/l	
106-46-7	1,4-Dichlorobenzene	10 U	20	10	ug/l	
75-71-8	Dichlorodifluoromethane	20 U	40	20	ug/l	
75-34-3	1,1-Dichloroethane	10 U	20	10	ug/l	
107-06-2	1,2-Dichloroethane	10 U	20	10	ug/l	
75-35-4	1,1-Dichloroethene	10 U	20	10	ug/l	
156-59-2	cis-1,2-Dichloroethene	133	20	10	ug/l	
156-60-5	trans-1,2-Dichloroethene	10 U	20	10	ug/l	
78-87-5	1,2-Dichloropropane	10 U	40	10	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X-061615H			
Lab Sample ID:	MC39371-6		**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water		**Date Received:**	06/16/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	20 U	100	20	ug/l	
594-20-7	2,2-Dichloropropane	40 U	100	40	ug/l	
563-58-6	1,1-Dichloropropene	10 U	100	10	ug/l	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	10	ug/l	
10061-02-6	trans-1,3-Dichloropropene	10 U	10	10	ug/l	
100-41-4	Ethylbenzene	10 U	20	10	ug/l	
87-68-3	Hexachlorobutadiene	20 U	100	20	ug/l	
591-78-6	2-Hexanone	100 U	100	100	ug/l	
74-88-4	Iodomethane	20 U	100	20	ug/l	
98-82-8	Isopropylbenzene	20 U	100	20	ug/l	
99-87-6	p-Isopropyltoluene	20 U	100	20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	10 U	20	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	40 U	100	40	ug/l	
74-95-3	Methylene bromide	20 U	100	20	ug/l	
75-09-2	Methylene chloride	20 U	40	20	ug/l	
91-20-3	Naphthalene	40 U	100	40	ug/l	
103-65-1	n-Propylbenzene	20 U	100	20	ug/l	
100-42-5	Styrene	10 U	100	10	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	10 U	20	10	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	10	ug/l	
127-18-4	Tetrachloroethene	10 U	20	10	ug/l	
108-88-3	Toluene	113	20	10	ug/l	
87-61-6	1,2,3-Trichlorobenzene	40 U	100	40	ug/l	
120-82-1	1,2,4-Trichlorobenzene	20 U	100	20	ug/l	
71-55-6	1,1,1-Trichloroethane	10 U	20	10	ug/l	
79-00-5	1,1,2-Trichloroethane	10 U	20	10	ug/l	
79-01-6	Trichloroethene	10 U	20	10	ug/l	
75-69-4	Trichlorofluoromethane	20 U	20	20	ug/l	
96-18-4	1,2,3-Trichloropropane	20 U	100	20	ug/l	
95-63-6	1,2,4-Trimethylbenzene	10 U	100	10	ug/l	
108-67-8	1,3,5-Trimethylbenzene	10 U	100	10	ug/l	
108-05-4	Vinyl Acetate	40 U	100	40	ug/l	
75-01-4	Vinyl chloride	10 U	20	10	ug/l	
	m,p-Xylene	20 U	20	20	ug/l	
95-47-6	o-Xylene	10 U	20	10	ug/l	
1330-20-7	Xylene (total)	10 U	20	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	99%	72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X-061615H			
Lab Sample ID:	MC39371-6		**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water		**Date Received:**	06/16/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%	101%	85-114%
460-00-4	4-Bromofluorobenzene	97%	98%	70-134%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X-061615H		
Lab Sample ID:	MC39371-6	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22032.D	1	06/17/15	TB	n/a	n/a	GBA1498
Run #2	BA22033.D	1	06/17/15	TB	n/a	n/a	GBA1498

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	4060 [a]	100	ug/l	
74-84-0	Ethane	ND	10	ug/l	
74-85-1	Ethene	ND	10	ug/l	

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-08X-061615H		
Lab Sample ID:	MC39371-6	**Date Sampled:**	06/16/15
Matrix:	AQ - Ground Water	**Date Received:**	06/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	589	5.0	3.9	mg/l	1	06/23/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.14	0.11	0.057	mg/l	1	06/24/15 15:24	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.15	0.10	0.054	mg/l	1	06/24/15 15:24	CF	EPA 353.2
Nitrogen, Nitrite	0.012	0.010	0.0033	mg/l	1	06/17/15 17:48	MA	SM 21 4500 NO2 B
Sulfate [b]	6.1 J	10	0.50	mg/l	1	06/23/15 07:49	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/22/15	BF	SM21 4500 S F
Total Organic Carbon	913	50	41	mg/l	50	06/25/15 15:14	MA	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-08X-061615H		
Lab Sample ID:	MC39371-6F	**Date Sampled:**	06/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	169 J	200	100	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 J	6.0	3.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	265	20	10	ug/l	10	06/18/15	06/25/15	VY	SW846 6020A [4]	SW846 3010A [6]
Barium	330	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	3.2 J	4.0	2.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	36200	25000	13000	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25.1 J	50	25	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	416000	5000	2500	ug/l	50	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	4930 J	5000	2500	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	9640	75	38	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/18/15	06/19/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	93000	25000	13000	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	73100	25000	13000	ug/l	5	06/18/15	06/23/15	EAL	SW846 6010C [3]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	11.4 J	20	10	ug/l	1	06/18/15	06/19/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18221
(2) Instrument QC Batch: MA18223
(3) Instrument QC Batch: MA18234
(4) Instrument QC Batch: MA18241
(5) Prep QC Batch: MP24743
(6) Prep QC Batch: MP24743A
(7) Prep QC Batch: MP24748

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking # | Bottle Order Control #
Accutest Quote #: FD-10-2014-229 | Accutest Job #: MC39371

Client / Reporting Information

Company Name: HRS Environmental
Street Address: 160 E. Main Street
City: Westborough State: MA Zip:
Project Contact: E. Anderson E-mail:
Phone #: 508 366 7442 Fax #:
Sampler(s) Name(s): Phone #:

Project Information

Project Name: Ft. Devens AOC 50
Street:
City:
Project#:
Client PO#:
Project Manager:

Billing Information (If different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet): VOC; Dissolved Metals Field Filtered; Dissolved Metals Lab Filtered; Nitrate, sulfate, ALK; Sulfide; Methane, ethane, ethene; TOC; PHOS ACID (on preservative column)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	~~ENCORE~~ PHOS ACID	Bisulfate	VOC	Dissolved Metals Field Filtered	Dissolved Metals Lab Filtered	Nitrate, sulfate, ALK	Sulfide	Methane, ethane, ethene	TOC	LAB USE ONLY
-1F	G6M-13-05X-061615		6/16/15	1340	SL	GW	3	2		1							X	X						
-2F	G6M-13-05X-061615H		↓	1250	SL	↓	3	2				1					X		X					
-3F	G6M-13-06X-061615			1415	MB		11	4	1	1	1	1			3		X	X		X	X	X	X	
-4F	G6M-13-06X-061615H			1250	MB		11	4	1	1	1	2			3		X		X	X	X	X	X	
-5F	G6M-02-08X-061615			1500	SL	↓	11	4	1	1	1	1			3		X	X		X	X	X	X	
-6F	G6M-02-08X-061615H		6/16/15	1355	SL	GW	11	4	1	1	1	2			3		X		X	X	X	X	X	

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

LAB USE ONLY: 6C, 9C, 4K1,

MC39371
Global Set Up
POP

Turnaround Time (Business days)
- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Categ
- [ ] NYASP Categ
- [ ] State Forms
- [ ] EDD Format
- [ ] Other ____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Stacey Lee	6/16/15 1610	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 1.9°

5.1

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MC39371: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39371 **Client:** H\&S **Project:** FT DEVENS AOC 50

Date / Time Received: 6/16/2015 4:10:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.9/1.9);

Cooler Security

	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☑	☐	☐

Comments

MC39371: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSG5403	SW846 8260C						
MSG5403-BS	78-93-3	2-Butanone (MEK)	BSP	REC	63	%	56-143
MSG5403-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	100	%	80-119
MSG5403-BS	2037-26-5	Toluene-D8	BSP	SURR	101	%	89-112
MSG5403-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	99	%	85-114
MSG5403-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	75	%	56-143
MSG5403-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	100	%	80-119
MSG5403-BSD	2037-26-5	Toluene-D8	BSD	SURR	102	%	89-112
MSG5403-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	98	%	85-114
MSG5403-MB	1868-53-7	Dibromofluoromethane	MB	SURR	99	%	80-119
MSG5403-MB	2037-26-5	Toluene-D8	MB	SURR	100	%	89-112
MSG5403-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	102	%	85-114
MC39371-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	100	%	80-119
MC39371-5	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
MC39371-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
MC39371-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
MC39371-6	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC39371-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	98	%	85-114
MSV1461	SW846 8260C						
MSV1461-BS	67-64-1	Acetone	BSP	REC	173 [a]	%	39-160
MSV1461-BS	71-43-2	Benzene	BSP	REC	93	%	79-120
MSV1461-BS	108-86-1	Bromobenzene	BSP	REC	97	%	80-120
MSV1461-BS	74-97-5	Bromochloromethane	BSP	REC	94	%	78-123
MSV1461-BS	75-27-4	Bromodichloromethane	BSP	REC	98	%	79-125
MSV1461-BS	75-25-2	Bromoform	BSP	REC	106	%	66-130
MSV1461-BS	74-83-9	Bromomethane	BSP	REC	96	%	53-141
MSV1461-BS	78-93-3	2-Butanone (MEK)	BSP	REC	126	%	56-143
MSV1461-BS	104-51-8	n-Butylbenzene	BSP	REC	108	%	75-128
MSV1461-BS	135-98-8	sec-Butylbenzene	BSP	REC	109	%	77-126
MSV1461-BS	98-06-6	tert-Butylbenzene	BSP	REC	105	%	78-124
MSV1461-BS	75-15-0	Carbon disulfide	BSP	REC	102	%	64-133
MSV1461-BS	56-23-5	Carbon tetrachloride	BSP	REC	102	%	72-136
MSV1461-BS	108-90-7	Chlorobenzene	BSP	REC	93	%	82-118
MSV1461-BS	75-00-3	Chloroethane	BSP	REC	88	%	60-138
MSV1461-BS	67-66-3	Chloroform	BSP	REC	99	%	79-124
MSV1461-BS	74-87-3	Chloromethane	BSP	REC	94	%	50-139
MSV1461-BS	95-49-8	o-Chlorotoluene	BSP	REC	98	%	79-122
MSV1461-BS	106-43-4	p-Chlorotoluene	BSP	REC	95	%	78-122
MSV1461-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	102	%	62-128
MSV1461-BS	124-48-1	Dibromochloromethane	BSP	REC	103	%	74-126
MSV1461-BS	106-93-4	1,2-Dibromoethane	BSP	REC	95	%	77-121

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1461-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	98	%	80-119
MSV1461-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	98	%	80-119
MSV1461-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	93	%	79-118
MSV1461-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	110	%	32-152
MSV1461-BS	75-34-3	1,1-Dichloroethane	BSP	REC	94	%	77-125
MSV1461-BS	107-06-2	1,2-Dichloroethane	BSP	REC	93	%	73-128
MSV1461-BS	75-35-4	1,1-Dichloroethene	BSP	REC	103	%	71-131
MSV1461-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	90	%	78-123
MSV1461-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	104	%	75-124
MSV1461-BS	78-87-5	1,2-Dichloropropane	BSP	REC	96	%	78-122
MSV1461-BS	142-28-9	1,3-Dichloropropane	BSP	REC	91	%	80-119
MSV1461-BS	594-20-7	2,2-Dichloropropane	BSP	REC	126	%	60-139
MSV1461-BS	563-58-6	1,1-Dichloropropene	BSP	REC	109	%	79-125
MSV1461-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	105	%	75-124
MSV1461-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	116	%	73-127
MSV1461-BS	100-41-4	Ethylbenzene	BSP	REC	96	%	79-121
MSV1461-BS	87-68-3	Hexachlorobutadiene	BSP	REC	108	%	66-134
MSV1461-BS	591-78-6	2-Hexanone	BSP	REC	125	%	57-139
MSV1461-BS	74-88-4	Iodomethane	BSP	REC	99	%	69-131
MSV1461-BS	98-82-8	Isopropylbenzene	BSP	REC	104	%	72-131
MSV1461-BS	99-87-6	p-Isopropyltoluene	BSP	REC	114	%	77-127
MSV1461-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	101	%	71-124
MSV1461-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	104	%	67-130
MSV1461-BS	74-95-3	Methylene bromide	BSP	REC	93	%	79-123
MSV1461-BS	75-09-2	Methylene chloride	BSP	REC	94	%	74-124
MSV1461-BS	91-20-3	Naphthalene	BSP	REC	118	%	61-128
MSV1461-BS	103-65-1	n-Propylbenzene	BSP	REC	105	%	76-126
MSV1461-BS	100-42-5	Styrene	BSP	REC	104	%	78-123
MSV1461-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	96	%	78-124
MSV1461-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	87	%	71-121
MSV1461-BS	127-18-4	Tetrachloroethene	BSP	REC	110	%	74-129
MSV1461-BS	108-88-3	Toluene	BSP	REC	96	%	80-121
MSV1461-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	108	%	69-129
MSV1461-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	106	%	69-130
MSV1461-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	98	%	74-131
MSV1461-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	98	%	80-119
MSV1461-BS	79-01-6	Trichloroethene	BSP	REC	95	%	79-123
MSV1461-BS	75-69-4	Trichlorofluoromethane	BSP	REC	101	%	65-141
MSV1461-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	94	%	73-122
MSV1461-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	106	%	76-124
MSV1461-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	103	%	75-124
MSV1461-BS	108-05-4	Vinyl Acetate	BSP	REC	108	%	54-146
MSV1461-BS	75-01-4	Vinyl chloride	BSP	REC	98	%	58-137
MSV1461-BS		m,p-Xylene	BSP	REC	98	%	80-121
MSV1461-BS	95-47-6	o-Xylene	BSP	REC	105	%	78-122

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1461-BS	1330-20-7	Xylene (total)	BSP	REC	101	%	79-121
MSV1461-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	98	%	80-119
MSV1461-BS	2037-26-5	Toluene-D8	BSP	SURR	102	%	89-112
MSV1461-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	100	%	85-114
MC39596-4MS*	67-64-1	Acetone	MS	REC	92	%	39-160
MC39596-4MS*	71-43-2	Benzene	MS	REC	92	%	79-120
MC39596-4MS*	108-86-1	Bromobenzene	MS	REC	93	%	80-120
MC39596-4MS*	74-97-5	Bromochloromethane	MS	REC	92	%	78-123
MC39596-4MS*	75-27-4	Bromodichloromethane	MS	REC	97	%	79-125
MC39596-4MS*	75-25-2	Bromoform	MS	REC	103	%	66-130
MC39596-4MS*	74-83-9	Bromomethane	MS	REC	90	%	53-141
MC39596-4MS*	78-93-3	2-Butanone (MEK)	MS	REC	99	%	56-143
MC39596-4MS*	104-51-8	n-Butylbenzene	MS	REC	98	%	75-128
MC39596-4MS*	135-98-8	sec-Butylbenzene	MS	REC	99	%	77-126
MC39596-4MS*	98-06-6	tert-Butylbenzene	MS	REC	99	%	78-124
MC39596-4MS*	75-15-0	Carbon disulfide	MS	REC	102	%	64-133
MC39596-4MS*	56-23-5	Carbon tetrachloride	MS	REC	101	%	72-136
MC39596-4MS*	108-90-7	Chlorobenzene	MS	REC	92	%	82-118
MC39596-4MS*	75-00-3	Chloroethane	MS	REC	84	%	60-138
MC39596-4MS*	67-66-3	Chloroform	MS	REC	98	%	79-124
MC39596-4MS*	74-87-3	Chloromethane	MS	REC	87	%	50-139
MC39596-4MS*	95-49-8	o-Chlorotoluene	MS	REC	91	%	79-122
MC39596-4MS*	106-43-4	p-Chlorotoluene	MS	REC	90	%	78-122
MC39596-4MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	100	%	62-128
MC39596-4MS*	124-48-1	Dibromochloromethane	MS	REC	101	%	74-126
MC39596-4MS*	106-93-4	1,2-Dibromoethane	MS	REC	95	%	77-121
MC39596-4MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	94	%	80-119
MC39596-4MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	93	%	80-119
MC39596-4MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	90	%	79-118
MC39596-4MS*	75-71-8	Dichlorodifluoromethane	MS	REC	160 [b]	%	32-152
MC39596-4MS*	75-34-3	1,1-Dichloroethane	MS	REC	94	%	77-125
MC39596-4MS*	107-06-2	1,2-Dichloroethane	MS	REC	93	%	73-128
MC39596-4MS*	75-35-4	1,1-Dichloroethene	MS	REC	101	%	71-131
MC39596-4MS*	156-59-2	cis-1,2-Dichloroethene	MS	REC	88	%	78-123
MC39596-4MS*	156-60-5	trans-1,2-Dichloroethene	MS	REC	104	%	75-124
MC39596-4MS*	78-87-5	1,2-Dichloropropane	MS	REC	95	%	78-122
MC39596-4MS*	142-28-9	1,3-Dichloropropane	MS	REC	91	%	80-119
MC39596-4MS*	594-20-7	2,2-Dichloropropane	MS	REC	110	%	60-139
MC39596-4MS*	563-58-6	1,1-Dichloropropene	MS	REC	106	%	79-125
MC39596-4MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	100	%	75-124
MC39596-4MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	112	%	73-127
MC39596-4MS*	100-41-4	Ethylbenzene	MS	REC	94	%	79-121
MC39596-4MS*	87-68-3	Hexachlorobutadiene	MS	REC	93	%	66-134
MC39596-4MS*	591-78-6	2-Hexanone	MS	REC	100	%	57-139
MC39596-4MS*	74-88-4	Iodomethane	MS	REC	95	%	69-131

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39596-4MS*	98-82-8	Isopropylbenzene	MS	REC	96	%	72-131
MC39596-4MS*	99-87-6	p-Isopropyltoluene	MS	REC	103	%	77-127
MC39596-4MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	95	%	71-124
MC39596-4MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	103	%	67-130
MC39596-4MS*	74-95-3	Methylene bromide	MS	REC	94	%	79-123
MC39596-4MS*	75-09-2	Methylene chloride	MS	REC	93	%	74-124
MC39596-4MS*	91-20-3	Naphthalene	MS	REC	113	%	61-128
MC39596-4MS*	103-65-1	n-Propylbenzene	MS	REC	97	%	76-126
MC39596-4MS*	100-42-5	Styrene	MS	REC	102	%	78-123
MC39596-4MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	96	%	78-124
MC39596-4MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	85	%	71-121
MC39596-4MS*	127-18-4	Tetrachloroethene	MS	REC	107	%	74-129
MC39596-4MS*	108-88-3	Toluene	MS	REC	94	%	80-121
MC39596-4MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	100	%	69-129
MC39596-4MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	99	%	69-130
MC39596-4MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	93	%	74-131
MC39596-4MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	97	%	80-119
MC39596-4MS*	79-01-6	Trichloroethene	MS	REC	88	%	79-123
MC39596-4MS*	75-69-4	Trichlorofluoromethane	MS	REC	98	%	65-141
MC39596-4MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	90	%	73-122
MC39596-4MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	98	%	76-124
MC39596-4MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	95	%	75-124
MC39596-4MS*	108-05-4	Vinyl Acetate	MS	REC	101	%	54-146
MC39596-4MS*	75-01-4	Vinyl chloride	MS	REC	92	%	58-137
MC39596-4MS*		m,p-Xylene	MS	REC	95	%	80-121
MC39596-4MS*	95-47-6	o-Xylene	MS	REC	102	%	78-122
MC39596-4MS*	1330-20-7	Xylene (total)	MS	REC	97	%	79-121
MC39596-4MS*	1868-53-7	Dibromofluoromethane	MS	SURR	99	%	80-119
MC39596-4MS*	2037-26-5	Toluene-D8	MS	SURR	102	%	89-112
MC39596-4MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	99	%	85-114
MC39596-4MSD*	67-64-1	Acetone	MSD	REC	82	%	39-160
MC39596-4MSD*	67-64-1	Acetone	MSD	RPD	12	%	20
MC39596-4MSD*	71-43-2	Benzene	MSD	REC	89	%	79-120
MC39596-4MSD*	71-43-2	Benzene	MSD	RPD	3	%	20
MC39596-4MSD*	108-86-1	Bromobenzene	MSD	REC	92	%	80-120
MC39596-4MSD*	108-86-1	Bromobenzene	MSD	RPD	0	%	20
MC39596-4MSD*	74-97-5	Bromochloromethane	MSD	REC	89	%	78-123
MC39596-4MSD*	74-97-5	Bromochloromethane	MSD	RPD	3	%	20
MC39596-4MSD*	75-27-4	Bromodichloromethane	MSD	REC	93	%	79-125
MC39596-4MSD*	75-27-4	Bromodichloromethane	MSD	RPD	4	%	20
MC39596-4MSD*	75-25-2	Bromoform	MSD	REC	96	%	66-130
MC39596-4MSD*	75-25-2	Bromoform	MSD	RPD	6	%	20
MC39596-4MSD*	74-83-9	Bromomethane	MSD	REC	91	%	53-141
MC39596-4MSD*	74-83-9	Bromomethane	MSD	RPD	1	%	20
MC39596-4MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	93	%	56-143

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39596-4MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	7	%	20
MC39596-4MSD*	104-51-8	n-Butylbenzene	MSD	REC	100	%	75-128
MC39596-4MSD*	104-51-8	n-Butylbenzene	MSD	RPD	1	%	20
MC39596-4MSD*	135-98-8	sec-Butylbenzene	MSD	REC	102	%	77-126
MC39596-4MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	3	%	20
MC39596-4MSD*	98-06-6	tert-Butylbenzene	MSD	REC	101	%	78-124
MC39596-4MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	2	%	20
MC39596-4MSD*	75-15-0	Carbon disulfide	MSD	REC	98	%	64-133
MC39596-4MSD*	75-15-0	Carbon disulfide	MSD	RPD	4	%	20
MC39596-4MSD*	56-23-5	Carbon tetrachloride	MSD	REC	98	%	72-136
MC39596-4MSD*	56-23-5	Carbon tetrachloride	MSD	RPD	3	%	20
MC39596-4MSD*	108-90-7	Chlorobenzene	MSD	REC	90	%	82-118
MC39596-4MSD*	108-90-7	Chlorobenzene	MSD	RPD	1	%	20
MC39596-4MSD*	75-00-3	Chloroethane	MSD	REC	84	%	60-138
MC39596-4MSD*	75-00-3	Chloroethane	MSD	RPD	1	%	20
MC39596-4MSD*	67-66-3	Chloroform	MSD	REC	94	%	79-124
MC39596-4MSD*	67-66-3	Chloroform	MSD	RPD	4	%	20
MC39596-4MSD*	74-87-3	Chloromethane	MSD	REC	87	%	50-139
MC39596-4MSD*	74-87-3	Chloromethane	MSD	RPD	0	%	20
MC39596-4MSD*	95-49-8	o-Chlorotoluene	MSD	REC	93	%	79-122
MC39596-4MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	2	%	20
MC39596-4MSD*	106-43-4	p-Chlorotoluene	MSD	REC	91	%	78-122
MC39596-4MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	1	%	20
MC39596-4MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	93	%	62-128
MC39596-4MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	7	%	20
MC39596-4MSD*	124-48-1	Dibromochloromethane	MSD	REC	97	%	74-126
MC39596-4MSD*	124-48-1	Dibromochloromethane	MSD	RPD	4	%	20
MC39596-4MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	91	%	77-121
MC39596-4MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	4	%	20
MC39596-4MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	93	%	80-119
MC39596-4MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	0	%	20
MC39596-4MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	94	%	80-119
MC39596-4MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	1	%	20
MC39596-4MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	89	%	79-118
MC39596-4MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	1	%	20
MC39596-4MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	102	%	32-152
MC39596-4MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	44 [c]	%	20
MC39596-4MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	90	%	77-125
MC39596-4MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	4	%	20
MC39596-4MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	88	%	73-128
MC39596-4MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	6	%	20
MC39596-4MSD*	75-35-4	1,1-Dichloroethene	MSD	REC	99	%	71-131
MC39596-4MSD*	75-35-4	1,1-Dichloroethene	MSD	RPD	2	%	20
MC39596-4MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	REC	86	%	78-123
MC39596-4MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	RPD	2	%	20

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39596-4MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	REC	101	%	75-124
MC39596-4MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	RPD	3	%	20
MC39596-4MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	91	%	78-122
MC39596-4MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	4	%	20
MC39596-4MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	87	%	80-119
MC39596-4MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	4	%	20
MC39596-4MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	109	%	60-139
MC39596-4MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	1	%	20
MC39596-4MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	104	%	79-125
MC39596-4MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	2	%	20
MC39596-4MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	96	%	75-124
MC39596-4MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	4	%	20
MC39596-4MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	105	%	73-127
MC39596-4MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	7	%	20
MC39596-4MSD*	100-41-4	Ethylbenzene	MSD	REC	94	%	79-121
MC39596-4MSD*	100-41-4	Ethylbenzene	MSD	RPD	0	%	20
MC39596-4MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	95	%	66-134
MC39596-4MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	3	%	20
MC39596-4MSD*	591-78-6	2-Hexanone	MSD	REC	91	%	57-139
MC39596-4MSD*	591-78-6	2-Hexanone	MSD	RPD	9	%	20
MC39596-4MSD*	74-88-4	Iodomethane	MSD	REC	95	%	69-131
MC39596-4MSD*	74-88-4	Iodomethane	MSD	RPD	1	%	20
MC39596-4MSD*	98-82-8	Isopropylbenzene	MSD	REC	99	%	72-131
MC39596-4MSD*	98-82-8	Isopropylbenzene	MSD	RPD	3	%	20
MC39596-4MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	106	%	77-127
MC39596-4MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	2	%	20
MC39596-4MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	91	%	71-124
MC39596-4MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	5	%	20
MC39596-4MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	94	%	67-130
MC39596-4MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	10	%	20
MC39596-4MSD*	74-95-3	Methylene bromide	MSD	REC	89	%	79-123
MC39596-4MSD*	74-95-3	Methylene bromide	MSD	RPD	6	%	20
MC39596-4MSD*	75-09-2	Methylene chloride	MSD	REC	90	%	74-124
MC39596-4MSD*	75-09-2	Methylene chloride	MSD	RPD	4	%	20
MC39596-4MSD*	91-20-3	Naphthalene	MSD	REC	107	%	61-128
MC39596-4MSD*	91-20-3	Naphthalene	MSD	RPD	5	%	20
MC39596-4MSD*	103-65-1	n-Propylbenzene	MSD	REC	99	%	76-126
MC39596-4MSD*	103-65-1	n-Propylbenzene	MSD	RPD	2	%	20
MC39596-4MSD*	100-42-5	Styrene	MSD	REC	100	%	78-123
MC39596-4MSD*	100-42-5	Styrene	MSD	RPD	2	%	20
MC39596-4MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	94	%	78-124
MC39596-4MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	3	%	20
MC39596-4MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	80	%	71-121
MC39596-4MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	5	%	20
MC39596-4MSD*	127-18-4	Tetrachloroethene	MSD	REC	107	%	74-129

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39596-4MSD*	127-18-4	Tetrachloroethene	MSD	RPD	0	%	20
MC39596-4MSD*	108-88-3	Toluene	MSD	REC	92	%	80-121
MC39596-4MSD*	108-88-3	Toluene	MSD	RPD	2	%	20
MC39596-4MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	97	%	69-129
MC39596-4MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	3	%	20
MC39596-4MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	97	%	69-130
MC39596-4MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	2	%	20
MC39596-4MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	92	%	74-131
MC39596-4MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	1	%	20
MC39596-4MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	91	%	80-119
MC39596-4MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	6	%	20
MC39596-4MSD*	79-01-6	Trichloroethene	MSD	REC	87	%	79-123
MC39596-4MSD*	79-01-6	Trichloroethene	MSD	RPD	1	%	20
MC39596-4MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	96	%	65-141
MC39596-4MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	2	%	20
MC39596-4MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	84	%	73-122
MC39596-4MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	7	%	20
MC39596-4MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	100	%	76-124
MC39596-4MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	2	%	20
MC39596-4MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	98	%	75-124
MC39596-4MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	3	%	20
MC39596-4MSD*	108-05-4	Vinyl Acetate	MSD	REC	96	%	54-146
MC39596-4MSD*	108-05-4	Vinyl Acetate	MSD	RPD	5	%	20
MC39596-4MSD*	75-01-4	Vinyl chloride	MSD	REC	91	%	58-137
MC39596-4MSD*	75-01-4	Vinyl chloride	MSD	RPD	2	%	20
MC39596-4MSD*		m,p-Xylene	MSD	REC	95	%	80-121
MC39596-4MSD*		m,p-Xylene	MSD	RPD	1	%	20
MC39596-4MSD*	95-47-6	o-Xylene	MSD	REC	102	%	78-122
MC39596-4MSD*	95-47-6	o-Xylene	MSD	RPD	0	%	20
MC39596-4MSD*	1330-20-7	Xylene (total)	MSD	REC	97	%	79-121
MC39596-4MSD*	1330-20-7	Xylene (total)	MSD	RPD	0	%	20
MC39596-4MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	97	%	80-119
MC39596-4MSD*	2037-26-5	Toluene-D8	MSD	SURR	101	%	89-112
MC39596-4MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	100	%	85-114
MSV1461-MB	1868-53-7	Dibromofluoromethane	MB	SURR	102	%	80-119
MSV1461-MB	2037-26-5	Toluene-D8	MB	SURR	94	%	89-112
MSV1461-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	98	%	85-114
MC39371-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC39371-1	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
MC39371-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
MC39371-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC39371-2	2037-26-5	Toluene-D8	SAMP	SURR	98	%	89-112
MC39371-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
MC39371-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39371-5	2037-26-5	Toluene-D8	SAMP	SURR	96	%	89-112

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39371-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC39371-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC39371-6	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC39371-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MSV1463	SW846 8260C						
MSV1463-BS	67-64-1	Acetone	BSP	REC	159	%	39-160
MSV1463-BS	71-43-2	Benzene	BSP	REC	92	%	79-120
MSV1463-BS	108-86-1	Bromobenzene	BSP	REC	94	%	80-120
MSV1463-BS	74-97-5	Bromochloromethane	BSP	REC	91	%	78-123
MSV1463-BS	75-27-4	Bromodichloromethane	BSP	REC	95	%	79-125
MSV1463-BS	75-25-2	Bromoform	BSP	REC	99	%	66-130
MSV1463-BS	74-83-9	Bromomethane	BSP	REC	94	%	53-141
MSV1463-BS	78-93-3	2-Butanone (MEK)	BSP	REC	126	%	56-143
MSV1463-BS	104-51-8	n-Butylbenzene	BSP	REC	105	%	75-128
MSV1463-BS	135-98-8	sec-Butylbenzene	BSP	REC	105	%	77-126
MSV1463-BS	98-06-6	tert-Butylbenzene	BSP	REC	107	%	78-124
MSV1463-BS	75-15-0	Carbon disulfide	BSP	REC	91	%	64-133
MSV1463-BS	56-23-5	Carbon tetrachloride	BSP	REC	98	%	72-136
MSV1463-BS	108-90-7	Chlorobenzene	BSP	REC	93	%	82-118
MSV1463-BS	75-00-3	Chloroethane	BSP	REC	89	%	60-138
MSV1463-BS	67-66-3	Chloroform	BSP	REC	96	%	79-124
MSV1463-BS	74-87-3	Chloromethane	BSP	REC	91	%	50-139
MSV1463-BS	95-49-8	o-Chlorotoluene	BSP	REC	95	%	79-122
MSV1463-BS	106-43-4	p-Chlorotoluene	BSP	REC	93	%	78-122
MSV1463-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	98	%	62-128
MSV1463-BS	124-48-1	Dibromochloromethane	BSP	REC	101	%	74-126
MSV1463-BS	106-93-4	1,2-Dibromoethane	BSP	REC	93	%	77-121
MSV1463-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	96	%	80-119
MSV1463-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	97	%	80-119
MSV1463-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	93	%	79-118
MSV1463-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	103	%	32-152
MSV1463-BS	75-34-3	1,1-Dichloroethane	BSP	REC	89	%	77-125
MSV1463-BS	107-06-2	1,2-Dichloroethane	BSP	REC	90	%	73-128
MSV1463-BS	75-35-4	1,1-Dichloroethene	BSP	REC	93	%	71-131
MSV1463-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	88	%	78-123
MSV1463-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	98	%	75-124
MSV1463-BS	78-87-5	1,2-Dichloropropane	BSP	REC	93	%	78-122
MSV1463-BS	142-28-9	1,3-Dichloropropane	BSP	REC	90	%	80-119
MSV1463-BS	594-20-7	2,2-Dichloropropane	BSP	REC	119	%	60-139
MSV1463-BS	563-58-6	1,1-Dichloropropene	BSP	REC	108	%	79-125
MSV1463-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	99	%	75-124
MSV1463-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	107	%	73-127
MSV1463-BS	100-41-4	Ethylbenzene	BSP	REC	98	%	79-121

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BS	87-68-3	Hexachlorobutadiene	BSP	REC	103	%	66-134
MSV1463-BS	591-78-6	2-Hexanone	BSP	REC	126	%	57-139
MSV1463-BS	74-88-4	Iodomethane	BSP	REC	90	%	69-131
MSV1463-BS	98-82-8	Isopropylbenzene	BSP	REC	102	%	72-131
MSV1463-BS	99-87-6	p-Isopropyltoluene	BSP	REC	110	%	77-127
MSV1463-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	91	%	71-124
MSV1463-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	100	%	67-130
MSV1463-BS	74-95-3	Methylene bromide	BSP	REC	90	%	79-123
MSV1463-BS	75-09-2	Methylene chloride	BSP	REC	83	%	74-124
MSV1463-BS	91-20-3	Naphthalene	BSP	REC	116	%	61-128
MSV1463-BS	103-65-1	n-Propylbenzene	BSP	REC	102	%	76-126
MSV1463-BS	100-42-5	Styrene	BSP	REC	104	%	78-123
MSV1463-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	100	%	78-124
MSV1463-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	84	%	71-121
MSV1463-BS	127-18-4	Tetrachloroethene	BSP	REC	115	%	74-129
MSV1463-BS	108-88-3	Toluene	BSP	REC	94	%	80-121
MSV1463-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	107	%	69-129
MSV1463-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	107	%	69-130
MSV1463-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	91	%	74-131
MSV1463-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	92	%	80-119
MSV1463-BS	79-01-6	Trichloroethene	BSP	REC	94	%	79-123
MSV1463-BS	75-69-4	Trichlorofluoromethane	BSP	REC	95	%	65-141
MSV1463-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	88	%	73-122
MSV1463-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	102	%	76-124
MSV1463-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	101	%	75-124
MSV1463-BS	108-05-4	Vinyl Acetate	BSP	REC	100	%	54-146
MSV1463-BS	75-01-4	Vinyl chloride	BSP	REC	92	%	58-137
MSV1463-BS		m,p-Xylene	BSP	REC	99	%	80-121
MSV1463-BS	95-47-6	o-Xylene	BSP	REC	108	%	78-122
MSV1463-BS	1330-20-7	Xylene (total)	BSP	REC	102	%	79-121
MSV1463-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	97	%	80-119
MSV1463-BS	2037-26-5	Toluene-D8	BSP	SURR	100	%	89-112
MSV1463-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	97	%	85-114
MSV1463-BSD	67-64-1	Acetone	BSD	REC	151	%	39-160
MSV1463-BSD	71-43-2	Benzene	BSD	REC	90	%	79-120
MSV1463-BSD	108-86-1	Bromobenzene	BSD	REC	95	%	80-120
MSV1463-BSD	74-97-5	Bromochloromethane	BSD	REC	88	%	78-123
MSV1463-BSD	75-27-4	Bromodichloromethane	BSD	REC	92	%	79-125
MSV1463-BSD	75-25-2	Bromoform	BSD	REC	94	%	66-130
MSV1463-BSD	74-83-9	Bromomethane	BSD	REC	89	%	53-141
MSV1463-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	116	%	56-143
MSV1463-BSD	104-51-8	n-Butylbenzene	BSD	REC	105	%	75-128
MSV1463-BSD	135-98-8	sec-Butylbenzene	BSD	REC	107	%	77-126
MSV1463-BSD	98-06-6	tert-Butylbenzene	BSD	REC	108	%	78-124
MSV1463-BSD	75-15-0	Carbon disulfide	BSD	REC	96	%	64-133

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BSD	56-23-5	Carbon tetrachloride	BSD	REC	97	%	72-136
MSV1463-BSD	108-90-7	Chlorobenzene	BSD	REC	92	%	82-118
MSV1463-BSD	75-00-3	Chloroethane	BSD	REC	80	%	60-138
MSV1463-BSD	67-66-3	Chloroform	BSD	REC	95	%	79-124
MSV1463-BSD	74-87-3	Chloromethane	BSD	REC	84	%	50-139
MSV1463-BSD	95-49-8	o-Chlorotoluene	BSD	REC	96	%	79-122
MSV1463-BSD	106-43-4	p-Chlorotoluene	BSD	REC	93	%	78-122
MSV1463-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	90	%	62-128
MSV1463-BSD	124-48-1	Dibromochloromethane	BSD	REC	97	%	74-126
MSV1463-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	91	%	77-121
MSV1463-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	94	%	80-119
MSV1463-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	96	%	80-119
MSV1463-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	91	%	79-118
MSV1463-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	92	%	32-152
MSV1463-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	91	%	77-125
MSV1463-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	86	%	73-128
MSV1463-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	98	%	71-131
MSV1463-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	88	%	78-123
MSV1463-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	101	%	75-124
MSV1463-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	90	%	78-122
MSV1463-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	87	%	80-119
MSV1463-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	117	%	60-139
MSV1463-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	106	%	79-125
MSV1463-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	97	%	75-124
MSV1463-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	104	%	73-127
MSV1463-BSD	100-41-4	Ethylbenzene	BSD	REC	95	%	79-121
MSV1463-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	104	%	66-134
MSV1463-BSD	591-78-6	2-Hexanone	BSD	REC	116	%	57-139
MSV1463-BSD	74-88-4	Iodomethane	BSD	REC	95	%	69-131
MSV1463-BSD	98-82-8	Isopropylbenzene	BSD	REC	103	%	72-131
MSV1463-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	110	%	77-127
MSV1463-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	90	%	71-124
MSV1463-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	92	%	67-130
MSV1463-BSD	74-95-3	Methylene bromide	BSD	REC	86	%	79-123
MSV1463-BSD	75-09-2	Methylene chloride	BSD	REC	88	%	74-124
MSV1463-BSD	91-20-3	Naphthalene	BSD	REC	105	%	61-128
MSV1463-BSD	103-65-1	n-Propylbenzene	BSD	REC	102	%	76-126
MSV1463-BSD	100-42-5	Styrene	BSD	REC	101	%	78-123
MSV1463-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	98	%	78-124
MSV1463-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	79	%	71-121
MSV1463-BSD	127-18-4	Tetrachloroethene	BSD	REC	112	%	74-129
MSV1463-BSD	108-88-3	Toluene	BSD	REC	92	%	80-121
MSV1463-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	97	%	69-129
MSV1463-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	99	%	69-130
MSV1463-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	92	%	74-131

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	88	%	80-119
MSV1463-BSD	79-01-6	Trichloroethene	BSD	REC	92	%	79-123
MSV1463-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	91	%	65-141
MSV1463-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	85	%	73-122
MSV1463-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	103	%	76-124
MSV1463-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	101	%	75-124
MSV1463-BSD	108-05-4	Vinyl Acetate	BSD	REC	95	%	54-146
MSV1463-BSD	75-01-4	Vinyl chloride	BSD	REC	88	%	58-137
MSV1463-BSD		m,p-Xylene	BSD	REC	97	%	80-121
MSV1463-BSD	95-47-6	o-Xylene	BSD	REC	105	%	78-122
MSV1463-BSD	1330-20-7	Xylene (total)	BSD	REC	99	%	79-121
MSV1463-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	96	%	80-119
MSV1463-BSD	2037-26-5	Toluene-D8	BSD	SURR	99	%	89-112
MSV1463-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	100	%	85-114
MSV1463-MB	1868-53-7	Dibromofluoromethane	MB	SURR	101	%	80-119
MSV1463-MB	2037-26-5	Toluene-D8	MB	SURR	93	%	89-112
MSV1463-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	96	%	85-114
MC39371-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	80-119
MC39371-1	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC39371-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC39371-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	80-119
MC39371-2	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39371-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC39371-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	101	%	80-119
MC39371-3	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC39371-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC39371-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC39371-4	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39371-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MP24743	SW846 6010C						
MP24743-B1	7429-90-5	Aluminum	BSP	REC	101	%	86-115
MP24743-B1	7440-36-0	Antimony	BSP	REC	103	%	88-113
MP24743-B1	7440-39-3	Barium	BSP	REC	101.5	%	88-113
MP24743-B1	7440-41-7	Beryllium	BSP	REC	99.2	%	89-112
MP24743-B1	7440-43-9	Cadmium	BSP	REC	101.2	%	88-113
MP24743-B1	7440-70-2	Calcium	BSP	REC	103.6	%	87-113
MP24743-B1	7440-47-3	Chromium	BSP	REC	100.6	%	90-113
MP24743-B1	7440-48-4	Cobalt	BSP	REC	99.6	%	89-114
MP24743-B1	7440-50-8	Copper	BSP	REC	100	%	86-114
MP24743-B1	7439-89-6	Iron	BSP	REC	102	%	87-115
MP24743-B1	7439-92-1	Lead	BSP	REC	101	%	86-113
MP24743-B1	7439-95-4	Magnesium	BSP	REC	105.6	%	85-113
MP24743-B1	7439-96-5	Manganese	BSP	REC	103.2	%	90-114

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24743-B1	7440-02-0	Nickel	BSP	REC	103.4	%	88-113
MP24743-B1	7440-09-7	Potassium	BSP	REC	104.4	%	86-114
MP24743-B1	7782-49-2	Selenium	BSP	REC	102	%	83-114
MP24743-B1	7440-22-4	Silver	BSP	REC	90.5	%	84-115
MP24743-B1	7440-23-5	Sodium	BSP	REC	104	%	87-115
MP24743-B1	7440-28-0	Thallium	BSP	REC	103.2	%	85-114
MP24743-B1	7440-62-2	Vanadium	BSP	REC	99.4	%	90-111
MP24743-B1	7440-66-6	Zinc	BSP	REC	98.4	%	87-115
MP24743-S1*	7429-90-5	Aluminum	MS	REC	101.1	%	86-115
MP24743-S1*	7440-36-0	Antimony	MS	REC	104.2	%	88-113
MP24743-S1*	7440-39-3	Barium	MS	REC	101.6	%	88-113
MP24743-S1*	7440-41-7	Beryllium	MS	REC	99	%	89-112
MP24743-S1*	7440-43-9	Cadmium	MS	REC	102.8	%	88-113
MP24743-S1*	7440-70-2	Calcium	MS	REC	104	%	87-113
MP24743-S1*	7440-47-3	Chromium	MS	REC	100.4	%	90-113
MP24743-S1*	7440-48-4	Cobalt	MS	REC	101.6	%	89-114
MP24743-S1*	7440-50-8	Copper	MS	REC	98.7	%	86-114
MP24743-S1*	7439-89-6	Iron	MS	REC	101.9	%	87-115
MP24743-S1*	7439-92-1	Lead	MS	REC	101	%	86-113
MP24743-S1*	7439-95-4	Magnesium	MS	REC	106.8	%	85-113
MP24743-S1*	7439-96-5	Manganese	MS	REC	102	%	90-114
MP24743-S1*	7440-02-0	Nickel	MS	REC	105.1	%	88-113
MP24743-S1*	7440-09-7	Potassium	MS	REC	105.4	%	86-114
MP24743-S1*	7782-49-2	Selenium	MS	REC	104	%	83-114
MP24743-S1*	7440-22-4	Silver	MS	REC	90.6	%	84-115
MP24743-S1*	7440-23-5	Sodium	MS	REC	88	%	87-115
MP24743-S1*	7440-28-0	Thallium	MS	REC	101.4	%	85-114
MP24743-S1*	7440-62-2	Vanadium	MS	REC	99.8	%	90-111
MP24743-S1*	7440-66-6	Zinc	MS	REC	99.5	%	87-115
MP24743-S2*	7429-90-5	Aluminum	MSD	REC	100.1	%	86-115
MP24743-S2*	7429-90-5	Aluminum	MSD	RPD	1	%	20
MP24743-S2*	7440-36-0	Antimony	MSD	REC	103.8	%	88-113
MP24743-S2*	7440-36-0	Antimony	MSD	RPD	.4	%	20
MP24743-S2*	7440-39-3	Barium	MSD	REC	101.1	%	88-113
MP24743-S2*	7440-39-3	Barium	MSD	RPD	.5	%	20
MP24743-S2*	7440-41-7	Beryllium	MSD	REC	98.6	%	89-112
MP24743-S2*	7440-41-7	Beryllium	MSD	RPD	.4	%	20
MP24743-S2*	7440-43-9	Cadmium	MSD	REC	101.8	%	88-113
MP24743-S2*	7440-43-9	Cadmium	MSD	RPD	1	%	20
MP24743-S2*	7440-70-2	Calcium	MSD	REC	101.6	%	87-113
MP24743-S2*	7440-70-2	Calcium	MSD	RPD	.8	%	20
MP24743-S2*	7440-47-3	Chromium	MSD	REC	99.2	%	90-113
MP24743-S2*	7440-47-3	Chromium	MSD	RPD	1.2	%	20
MP24743-S2*	7440-48-4	Cobalt	MSD	REC	100.8	%	89-114
MP24743-S2*	7440-48-4	Cobalt	MSD	RPD	.8	%	20

* Sample used for QC is not from job MC39371

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24743-S2*	7440-50-8	Copper	MSD	REC	98.3	%	86-114
MP24743-S2*	7440-50-8	Copper	MSD	RPD	.4	%	20
MP24743-S2*	7439-89-6	Iron	MSD	REC	100.9	%	87-115
MP24743-S2*	7439-89-6	Iron	MSD	RPD	1	%	20
MP24743-S2*	7439-92-1	Lead	MSD	REC	101	%	86-113
MP24743-S2*	7439-92-1	Lead	MSD	RPD	0	%	20
MP24743-S2*	7439-95-4	Magnesium	MSD	REC	104.4	%	85-113
MP24743-S2*	7439-95-4	Magnesium	MSD	RPD	1.9	%	20
MP24743-S2*	7439-96-5	Manganese	MSD	REC	101.4	%	90-114
MP24743-S2*	7439-96-5	Manganese	MSD	RPD	.6	%	20
MP24743-S2*	7440-02-0	Nickel	MSD	REC	104.5	%	88-113
MP24743-S2*	7440-02-0	Nickel	MSD	RPD	.6	%	20
MP24743-S2*	7440-09-7	Potassium	MSD	REC	104.2	%	86-114
MP24743-S2*	7440-09-7	Potassium	MSD	RPD	1.1	%	20
MP24743-S2*	7782-49-2	Selenium	MSD	REC	103.4	%	83-114
MP24743-S2*	7782-49-2	Selenium	MSD	RPD	.6	%	20
MP24743-S2*	7440-22-4	Silver	MSD	REC	90.1	%	84-115
MP24743-S2*	7440-22-4	Silver	MSD	RPD	.6	%	20
MP24743-S2*	7440-23-5	Sodium	MSD	REC	88	%	87-115
MP24743-S2*	7440-23-5	Sodium	MSD	RPD	0	%	20
MP24743-S2*	7440-28-0	Thallium	MSD	REC	100.8	%	85-114
MP24743-S2*	7440-28-0	Thallium	MSD	RPD	.6	%	20
MP24743-S2*	7440-62-2	Vanadium	MSD	REC	98.8	%	90-111
MP24743-S2*	7440-62-2	Vanadium	MSD	RPD	1	%	20
MP24743-S2*	7440-66-6	Zinc	MSD	REC	97.9	%	87-115
MP24743-S2*	7440-66-6	Zinc	MSD	RPD	1.6	%	20
MP24743A	SW846 6020A						
MP24743A-B1	7440-38-2	Arsenic	BSP	REC	110	%	84-116
MP24743A-S1*	7440-38-2	Arsenic	MS	REC	111	%	84-116
MP24743A-S2*	7440-38-2	Arsenic	MSD	REC	109.8	%	84-116
MP24743A-S2*	7440-38-2	Arsenic	MSD	RPD	1.1	%	20
MP24748	SW846 7470A						
MP24748-B1	7439-97-6	Mercury	BSP	REC	103.3	%	82-119
MP24748-S1*	7439-97-6	Mercury	MS	REC	110	%	82-119
MP24748-S2*	7439-97-6	Mercury	MSD	REC	113.3	%	82-119
MP24748-S2*	7439-97-6	Mercury	MSD	RPD	3	%	20

(a) Outside control limits. Associated samples are non-detect for this compound.
(b) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(c) High RPD due to possible matrix interference and/or sample non-homogeneity.

* Sample used for QC is not from job MC39371

New England
ACCUTEST
LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-MB	V40507.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-5, MC39371-6

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-MB	V40507.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-5, MC39371-6

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-MB	V40507.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-5, MC39371-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	72-133%
2037-26-5	Toluene-D8	94%	85-114%
460-00-4	4-Bromofluorobenzene	98%	70-134%

Method Blank Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-3, MC39371-4

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
108-86-1	Bromobenzene	ND	5.0	ug/l	
74-97-5	Bromochloromethane	ND	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	

Method Blank Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-3, MC39371-4

CAS No.	Compound	Result	RL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	ug/l	
591-78-6	2-Hexanone	ND	5.0	ug/l	
74-88-4	Iodomethane	ND	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
74-95-3	Methylene bromide	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
	m,p-Xylene	ND	1.0	ug/l	
95-47-6	o-Xylene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-3, MC39371-4

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	72-133%
2037-26-5	Toluene-D8	93%	85-114%
460-00-4	4-Bromofluorobenzene	96%	70-134%

Method Blank Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5403-MB	G144217.D	1	06/30/15	AD	n/a	n/a	MSG5403

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-5, MC39371-6

CAS No.	Compound	Result	RL	Units	Q
78-93-3	2-Butanone (MEK)	ND	5.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	72-133%
2037-26-5	Toluene-D8	100%	85-114%
460-00-4	4-Bromofluorobenzene	102%	70-134%

Blank Spike Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-BS	V40504.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-5, MC39371-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	86.6	173* [a]	14-172
71-43-2	Benzene	50	46.3	93	68-127
108-86-1	Bromobenzene	50	48.3	97	74-124
74-97-5	Bromochloromethane	50	46.8	94	68-135
75-27-4	Bromodichloromethane	50	49.1	98	72-144
75-25-2	Bromoform	50	52.8	106	59-147
74-83-9	Bromomethane	50	47.9	96	34-175
78-93-3	2-Butanone (MEK)	50	63.0	126	43-147
104-51-8	n-Butylbenzene	50	54.0	108	77-136
135-98-8	sec-Butylbenzene	50	54.6	109	75-134
98-06-6	tert-Butylbenzene	50	52.7	105	74-132
75-15-0	Carbon disulfide	50	50.9	102	34-171
56-23-5	Carbon tetrachloride	50	51.1	102	55-153
108-90-7	Chlorobenzene	50	46.6	93	71-123
75-00-3	Chloroethane	50	44.2	88	58-175
67-66-3	Chloroform	50	49.3	99	67-136
74-87-3	Chloromethane	50	46.8	94	25-182
95-49-8	o-Chlorotoluene	50	49.1	98	72-130
106-43-4	p-Chlorotoluene	50	47.7	95	73-127
96-12-8	1,2-Dibromo-3-chloropropane	50	51.1	102	50-159
124-48-1	Dibromochloromethane	50	51.7	103	73-139
106-93-4	1,2-Dibromoethane	50	47.6	95	69-132
95-50-1	1,2-Dichlorobenzene	50	48.8	98	77-125
541-73-1	1,3-Dichlorobenzene	50	48.9	98	77-124
106-46-7	1,4-Dichlorobenzene	50	46.3	93	73-128
75-71-8	Dichlorodifluoromethane	50	55.1	110	23-157
75-34-3	1,1-Dichloroethane	50	47.0	94	63-145
107-06-2	1,2-Dichloroethane	50	46.4	93	58-145
75-35-4	1,1-Dichloroethene	50	51.6	103	56-158
156-59-2	cis-1,2-Dichloroethene	50	45.1	90	67-133
156-60-5	trans-1,2-Dichloroethene	50	51.8	104	66-136
78-87-5	1,2-Dichloropropane	50	47.9	96	75-133
142-28-9	1,3-Dichloropropane	50	45.6	91	70-127
594-20-7	2,2-Dichloropropane	50	63.0	126	52-163
563-58-6	1,1-Dichloropropene	50	54.3	109	77-140
10061-01-5	cis-1,3-Dichloropropene	50	52.6	105	74-141

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-BS	V40504.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-5, MC39371-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	58.2	116	77-143
100-41-4	Ethylbenzene	50	48.2	96	71-129
87-68-3	Hexachlorobutadiene	50	54.2	108	64-146
591-78-6	2-Hexanone	50	62.7	125	22-163
74-88-4	Iodomethane	50	49.5	99	30-166
98-82-8	Isopropylbenzene	50	52.1	104	72-133
99-87-6	p-Isopropyltoluene	50	56.9	114	77-134
1634-04-4	Methyl Tert Butyl Ether	50	50.4	101	46-151
108-10-1	4-Methyl-2-pentanone (MIBK)	50	51.9	104	47-145
74-95-3	Methylene bromide	50	46.6	93	70-132
75-09-2	Methylene chloride	50	47.1	94	55-146
91-20-3	Naphthalene	50	59.1	118	39-176
103-65-1	n-Propylbenzene	50	52.5	105	74-134
100-42-5	Styrene	50	51.8	104	71-134
630-20-6	1,1,1,2-Tetrachloroethane	50	47.9	96	70-137
79-34-5	1,1,2,2-Tetrachloroethane	50	43.5	87	58-145
127-18-4	Tetrachloroethene	50	55.0	110	63-137
108-88-3	Toluene	50	48.1	96	75-126
87-61-6	1,2,3-Trichlorobenzene	50	53.8	108	27-181
120-82-1	1,2,4-Trichlorobenzene	50	52.8	106	40-176
71-55-6	1,1,1-Trichloroethane	50	48.8	98	68-144
79-00-5	1,1,2-Trichloroethane	50	48.9	98	72-133
79-01-6	Trichloroethene	50	47.5	95	73-126
75-69-4	Trichlorofluoromethane	50	50.7	101	43-152
96-18-4	1,2,3-Trichloropropane	50	47.0	94	58-141
95-63-6	1,2,4-Trimethylbenzene	50	52.9	106	76-129
108-67-8	1,3,5-Trimethylbenzene	50	51.7	103	71-127
108-05-4	Vinyl Acetate	50	54.0	108	10-170
75-01-4	Vinyl chloride	50	49.0	98	36-167
	m,p-Xylene	100	97.8	98	68-130
95-47-6	o-Xylene	50	52.7	105	69-126
1330-20-7	Xylene (total)	150	151	101	67-129

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-BS	V40504.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-5, MC39371-6

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	72-133%
2037-26-5	Toluene-D8	102%	85-114%
460-00-4	4-Bromofluorobenzene	100%	70-134%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-3, MC39371-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	79.4	159	75.4	151	5	14-172/25
71-43-2	Benzene	50	45.9	92	45.0	90	2	68-127/25
108-86-1	Bromobenzene	50	47.0	94	47.4	95	1	74-124/25
74-97-5	Bromochloromethane	50	45.7	91	44.2	88	3	68-135/25
75-27-4	Bromodichloromethane	50	47.5	95	45.9	92	3	72-144/25
75-25-2	Bromoform	50	49.6	99	47.0	94	5	59-147/25
74-83-9	Bromomethane	50	47.2	94	44.7	89	5	34-175/25
78-93-3	2-Butanone (MEK)	50	62.8	126	57.8	116	8	43-147/25
104-51-8	n-Butylbenzene	50	52.5	105	52.6	105	0	77-136/25
135-98-8	sec-Butylbenzene	50	52.7	105	53.3	107	1	75-134/25
98-06-6	tert-Butylbenzene	50	53.3	107	53.9	108	1	74-132/25
75-15-0	Carbon disulfide	50	45.4	91	47.8	96	5	34-171/25
56-23-5	Carbon tetrachloride	50	49.0	98	48.7	97	1	55-153/25
108-90-7	Chlorobenzene	50	46.7	93	45.9	92	2	71-123/25
75-00-3	Chloroethane	50	44.4	89	40.0	80	10	58-175/25
67-66-3	Chloroform	50	47.8	96	47.5	95	1	67-136/25
74-87-3	Chloromethane	50	45.7	91	42.0	84	8	25-182/25
95-49-8	o-Chlorotoluene	50	47.7	95	48.0	96	1	72-130/25
106-43-4	p-Chlorotoluene	50	46.4	93	46.6	93	0	73-127/25
96-12-8	1,2-Dibromo-3-chloropropane	50	49.2	98	44.8	90	9	50-159/25
124-48-1	Dibromochloromethane	50	50.4	101	48.5	97	4	73-139/25
106-93-4	1,2-Dibromoethane	50	46.3	93	45.3	91	2	69-132/25
95-50-1	1,2-Dichlorobenzene	50	48.2	96	47.1	94	2	77-125/25
541-73-1	1,3-Dichlorobenzene	50	48.3	97	48.1	96	0	77-124/25
106-46-7	1,4-Dichlorobenzene	50	46.3	93	45.7	91	1	73-128/25
75-71-8	Dichlorodifluoromethane	50	51.4	103	46.1	92	11	23-157/25
75-34-3	1,1-Dichloroethane	50	44.5	89	45.4	91	2	63-145/25
107-06-2	1,2-Dichloroethane	50	45.1	90	43.1	86	5	58-145/25
75-35-4	1,1-Dichloroethene	50	46.4	93	49.2	98	6	56-158/25
156-59-2	cis-1,2-Dichloroethene	50	43.9	88	43.8	88	0	67-133/25
156-60-5	trans-1,2-Dichloroethene	50	49.1	98	50.3	101	2	66-136/25
78-87-5	1,2-Dichloropropane	50	46.4	93	45.2	90	3	75-133/25
142-28-9	1,3-Dichloropropane	50	44.8	90	43.3	87	3	70-127/25
594-20-7	2,2-Dichloropropane	50	59.4	119	58.3	117	2	52-163/25
563-58-6	1,1-Dichloropropene	50	53.8	108	52.8	106	2	77-140/25
10061-01-5	cis-1,3-Dichloropropene	50	49.6	99	48.3	97	3	74-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-3, MC39371-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	53.5	107	52.1	104	3	77-143/25
100-41-4	Ethylbenzene	50	48.9	98	47.6	95	3	71-129/25
87-68-3	Hexachlorobutadiene	50	51.4	103	51.8	104	1	64-146/25
591-78-6	2-Hexanone	50	63.1	126	58.0	116	8	22-163/25
74-88-4	Iodomethane	50	45.2	90	47.5	95	5	30-166/25
98-82-8	Isopropylbenzene	50	51.2	102	51.6	103	1	72-133/25
99-87-6	p-Isopropyltoluene	50	55.1	110	55.2	110	0	77-134/25
1634-04-4	Methyl Tert Butyl Ether	50	45.5	91	44.9	90	1	46-151/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.1	100	45.8	92	9	47-145/25
74-95-3	Methylene bromide	50	45.2	90	43.0	86	5	70-132/25
75-09-2	Methylene chloride	50	41.7	83	44.1	88	6	55-146/25
91-20-3	Naphthalene	50	58.2	116	52.7	105	10	39-176/25
103-65-1	n-Propylbenzene	50	51.0	102	51.0	102	0	74-134/25
100-42-5	Styrene	50	52.2	104	50.7	101	3	71-134/25
630-20-6	1,1,1,2-Tetrachloroethane	50	50.0	100	48.8	98	2	70-137/25
79-34-5	1,1,2,2-Tetrachloroethane	50	41.8	84	39.3	79	6	58-145/25
127-18-4	Tetrachloroethene	50	57.3	115	56.2	112	2	63-137/25
108-88-3	Toluene	50	46.9	94	45.9	92	2	75-126/25
87-61-6	1,2,3-Trichlorobenzene	50	53.7	107	48.6	97	10	27-181/25
120-82-1	1,2,4-Trichlorobenzene	50	53.3	107	49.7	99	7	40-176/25
71-55-6	1,1,1-Trichloroethane	50	45.7	91	45.8	92	0	68-144/25
79-00-5	1,1,2-Trichloroethane	50	46.1	92	44.0	88	5	72-133/25
79-01-6	Trichloroethene	50	47.1	94	46.2	92	2	73-126/25
75-69-4	Trichlorofluoromethane	50	47.6	95	45.4	91	5	43-152/25
96-18-4	1,2,3-Trichloropropane	50	44.2	88	42.5	85	4	58-141/25
95-63-6	1,2,4-Trimethylbenzene	50	51.2	102	51.5	103	1	76-129/25
108-67-8	1,3,5-Trimethylbenzene	50	50.4	101	50.6	101	0	71-127/25
108-05-4	Vinyl Acetate	50	50.2	100	47.6	95	5	10-170/25
75-01-4	Vinyl chloride	50	45.9	92	44.1	88	4	36-167/25
	m,p-Xylene	100	99.2	99	96.9	97	2	68-130/25
95-47-6	o-Xylene	50	54.1	108	52.3	105	3	69-126/25
1330-20-7	Xylene (total)	150	153	102	149	99	3	67-129/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-3, MC39371-4

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	97%	96%	72-133%
2037-26-5	Toluene-D8	100%	99%	85-114%
460-00-4	4-Bromofluorobenzene	97%	100%	70-134%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5403-BS	G144214.D	1	06/30/15	AD	n/a	n/a	MSG5403
MSG5403-BSD	G144215.D	1	06/30/15	AD	n/a	n/a	MSG5403

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-5, MC39371-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
78-93-3	2-Butanone (MEK)	50	31.7	63	37.3	75	16	43-147/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	100%	100%	72-133%
2037-26-5	Toluene-D8	101%	102%	85-114%
460-00-4	4-Bromofluorobenzene	99%	98%	70-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39596-4MS	V40525.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4MSD	V40526.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4	V40511.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-5, MC39371-6

CAS No.	Compound	MC39596-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10 U		50	46.0	92	50	40.8	82	12	10-135/30
71-43-2	Benzene	0.50 U		50	45.8	92	50	44.5	89	3	61-138/30
108-86-1	Bromobenzene	5.0 U		50	46.3	93	50	46.2	92	0	71-126/30
74-97-5	Bromochloromethane	5.0 U		50	45.9	92	50	44.4	89	3	70-136/30
75-27-4	Bromodichloromethane	1.0 U		50	48.6	97	50	46.7	93	4	73-146/30
75-25-2	Bromoform	1.0 U		50	51.4	103	50	48.2	96	6	54-147/30
74-83-9	Bromomethane	2.0 U		50	45.1	90	50	45.5	91	1	20-171/30
78-93-3	2-Butanone (MEK)	5.0 U		50	49.6	99	50	46.3	93	7	33-127/30
104-51-8	n-Butylbenzene	5.0 U		50	49.2	98	50	49.9	100	1	69-138/30
135-98-8	sec-Butylbenzene	5.0 U		50	49.7	99	50	51.0	102	3	71-137/30
98-06-6	tert-Butylbenzene	5.0 U		50	49.6	99	50	50.7	101	2	68-137/30
75-15-0	Carbon disulfide	5.0 U		50	51.0	102	50	49.1	98	4	29-178/30
56-23-5	Carbon tetrachloride	1.0 U		50	50.6	101	50	49.2	98	3	57-155/30
108-90-7	Chlorobenzene	1.0 U		50	45.8	92	50	45.2	90	1	69-126/30
75-00-3	Chloroethane	2.0 U		50	41.8	84	50	42.2	84	1	57-182/30
67-66-3	Chloroform	1.0 U		50	48.9	98	50	46.9	94	4	66-142/30
74-87-3	Chloromethane	2.0 U		50	43.5	87	50	43.6	87	0	18-182/30
95-49-8	o-Chlorotoluene	5.0 U		50	45.6	91	50	46.4	93	2	60-145/30
106-43-4	p-Chlorotoluene	5.0 U		50	45.0	90	50	45.5	91	1	64-138/30
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		50	49.9	100	50	46.7	93	7	46-160/30
124-48-1	Dibromochloromethane	1.0 U		50	50.7	101	50	48.5	97	4	71-138/30
106-93-4	1,2-Dibromoethane	1.0 U		50	47.4	95	50	45.5	91	4	71-129/30
95-50-1	1,2-Dichlorobenzene	1.0 U		50	46.8	94	50	46.7	93	0	75-125/30
541-73-1	1,3-Dichlorobenzene	1.0 U		50	46.5	93	50	46.9	94	1	74-125/30
106-46-7	1,4-Dichlorobenzene	1.0 U		50	45.2	90	50	44.7	89	1	72-128/30
75-71-8	Dichlorodifluoromethane	2.0 U		50	79.9	160* [a]	50	51.1	102	44* [b]	23-159/30
75-34-3	1,1-Dichloroethane	1.0 U		50	46.9	94	50	45.1	90	4	63-150/30
107-06-2	1,2-Dichloroethane	1.0 U		50	46.6	93	50	44.1	88	6	57-150/30
75-35-4	1,1-Dichloroethene	1.0 U		50	50.4	101	50	49.4	99	2	53-165/30
156-59-2	cis-1,2-Dichloroethene	0.47	J	50	44.3	88	50	43.3	86	2	66-138/30
156-60-5	trans-1,2-Dichloroethene	1.0 U		50	51.8	104	50	50.3	101	3	65-141/30
78-87-5	1,2-Dichloropropane	2.0 U		50	47.3	95	50	45.5	91	4	76-136/30
142-28-9	1,3-Dichloropropane	5.0 U		50	45.4	91	50	43.5	87	4	71-127/30
594-20-7	2,2-Dichloropropane	5.0 U		50	55.0	110	50	54.6	109	1	33-175/30
563-58-6	1,1-Dichloropropene	5.0 U		50	53.1	106	50	52.2	104	2	76-145/30
10061-01-5	cis-1,3-Dichloropropene	0.50 U		50	49.8	100	50	47.8	96	4	75-137/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39596-4MS	V40525.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4MSD	V40526.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4	V40511.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-5, MC39371-6

CAS No.	Compound	MC39596-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	0.50 U		50	56.1	112	50	52.4	105	7	77-139/30
100-41-4	Ethylbenzene	1.0 U		50	47.2	94	50	47.0	94	0	61-137/30
87-68-3	Hexachlorobutadiene	5.0 U		50	46.3	93	50	47.7	95	3	59-141/30
591-78-6	2-Hexanone	5.0 U		50	50.0	100	50	45.5	91	9	12-141/30
74-88-4	Iodomethane	5.0 U		50	47.4	95	50	47.7	95	1	21-171/30
98-82-8	Isopropylbenzene	5.0 U		50	48.0	96	50	49.7	99	3	64-141/30
99-87-6	p-Isopropyltoluene	5.0 U		50	51.5	103	50	52.8	106	2	73-135/30
1634-04-4	Methyl Tert Butyl Ether	1.0 U		50	47.6	95	50	45.4	91	5	34-160/30
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		50	51.6	103	50	46.9	94	10	47-143/30
74-95-3	Methylene bromide	5.0 U		50	47.0	94	50	44.3	89	6	73-132/30
75-09-2	Methylene chloride	2.0 U		50	46.5	93	50	44.8	90	4	52-154/30
91-20-3	Naphthalene	5.0 U		50	56.7	113	50	53.7	107	5	21-185/30
103-65-1	n-Propylbenzene	5.0 U		50	48.5	97	50	49.6	99	2	66-141/30
100-42-5	Styrene	5.0 U		50	51.0	102	50	50.0	100	2	60-142/30
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U		50	48.2	96	50	47.0	94	3	69-138/30
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U		50	42.3	85	50	40.1	80	5	58-147/30
127-18-4	Tetrachloroethene	3.5		50	57.2	107	50	57.0	107	0	60-140/30
108-88-3	Toluene	1.0 U		50	47.1	94	50	46.2	92	2	74-131/30
87-61-6	1,2,3-Trichlorobenzene	5.0 U		50	50.2	100	50	48.7	97	3	12-184/30
120-82-1	1,2,4-Trichlorobenzene	5.0 U		50	49.3	99	50	48.4	97	2	30-175/30
71-55-6	1,1,1-Trichloroethane	1.0 U		50	46.5	93	50	46.2	92	1	67-151/30
79-00-5	1,1,2-Trichloroethane	1.0 U		50	48.6	97	50	45.6	91	6	73-134/30
79-01-6	Trichloroethene	14.7		50	58.9	88	50	58.3	87	1	68-133/30
75-69-4	Trichlorofluoromethane	1.0 U		50	49.1	98	50	48.1	96	2	40-159/30
96-18-4	1,2,3-Trichloropropane	5.0 U		50	45.1	90	50	41.9	84	7	54-141/30
95-63-6	1,2,4-Trimethylbenzene	5.0 U		50	49.0	98	50	49.9	100	2	62-142/30
108-67-8	1,3,5-Trimethylbenzene	5.0 U		50	47.6	95	50	48.9	98	3	62-133/30
108-05-4	Vinyl Acetate	5.0 U		50	50.3	101	50	48.0	96	5	10-169/30
75-01-4	Vinyl chloride	1.0 U		50	46.2	92	50	45.4	91	2	29-176/30
	m,p-Xylene	1.0 U		100	95.3	95	100	94.6	95	1	58-139/30
95-47-6	o-Xylene	1.0 U		50	51.2	102	50	51.1	102	0	61-135/30
1330-20-7	Xylene (total)	1.0 U		150	146	97	150	146	97	0	60-136/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39596-4MS	V40525.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4MSD	V40526.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4	V40511.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39371-1, MC39371-2, MC39371-5, MC39371-6

CAS No.	Surrogate Recoveries	MS	MSD	MC39596-4	Limits
1868-53-7	Dibromofluoromethane	99%	97%	105%	72-133%
2037-26-5	Toluene-D8	102%	101%	95%	85-114%
460-00-4	4-Bromofluorobenzene	99%	100%	97%	70-134%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC39371-1	V40561.D	105	93	96
MC39371-1	V40512.D	104	99	99
MC39371-2	V40562.D	105	94	96
MC39371-2	V40513.D	104	98	99
MC39371-3	V40557.D	101	93	97
MC39371-4	V40558.D	102	94	97
MC39371-5	G144221.D	100	99	99
MC39371-5	V40519.D	106	96	97
MC39371-6	G144222.D	99	101	98
MC39371-6	V40520.D	107	95	97
MC39596-4MS	V40525.D	99	102	99
MC39596-4MSD	V40526.D	97	101	100
MSG5403-BS	G144214.D	100	101	99
MSG5403-BSD	G144215.D	100	102	98
MSG5403-MB	G144217.D	99	100	102
MSV1461-BS	V40504.D	98	102	100
MSV1461-MB	V40507.D	102	94	98
MSV1463-BS	V40553.D	97	100	97
MSV1463-BSD	V40554.D	96	99	100
MSV1463-MB	V40556.D	101	93	96

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	72-133%
S2 = Toluene-D8	85-114%
S3 = 4-Bromofluorobenzene	70-134%

New England ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1498-MB	BA22023.D	1	06/17/15	TB	n/a	n/a	GBA1498

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39371-3, MC39371-4, MC39371-5, MC39371-6

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	ND	10	ug/l	
74-84-0	Ethane	ND	10	ug/l	
74-85-1	Ethene	ND	10	ug/l	

Blank Spike Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1498-BSP	BA22024.D	1	06/17/15	TB	n/a	n/a	GBA1498

The QC reported here applies to the following samples:

Method: VRSK 175

MC39371-3, MC39371-4, MC39371-5, MC39371-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	83.2	94	50-150
74-84-0	Ethane	166	160	96	50-150
74-85-1	Ethene	155	175	113	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC39371
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39371-3DUP	BA22027.D	1	06/17/15	TB	n/a	n/a	GBA1498
MC39371-3	BA22025.D	1	06/17/15	TB	n/a	n/a	GBA1498
MC39371-3	BA22026.D	1	06/17/15	TB	n/a	n/a	GBA1498

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39371-3, MC39371-4, MC39371-5, MC39371-6

CAS No.	Compound	MC39371-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	10300 [b]		7510		31* [a]	30
74-84-0	Ethane	ND		ND		nc	30
74-85-1	Ethene	27.3		20.3		29	30

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.
(b) Result is from Run #2.

* = Outside of Control Limits.

New England ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					06/18/15		06/18/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Aluminum	200	14	28	7.6	<200	2.1	<200
Antimony	6.0	1.1	2	-0.20	<6.0	0.0	<6.0
Arsenic	4.0	1.6	1.7				
Barium	50	.35	1	0.10	<50	0.10	<50
Beryllium	4.0	.15	.25	0.0	<4.0	0.0	<4.0
Bismuth	50	1.3	2.1				
Boron	100	.9	1.1				
Cadmium	4.0	.16	.43	0.10	<4.0	0.0	<4.0
Calcium	5000	6.9	15	18.4	<5000	54.3	<5000
Chromium	10	.36	.48	0.10	<10	0.10	<10
Cobalt	50	.15	.28	-0.10	<50	-0.10	<50
Copper	25	.59	2.4	0.40	<25	1.0	<25
Gold	50	1.1	1.5				
Iron	100	3.3	17	4.2	<100	5.7	<100
Lead	5.0	.78	1.7	-0.70	<5.0	-0.70	<5.0
Lithium	500	2.3	2.5				
Magnesium	5000	23	54	8.8	<5000	-2.0	<5000
Manganese	15	.056	1.4	0.10	<15	0.0	<15
Molybdenum	100	1.7	3.6				
Nickel	40	.21	.5	0.0	<40	-0.10	<40
Palladium	50	.92	2.6				
Platinum	50	4.6	5.4				
Potassium	5000	41	49	32.1	<5000	50.9	<5000
Selenium	10	1.5	2	0.40	<10	1.5	<10
Silicon	100	1.1	30				
Silver	5.0	.56	1	0.80	<5.0	0.70	<5.0
Sodium	5000	17	77	83.3	<5000	129	<5000
Sulfur	50	2.3	4.6				
Strontium	10	.2	.22				
Thallium	5.0	.54	1.7	-0.70	<5.0	-0.30	<5.0
Tin	100	.39	.81				
Titanium	50	.34	.51				
Tungsten	100	3.1	22				

8.1.1
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					06/18/15		06/18/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Vanadium	10	.61	.51	0.0	<10	0.10	<10
Zinc	20	.53	1	1.1	<20	3.2	<20
Zirconium	50	.19	1.2				

Associated samples MP24743: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	88.4	10200	10000	101.1	75-125
Antimony	0.0	521	500	104.2	75-125
Arsenic					
Barium	9.0	2040	2000	101.6	75-125
Beryllium	0.0	495	500	99.0	75-125
Bismuth					
Boron					
Cadmium	0.0	514	500	102.8	75-125
Calcium	45500	71500	25000	104.0	75-125
Chromium	0.0	502	500	100.4	75-125
Cobalt	0.0	508	500	101.6	75-125
Copper	1.5	495	500	98.7	75-125
Gold					
Iron	7.5	10200	10000	101.9	75-125
Lead	0.0	1010	1000	101.0	75-125
Lithium					
Magnesium	5300	32000	25000	106.8	75-125
Manganese	0.0	510	500	102.0	75-125
Molybdenum					
Nickel	0.30	526	500	105.1	75-125
Palladium					
Platinum					
Potassium	1850	28200	25000	105.4	75-125
Selenium	0.0	520	500	104.0	75-125
Silicon					
Silver	0.80	182	200	90.6	75-125
Sodium	122000	144000	25000	88.0	75-125
Sulfur					
Strontium					
Thallium	0.0	507	500	101.4	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	0.0	499	500	99.8	75-125
Zinc	7.5	505	500	99.5	75-125
Zirconium					

Associated samples MP24743: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	88.4	10100	10000	100.1	1.0	20
Antimony	0.0	519	500	103.8	0.4	20
Arsenic						
Barium	9.0	2030	2000	101.1	0.5	20
Beryllium	0.0	493	500	98.6	0.4	20
Bismuth						
Boron						
Cadmium	0.0	509	500	101.8	1.0	20
Calcium	45500	70900	25000	101.6	0.8	20
Chromium	0.0	496	500	99.2	1.2	20
Cobalt	0.0	504	500	100.8	0.8	20
Copper	1.5	493	500	98.3	0.4	20
Gold						
Iron	7.5	10100	10000	100.9	1.0	20
Lead	0.0	1010	1000	101.0	0.0	20
Lithium						
Magnesium	5300	31400	25000	104.4	1.9	20
Manganese	0.0	507	500	101.4	0.6	20
Molybdenum						
Nickel	0.30	523	500	104.5	0.6	20
Palladium						
Platinum						
Potassium	1850	27900	25000	104.2	1.1	20
Selenium	0.0	517	500	103.4	0.6	20
Silicon						
Silver	0.80	181	200	90.1	0.6	20
Sodium	122000	144000	25000	88.0	0.0	20
Sulfur						
Strontium						
Thallium	0.0	504	500	100.8	0.6	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	0.0	494	500	98.8	1.0	20
Zinc	7.5	497	500	97.9	1.6	20
Zirconium						

Associated samples MP24743: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/18/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	10100	10000	101.0	80-120
Antimony	515	500	103.0	80-120
Arsenic				
Barium	2030	2000	101.5	80-120
Beryllium	496	500	99.2	80-120
Bismuth				
Boron				
Cadmium	506	500	101.2	80-120
Calcium	25900	25000	103.6	80-120
Chromium	503	500	100.6	80-120
Cobalt	498	500	99.6	80-120
Copper	500	500	100.0	80-120
Gold				
Iron	10200	10000	102.0	80-120
Lead	1010	1000	101.0	80-120
Lithium				
Magnesium	26400	25000	105.6	80-120
Manganese	516	500	103.2	80-120
Molybdenum				
Nickel	517	500	103.4	80-120
Palladium				
Platinum				
Potassium	26100	25000	104.4	80-120
Selenium	510	500	102.0	80-120
Silicon				
Silver	181	200	90.5	80-120
Sodium	26000	25000	104.0	80-120
Sulfur				
Strontium				
Thallium	516	500	103.2	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/18/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	497	500	99.4	80-120
Zinc	492	500	98.4	80-120
Zirconium				

Associated samples MP24743: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5F Original	SDL 1:5	%DIF	QC Limits
Aluminum	88.4	102	15.7 (a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	9.00	9.00	0.0	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	45500	46000	1.1	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	1.50	3.90	160.0(a)	0-10
Gold				
Iron	7.50	18.9	152.0(a)	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	5300	5520	4.2	0-10
Manganese	0.00	0.00	NC	0-10
Molybdenum				
Nickel	0.300	0.00	100.0(a)	0-10
Palladium				
Platinum				
Potassium	1850	2170	17.2 (a)	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.800	0.00	100.0(a)	0-10
Sodium	122000	123000	0.9	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5F Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.00	0.00	NC	0-10
Zinc	7.50	9.00	20.0 (a)	0-10
Zirconium				

Associated samples MP24743: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date:					06/18/15		06/18/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Aluminum	50	1.3	4.4				
Antimony	4.0	.022	.058				
Arsenic	4.0	.046	.42	0.58	<4.0	0.68	<4.0
Barium	2.0	.016	.076				
Beryllium	1.0	.015	.042				
Boron	10	.24	.34				
Cadmium	2.0	.012	.026				
Calcium	500	4.2	30				
Chromium	8.0	.032	.42				
Cobalt	1.0	.0064	.028				
Copper	8.0	.017	1				
Iron	50	.72	3.4				
Lead	2.0	.013	.036				
Magnesium	500	1.4	2				
Manganese	4.0	.0096	1.2				
Molybdenum	2.0	.028	.24				
Nickel	4.0	.015	.14				
Potassium	500	3.4	5.2				
Selenium	2.0	.15	.3				
Silver	2.0	.0088	.022				
Sodium	500	2	8.8				
Strontium	20	.01	.026				
Thallium	2.0	.042	.068				
Tin	10	.015	.048				
Titanium	2.0	.2	.26				
Vanadium	20	.2	1.4				
Zinc	10	.066	2				

Associated samples MP24743A: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	1.8	557	500	111.0	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP24743A: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	1.8	551	500	109.8	1.1	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP24743A: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/18/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	550	500	110.0	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24743A: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24743A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5F Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	1.82	0.00	100.0(a)	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24743A: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24748
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:					06/18/15		06/18/15		06/18/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Mercury	0.20	.038	.096	-0.0035	<0.20	0.0053	<0.20	0.0039	<0.20

Associated samples MP24748: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24748
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5 Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.3	3	110.0	75-125

Associated samples MP24748: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24748
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/18/15

Metal	MC39250-5 Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.4	3	113.3	3.0	20

Associated samples MP24748: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2

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SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24748
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/18/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits
Mercury	3.1	3	103.3	80-120

Associated samples MP24748: MC39371-1F, MC39371-2F, MC39371-3F, MC39371-4F, MC39371-5F, MC39371-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN50997	5.0	0.0	mg/l	250	251	100.4	80-120%
Nitrogen, Nitrate + Nitrite	GP19281/GN51017	0.10	0.029	mg/l	2	2.17	108.5	90-110%
Nitrogen, Nitrite	GP19256/GN50938	0.010	0.0	mg/l	.02	0.020	100.0	80-120%
Sulfide	GN50984	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Total Organic Carbon	GP19289/GN51035	1.0	0.0	mg/l	10	9.87	98.7	80-120%

Associated Samples:
Batch GN50984: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GN50997: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GP19256: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GP19281: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GP19289: MC39371-3, MC39371-4, MC39371-5, MC39371-6
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN50997	MC39250-5	mg/l	63.4	63.4	0.0	0-20%
Nitrogen, Nitrate + Nitrite	GP19281/GN51017	MC39401-4	mg/l	0.093	0.080	15.0	0-20%
Nitrogen, Nitrite	GP19256/GN50938	MC39401-6	mg/l	0.0	0.0	0.0	0-20%
Sulfide	GN50984	MC39401-5	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN50984: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GN50997: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GP19256: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GP19281: MC39371-3, MC39371-4, MC39371-5, MC39371-6
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN50997	MC39250-5	mg/l	63.4	250	317	101.4	75-125%
Nitrogen, Nitrate + Nitrite	GP19281/GN51017	MC39401-4	mg/l	0.093	2	2.1	100.4	90-110%
Nitrogen, Nitrite	GP19256/GN50938	MC39401-6	mg/l	0.0	.02	0.020	100.0	75-125%
Sulfide	GN50984	MC39401-5	mg/l	0.34 U	13.4	13.0	97.0	75-125%
Total Organic Carbon	GP19289/GN51035	MC39401-1	mg/l	8.3	10	19.4	111.0	75-125%

Associated Samples:
Batch GN50984: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GN50997: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GP19256: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GP19281: MC39371-3, MC39371-4, MC39371-5, MC39371-6
Batch GP19289: MC39371-3, MC39371-4, MC39371-5, MC39371-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39371
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19289/GN51035	MC39401-1	mg/l	8.3	10	19.2	1.0	20%

Associated Samples:
Batch GP19289: MC39371-3, MC39371-4, MC39371-5, MC39371-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

GW

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC39371
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information

Name: Accutest New England
Address: 50 D'Angelo Drive
City: Marlborough State: MA Zip: 01752
Send Report to: FrankD@accutest.com
Any questions contact: Frank D'Agostino
Phone/Fax #: (508)481-6200 / (508)481-7753

Subcontract Laboratory Information

Name: Accutest - New Jersey
Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Contact: Sample Management
Phone: (732) 329-0200

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300						Comments
MC39371 -3	6/16/15	2:15 PM		GW	1					X	X						
MC39371 -4	6/16/15	12:50 PM		GW	1					X	X						MA
MC39371 -5	6/16/15	3:00 PM		GW	1					X	X						
MC39371 -6	6/16/15	1:55 PM		GW	1					X	X						

[x] STD 6/30/15
[ ] Other ______ (Days)
*Please notify Accutest if surcharges are applied.

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [X] Commercial "BN"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

Comments / Remarks

All DW samples are subject to MCL compliance reporting

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1 [signature]	6-18-15	1 FedEx	1
2 Fed Ex	6/19/15 0930	2 [signature]	2 6/19/15 9:30
3		3	3

Seal #:
Headspace: Yes No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C 4.4°C IP On Ice [x]

Trk # 6406 1312 3916

INITIAL ASESSMENT KIR 3A

LABEL VERIFICATION [initials]

sm022-01 (10/30/14)

10.1 10

MC39371: Chain of Custody
Page 1 of 2
Accutest New Jersey

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39371 **Client:** **Project:**

Date / Time Received: 6/19/2015 9:30:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (4.1);

Cooler Temps (Corrected) °C: Cooler 1: (3.8);

Cooler Security

	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

10.1 10

MC39371: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC39371
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 06/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC39371

New England
ACCUTEST
LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39371
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP90020/GN27592	2.0	0.10	mg/l	80	85.8	107.3	90-110%
Sulfate	GP90020/GN27592	10	0.0	mg/l	80	86.1	107.6	90-110%

Associated Samples:
Batch GP90020: MC39371-3, MC39371-4, MC39371-5, MC39371-6
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39371
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP90020/GN27592	JB97130-3	mg/l	381	382	0.3	0-20%
Sulfate	GP90020/GN27592	JB97130-3	mg/l	50.1	50.2	0.2	0-20%

Associated Samples:
Batch GP90020: MC39371-3, MC39371-4, MC39371-5, MC39371-6
(*) Outside of QC limits

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39371
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP90020/GN27681	JB97130-3	mg/l	381	160	530	93.1	80-120%
Sulfate	GP90020/GN27592	JB97130-3	mg/l	50.1	80	131	101.1	80-120%

Associated Samples:
Batch GP90020: MC39371-3, MC39371-4, MC39371-5, MC39371-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England ACCUTEST LABORATORIES

07/02/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

Accutest Job Number: MC39401

Sampling Date: 06/17/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
eanderson@hsenv.com

ATTN: Elizabeth Anderson

Total number of pages in report: **127**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Pand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

Sections:

1 2 3 4 5 6 7 8 9 10 11

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Sample Summary

H&S Environmental

Fort Devens, AOC50, Devens, MA

Job No: MC39401

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC39401-1	06/17/15	09:45 SLEF	06/17/15	AQ	Ground Water	G6M-04-09X-061715H
MC39401-1F	06/17/15	09:45 SLEF	06/17/15	AQ	Groundwater Filtered	G6M-04-09X-061715H
MC39401-2	06/17/15	11:10 SLEF	06/17/15	AQ	Ground Water	G6M-04-09X-061715
MC39401-2F	06/17/15	11:10 SLEF	06/17/15	AQ	Groundwater Filtered	G6M-04-09X-061715
MC39401-3	06/17/15	13:05 SLEF	06/17/15	AQ	Ground Water	G6M-02-01X-061715H
MC39401-3F	06/17/15	13:05 SLEF	06/17/15	AQ	Groundwater Filtered	G6M-02-01X-061715H
MC39401-4	06/17/15	14:05 SLEF	06/17/15	AQ	Ground Water	G6M-02-01X-061715
MC39401-4F	06/17/15	14:05 SLEF	06/17/15	AQ	Groundwater Filtered	G6M-02-01X-061715
MC39401-5	06/17/15	09:45 SLEF	06/17/15	AQ	Ground Water	G6M-04-05X-061715H
MC39401-5F	06/17/15	09:45 SLEF	06/17/15	AQ	Groundwater Filtered	G6M-04-05X-061715H
MC39401-6	06/17/15	11:45 SLEF	06/17/15	AQ	Ground Water	G6M-04-05X-061715
MC39401-6F	06/17/15	11:45 SLEF	06/17/15	AQ	Groundwater Filtered	G6M-04-05X-061715
MC39401-7	06/17/15	12:40 SLEF	06/17/15	AQ	Ground Water	G6M-03-08X-061715H

Sample Summary
(continued)

H&S Environmental

Job No: MC39401

Fort Devens, AOC50, Devens, MA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC39401-7F	06/17/15	12:40	SLEF	06/17/15	AQ	Groundwater Filtered	G6M-03-08X-061715H

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC39401

Site: Fort Devens, AOC50, Devens, MA **Report Date** 7/2/2015 9:17:25 AM

7 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 06/17/2015 and were received at Accutest on 06/17/2015 properly preserved, at 2.9 Deg. C and intact. These Samples received an Accutest job number of MC39401. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSV1461

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39596-4MS, MC39596-4MSD were used as the QC samples indicated.
- MSV1461-BS for Acetone: Outside control limits. Associated samples are non-detect for this compound.
- MC39596-4MS for Dichlorodifluoromethane are outside control limits due to possible matrix interference. Refer to Blank Spike.
- RPD(s) for MC39596-4MSD for Dichlorodifluoromethane are outside control limits. High RPD due to possible matrix interference and/or sample non-homogeneity.

Matrix: AQ **Batch ID:** MSV1463

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1499

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-3DUP were used as the QC samples indicated.
- RPD(s) for MC39401-3DUP for Ethene, Methane are outside control limits. High RPD due to possible matrix interference and/or sample non-homogeneity.

Matrix: AQ **Batch ID:** GBA1500

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-6DUP were used as the QC samples indicated.
- RPD(s) for MC39401-6DUP for Methane are outside control limits. High RPD due to possible matrix interference and/or sample non-homogeneity.

Metals By Method SW846 6010C

Matrix: AQ	Batch ID: MP24763

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1MS, MC39372-1MSD, MC39372-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Aluminum, Chromium, Copper, Nickel, Silver, Vanadium, Zinc are outside control limits for sample MP24763-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 6020A

Matrix: AQ	Batch ID: MP24763A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1MS, MC39372-1MSD, MC39372-1SDL were used as the QC samples for metals.

Metals By Method SW846 7470A

Matrix: AQ	Batch ID: MP24766

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-8FMS, MC39435-8FMSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	Batch ID: N:GP90047

- Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	Batch ID: GP19281

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-4MS, MC39401-4DUP were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	Batch ID: R36812

- MC39401-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R36818

- MC39401-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R36819

- MC39401-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R36820

- MC39401-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R36821

- MC39401-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	**Batch ID:** GP19256

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-6DUP, MC39401-6MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 2320B

Matrix: AQ	**Batch ID:** GN51008

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39218-3DUP, MC39218-3MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ	**Batch ID:** GN50984

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-5DUP, MC39401-5MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SM21 5310 B

Matrix: AQ	**Batch ID:** GP19293

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-6MS, MC39435-6MSD were used as the QC samples for Total Organic Carbon.

Wet Chemistry By Method SW846 9060

Matrix: AQ	**Batch ID:** GP19289

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-1MS, MC39401-1MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC39401).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Accutest Labs of New England, Inc.	**Job No**	MC39401
Site:	HSMAW: Fort Devens, AOC50, Devens, MA	**Report Date**	6/24/2015 5:20:02 PM

On 06/19/2015, 5 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 4.1 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC39401 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP90047

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-5MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39401-1	**G6M-04-09X-061715H**					
cis-1,2-Dichloroethene		12.8	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		6.4	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		3.6	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		15.4	1.0	0.50	ug/l	SW846 8260C
Total Organic Carbon		8.3	1.0	0.81	mg/l	SW846 9060
MC39401-1F	**G6M-04-09X-061715H**					
Arsenic		12.4	4.0	2.0	ug/l	SW846 6020A
Barium		57.0	50	25	ug/l	SW846 6010C
Calcium		21500	10000	5000	ug/l	SW846 6010C
Iron		7020	100	50	ug/l	SW846 6010C
Magnesium		5460	5000	2500	ug/l	SW846 6010C
Manganese		2630	15	7.5	ug/l	SW846 6010C
Potassium		187000	50000	25000	ug/l	SW846 6010C
Sodium		141000	50000	25000	ug/l	SW846 6010C
MC39401-2	**G6M-04-09X-061715**					
Toluene		0.91 J	1.0	0.50	ug/l	SW846 8260C
Total Organic Carbon		14.1	1.0	0.81	mg/l	SW846 9060
MC39401-2F	**G6M-04-09X-061715**					
Arsenic		351	20	10	ug/l	SW846 6020A
Barium		326	50	25	ug/l	SW846 6010C
Cadmium		3.3 J	4.0	2.0	ug/l	SW846 6010C
Calcium		40900	25000	13000	ug/l	SW846 6010C
Cobalt		44.1 J	50	25	ug/l	SW846 6010C
Iron		159000	1000	500	ug/l	SW846 6010C
Magnesium		6280	5000	2500	ug/l	SW846 6010C
Manganese		3560	15	7.5	ug/l	SW846 6010C
Potassium		112000	50000	25000	ug/l	SW846 6010C
Sodium		150000	50000	25000	ug/l	SW846 6010C
MC39401-3	**G6M-02-01X-061715H**					
cis-1,2-Dichloroethene		3.9	1.0	0.50	ug/l	SW846 8260C
Toluene		0.51 J	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		0.90 J	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		0.78 J	1.0	0.50	ug/l	SW846 8260C
Methane		3610	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		27.0	5.0	3.9	mg/l	SM21 2320B

Summary of Hits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Sulfate [a]		3.9 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		3.3	1.0	0.81	mg/l	SW846 9060
MC39401-3F	**G6M-02-01X-061715H**					
Arsenic		68.1	4.0	2.0	ug/l	SW846 6020A
Barium		35.7 J	50	25	ug/l	SW846 6010C
Calcium		42300	25000	13000	ug/l	SW846 6010C
Iron		22000	500	250	ug/l	SW846 6010C
Magnesium		4330 J	5000	2500	ug/l	SW846 6010C
Manganese		1020	15	7.5	ug/l	SW846 6010C
Nickel		126	40	20	ug/l	SW846 6010C
Potassium		4370 J	5000	2500	ug/l	SW846 6010C
Sodium		88200	25000	13000	ug/l	SW846 6010C
Zinc		94.0	20	10	ug/l	SW846 6010C
MC39401-4	**G6M-02-01X-061715**					
cis-1,2-Dichloroethene		0.53 J	1.0	0.50	ug/l	SW846 8260C
Toluene		1.2	1.0	0.50	ug/l	SW846 8260C
Methane		7120	200	100	ug/l	VRSK 175
Ethene		6.0 J	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		66.6	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate + Nitrite		0.093 J	0.10	0.054	mg/l	EPA 353.2
Total Organic Carbon		6.2	1.0	0.81	mg/l	SW846 9060
MC39401-4F	**G6M-02-01X-061715**					
Arsenic		418	20	10	ug/l	SW846 6020A
Barium		48.1 J	50	25	ug/l	SW846 6010C
Cadmium		3.8 J	4.0	2.0	ug/l	SW846 6010C
Calcium		36200	25000	13000	ug/l	SW846 6010C
Iron		61900	500	250	ug/l	SW846 6010C
Magnesium		3690 J	5000	2500	ug/l	SW846 6010C
Manganese		1760	15	7.5	ug/l	SW846 6010C
Potassium		7230	5000	2500	ug/l	SW846 6010C
Sodium		99100	25000	13000	ug/l	SW846 6010C
MC39401-5	**G6M-04-05X-061715H**					
Chloroform		0.76 J	1.0	0.50	ug/l	SW846 8260C
Alkalinity, Total as CaCO3		29.1	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [b]		0.33	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.33	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		24.3	10	0.50	mg/l	EPA 300/SW846 9056A

Summary of Hits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Total Organic Carbon		5.1	1.0	0.81	mg/l	SW846 9060
MC39401-5F	**G6M-04-05X-061715H**					
Calcium		28600	10000	5000	ug/l	SW846 6010C
Magnesium		3730 J	5000	2500	ug/l	SW846 6010C
Potassium		3320 J	5000	2500	ug/l	SW846 6010C
Sodium		19800	5000	2500	ug/l	SW846 6010C
Zinc		10.1 J	20	10	ug/l	SW846 6010C
MC39401-6	**G6M-04-05X-061715**					
Chloroform		0.86 J	1.0	0.50	ug/l	SW846 8260C
Methane		22.4	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		22.9	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [b]		0.29	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.29	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		23.3	10	0.50	mg/l	EPA 300/SW846 9056A
MC39401-6F	**G6M-04-05X-061715**					
Calcium		29400	10000	5000	ug/l	SW846 6010C
Magnesium		3860 J	5000	2500	ug/l	SW846 6010C
Manganese		11.8 J	15	7.5	ug/l	SW846 6010C
Potassium		2550 J	5000	2500	ug/l	SW846 6010C
Sodium		19900	5000	2500	ug/l	SW846 6010C
Zinc		15.2 J	20	10	ug/l	SW846 6010C
MC39401-7	**G6M-03-08X-061715H**					
Trichloroethene		0.65 J	1.0	0.50	ug/l	SW846 8260C
Alkalinity, Total as CaCO3		93.6	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate + Nitrite		0.093 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		8.3 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1.6	1.0	0.70	mg/l	SM21 5310 B
MC39401-7F	**G6M-03-08X-061715H**					
Arsenic		2.4 J	4.0	2.0	ug/l	SW846 6020A
Calcium		22300	10000	5000	ug/l	SW846 6010C
Magnesium		2740 J	5000	2500	ug/l	SW846 6010C
Manganese		2220	15	7.5	ug/l	SW846 6010C
Potassium		18000	5000	2500	ug/l	SW846 6010C
Sodium		17000	5000	2500	ug/l	SW846 6010C
Zinc		16.4 J	20	10	ug/l	SW846 6010C

Summary of Hits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

New England ACCUTEST LABORATORIES

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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	G6M-04-09X-061715H		
Lab Sample ID:	MC39401-1	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40516.D	1	06/29/15	JB	n/a	n/a	MSV1461
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	12.8	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-09X-061715H			
Lab Sample ID:	MC39401-1		**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water		**Date Received:**	06/17/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	6.4	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	3.6	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	15.4	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-09X-061715H		
Lab Sample ID:	MC39401-1	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		85-114%
460-00-4	4-Bromofluorobenzene	95%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-09X-061715H		
Lab Sample ID:	MC39401-1	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Total Organic Carbon	8.3	1.0	0.81	mg/l	1	06/25/15 13:48	MA	SW846 9060

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-09X-061715H		
Lab Sample ID:	MC39401-1F	**Date Sampled:**	06/17/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	12.4	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	57.0	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	21500	10000	5000	ug/l	2	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	7020	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	5460	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	2630	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	187000	50000	25000	ug/l	10	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	141000	50000	25000	ug/l	10	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-09X-061715		
Lab Sample ID:	MC39401-2	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40517.D	1	06/29/15	JB	n/a	n/a	MSV1461
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-09X-061715			
Lab Sample ID:	MC39401-2		**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water		**Date Received:**	06/17/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.91	1.0	0.50	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-09X-061715		
Lab Sample ID:	MC39401-2	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%		85-114%
460-00-4	4-Bromofluorobenzene	99%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: G6M-04-09X-061715
Lab Sample ID: MC39401-2
Matrix: AQ - Ground Water
Date Sampled: 06/17/15
Date Received: 06/17/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Total Organic Carbon	14.1	1.0	0.81	mg/l	1	06/25/15 16:05	MA	SW846 9060

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-09X-061715		
Lab Sample ID:	MC39401-2F	**Date Sampled:**	06/17/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	351	20	10	ug/l	10	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	326	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	3.3 J	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	40900	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	44.1 J	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	159000	1000	500	ug/l	10	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	6280	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	3560	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	112000	50000	25000	ug/l	10	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	150000	50000	25000	ug/l	10	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-01X-061715H		
Lab Sample ID:	MC39401-3	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40518.D	1	06/29/15	JB	n/a	n/a	MSV1461
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.9	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01X-061715H		
Lab Sample ID:	MC39401-3	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.51	1.0	0.50	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.90	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.78	1.0	0.50	ug/l	J
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01X-061715H		
Lab Sample ID:	MC39401-3	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01X-061715H		
Lab Sample ID:	MC39401-3	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22039.D	1	06/18/15	TB	n/a	n/a	GBA1499
Run #2	BA22040.D	1	06/18/15	TB	n/a	n/a	GBA1499

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	3610 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-01X-061715H		
Lab Sample ID:	MC39401-3	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	27.0	5.0	3.9	mg/l	1	06/24/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	< 0.11	0.11	0.057	mg/l	1	06/24/15 15:28	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	06/24/15 15:28	CF	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	0.0033	mg/l	1	06/17/15 17:48	MA	SM 21 4500 NO2 B
Sulfate [b]	3.9 J	10	0.50	mg/l	1	06/23/15 17:50	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/22/15	BF	SM21 4500 S F
Total Organic Carbon	3.3	1.0	0.81	mg/l	1	06/25/15 16:23	MA	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-01X-061715H		
Lab Sample ID:	MC39401-3F	**Date Sampled:**	06/17/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	68.1	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	35.7 J	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	42300	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	22000	500	250	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	4330 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	1020	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	126	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	4370 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	88200	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	94.0	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-01X-061715		
Lab Sample ID:	MC39401-4	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40559.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.53	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected　LOD = Limit of Detection　J = Indicates an estimated value
LOQ = Limit of Quantitation　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　N = Indicates presumptive evidence of a compound

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Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-01X-061715		
Lab Sample ID:	MC39401-4	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	1.2	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01X-061715		
Lab Sample ID:	MC39401-4	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01X-061715		
Lab Sample ID:	MC39401-4	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22043.D	1	06/18/15	TB	n/a	n/a	GBA1499
Run #2	BA22044.D	1	06/18/15	TB	n/a	n/a	GBA1499

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	7120 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	6.0	10	5.0	ug/l	J

(a) Result is from Run# 2

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-01X-061715			
Lab Sample ID:	MC39401-4		**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water		**Date Received:**	06/17/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	66.6	5.0	3.9	mg/l	1	06/24/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	< 0.11	0.11	0.057	mg/l	1	06/24/15 15:19	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.093 J	0.10	0.054	mg/l	1	06/24/15 15:19	CF	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	0.0033	mg/l	1	06/17/15 17:52	MA	SM 21 4500 NO2 B
Sulfate [b]	0.50 U	10	0.50	mg/l	1	06/23/15 18:14	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/22/15	BF	SM21 4500 S F
Total Organic Carbon	6.2	1.0	0.81	mg/l	1	06/25/15 16:39	MA	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-01X-061715		
Lab Sample ID:	MC39401-4F	**Date Sampled:**	06/17/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	418	20	10	ug/l	10	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	48.1 J	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	3.8 J	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	36200	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	61900	500	250	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	3690 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	1760	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	7230	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	99100	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-05X-061715H		
Lab Sample ID:	MC39401-5	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40560.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.76	1.0	0.50	ug/l	J
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-05X-061715H			
Lab Sample ID:	MC39401-5		**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water		**Date Received:**	06/17/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-05X-061715H		
Lab Sample ID:	MC39401-5	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		85-114%
460-00-4	4-Bromofluorobenzene	97%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-05X-061715H		
Lab Sample ID:	MC39401-5	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22045.D	1	06/18/15	TB	n/a	n/a	GBA1499
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5.0 U	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-05X-061715H		
Lab Sample ID:	MC39401-5	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	29.1	5.0	3.9	mg/l	1	06/24/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.33	0.11	0.057	mg/l	1	06/24/15 15:29	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.33	0.10	0.054	mg/l	1	06/24/15 15:29	CF	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	0.0033	mg/l	1	06/17/15 17:52	MA	SM 21 4500 NO2 B
Sulfate [b]	24.3	10	0.50	mg/l	1	06/23/15 19:02	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/22/15	BF	SM21 4500 S F
Total Organic Carbon	5.1	1.0	0.81	mg/l	1	06/25/15 16:54	MA	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-05X-061715H		
Lab Sample ID:	MC39401-5F	**Date Sampled:**	06/17/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	2.0 U	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	28600	10000	5000	ug/l	2	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	3730 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	7.5 U	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	3320 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	19800	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10.1 J	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-05X-061715		
Lab Sample ID:	MC39401-6	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40563.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.86	1.0	0.50	ug/l	J
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-05X-061715			
Lab Sample ID:	MC39401-6		**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water		**Date Received:**	06/17/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-133%

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-05X-061715		
Lab Sample ID:	MC39401-6	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-05X-061715		
Lab Sample ID:	MC39401-6	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22051.D	1	06/19/15	TB	n/a	n/a	GBA1500
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	22.4	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-05X-061715		
Lab Sample ID:	MC39401-6	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	22.9	5.0	3.9	mg/l	1	06/24/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.29	0.11	0.057	mg/l	1	06/24/15 15:30	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.29	0.10	0.054	mg/l	1	06/24/15 15:30	CF	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	0.0033	mg/l	1	06/17/15 17:48	MA	SM 21 4500 NO2 B
Sulfate [b]	23.3	10	0.50	mg/l	1	06/23/15 20:14	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/22/15	BF	SM21 4500 S F
Total Organic Carbon	0.81 U	1.0	0.81	mg/l	1	06/25/15 17:10	MA	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-05X-061715		
Lab Sample ID:	MC39401-6F	**Date Sampled:**	06/17/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	2.0 U	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	29400	10000	5000	ug/l	2	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	3860 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	11.8 J	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	2550 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	19900	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	15.2 J	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-08X-061715H		
Lab Sample ID:	MC39401-7	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40564.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-08X-061715H			
Lab Sample ID:	MC39401-7		**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water		**Date Received:**	06/17/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.65	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-08X-061715H		
Lab Sample ID:	MC39401-7	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

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LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-08X-061715H		
Lab Sample ID:	MC39401-7	**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water	**Date Received:**	06/17/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22053.D	1	06/19/15	TB	n/a	n/a	GBA1500
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5.0 U	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-08X-061715H			
Lab Sample ID:	MC39401-7		**Date Sampled:**	06/17/15
Matrix:	AQ - Ground Water		**Date Received:**	06/17/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	93.6	5.0	3.9	mg/l	1	06/24/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	< 0.11	0.11	0.057	mg/l	1	06/24/15 15:31	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.093 J	0.10	0.054	mg/l	1	06/24/15 15:31	CF	EPA 353.2
Nitrogen, Nitrite	< 0.010	0.010	0.0033	mg/l	1	06/17/15 17:52	MA	SM 21 4500 NO2 B
Sulfate [b]	8.3 J	10	0.50	mg/l	1	06/23/15 20:38	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/22/15	BF	SM21 4500 S F
Total Organic Carbon	1.6	1.0	0.70	mg/l	1	06/26/15 14:27	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-08X-061715H		
Lab Sample ID:	MC39401-7F	**Date Sampled:**	06/17/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/17/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	2.4 J	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	22300	10000	5000	ug/l	2	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	2740 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	2220	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	18000	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	17000	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	16.4 J	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #	Bottle Order Control #
Accutest Quote # FD-10-2014-779	Accutest Job # MC39401

Client / Reporting Information		Project Information	
Company Name: H&S Environmental		Project Name: Ft. Devens AOC 50	
Street Address: 160 East Main st.		Street:	Billing Information (If different from Report to)
City / State / Zip: Westborough MA		City:	Company Name
Project Contact: E. Anderson	E-mail	Project#	Street Address
Phone #	Fax #	Client PO#	City / State / Zip
Sampler(s) Name(s)	Phone #	Project Manager	Attention: / PO# phos acid

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB- Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH *	HNO3	H2SO4	NONE	DI Water	MEOH	~~ENCORE~~	Bisulfate	VOC	Diss. Metals - Field Filtered	Dissolved Metals lab Filtered	Nitrate, Sulfate, alkalinity	Sulfide * Needs Zn Ac*	methane, ethane, ethene	TOC					LAB USE ONLY
-1F	G6M-04-09X-061715H		6/17/15	0945	SL	GW	6	2				1			3		X		X				X					
-2F	G6M-04-09X-061715			1110			6	2		1					3		X	X					X					
-3F	G6M-02-01X-061715H			1305			11	4	1		1	2			3		X		X	X	X	X	X					
-4F	G6M-02-01X-061715			1405	SL		11	4	1	1	1	1			3		X	X		X	X	X	X					
-5F	G6M-04-05X-061715H			0945	EF		11	4	1		1	2			3		X		X	X	X	X	X					
-6F	G6M-04-05X-061715			1145	EF		11	4	1	1	1	1			3		X	X		X	X	X	X					
-7F	G6M-03-08X-061715H		6/17/15	1240	EF	GW	11	4	1	1	1	2			3		X		X	X	X	X	X					
																												9E, 6B 4M1,

Turnaround Time (Business days)	Approved By (Accutest PM): / Date:	Data Deliverable Information		Comments / Special Instructions
[X] Std. 10 Business Days		[ ] Commercial "A" (Level 1)	[ ] NYASP Category A	*Sulfide needs Zn Acetate
[ ] Std. 5 Business Days (By Contract only)		[ ] Commercial "B" (Level 2)	[ ] NYASP Category B	
[ ] 5 Day RUSH		[ ] FULLT1 (Level 3+4)	[ ] State Forms	
[ ] 3 Day EMERGENCY		[ ] CT RCP	[ ] EDD Format ______	
[ ] 2 Day EMERGENCY		[ ] MA MCP	[ ] Other ______	
[ ] 1 Day EMERGENCY		Commercial "A" = Results Only		
Emergency & Rush T/A data available VIA Lablink		Commercial "B" = Results + QC Summary		

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Stacey Lee	6/17/15 1530	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ] On Ice [X] Cooler Temp. 2.9°

5.1

5

MC39401: Chain of Custody
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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39401 **Client:** H&S **Project:** AOC 50 FT. DEVENS

Date / Time Received: 6/17/2015 3:30:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2.9/2.9);

Cooler Security

	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☑	☐	☐

Comments

Accutest Laboratories
V:(508) 481-6200
495 Technology Center West, Bldg One
F: (508) 481-7753
Marlborough, MA 01752
www/accutest.com

MC39401: Chain of Custody
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QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1461	SW846 8260C						
MSV1461-BS	67-64-1	Acetone	BSP	REC	173 [a]	%	39-160
MSV1461-BS	71-43-2	Benzene	BSP	REC	93	%	79-120
MSV1461-BS	108-86-1	Bromobenzene	BSP	REC	97	%	80-120
MSV1461-BS	74-97-5	Bromochloromethane	BSP	REC	94	%	78-123
MSV1461-BS	75-27-4	Bromodichloromethane	BSP	REC	98	%	79-125
MSV1461-BS	75-25-2	Bromoform	BSP	REC	106	%	66-130
MSV1461-BS	74-83-9	Bromomethane	BSP	REC	96	%	53-141
MSV1461-BS	78-93-3	2-Butanone (MEK)	BSP	REC	126	%	56-143
MSV1461-BS	104-51-8	n-Butylbenzene	BSP	REC	108	%	75-128
MSV1461-BS	135-98-8	sec-Butylbenzene	BSP	REC	109	%	77-126
MSV1461-BS	98-06-6	tert-Butylbenzene	BSP	REC	105	%	78-124
MSV1461-BS	75-15-0	Carbon disulfide	BSP	REC	102	%	64-133
MSV1461-BS	56-23-5	Carbon tetrachloride	BSP	REC	102	%	72-136
MSV1461-BS	108-90-7	Chlorobenzene	BSP	REC	93	%	82-118
MSV1461-BS	75-00-3	Chloroethane	BSP	REC	88	%	60-138
MSV1461-BS	67-66-3	Chloroform	BSP	REC	99	%	79-124
MSV1461-BS	74-87-3	Chloromethane	BSP	REC	94	%	50-139
MSV1461-BS	95-49-8	o-Chlorotoluene	BSP	REC	98	%	79-122
MSV1461-BS	106-43-4	p-Chlorotoluene	BSP	REC	95	%	78-122
MSV1461-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	102	%	62-128
MSV1461-BS	124-48-1	Dibromochloromethane	BSP	REC	103	%	74-126
MSV1461-BS	106-93-4	1,2-Dibromoethane	BSP	REC	95	%	77-121
MSV1461-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	98	%	80-119
MSV1461-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	98	%	80-119
MSV1461-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	93	%	79-118
MSV1461-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	110	%	32-152
MSV1461-BS	75-34-3	1,1-Dichloroethane	BSP	REC	94	%	77-125
MSV1461-BS	107-06-2	1,2-Dichloroethane	BSP	REC	93	%	73-128
MSV1461-BS	75-35-4	1,1-Dichloroethene	BSP	REC	103	%	71-131
MSV1461-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	90	%	78-123
MSV1461-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	104	%	75-124
MSV1461-BS	78-87-5	1,2-Dichloropropane	BSP	REC	96	%	78-122
MSV1461-BS	142-28-9	1,3-Dichloropropane	BSP	REC	91	%	80-119
MSV1461-BS	594-20-7	2,2-Dichloropropane	BSP	REC	126	%	60-139
MSV1461-BS	563-58-6	1,1-Dichloropropene	BSP	REC	109	%	79-125
MSV1461-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	105	%	75-124
MSV1461-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	116	%	73-127
MSV1461-BS	100-41-4	Ethylbenzene	BSP	REC	96	%	79-121
MSV1461-BS	87-68-3	Hexachlorobutadiene	BSP	REC	108	%	66-134
MSV1461-BS	591-78-6	2-Hexanone	BSP	REC	125	%	57-139
MSV1461-BS	74-88-4	Iodomethane	BSP	REC	99	%	69-131
MSV1461-BS	98-82-8	Isopropylbenzene	BSP	REC	104	%	72-131

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1461-BS	99-87-6	p-Isopropyltoluene	BSP	REC	114	%	77-127
MSV1461-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	101	%	71-124
MSV1461-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	104	%	67-130
MSV1461-BS	74-95-3	Methylene bromide	BSP	REC	93	%	79-123
MSV1461-BS	75-09-2	Methylene chloride	BSP	REC	94	%	74-124
MSV1461-BS	91-20-3	Naphthalene	BSP	REC	118	%	61-128
MSV1461-BS	103-65-1	n-Propylbenzene	BSP	REC	105	%	76-126
MSV1461-BS	100-42-5	Styrene	BSP	REC	104	%	78-123
MSV1461-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	96	%	78-124
MSV1461-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	87	%	71-121
MSV1461-BS	127-18-4	Tetrachloroethene	BSP	REC	110	%	74-129
MSV1461-BS	108-88-3	Toluene	BSP	REC	96	%	80-121
MSV1461-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	108	%	69-129
MSV1461-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	106	%	69-130
MSV1461-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	98	%	74-131
MSV1461-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	98	%	80-119
MSV1461-BS	79-01-6	Trichloroethene	BSP	REC	95	%	79-123
MSV1461-BS	75-69-4	Trichlorofluoromethane	BSP	REC	101	%	65-141
MSV1461-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	94	%	73-122
MSV1461-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	106	%	76-124
MSV1461-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	103	%	75-124
MSV1461-BS	108-05-4	Vinyl Acetate	BSP	REC	108	%	54-146
MSV1461-BS	75-01-4	Vinyl chloride	BSP	REC	98	%	58-137
MSV1461-BS		m,p-Xylene	BSP	REC	98	%	80-121
MSV1461-BS	95-47-6	o-Xylene	BSP	REC	105	%	78-122
MSV1461-BS	1330-20-7	Xylene (total)	BSP	REC	101	%	79-121
MSV1461-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	98	%	80-119
MSV1461-BS	2037-26-5	Toluene-D8	BSP	SURR	102	%	89-112
MSV1461-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	100	%	85-114
MC39596-4MS*	67-64-1	Acetone	MS	REC	92	%	39-160
MC39596-4MS*	71-43-2	Benzene	MS	REC	92	%	79-120
MC39596-4MS*	108-86-1	Bromobenzene	MS	REC	93	%	80-120
MC39596-4MS*	74-97-5	Bromochloromethane	MS	REC	92	%	78-123
MC39596-4MS*	75-27-4	Bromodichloromethane	MS	REC	97	%	79-125
MC39596-4MS*	75-25-2	Bromoform	MS	REC	103	%	66-130
MC39596-4MS*	74-83-9	Bromomethane	MS	REC	90	%	53-141
MC39596-4MS*	78-93-3	2-Butanone (MEK)	MS	REC	99	%	56-143
MC39596-4MS*	104-51-8	n-Butylbenzene	MS	REC	98	%	75-128
MC39596-4MS*	135-98-8	sec-Butylbenzene	MS	REC	99	%	77-126
MC39596-4MS*	98-06-6	tert-Butylbenzene	MS	REC	99	%	78-124
MC39596-4MS*	75-15-0	Carbon disulfide	MS	REC	102	%	64-133
MC39596-4MS*	56-23-5	Carbon tetrachloride	MS	REC	101	%	72-136
MC39596-4MS*	108-90-7	Chlorobenzene	MS	REC	92	%	82-118
MC39596-4MS*	75-00-3	Chloroethane	MS	REC	84	%	60-138
MC39596-4MS*	67-66-3	Chloroform	MS	REC	98	%	79-124

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39596-4MS*	74-87-3	Chloromethane	MS	REC	87	%	50-139
MC39596-4MS*	95-49-8	o-Chlorotoluene	MS	REC	91	%	79-122
MC39596-4MS*	106-43-4	p-Chlorotoluene	MS	REC	90	%	78-122
MC39596-4MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	100	%	62-128
MC39596-4MS*	124-48-1	Dibromochloromethane	MS	REC	101	%	74-126
MC39596-4MS*	106-93-4	1,2-Dibromoethane	MS	REC	95	%	77-121
MC39596-4MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	94	%	80-119
MC39596-4MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	93	%	80-119
MC39596-4MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	90	%	79-118
MC39596-4MS*	75-71-8	Dichlorodifluoromethane	MS	REC	160 [b]	%	32-152
MC39596-4MS*	75-34-3	1,1-Dichloroethane	MS	REC	94	%	77-125
MC39596-4MS*	107-06-2	1,2-Dichloroethane	MS	REC	93	%	73-128
MC39596-4MS*	75-35-4	1,1-Dichloroethene	MS	REC	101	%	71-131
MC39596-4MS*	156-59-2	cis-1,2-Dichloroethene	MS	REC	88	%	78-123
MC39596-4MS*	156-60-5	trans-1,2-Dichloroethene	MS	REC	104	%	75-124
MC39596-4MS*	78-87-5	1,2-Dichloropropane	MS	REC	95	%	78-122
MC39596-4MS*	142-28-9	1,3-Dichloropropane	MS	REC	91	%	80-119
MC39596-4MS*	594-20-7	2,2-Dichloropropane	MS	REC	110	%	60-139
MC39596-4MS*	563-58-6	1,1-Dichloropropene	MS	REC	106	%	79-125
MC39596-4MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	100	%	75-124
MC39596-4MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	112	%	73-127
MC39596-4MS*	100-41-4	Ethylbenzene	MS	REC	94	%	79-121
MC39596-4MS*	87-68-3	Hexachlorobutadiene	MS	REC	93	%	66-134
MC39596-4MS*	591-78-6	2-Hexanone	MS	REC	100	%	57-139
MC39596-4MS*	74-88-4	Iodomethane	MS	REC	95	%	69-131
MC39596-4MS*	98-82-8	Isopropylbenzene	MS	REC	96	%	72-131
MC39596-4MS*	99-87-6	p-Isopropyltoluene	MS	REC	103	%	77-127
MC39596-4MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	95	%	71-124
MC39596-4MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	103	%	67-130
MC39596-4MS*	74-95-3	Methylene bromide	MS	REC	94	%	79-123
MC39596-4MS*	75-09-2	Methylene chloride	MS	REC	93	%	74-124
MC39596-4MS*	91-20-3	Naphthalene	MS	REC	113	%	61-128
MC39596-4MS*	103-65-1	n-Propylbenzene	MS	REC	97	%	76-126
MC39596-4MS*	100-42-5	Styrene	MS	REC	102	%	78-123
MC39596-4MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	96	%	78-124
MC39596-4MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	85	%	71-121
MC39596-4MS*	127-18-4	Tetrachloroethene	MS	REC	107	%	74-129
MC39596-4MS*	108-88-3	Toluene	MS	REC	94	%	80-121
MC39596-4MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	100	%	69-129
MC39596-4MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	99	%	69-130
MC39596-4MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	93	%	74-131
MC39596-4MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	97	%	80-119
MC39596-4MS*	79-01-6	Trichloroethene	MS	REC	88	%	79-123
MC39596-4MS*	75-69-4	Trichlorofluoromethane	MS	REC	98	%	65-141
MC39596-4MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	90	%	73-122

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39596-4MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	98	%	76-124
MC39596-4MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	95	%	75-124
MC39596-4MS*	108-05-4	Vinyl Acetate	MS	REC	101	%	54-146
MC39596-4MS*	75-01-4	Vinyl chloride	MS	REC	92	%	58-137
MC39596-4MS*		m,p-Xylene	MS	REC	95	%	80-121
MC39596-4MS*	95-47-6	o-Xylene	MS	REC	102	%	78-122
MC39596-4MS*	1330-20-7	Xylene (total)	MS	REC	97	%	79-121
MC39596-4MS*	1868-53-7	Dibromofluoromethane	MS	SURR	99	%	80-119
MC39596-4MS*	2037-26-5	Toluene-D8	MS	SURR	102	%	89-112
MC39596-4MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	99	%	85-114
MC39596-4MSD*	67-64-1	Acetone	MSD	REC	82	%	39-160
MC39596-4MSD*	67-64-1	Acetone	MSD	RPD	12	%	20
MC39596-4MSD*	71-43-2	Benzene	MSD	REC	89	%	79-120
MC39596-4MSD*	71-43-2	Benzene	MSD	RPD	3	%	20
MC39596-4MSD*	108-86-1	Bromobenzene	MSD	REC	92	%	80-120
MC39596-4MSD*	108-86-1	Bromobenzene	MSD	RPD	0	%	20
MC39596-4MSD*	74-97-5	Bromochloromethane	MSD	REC	89	%	78-123
MC39596-4MSD*	74-97-5	Bromochloromethane	MSD	RPD	3	%	20
MC39596-4MSD*	75-27-4	Bromodichloromethane	MSD	REC	93	%	79-125
MC39596-4MSD*	75-27-4	Bromodichloromethane	MSD	RPD	4	%	20
MC39596-4MSD*	75-25-2	Bromoform	MSD	REC	96	%	66-130
MC39596-4MSD*	75-25-2	Bromoform	MSD	RPD	6	%	20
MC39596-4MSD*	74-83-9	Bromomethane	MSD	REC	91	%	53-141
MC39596-4MSD*	74-83-9	Bromomethane	MSD	RPD	1	%	20
MC39596-4MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	93	%	56-143
MC39596-4MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	7	%	20
MC39596-4MSD*	104-51-8	n-Butylbenzene	MSD	REC	100	%	75-128
MC39596-4MSD*	104-51-8	n-Butylbenzene	MSD	RPD	1	%	20
MC39596-4MSD*	135-98-8	sec-Butylbenzene	MSD	REC	102	%	77-126
MC39596-4MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	3	%	20
MC39596-4MSD*	98-06-6	tert-Butylbenzene	MSD	REC	101	%	78-124
MC39596-4MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	2	%	20
MC39596-4MSD*	75-15-0	Carbon disulfide	MSD	REC	98	%	64-133
MC39596-4MSD*	75-15-0	Carbon disulfide	MSD	RPD	4	%	20
MC39596-4MSD*	56-23-5	Carbon tetrachloride	MSD	REC	98	%	72-136
MC39596-4MSD*	56-23-5	Carbon tetrachloride	MSD	RPD	3	%	20
MC39596-4MSD*	108-90-7	Chlorobenzene	MSD	REC	90	%	82-118
MC39596-4MSD*	108-90-7	Chlorobenzene	MSD	RPD	1	%	20
MC39596-4MSD*	75-00-3	Chloroethane	MSD	REC	84	%	60-138
MC39596-4MSD*	75-00-3	Chloroethane	MSD	RPD	1	%	20
MC39596-4MSD*	67-66-3	Chloroform	MSD	REC	94	%	79-124
MC39596-4MSD*	67-66-3	Chloroform	MSD	RPD	4	%	20
MC39596-4MSD*	74-87-3	Chloromethane	MSD	REC	87	%	50-139
MC39596-4MSD*	74-87-3	Chloromethane	MSD	RPD	0	%	20
MC39596-4MSD*	95-49-8	o-Chlorotoluene	MSD	REC	93	%	79-122

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39596-4MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	2	%	20
MC39596-4MSD*	106-43-4	p-Chlorotoluene	MSD	REC	91	%	78-122
MC39596-4MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	1	%	20
MC39596-4MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	93	%	62-128
MC39596-4MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	7	%	20
MC39596-4MSD*	124-48-1	Dibromochloromethane	MSD	REC	97	%	74-126
MC39596-4MSD*	124-48-1	Dibromochloromethane	MSD	RPD	4	%	20
MC39596-4MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	91	%	77-121
MC39596-4MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	4	%	20
MC39596-4MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	93	%	80-119
MC39596-4MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	0	%	20
MC39596-4MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	94	%	80-119
MC39596-4MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	1	%	20
MC39596-4MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	89	%	79-118
MC39596-4MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	1	%	20
MC39596-4MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	102	%	32-152
MC39596-4MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	44 [c]	%	20
MC39596-4MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	90	%	77-125
MC39596-4MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	4	%	20
MC39596-4MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	88	%	73-128
MC39596-4MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	6	%	20
MC39596-4MSD*	75-35-4	1,1-Dichloroethene	MSD	REC	99	%	71-131
MC39596-4MSD*	75-35-4	1,1-Dichloroethene	MSD	RPD	2	%	20
MC39596-4MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	REC	86	%	78-123
MC39596-4MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	RPD	2	%	20
MC39596-4MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	REC	101	%	75-124
MC39596-4MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	RPD	3	%	20
MC39596-4MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	91	%	78-122
MC39596-4MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	4	%	20
MC39596-4MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	87	%	80-119
MC39596-4MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	4	%	20
MC39596-4MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	109	%	60-139
MC39596-4MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	1	%	20
MC39596-4MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	104	%	79-125
MC39596-4MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	2	%	20
MC39596-4MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	96	%	75-124
MC39596-4MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	4	%	20
MC39596-4MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	105	%	73-127
MC39596-4MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	7	%	20
MC39596-4MSD*	100-41-4	Ethylbenzene	MSD	REC	94	%	79-121
MC39596-4MSD*	100-41-4	Ethylbenzene	MSD	RPD	0	%	20
MC39596-4MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	95	%	66-134
MC39596-4MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	3	%	20
MC39596-4MSD*	591-78-6	2-Hexanone	MSD	REC	91	%	57-139
MC39596-4MSD*	591-78-6	2-Hexanone	MSD	RPD	9	%	20

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39596-4MSD*	74-88-4	Iodomethane	MSD	REC	95	%	69-131
MC39596-4MSD*	74-88-4	Iodomethane	MSD	RPD	1	%	20
MC39596-4MSD*	98-82-8	Isopropylbenzene	MSD	REC	99	%	72-131
MC39596-4MSD*	98-82-8	Isopropylbenzene	MSD	RPD	3	%	20
MC39596-4MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	106	%	77-127
MC39596-4MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	2	%	20
MC39596-4MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	91	%	71-124
MC39596-4MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	5	%	20
MC39596-4MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	94	%	67-130
MC39596-4MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	10	%	20
MC39596-4MSD*	74-95-3	Methylene bromide	MSD	REC	89	%	79-123
MC39596-4MSD*	74-95-3	Methylene bromide	MSD	RPD	6	%	20
MC39596-4MSD*	75-09-2	Methylene chloride	MSD	REC	90	%	74-124
MC39596-4MSD*	75-09-2	Methylene chloride	MSD	RPD	4	%	20
MC39596-4MSD*	91-20-3	Naphthalene	MSD	REC	107	%	61-128
MC39596-4MSD*	91-20-3	Naphthalene	MSD	RPD	5	%	20
MC39596-4MSD*	103-65-1	n-Propylbenzene	MSD	REC	99	%	76-126
MC39596-4MSD*	103-65-1	n-Propylbenzene	MSD	RPD	2	%	20
MC39596-4MSD*	100-42-5	Styrene	MSD	REC	100	%	78-123
MC39596-4MSD*	100-42-5	Styrene	MSD	RPD	2	%	20
MC39596-4MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	94	%	78-124
MC39596-4MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	3	%	20
MC39596-4MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	80	%	71-121
MC39596-4MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	5	%	20
MC39596-4MSD*	127-18-4	Tetrachloroethene	MSD	REC	107	%	74-129
MC39596-4MSD*	127-18-4	Tetrachloroethene	MSD	RPD	0	%	20
MC39596-4MSD*	108-88-3	Toluene	MSD	REC	92	%	80-121
MC39596-4MSD*	108-88-3	Toluene	MSD	RPD	2	%	20
MC39596-4MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	97	%	69-129
MC39596-4MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	3	%	20
MC39596-4MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	97	%	69-130
MC39596-4MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	2	%	20
MC39596-4MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	92	%	74-131
MC39596-4MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	1	%	20
MC39596-4MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	91	%	80-119
MC39596-4MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	6	%	20
MC39596-4MSD*	79-01-6	Trichloroethene	MSD	REC	87	%	79-123
MC39596-4MSD*	79-01-6	Trichloroethene	MSD	RPD	1	%	20
MC39596-4MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	96	%	65-141
MC39596-4MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	2	%	20
MC39596-4MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	84	%	73-122
MC39596-4MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	7	%	20
MC39596-4MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	100	%	76-124
MC39596-4MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	2	%	20
MC39596-4MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	98	%	75-124

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39596-4MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	3	%	20
MC39596-4MSD*	108-05-4	Vinyl Acetate	MSD	REC	96	%	54-146
MC39596-4MSD*	108-05-4	Vinyl Acetate	MSD	RPD	5	%	20
MC39596-4MSD*	75-01-4	Vinyl chloride	MSD	REC	91	%	58-137
MC39596-4MSD*	75-01-4	Vinyl chloride	MSD	RPD	2	%	20
MC39596-4MSD*		m,p-Xylene	MSD	REC	95	%	80-121
MC39596-4MSD*		m,p-Xylene	MSD	RPD	1	%	20
MC39596-4MSD*	95-47-6	o-Xylene	MSD	REC	102	%	78-122
MC39596-4MSD*	95-47-6	o-Xylene	MSD	RPD	0	%	20
MC39596-4MSD*	1330-20-7	Xylene (total)	MSD	REC	97	%	79-121
MC39596-4MSD*	1330-20-7	Xylene (total)	MSD	RPD	0	%	20
MC39596-4MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	97	%	80-119
MC39596-4MSD*	2037-26-5	Toluene-D8	MSD	SURR	101	%	89-112
MC39596-4MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	100	%	85-114
MSV1461-MB	1868-53-7	Dibromofluoromethane	MB	SURR	102	%	80-119
MSV1461-MB	2037-26-5	Toluene-D8	MB	SURR	94	%	89-112
MSV1461-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	98	%	85-114
MC39401-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC39401-1	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC39401-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC39401-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	80-119
MC39401-2	2037-26-5	Toluene-D8	SAMP	SURR	96	%	89-112
MC39401-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
MC39401-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39401-3	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC39401-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MSV1463	SW846 8260C						
MSV1463-BS	67-64-1	Acetone	BSP	REC	159	%	39-160
MSV1463-BS	71-43-2	Benzene	BSP	REC	92	%	79-120
MSV1463-BS	108-86-1	Bromobenzene	BSP	REC	94	%	80-120
MSV1463-BS	74-97-5	Bromochloromethane	BSP	REC	91	%	78-123
MSV1463-BS	75-27-4	Bromodichloromethane	BSP	REC	95	%	79-125
MSV1463-BS	75-25-2	Bromoform	BSP	REC	99	%	66-130
MSV1463-BS	74-83-9	Bromomethane	BSP	REC	94	%	53-141
MSV1463-BS	78-93-3	2-Butanone (MEK)	BSP	REC	126	%	56-143
MSV1463-BS	104-51-8	n-Butylbenzene	BSP	REC	105	%	75-128
MSV1463-BS	135-98-8	sec-Butylbenzene	BSP	REC	105	%	77-126
MSV1463-BS	98-06-6	tert-Butylbenzene	BSP	REC	107	%	78-124
MSV1463-BS	75-15-0	Carbon disulfide	BSP	REC	91	%	64-133
MSV1463-BS	56-23-5	Carbon tetrachloride	BSP	REC	98	%	72-136
MSV1463-BS	108-90-7	Chlorobenzene	BSP	REC	93	%	82-118
MSV1463-BS	75-00-3	Chloroethane	BSP	REC	89	%	60-138
MSV1463-BS	67-66-3	Chloroform	BSP	REC	96	%	79-124

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BS	74-87-3	Chloromethane	BSP	REC	91	%	50-139
MSV1463-BS	95-49-8	o-Chlorotoluene	BSP	REC	95	%	79-122
MSV1463-BS	106-43-4	p-Chlorotoluene	BSP	REC	93	%	78-122
MSV1463-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	98	%	62-128
MSV1463-BS	124-48-1	Dibromochloromethane	BSP	REC	101	%	74-126
MSV1463-BS	106-93-4	1,2-Dibromoethane	BSP	REC	93	%	77-121
MSV1463-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	96	%	80-119
MSV1463-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	97	%	80-119
MSV1463-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	93	%	79-118
MSV1463-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	103	%	32-152
MSV1463-BS	75-34-3	1,1-Dichloroethane	BSP	REC	89	%	77-125
MSV1463-BS	107-06-2	1,2-Dichloroethane	BSP	REC	90	%	73-128
MSV1463-BS	75-35-4	1,1-Dichloroethene	BSP	REC	93	%	71-131
MSV1463-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	88	%	78-123
MSV1463-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	98	%	75-124
MSV1463-BS	78-87-5	1,2-Dichloropropane	BSP	REC	93	%	78-122
MSV1463-BS	142-28-9	1,3-Dichloropropane	BSP	REC	90	%	80-119
MSV1463-BS	594-20-7	2,2-Dichloropropane	BSP	REC	119	%	60-139
MSV1463-BS	563-58-6	1,1-Dichloropropene	BSP	REC	108	%	79-125
MSV1463-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	99	%	75-124
MSV1463-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	107	%	73-127
MSV1463-BS	100-41-4	Ethylbenzene	BSP	REC	98	%	79-121
MSV1463-BS	87-68-3	Hexachlorobutadiene	BSP	REC	103	%	66-134
MSV1463-BS	591-78-6	2-Hexanone	BSP	REC	126	%	57-139
MSV1463-BS	74-88-4	Iodomethane	BSP	REC	90	%	69-131
MSV1463-BS	98-82-8	Isopropylbenzene	BSP	REC	102	%	72-131
MSV1463-BS	99-87-6	p-Isopropyltoluene	BSP	REC	110	%	77-127
MSV1463-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	91	%	71-124
MSV1463-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	100	%	67-130
MSV1463-BS	74-95-3	Methylene bromide	BSP	REC	90	%	79-123
MSV1463-BS	75-09-2	Methylene chloride	BSP	REC	83	%	74-124
MSV1463-BS	91-20-3	Naphthalene	BSP	REC	116	%	61-128
MSV1463-BS	103-65-1	n-Propylbenzene	BSP	REC	102	%	76-126
MSV1463-BS	100-42-5	Styrene	BSP	REC	104	%	78-123
MSV1463-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	100	%	78-124
MSV1463-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	84	%	71-121
MSV1463-BS	127-18-4	Tetrachloroethene	BSP	REC	115	%	74-129
MSV1463-BS	108-88-3	Toluene	BSP	REC	94	%	80-121
MSV1463-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	107	%	69-129
MSV1463-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	107	%	69-130
MSV1463-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	91	%	74-131
MSV1463-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	92	%	80-119
MSV1463-BS	79-01-6	Trichloroethene	BSP	REC	94	%	79-123
MSV1463-BS	75-69-4	Trichlorofluoromethane	BSP	REC	95	%	65-141
MSV1463-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	88	%	73-122

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	102	%	76-124
MSV1463-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	101	%	75-124
MSV1463-BS	108-05-4	Vinyl Acetate	BSP	REC	100	%	54-146
MSV1463-BS	75-01-4	Vinyl chloride	BSP	REC	92	%	58-137
MSV1463-BS		m,p-Xylene	BSP	REC	99	%	80-121
MSV1463-BS	95-47-6	o-Xylene	BSP	REC	108	%	78-122
MSV1463-BS	1330-20-7	Xylene (total)	BSP	REC	102	%	79-121
MSV1463-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	97	%	80-119
MSV1463-BS	2037-26-5	Toluene-D8	BSP	SURR	100	%	89-112
MSV1463-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	97	%	85-114
MSV1463-BSD	67-64-1	Acetone	BSD	REC	151	%	39-160
MSV1463-BSD	71-43-2	Benzene	BSD	REC	90	%	79-120
MSV1463-BSD	108-86-1	Bromobenzene	BSD	REC	95	%	80-120
MSV1463-BSD	74-97-5	Bromochloromethane	BSD	REC	88	%	78-123
MSV1463-BSD	75-27-4	Bromodichloromethane	BSD	REC	92	%	79-125
MSV1463-BSD	75-25-2	Bromoform	BSD	REC	94	%	66-130
MSV1463-BSD	74-83-9	Bromomethane	BSD	REC	89	%	53-141
MSV1463-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	116	%	56-143
MSV1463-BSD	104-51-8	n-Butylbenzene	BSD	REC	105	%	75-128
MSV1463-BSD	135-98-8	sec-Butylbenzene	BSD	REC	107	%	77-126
MSV1463-BSD	98-06-6	tert-Butylbenzene	BSD	REC	108	%	78-124
MSV1463-BSD	75-15-0	Carbon disulfide	BSD	REC	96	%	64-133
MSV1463-BSD	56-23-5	Carbon tetrachloride	BSD	REC	97	%	72-136
MSV1463-BSD	108-90-7	Chlorobenzene	BSD	REC	92	%	82-118
MSV1463-BSD	75-00-3	Chloroethane	BSD	REC	80	%	60-138
MSV1463-BSD	67-66-3	Chloroform	BSD	REC	95	%	79-124
MSV1463-BSD	74-87-3	Chloromethane	BSD	REC	84	%	50-139
MSV1463-BSD	95-49-8	o-Chlorotoluene	BSD	REC	96	%	79-122
MSV1463-BSD	106-43-4	p-Chlorotoluene	BSD	REC	93	%	78-122
MSV1463-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	90	%	62-128
MSV1463-BSD	124-48-1	Dibromochloromethane	BSD	REC	97	%	74-126
MSV1463-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	91	%	77-121
MSV1463-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	94	%	80-119
MSV1463-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	96	%	80-119
MSV1463-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	91	%	79-118
MSV1463-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	92	%	32-152
MSV1463-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	91	%	77-125
MSV1463-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	86	%	73-128
MSV1463-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	98	%	71-131
MSV1463-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	88	%	78-123
MSV1463-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	101	%	75-124
MSV1463-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	90	%	78-122
MSV1463-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	87	%	80-119
MSV1463-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	117	%	60-139
MSV1463-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	106	%	79-125

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	97	%	75-124
MSV1463-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	104	%	73-127
MSV1463-BSD	100-41-4	Ethylbenzene	BSD	REC	95	%	79-121
MSV1463-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	104	%	66-134
MSV1463-BSD	591-78-6	2-Hexanone	BSD	REC	116	%	57-139
MSV1463-BSD	74-88-4	Iodomethane	BSD	REC	95	%	69-131
MSV1463-BSD	98-82-8	Isopropylbenzene	BSD	REC	103	%	72-131
MSV1463-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	110	%	77-127
MSV1463-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	90	%	71-124
MSV1463-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	92	%	67-130
MSV1463-BSD	74-95-3	Methylene bromide	BSD	REC	86	%	79-123
MSV1463-BSD	75-09-2	Methylene chloride	BSD	REC	88	%	74-124
MSV1463-BSD	91-20-3	Naphthalene	BSD	REC	105	%	61-128
MSV1463-BSD	103-65-1	n-Propylbenzene	BSD	REC	102	%	76-126
MSV1463-BSD	100-42-5	Styrene	BSD	REC	101	%	78-123
MSV1463-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	98	%	78-124
MSV1463-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	79	%	71-121
MSV1463-BSD	127-18-4	Tetrachloroethene	BSD	REC	112	%	74-129
MSV1463-BSD	108-88-3	Toluene	BSD	REC	92	%	80-121
MSV1463-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	97	%	69-129
MSV1463-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	99	%	69-130
MSV1463-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	92	%	74-131
MSV1463-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	88	%	80-119
MSV1463-BSD	79-01-6	Trichloroethene	BSD	REC	92	%	79-123
MSV1463-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	91	%	65-141
MSV1463-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	85	%	73-122
MSV1463-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	103	%	76-124
MSV1463-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	101	%	75-124
MSV1463-BSD	108-05-4	Vinyl Acetate	BSD	REC	95	%	54-146
MSV1463-BSD	75-01-4	Vinyl chloride	BSD	REC	88	%	58-137
MSV1463-BSD		m,p-Xylene	BSD	REC	97	%	80-121
MSV1463-BSD	95-47-6	o-Xylene	BSD	REC	105	%	78-122
MSV1463-BSD	1330-20-7	Xylene (total)	BSD	REC	99	%	79-121
MSV1463-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	96	%	80-119
MSV1463-BSD	2037-26-5	Toluene-D8	BSD	SURR	99	%	89-112
MSV1463-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	100	%	85-114
MSV1463-MB	1868-53-7	Dibromofluoromethane	MB	SURR	101	%	80-119
MSV1463-MB	2037-26-5	Toluene-D8	MB	SURR	93	%	89-112
MSV1463-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	96	%	85-114
MC39401-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC39401-4	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
MC39401-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC39401-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC39401-5	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39401-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39401-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39401-6	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC39401-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC39401-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39401-7	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39401-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MP24763	SW846 6010C						
MP24763-B1	7429-90-5	Aluminum	BSP	REC	100	%	86-115
MP24763-B1	7440-36-0	Antimony	BSP	REC	104.6	%	88-113
MP24763-B1	7440-39-3	Barium	BSP	REC	102.5	%	88-113
MP24763-B1	7440-41-7	Beryllium	BSP	REC	98.2	%	89-112
MP24763-B1	7440-43-9	Cadmium	BSP	REC	102.8	%	88-113
MP24763-B1	7440-70-2	Calcium	BSP	REC	104	%	87-113
MP24763-B1	7440-47-3	Chromium	BSP	REC	99.4	%	90-113
MP24763-B1	7440-48-4	Cobalt	BSP	REC	99.6	%	89-114
MP24763-B1	7440-50-8	Copper	BSP	REC	98.6	%	86-114
MP24763-B1	7439-89-6	Iron	BSP	REC	101	%	87-115
MP24763-B1	7439-92-1	Lead	BSP	REC	100	%	86-113
MP24763-B1	7439-95-4	Magnesium	BSP	REC	105.6	%	85-113
MP24763-B1	7439-96-5	Manganese	BSP	REC	101.8	%	90-114
MP24763-B1	7440-02-0	Nickel	BSP	REC	102.8	%	88-113
MP24763-B1	7440-09-7	Potassium	BSP	REC	103.6	%	86-114
MP24763-B1	7782-49-2	Selenium	BSP	REC	103.8	%	83-114
MP24763-B1	7440-22-4	Silver	BSP	REC	90	%	84-115
MP24763-B1	7440-23-5	Sodium	BSP	REC	102.8	%	87-115
MP24763-B1	7440-28-0	Thallium	BSP	REC	102.8	%	85-114
MP24763-B1	7440-62-2	Vanadium	BSP	REC	98.8	%	90-111
MP24763-B1	7440-66-6	Zinc	BSP	REC	97.6	%	87-115
MP24763-S1*	7429-90-5	Aluminum	MS	REC	99.6	%	86-115
MP24763-S1*	7440-36-0	Antimony	MS	REC	106.2	%	88-113
MP24763-S1*	7440-39-3	Barium	MS	REC	102.1	%	88-113
MP24763-S1*	7440-41-7	Beryllium	MS	REC	98.4	%	89-112
MP24763-S1*	7440-43-9	Cadmium	MS	REC	104.4	%	88-113
MP24763-S1*	7440-70-2	Calcium	MS	REC	96.4	%	87-113
MP24763-S1*	7440-47-3	Chromium	MS	REC	99.2	%	90-113
MP24763-S1*	7440-48-4	Cobalt	MS	REC	100.8	%	89-114
MP24763-S1*	7440-50-8	Copper	MS	REC	99.1	%	86-114
MP24763-S1*	7439-89-6	Iron	MS	REC	99.5	%	87-115
MP24763-S1*	7439-92-1	Lead	MS	REC	100	%	86-113
MP24763-S1*	7439-95-4	Magnesium	MS	REC	101.1	%	85-113
MP24763-S1*	7439-96-5	Manganese	MS	REC	101.2	%	90-114
MP24763-S1*	7440-02-0	Nickel	MS	REC	103.1	%	88-113
MP24763-S1*	7440-09-7	Potassium	MS	REC	99.4	%	86-114

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24763-S1*	7782-49-2	Selenium	MS	REC	88.4	%	83-114
MP24763-S1*	7440-22-4	Silver	MS	REC	91.2	%	84-115
MP24763-S1*	7440-23-5	Sodium	MS	REC	96.4	%	87-115
MP24763-S1*	7440-28-0	Thallium	MS	REC	102.2	%	85-114
MP24763-S1*	7440-62-2	Vanadium	MS	REC	99.4	%	90-111
MP24763-S1*	7440-66-6	Zinc	MS	REC	96.5	%	87-115
MP24763-S2*	7429-90-5	Aluminum	MSD	REC	101.6	%	86-115
MP24763-S2*	7429-90-5	Aluminum	MSD	RPD	1.9	%	20
MP24763-S2*	7440-36-0	Antimony	MSD	REC	105.8	%	88-113
MP24763-S2*	7440-36-0	Antimony	MSD	RPD	.4	%	20
MP24763-S2*	7440-39-3	Barium	MSD	REC	103.1	%	88-113
MP24763-S2*	7440-39-3	Barium	MSD	RPD	1	%	20
MP24763-S2*	7440-41-7	Beryllium	MSD	REC	99.4	%	89-112
MP24763-S2*	7440-41-7	Beryllium	MSD	RPD	1	%	20
MP24763-S2*	7440-43-9	Cadmium	MSD	REC	103.8	%	88-113
MP24763-S2*	7440-43-9	Cadmium	MSD	RPD	.6	%	20
MP24763-S2*	7440-70-2	Calcium	MSD	REC	102.4	%	87-113
MP24763-S2*	7440-70-2	Calcium	MSD	RPD	1.9	%	20
MP24763-S2*	7440-47-3	Chromium	MSD	REC	97.6	%	90-113
MP24763-S2*	7440-47-3	Chromium	MSD	RPD	1.6	%	20
MP24763-S2*	7440-48-4	Cobalt	MSD	REC	100	%	89-114
MP24763-S2*	7440-48-4	Cobalt	MSD	RPD	.8	%	20
MP24763-S2*	7440-50-8	Copper	MSD	REC	97.9	%	86-114
MP24763-S2*	7440-50-8	Copper	MSD	RPD	1.2	%	20
MP24763-S2*	7439-89-6	Iron	MSD	REC	100.5	%	87-115
MP24763-S2*	7439-89-6	Iron	MSD	RPD	.6	%	20
MP24763-S2*	7439-92-1	Lead	MSD	REC	99.5	%	86-113
MP24763-S2*	7439-92-1	Lead	MSD	RPD	.5	%	20
MP24763-S2*	7439-95-4	Magnesium	MSD	REC	102.3	%	85-113
MP24763-S2*	7439-95-4	Magnesium	MSD	RPD	1	%	20
MP24763-S2*	7439-96-5	Manganese	MSD	REC	99.6	%	90-114
MP24763-S2*	7439-96-5	Manganese	MSD	RPD	1.2	%	20
MP24763-S2*	7440-02-0	Nickel	MSD	REC	102.7	%	88-113
MP24763-S2*	7440-02-0	Nickel	MSD	RPD	.4	%	20
MP24763-S2*	7440-09-7	Potassium	MSD	REC	100.6	%	86-114
MP24763-S2*	7440-09-7	Potassium	MSD	RPD	1	%	20
MP24763-S2*	7782-49-2	Selenium	MSD	REC	86	%	83-114
MP24763-S2*	7782-49-2	Selenium	MSD	RPD	2.8	%	20
MP24763-S2*	7440-22-4	Silver	MSD	REC	89.2	%	84-115
MP24763-S2*	7440-22-4	Silver	MSD	RPD	2.2	%	20
MP24763-S2*	7440-23-5	Sodium	MSD	REC	100.4	%	87-115
MP24763-S2*	7440-23-5	Sodium	MSD	RPD	1.7	%	20
MP24763-S2*	7440-28-0	Thallium	MSD	REC	101.8	%	85-114
MP24763-S2*	7440-28-0	Thallium	MSD	RPD	.4	%	20
MP24763-S2*	7440-62-2	Vanadium	MSD	REC	97.8	%	90-111

* Sample used for QC is not from job MC39401

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24763-S2*	7440-62-2	Vanadium	MSD	RPD	1.6	%	20
MP24763-S2*	7440-66-6	Zinc	MSD	REC	95.7	%	87-115
MP24763-S2*	7440-66-6	Zinc	MSD	RPD	.8	%	20
MP24763A	SW846 6020A						
MP24763A-B1	7440-38-2	Arsenic	BSP	REC	112.8	%	84-116
MP24763A-S1*	7440-38-2	Arsenic	MS	REC	106.9	%	84-116
MP24763A-S2*	7440-38-2	Arsenic	MSD	REC	110.1	%	84-116
MP24763A-S2*	7440-38-2	Arsenic	MSD	RPD	2.8	%	20
MP24766	SW846 7470A						
MP24766-B1	7439-97-6	Mercury	BSP	REC	100	%	82-119
MP24766-B2	7439-97-6	Mercury	BSD	REC	103.3	%	82-119
MP24766-S1*	7439-97-6	Mercury	MS	REC	100	%	82-119
MP24766-S2*	7439-97-6	Mercury	MSD	REC	100	%	82-119
MP24766-S2*	7439-97-6	Mercury	MSD	RPD	0	%	20

(a) Outside control limits. Associated samples are non-detect for this compound.
(b) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(c) High RPD due to possible matrix interference and/or sample non-homogeneity.

* Sample used for QC is not from job MC39401

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-MB	V40507.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-1, MC39401-2, MC39401-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-MB	V40507.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-1, MC39401-2, MC39401-3

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-MB	V40507.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-1, MC39401-2, MC39401-3

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	72-133%
2037-26-5	Toluene-D8	94%	85-114%
460-00-4	4-Bromofluorobenzene	98%	70-134%

Method Blank Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-4, MC39401-5, MC39401-6, MC39401-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-4, MC39401-5, MC39401-6, MC39401-7

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-4, MC39401-5, MC39401-6, MC39401-7

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	72-133%
2037-26-5	Toluene-D8	93%	85-114%
460-00-4	4-Bromofluorobenzene	96%	70-134%

Blank Spike Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-BS	V40504.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-1, MC39401-2, MC39401-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	86.6	173* [a]	14-172
71-43-2	Benzene	50	46.3	93	68-127
108-86-1	Bromobenzene	50	48.3	97	74-124
74-97-5	Bromochloromethane	50	46.8	94	68-135
75-27-4	Bromodichloromethane	50	49.1	98	72-144
75-25-2	Bromoform	50	52.8	106	59-147
74-83-9	Bromomethane	50	47.9	96	34-175
78-93-3	2-Butanone (MEK)	50	63.0	126	43-147
104-51-8	n-Butylbenzene	50	54.0	108	77-136
135-98-8	sec-Butylbenzene	50	54.6	109	75-134
98-06-6	tert-Butylbenzene	50	52.7	105	74-132
75-15-0	Carbon disulfide	50	50.9	102	34-171
56-23-5	Carbon tetrachloride	50	51.1	102	55-153
108-90-7	Chlorobenzene	50	46.6	93	71-123
75-00-3	Chloroethane	50	44.2	88	58-175
67-66-3	Chloroform	50	49.3	99	67-136
74-87-3	Chloromethane	50	46.8	94	25-182
95-49-8	o-Chlorotoluene	50	49.1	98	72-130
106-43-4	p-Chlorotoluene	50	47.7	95	73-127
96-12-8	1,2-Dibromo-3-chloropropane	50	51.1	102	50-159
124-48-1	Dibromochloromethane	50	51.7	103	73-139
106-93-4	1,2-Dibromoethane	50	47.6	95	69-132
95-50-1	1,2-Dichlorobenzene	50	48.8	98	77-125
541-73-1	1,3-Dichlorobenzene	50	48.9	98	77-124
106-46-7	1,4-Dichlorobenzene	50	46.3	93	73-128
75-71-8	Dichlorodifluoromethane	50	55.1	110	23-157
75-34-3	1,1-Dichloroethane	50	47.0	94	63-145
107-06-2	1,2-Dichloroethane	50	46.4	93	58-145
75-35-4	1,1-Dichloroethene	50	51.6	103	56-158
156-59-2	cis-1,2-Dichloroethene	50	45.1	90	67-133
156-60-5	trans-1,2-Dichloroethene	50	51.8	104	66-136
78-87-5	1,2-Dichloropropane	50	47.9	96	75-133
142-28-9	1,3-Dichloropropane	50	45.6	91	70-127
594-20-7	2,2-Dichloropropane	50	63.0	126	52-163
563-58-6	1,1-Dichloropropene	50	54.3	109	77-140
10061-01-5	cis-1,3-Dichloropropene	50	52.6	105	74-141

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-BS	V40504.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-1, MC39401-2, MC39401-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	58.2	116	77-143
100-41-4	Ethylbenzene	50	48.2	96	71-129
87-68-3	Hexachlorobutadiene	50	54.2	108	64-146
591-78-6	2-Hexanone	50	62.7	125	22-163
74-88-4	Iodomethane	50	49.5	99	30-166
98-82-8	Isopropylbenzene	50	52.1	104	72-133
99-87-6	p-Isopropyltoluene	50	56.9	114	77-134
1634-04-4	Methyl Tert Butyl Ether	50	50.4	101	46-151
108-10-1	4-Methyl-2-pentanone (MIBK)	50	51.9	104	47-145
74-95-3	Methylene bromide	50	46.6	93	70-132
75-09-2	Methylene chloride	50	47.1	94	55-146
91-20-3	Naphthalene	50	59.1	118	39-176
103-65-1	n-Propylbenzene	50	52.5	105	74-134
100-42-5	Styrene	50	51.8	104	71-134
630-20-6	1,1,1,2-Tetrachloroethane	50	47.9	96	70-137
79-34-5	1,1,2,2-Tetrachloroethane	50	43.5	87	58-145
127-18-4	Tetrachloroethene	50	55.0	110	63-137
108-88-3	Toluene	50	48.1	96	75-126
87-61-6	1,2,3-Trichlorobenzene	50	53.8	108	27-181
120-82-1	1,2,4-Trichlorobenzene	50	52.8	106	40-176
71-55-6	1,1,1-Trichloroethane	50	48.8	98	68-144
79-00-5	1,1,2-Trichloroethane	50	48.9	98	72-133
79-01-6	Trichloroethene	50	47.5	95	73-126
75-69-4	Trichlorofluoromethane	50	50.7	101	43-152
96-18-4	1,2,3-Trichloropropane	50	47.0	94	58-141
95-63-6	1,2,4-Trimethylbenzene	50	52.9	106	76-129
108-67-8	1,3,5-Trimethylbenzene	50	51.7	103	71-127
108-05-4	Vinyl Acetate	50	54.0	108	10-170
75-01-4	Vinyl chloride	50	49.0	98	36-167
	m,p-Xylene	100	97.8	98	68-130
95-47-6	o-Xylene	50	52.7	105	69-126
1330-20-7	Xylene (total)	150	151	101	67-129

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1461-BS	V40504.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-1, MC39401-2, MC39401-3

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	72-133%
2037-26-5	Toluene-D8	102%	85-114%
460-00-4	4-Bromofluorobenzene	100%	70-134%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-4, MC39401-5, MC39401-6, MC39401-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	79.4	159	75.4	151	5	14-172/25
71-43-2	Benzene	50	45.9	92	45.0	90	2	68-127/25
108-86-1	Bromobenzene	50	47.0	94	47.4	95	1	74-124/25
74-97-5	Bromochloromethane	50	45.7	91	44.2	88	3	68-135/25
75-27-4	Bromodichloromethane	50	47.5	95	45.9	92	3	72-144/25
75-25-2	Bromoform	50	49.6	99	47.0	94	5	59-147/25
74-83-9	Bromomethane	50	47.2	94	44.7	89	5	34-175/25
78-93-3	2-Butanone (MEK)	50	62.8	126	57.8	116	8	43-147/25
104-51-8	n-Butylbenzene	50	52.5	105	52.6	105	0	77-136/25
135-98-8	sec-Butylbenzene	50	52.7	105	53.3	107	1	75-134/25
98-06-6	tert-Butylbenzene	50	53.3	107	53.9	108	1	74-132/25
75-15-0	Carbon disulfide	50	45.4	91	47.8	96	5	34-171/25
56-23-5	Carbon tetrachloride	50	49.0	98	48.7	97	1	55-153/25
108-90-7	Chlorobenzene	50	46.7	93	45.9	92	2	71-123/25
75-00-3	Chloroethane	50	44.4	89	40.0	80	10	58-175/25
67-66-3	Chloroform	50	47.8	96	47.5	95	1	67-136/25
74-87-3	Chloromethane	50	45.7	91	42.0	84	8	25-182/25
95-49-8	o-Chlorotoluene	50	47.7	95	48.0	96	1	72-130/25
106-43-4	p-Chlorotoluene	50	46.4	93	46.6	93	0	73-127/25
96-12-8	1,2-Dibromo-3-chloropropane	50	49.2	98	44.8	90	9	50-159/25
124-48-1	Dibromochloromethane	50	50.4	101	48.5	97	4	73-139/25
106-93-4	1,2-Dibromoethane	50	46.3	93	45.3	91	2	69-132/25
95-50-1	1,2-Dichlorobenzene	50	48.2	96	47.1	94	2	77-125/25
541-73-1	1,3-Dichlorobenzene	50	48.3	97	48.1	96	0	77-124/25
106-46-7	1,4-Dichlorobenzene	50	46.3	93	45.7	91	1	73-128/25
75-71-8	Dichlorodifluoromethane	50	51.4	103	46.1	92	11	23-157/25
75-34-3	1,1-Dichloroethane	50	44.5	89	45.4	91	2	63-145/25
107-06-2	1,2-Dichloroethane	50	45.1	90	43.1	86	5	58-145/25
75-35-4	1,1-Dichloroethene	50	46.4	93	49.2	98	6	56-158/25
156-59-2	cis-1,2-Dichloroethene	50	43.9	88	43.8	88	0	67-133/25
156-60-5	trans-1,2-Dichloroethene	50	49.1	98	50.3	101	2	66-136/25
78-87-5	1,2-Dichloropropane	50	46.4	93	45.2	90	3	75-133/25
142-28-9	1,3-Dichloropropane	50	44.8	90	43.3	87	3	70-127/25
594-20-7	2,2-Dichloropropane	50	59.4	119	58.3	117	2	52-163/25
563-58-6	1,1-Dichloropropene	50	53.8	108	52.8	106	2	77-140/25
10061-01-5	cis-1,3-Dichloropropene	50	49.6	99	48.3	97	3	74-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-4, MC39401-5, MC39401-6, MC39401-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	53.5	107	52.1	104	3	77-143/25
100-41-4	Ethylbenzene	50	48.9	98	47.6	95	3	71-129/25
87-68-3	Hexachlorobutadiene	50	51.4	103	51.8	104	1	64-146/25
591-78-6	2-Hexanone	50	63.1	126	58.0	116	8	22-163/25
74-88-4	Iodomethane	50	45.2	90	47.5	95	5	30-166/25
98-82-8	Isopropylbenzene	50	51.2	102	51.6	103	1	72-133/25
99-87-6	p-Isopropyltoluene	50	55.1	110	55.2	110	0	77-134/25
1634-04-4	Methyl Tert Butyl Ether	50	45.5	91	44.9	90	1	46-151/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.1	100	45.8	92	9	47-145/25
74-95-3	Methylene bromide	50	45.2	90	43.0	86	5	70-132/25
75-09-2	Methylene chloride	50	41.7	83	44.1	88	6	55-146/25
91-20-3	Naphthalene	50	58.2	116	52.7	105	10	39-176/25
103-65-1	n-Propylbenzene	50	51.0	102	51.0	102	0	74-134/25
100-42-5	Styrene	50	52.2	104	50.7	101	3	71-134/25
630-20-6	1,1,1,2-Tetrachloroethane	50	50.0	100	48.8	98	2	70-137/25
79-34-5	1,1,2,2-Tetrachloroethane	50	41.8	84	39.3	79	6	58-145/25
127-18-4	Tetrachloroethene	50	57.3	115	56.2	112	2	63-137/25
108-88-3	Toluene	50	46.9	94	45.9	92	2	75-126/25
87-61-6	1,2,3-Trichlorobenzene	50	53.7	107	48.6	97	10	27-181/25
120-82-1	1,2,4-Trichlorobenzene	50	53.3	107	49.7	99	7	40-176/25
71-55-6	1,1,1-Trichloroethane	50	45.7	91	45.8	92	0	68-144/25
79-00-5	1,1,2-Trichloroethane	50	46.1	92	44.0	88	5	72-133/25
79-01-6	Trichloroethene	50	47.1	94	46.2	92	2	73-126/25
75-69-4	Trichlorofluoromethane	50	47.6	95	45.4	91	5	43-152/25
96-18-4	1,2,3-Trichloropropane	50	44.2	88	42.5	85	4	58-141/25
95-63-6	1,2,4-Trimethylbenzene	50	51.2	102	51.5	103	1	76-129/25
108-67-8	1,3,5-Trimethylbenzene	50	50.4	101	50.6	101	0	71-127/25
108-05-4	Vinyl Acetate	50	50.2	100	47.6	95	5	10-170/25
75-01-4	Vinyl chloride	50	45.9	92	44.1	88	4	36-167/25
	m,p-Xylene	100	99.2	99	96.9	97	2	68-130/25
95-47-6	o-Xylene	50	54.1	108	52.3	105	3	69-126/25
1330-20-7	Xylene (total)	150	153	102	149	99	3	67-129/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-4, MC39401-5, MC39401-6, MC39401-7

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	97%	96%	72-133%
2037-26-5	Toluene-D8	100%	99%	85-114%
460-00-4	4-Bromofluorobenzene	97%	100%	70-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39596-4MS	V40525.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4MSD	V40526.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4	V40511.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-1, MC39401-2, MC39401-3

CAS No.	Compound	MC39596-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10 U		50	46.0	92	50	40.8	82	12	10-135/30
71-43-2	Benzene	0.50 U		50	45.8	92	50	44.5	89	3	61-138/30
108-86-1	Bromobenzene	5.0 U		50	46.3	93	50	46.2	92	0	71-126/30
74-97-5	Bromochloromethane	5.0 U		50	45.9	92	50	44.4	89	3	70-136/30
75-27-4	Bromodichloromethane	1.0 U		50	48.6	97	50	46.7	93	4	73-146/30
75-25-2	Bromoform	1.0 U		50	51.4	103	50	48.2	96	6	54-147/30
74-83-9	Bromomethane	2.0 U		50	45.1	90	50	45.5	91	1	20-171/30
78-93-3	2-Butanone (MEK)	5.0 U		50	49.6	99	50	46.3	93	7	33-127/30
104-51-8	n-Butylbenzene	5.0 U		50	49.2	98	50	49.9	100	1	69-138/30
135-98-8	sec-Butylbenzene	5.0 U		50	49.7	99	50	51.0	102	3	71-137/30
98-06-6	tert-Butylbenzene	5.0 U		50	49.6	99	50	50.7	101	2	68-137/30
75-15-0	Carbon disulfide	5.0 U		50	51.0	102	50	49.1	98	4	29-178/30
56-23-5	Carbon tetrachloride	1.0 U		50	50.6	101	50	49.2	98	3	57-155/30
108-90-7	Chlorobenzene	1.0 U		50	45.8	92	50	45.2	90	1	69-126/30
75-00-3	Chloroethane	2.0 U		50	41.8	84	50	42.2	84	1	57-182/30
67-66-3	Chloroform	1.0 U		50	48.9	98	50	46.9	94	4	66-142/30
74-87-3	Chloromethane	2.0 U		50	43.5	87	50	43.6	87	0	18-182/30
95-49-8	o-Chlorotoluene	5.0 U		50	45.6	91	50	46.4	93	2	60-145/30
106-43-4	p-Chlorotoluene	5.0 U		50	45.0	90	50	45.5	91	1	64-138/30
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		50	49.9	100	50	46.7	93	7	46-160/30
124-48-1	Dibromochloromethane	1.0 U		50	50.7	101	50	48.5	97	4	71-138/30
106-93-4	1,2-Dibromoethane	1.0 U		50	47.4	95	50	45.5	91	4	71-129/30
95-50-1	1,2-Dichlorobenzene	1.0 U		50	46.8	94	50	46.7	93	0	75-125/30
541-73-1	1,3-Dichlorobenzene	1.0 U		50	46.5	93	50	46.9	94	1	74-125/30
106-46-7	1,4-Dichlorobenzene	1.0 U		50	45.2	90	50	44.7	89	1	72-128/30
75-71-8	Dichlorodifluoromethane	2.0 U		50	79.9	160* [a]	50	51.1	102	44* [b]	23-159/30
75-34-3	1,1-Dichloroethane	1.0 U		50	46.9	94	50	45.1	90	4	63-150/30
107-06-2	1,2-Dichloroethane	1.0 U		50	46.6	93	50	44.1	88	6	57-150/30
75-35-4	1,1-Dichloroethene	1.0 U		50	50.4	101	50	49.4	99	2	53-165/30
156-59-2	cis-1,2-Dichloroethene	0.47	J	50	44.3	88	50	43.3	86	2	66-138/30
156-60-5	trans-1,2-Dichloroethene	1.0 U		50	51.8	104	50	50.3	101	3	65-141/30
78-87-5	1,2-Dichloropropane	2.0 U		50	47.3	95	50	45.5	91	4	76-136/30
142-28-9	1,3-Dichloropropane	5.0 U		50	45.4	91	50	43.5	87	4	71-127/30
594-20-7	2,2-Dichloropropane	5.0 U		50	55.0	110	50	54.6	109	1	33-175/30
563-58-6	1,1-Dichloropropene	5.0 U		50	53.1	106	50	52.2	104	2	76-145/30
10061-01-5	cis-1,3-Dichloropropene	0.50 U		50	49.8	100	50	47.8	96	4	75-137/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39596-4MS	V40525.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4MSD	V40526.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4	V40511.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-1, MC39401-2, MC39401-3

CAS No.	Compound	MC39596-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	0.50 U		50	56.1	112	50	52.4	105	7	77-139/30
100-41-4	Ethylbenzene	1.0 U		50	47.2	94	50	47.0	94	0	61-137/30
87-68-3	Hexachlorobutadiene	5.0 U		50	46.3	93	50	47.7	95	3	59-141/30
591-78-6	2-Hexanone	5.0 U		50	50.0	100	50	45.5	91	9	12-141/30
74-88-4	Iodomethane	5.0 U		50	47.4	95	50	47.7	95	1	21-171/30
98-82-8	Isopropylbenzene	5.0 U		50	48.0	96	50	49.7	99	3	64-141/30
99-87-6	p-Isopropyltoluene	5.0 U		50	51.5	103	50	52.8	106	2	73-135/30
1634-04-4	Methyl Tert Butyl Ether	1.0 U		50	47.6	95	50	45.4	91	5	34-160/30
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		50	51.6	103	50	46.9	94	10	47-143/30
74-95-3	Methylene bromide	5.0 U		50	47.0	94	50	44.3	89	6	73-132/30
75-09-2	Methylene chloride	2.0 U		50	46.5	93	50	44.8	90	4	52-154/30
91-20-3	Naphthalene	5.0 U		50	56.7	113	50	53.7	107	5	21-185/30
103-65-1	n-Propylbenzene	5.0 U		50	48.5	97	50	49.6	99	2	66-141/30
100-42-5	Styrene	5.0 U		50	51.0	102	50	50.0	100	2	60-142/30
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U		50	48.2	96	50	47.0	94	3	69-138/30
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U		50	42.3	85	50	40.1	80	5	58-147/30
127-18-4	Tetrachloroethene	3.5		50	57.2	107	50	57.0	107	0	60-140/30
108-88-3	Toluene	1.0 U		50	47.1	94	50	46.2	92	2	74-131/30
87-61-6	1,2,3-Trichlorobenzene	5.0 U		50	50.2	100	50	48.7	97	3	12-184/30
120-82-1	1,2,4-Trichlorobenzene	5.0 U		50	49.3	99	50	48.4	97	2	30-175/30
71-55-6	1,1,1-Trichloroethane	1.0 U		50	46.5	93	50	46.2	92	1	67-151/30
79-00-5	1,1,2-Trichloroethane	1.0 U		50	48.6	97	50	45.6	91	6	73-134/30
79-01-6	Trichloroethene	14.7		50	58.9	88	50	58.3	87	1	68-133/30
75-69-4	Trichlorofluoromethane	1.0 U		50	49.1	98	50	48.1	96	2	40-159/30
96-18-4	1,2,3-Trichloropropane	5.0 U		50	45.1	90	50	41.9	84	7	54-141/30
95-63-6	1,2,4-Trimethylbenzene	5.0 U		50	49.0	98	50	49.9	100	2	62-142/30
108-67-8	1,3,5-Trimethylbenzene	5.0 U		50	47.6	95	50	48.9	98	3	62-133/30
108-05-4	Vinyl Acetate	5.0 U		50	50.3	101	50	48.0	96	5	10-169/30
75-01-4	Vinyl chloride	1.0 U		50	46.2	92	50	45.4	91	2	29-176/30
	m,p-Xylene	1.0 U		100	95.3	95	100	94.6	95	1	58-139/30
95-47-6	o-Xylene	1.0 U		50	51.2	102	50	51.1	102	0	61-135/30
1330-20-7	Xylene (total)	1.0 U		150	146	97	150	146	97	0	60-136/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39596-4MS	V40525.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4MSD	V40526.D	1	06/29/15	JB	n/a	n/a	MSV1461
MC39596-4	V40511.D	1	06/29/15	JB	n/a	n/a	MSV1461

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39401-1, MC39401-2, MC39401-3

CAS No.	Surrogate Recoveries	MS	MSD	MC39596-4	Limits
1868-53-7	Dibromofluoromethane	99%	97%	105%	72-133%
2037-26-5	Toluene-D8	102%	101%	95%	85-114%
460-00-4	4-Bromofluorobenzene	99%	100%	97%	70-134%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC39401-1	V40516.D	104	95	95
MC39401-2	V40517.D	105	96	99
MC39401-3	V40518.D	106	95	96
MC39401-4	V40559.D	102	92	96
MC39401-5	V40560.D	102	94	97
MC39401-6	V40563.D	106	95	96
MC39401-7	V40564.D	106	94	96
MC39596-4MS	V40525.D	99	102	99
MC39596-4MSD	V40526.D	97	101	100
MSV1461-BS	V40504.D	98	102	100
MSV1461-MB	V40507.D	102	94	98
MSV1463-BS	V40553.D	97	100	97
MSV1463-BSD	V40554.D	96	99	100
MSV1463-MB	V40556.D	101	93	96

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	72-133%
S2 = Toluene-D8	85-114%
S3 = 4-Bromofluorobenzene	70-134%

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GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1499-MB	BA22037.D	1	06/18/15	TB	n/a	n/a	GBA1499

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39401-3, MC39401-4, MC39401-5

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Method Blank Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1500-MB	BA22049.D	1	06/19/15	TB	n/a	n/a	GBA1500

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39401-6, MC39401-7

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1499-BSP	BA22038.D	1	06/18/15	TB	n/a	n/a	GBA1499

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39401-3, MC39401-4, MC39401-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	87.1	98	50-150
74-84-0	Ethane	166	166	100	50-150
74-85-1	Ethene	155	181	117	50-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1500-BSP	BA22050.D	1	06/19/15	TB	n/a	n/a	GBA1500

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39401-6, MC39401-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	83.7	94	50-150
74-84-0	Ethane	166	161	97	50-150
74-85-1	Ethene	155	177	114	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39401-3DUP	BA22042.D	1	06/18/15	TB	n/a	n/a	GBA1499
MC39401-3	BA22039.D	1	06/18/15	TB	n/a	n/a	GBA1499
MC39401-3	BA22040.D	1	06/18/15	TB	n/a	n/a	GBA1499

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39401-3, MC39401-4, MC39401-5

CAS No.	Compound	MC39401-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	3610 [b]		9350	E	89* [a]	30
74-84-0	Ethane	10 U		ND		nc	30
74-85-1	Ethene	3.3		5.6	J	52* [a]	30

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.
(b) Result is from Run #2.

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC39401
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39401-6DUP	BA22052.D	1	06/19/15	TB	n/a	n/a	GBA1500
MC39401-6	BA22051.D	1	06/19/15	TB	n/a	n/a	GBA1500

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39401-6, MC39401-7

CAS No.	Compound	MC39401-6 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	22.4		15.0		40* [a]	30
74-84-0	Ethane	10 U		ND		nc	30
74-85-1	Ethene	10 U		ND		nc	30

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal	RL	IDL	MDL	MB raw	06/22/15 final	MB raw	06/22/15 final	MB raw	06/22/15 final
Aluminum	200	14	28	9.2	<200	7.0	<200	-1.5	<200
Antimony	6.0	1.1	2	0.70	<6.0	0.20	<6.0	0.20	<6.0
Arsenic	4.0	1.6	1.7						
Barium	50	.35	1	-0.20	<50	0.10	<50	-0.30	<50
Beryllium	4.0	.15	.25	0.0	<4.0	0.10	<4.0	0.0	<4.0
Bismuth	50	1.3	2.1						
Boron	100	.9	1.1						
Cadmium	4.0	.16	.43	0.10	<4.0	0.10	<4.0	0.10	<4.0
Calcium	5000	6.9	15	14.7	<5000	53.1	<5000	45.0	<5000
Chromium	10	.36	.48	0.10	<10	0.10	<10	0.20	<10
Cobalt	50	.15	.28	0.0	<50	0.0	<50	0.0	<50
Copper	25	.59	2.4	0.80	<25	2.0	<25	1.4	<25
Gold	50	1.1	1.5						
Iron	100	3.3	17	5.2	<100	8.0	<100	17.6	<100
Lead	5.0	.78	1.7	0.0	<5.0	0.40	<5.0	0.20	<5.0
Lithium	500	2.3	2.5						
Magnesium	5000	23	54	10.4	<5000	12.1	<5000	5.0	<5000
Manganese	15	.056	1.4	0.0	<15	0.20	<15	0.0	<15
Molybdenum	100	1.7	3.6						
Nickel	40	.21	.5	0.0	<40	0.0	<40	0.0	<40
Palladium	50	.92	2.6						
Platinum	50	4.6	5.4						
Potassium	5000	41	49	39.0	<5000	31.7	<5000	11.7	<5000
Selenium	10	1.5	2	-0.20	<10	0.0	<10	0.0	<10
Silicon	100	1.1	30						
Silver	5.0	.56	1	0.50	<5.0	0.70	<5.0	0.70	<5.0
Sodium	5000	17	77	30.6	<5000	115	<5000	94.5	<5000
Sulfur	50	2.3	4.6						
Strontium	10	.2	.22						
Thallium	5.0	.54	1.7	-0.80	<5.0	-0.90	<5.0	-0.90	<5.0
Tin	100	.39	.81						
Titanium	50	.34	.51						
Tungsten	100	3.1	22						

8.1.1

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BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15 | 06/22/15 | 06/22/15

Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Vanadium	10	.61	.51	-0.20	<10	-0.10	<10	0.0	<10
Zinc	20	.53	1	1.2	<20	3.7	<20	1.1	<20
Zirconium	50	.19	1.2						

Associated samples MP24763: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	236	10200	10000	99.6	75-125
Antimony	0.0	531	500	106.2	75-125
Arsenic					
Barium	28.3	2070	2000	102.1	75-125
Beryllium	0.0	492	500	98.4	75-125
Bismuth					
Boron					
Cadmium	1.2	523	500	104.4	75-125
Calcium	52800	76900	25000	96.4	75-125
Chromium	1.1	497	500	99.2	75-125
Cobalt	0.0	504	500	100.8	75-125
Copper	2.5	498	500	99.1	75-125
Gold					
Iron	6350	16300	10000	99.5	75-125
Lead	0.0	1000	1000	100.0	75-125
Lithium					
Magnesium	4120	29400	25000	101.1	75-125
Manganese	191	697	500	101.2	75-125
Molybdenum					
Nickel	0.40	516	500	103.1	75-125
Palladium					
Platinum					
Potassium	3740	28600	25000	99.4	75-125
Selenium	0.0	442	500	88.4	75-125
Silicon					
Silver	0.70	183	200	91.2	75-125
Sodium	35500	59600	25000	96.4	75-125
Sulfur					
Strontium					
Thallium	0.0	511	500	102.2	75-125
Tin					
Titanium					
Tungsten					

8.1.2

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	0.80	498	500	99.4	75-125
Zinc	10.4	493	500	96.5	75-125
Zirconium					

Associated samples MP24763: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	236	10400	10000	101.6	1.9	20
Antimony	0.0	529	500	105.8	0.4	20
Arsenic						
Barium	28.3	2090	2000	103.1	1.0	20
Beryllium	0.0	497	500	99.4	1.0	20
Bismuth						
Boron						
Cadmium	1.2	520	500	103.8	0.6	20
Calcium	52800	78400	25000	102.4	1.9	20
Chromium	1.1	489	500	97.6	1.6	20
Cobalt	0.0	500	500	100.0	0.8	20
Copper	2.5	492	500	97.9	1.2	20
Gold						
Iron	6350	16400	10000	100.5	0.6	20
Lead	0.0	995	1000	99.5	0.5	20
Lithium						
Magnesium	4120	29700	25000	102.3	1.0	20
Manganese	191	689	500	99.6	1.2	20
Molybdenum						
Nickel	0.40	514	500	102.7	0.4	20
Palladium						
Platinum						
Potassium	3740	28900	25000	100.6	1.0	20
Selenium	0.0	430	500	86.0	2.8	20
Silicon						
Silver	0.70	179	200	89.2	2.2	20
Sodium	35500	60600	25000	100.4	1.7	20
Sulfur						
Strontium						
Thallium	0.0	509	500	101.8	0.4	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	0.80	490	500	97.8	1.6	20
Zinc	10.4	489	500	95.7	0.8	20
Zirconium						

Associated samples MP24763: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	10000	10000	100.0	80-120
Antimony	523	500	104.6	80-120
Arsenic				
Barium	2050	2000	102.5	80-120
Beryllium	491	500	98.2	80-120
Bismuth				
Boron				
Cadmium	514	500	102.8	80-120
Calcium	26000	25000	104.0	80-120
Chromium	497	500	99.4	80-120
Cobalt	498	500	99.6	80-120
Copper	493	500	98.6	80-120
Gold				
Iron	10100	10000	101.0	80-120
Lead	1000	1000	100.0	80-120
Lithium				
Magnesium	26400	25000	105.6	80-120
Manganese	509	500	101.8	80-120
Molybdenum				
Nickel	514	500	102.8	80-120
Palladium				
Platinum				
Potassium	25900	25000	103.6	80-120
Selenium	519	500	103.8	80-120
Silicon				
Silver	180	200	90.0	80-120
Sodium	25700	25000	102.8	80-120
Sulfur				
Strontium				
Thallium	514	500	102.8	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	494	500	98.8	80-120
Zinc	488	500	97.6	80-120
Zirconium				

Associated samples MP24763: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	236	290	22.7 (a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	28.3	27.6	2.5	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	1.20	1.20	0.0	0-10
Calcium	52800	54100	2.3	0-10
Chromium	1.10	0.00	100.0(a)	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	2.50	6.20	148.0(a)	0-10
Gold				
Iron	6350	6520	2.8	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	4120	4350	5.7	0-10
Manganese	191	204	6.8	0-10
Molybdenum				
Nickel	0.400	0.00	100.0(a)	0-10
Palladium				
Platinum				
Potassium	3740	3920	4.9	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.700	0.00	100.0(a)	0-10
Sodium	35500	36500	3.0	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.800	0.00	100.0(a)	0-10
Zinc	10.4	13.1	26.0 (a)	0-10
Zirconium				

Associated samples MP24763: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15 06/22/15 06/22/15

Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Aluminum	50	1.3	4.4						
Antimony	4.0	.022	.058						
Arsenic	4.0	.046	.42	0.68	<4.0	0.69	<4.0	0.72	<4.0
Barium	2.0	.016	.076						
Beryllium	1.0	.015	.042						
Boron	10	.24	.34						
Cadmium	2.0	.012	.026						
Calcium	500	4.2	30						
Chromium	8.0	.032	.42						
Cobalt	1.0	.0064	.028						
Copper	8.0	.017	1						
Iron	50	.72	3.4						
Lead	2.0	.013	.036						
Magnesium	500	1.4	2						
Manganese	4.0	.0096	1.2						
Molybdenum	2.0	.028	.24						
Nickel	4.0	.015	.14						
Potassium	500	3.4	5.2						
Selenium	2.0	.15	.3						
Silver	2.0	.0088	.022						
Sodium	500	2	8.8						
Strontium	20	.01	.026						
Thallium	2.0	.042	.068						
Tin	10	.015	.048						
Titanium	2.0	.2	.26						
Vanadium	20	.2	1.4						
Zinc	10	.066	2						

Associated samples MP24763A: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	37.5	572	500	106.9	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP24763A: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	37.5	588	500	110.1	2.8	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP24763A: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	564	500	112.8	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24763A: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	37.5	37.6	0.3	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24763A: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:					06/22/15		06/22/15		06/22/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Mercury	0.20	.038	.096	-0.027	<0.20	-0.017	<0.20	-0.019	<0.20

Associated samples MP24766: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39435-8F Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.0	3	100.0	75-125

Associated samples MP24766: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39435-8F Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	0.0	20

Associated samples MP24766: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:			06/22/15					06/22/15	
Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	3.0	3	100.0	80-120	3.1	3	103.3	3.3	20

Associated samples MP24766: MC39401-1F, MC39401-2F, MC39401-3F, MC39401-4F, MC39401-5F, MC39401-6F, MC39401-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN51008	5.0	0.0	mg/l	250	252	100.8	80-120%
Nitrogen, Nitrate + Nitrite	GP19281/GN51017	0.10	0.029	mg/l	2	2.17	108.5	90-110%
Nitrogen, Nitrite	GP19256/GN50938	0.010	0.0	mg/l	.02	0.020	100.0	80-120%
Sulfide	GN50984	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Total Organic Carbon	GP19289/GN51035	1.0	0.0	mg/l	10	9.87	98.7	80-120%
Total Organic Carbon	GP19293/GN51057	1.0	0.0	mg/l	10	10.1	101.0	80-120%

Associated Samples:
Batch GN50984: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GN51008: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GP19256: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GP19281: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GP19289: MC39401-1, MC39401-2, MC39401-3, MC39401-4, MC39401-5, MC39401-6
Batch GP19293: MC39401-7
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN51008	MC39218-3	mg/l	90.5	89.4	1.2	0-20%
Nitrogen, Nitrate + Nitrite	GP19281/GN51017	MC39401-4	mg/l	0.093	0.080	15.0	0-20%
Nitrogen, Nitrite	GP19256/GN50938	MC39401-6	mg/l	0.0	0.0	0.0	0-20%
Sulfide	GN50984	MC39401-5	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN50984: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GN51008: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GP19256: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GP19281: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN51008	MC39218-3	mg/l	90.5	250	344	101.4	75-125%
Nitrogen, Nitrate + Nitrite	GP19281/GN51017	MC39401-4	mg/l	0.093	2	2.1	100.4	90-110%
Nitrogen, Nitrite	GP19256/GN50938	MC39401-6	mg/l	0.0	.02	0.020	100.0	75-125%
Sulfide	GN50984	MC39401-5	mg/l	0.34 U	13.4	13.0	97.0	75-125%
Total Organic Carbon	GP19289/GN51035	MC39401-1	mg/l	8.3	10	19.4	111.0	75-125%
Total Organic Carbon	GP19293/GN51057	MC39435-6	mg/l	0.35 U	10	10	100.0	75-125%

Associated Samples:
Batch GN50984: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GN51008: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GP19256: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GP19281: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
Batch GP19289: MC39401-1, MC39401-2, MC39401-3, MC39401-4, MC39401-5, MC39401-6
Batch GP19293: MC39401-7
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39401
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19289/GN51035	MC39401-1	mg/l	8.3	10	19.2	1.0	20%
Total Organic Carbon	GP19293/GN51057	MC39435-6	mg/l	0.35 U	10	10.1	1.0	

Associated Samples:
Batch GP19289: MC39401-1, MC39401-2, MC39401-3, MC39401-4, MC39401-5, MC39401-6
Batch GP19293: MC39401-7
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC39401
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information	Subcontract Laboratory Information
Name: Accutest New England	Name: Accutest - New Jersey
Address: 50 D'Angelo Drive	Address: 2235 Route 130
City: Marlborough State: MA Zip: 01752	City: Dayton State: NJ Zip: 08810
Send Report to: FrankD@accutest.com	Contact: Sample Management
Any questions contact: Frank D'Agostino	
Phone/Fax #: (508)481-6200 / (508)481-7753	Phone: (732) 329-0200

Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300	Comments
MC39401 -3	6/17/15	1:05 PM	GW	1					X	X	
MC39401 -4	6/17/15	2:05 PM	GW	1					X	X	MA
MC39401 -5	6/17/15	9:45 AM	GW	1					X	X	
MC39401 -6	6/17/15	11:45 AM	GW	1					X	X	
MC39401 -7	6/17/15	12:40 PM	GW	1					X	X	

[x] STD 7/1/15
[ ] Other ______ (Days) *Please notify Accutest if surcharges are applied.

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

[ ] Commercial "A" [ ] PDF
[ ] Commercial "B" [ ] Compact Disk Deliverable
[X] Commercial "BN" [ ] Electronic Delivery:
[ ] Reduced Tier 1 [ ] State Forms
[ ] Full Tier 1 [ ] Other (Specify)

Comments / Remarks: All DW samples are subject to MCL compliance reporting

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:	
1 [signature]	6-18-15	1 FedEx	1	Seal #: ___ Headspace: Yes [ ] No [ ] NA [ ]
2 Fed Ex	6/19/15 0930	2 DM	2 6/19/15 0930	Preserved where applicable: [ ]
3		3	3	Temperature °C 4.4°C IR On Ice [X]

Trk# 6406 1312 3916

Ref: SO4 & TOX
Dep:

Date: 18Jun15
Wgt: 29.00 LBS
DV: 0.00

SHIPPING: 43.08
SPECIAL: 0.84
HANDLING: 0.00
TOTAL: 43.92

Svcs: PRIORITY OVERNIGHT
TRCK: 6406 1312 3916

INITIAL ASESSMENT ADR 3IA
LABEL VERIFICATION [initials]

sm022-01 (10/30/14)

10.1 10

MC39401: Chain of Custody
Page 1 of 2
Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39401 **Client:** **Project:**

Date / Time Received: 6/19/2015 9:30:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (4.4);

Cooler Temps (Corrected) °C: Cooler 1: (4.1);

Cooler Security

	Y	N
1. Custody Seals Present:	✔	☐
2. Custody Seals Intact:	✔	☐
3. COC Present:	✔	☐
4. Smpl Dates/Time OK	✔	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	✔	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	✔	☐
2. Trip Blank listed on COC:	☐	✔	☐
3. Samples preserved properly:	✔	☐	
4. VOCs headspace free:	☐	☐	✔

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	✔	☐
2. Container labeling complete:	✔	☐
3. Sample container label / COC agree:	✔	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	✔	☐
2. All containers accounted for:	✔	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	✔	☐	
2. Bottles received for unspecified tests	☐	✔	
3. Sufficient volume recvd for analysis:	✔	☐	
4. Compositing instructions clear:	☐	☐	✔
5. Filtering instructions clear:	☐	☐	✔

Comments

10.1

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MC39401: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC39401
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 06/17/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC39401

New England

ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39401
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP90047/GN27681	2.0	0.0	mg/l	80	82.6	103.3	90-110%
Sulfate	GP90047/GN27681	10	0.0	mg/l	80	82.7	103.4	90-110%

Associated Samples:
Batch GP90047: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39401
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP90047/GN27681	JB97354-6	mg/l	51.9	54.3	0.6	0-20%
Sulfate	GP90047/GN27775	JB97354-6	mg/l	2060	2050	9.7	0-20%

Associated Samples:
Batch GP90047: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39401
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP90047/GN27681	MC39401-5	mg/l	59.9	80	139	98.9	80-120%
Sulfate	GP90047/GN27681	MC39401-5	mg/l	24.3	80	104	99.6	80-120%

Associated Samples:
Batch GP90047: MC39401-3, MC39401-4, MC39401-5, MC39401-6, MC39401-7
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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New England
ACCUTEST
LABORATORIES

07/02/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

Accutest Job Number: MC39435

Sampling Date: 06/18/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
eanderson@hsenv.com

ATTN: Elizabeth Anderson

Total number of pages in report: **110**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

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Sample Summary

H&S Environmental

Fort Devens, AOC50, Devens, MA

Job No: MC39435

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC39435-1	06/18/15	09:30 SLEF	06/18/15	AQ	Ground Water	G6M-04-02X-061815H
MC39435-1F	06/18/15	09:30 SLEF	06/18/15	AQ	Groundwater Filtered	G6M-04-02X-061815H
MC39435-2	06/18/15	11:20 SLEF	06/18/15	AQ	Ground Water	G6M-04-02X-061815
MC39435-2F	06/18/15	11:20 SLEF	06/18/15	AQ	Groundwater Filtered	G6M-04-02X-061815
MC39435-3	06/18/15	12:45 SLEF	06/18/15	AQ	Ground Water	G6M-03-07X-061815H
MC39435-3F	06/18/15	12:45 SLEF	06/18/15	AQ	Groundwater Filtered	G6M-03-07X-061815H
MC39435-4	06/18/15	14:45 SLEF	06/18/15	AQ	Ground Water	G6M-03-01X-061815
MC39435-5	06/18/15	13:35 SLEF	06/18/15	AQ	Ground Water	G6M-03-07X-061815
MC39435-5F	06/18/15	13:35 SLEF	06/18/15	AQ	Groundwater Filtered	G6M-03-07X-061815
MC39435-6	06/18/15	11:15 SLEF	06/18/15	AQ	Ground Water	G6M-03-09X-061815
MC39435-6F	06/18/15	11:15 SLEF	06/18/15	AQ	Groundwater Filtered	G6M-03-09X-061815
MC39435-7	06/18/15	09:40 SLEF	06/18/15	AQ	Ground Water	G6M-03-09X-061815H
MC39435-7F	06/18/15	09:40 SLEF	06/18/15	AQ	Groundwater Filtered	G6M-03-09X-061815H

Sample Summary
(continued)

H&S Environmental

Fort Devens, AOC50, Devens, MA

Job No: MC39435

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC39435-8	06/18/15	13:10	SLEF	06/18/15	AQ	Ground Water	G6M-03-08X-061815
MC39435-8F	06/18/15	13:10	SLEF	06/18/15	AQ	Groundwater Filtered	G6M-03-08X-061815

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC39435

Site: Fort Devens, AOC50, Devens, MA **Report Date** 7/2/2015 10:37:00 AM

8 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 06/18/2015 and were received at Accutest on 06/18/2015 properly preserved, at 1.1 Deg. C and intact. These Samples received an Accutest job number of MC39435. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSV1463

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1502

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC39435-3DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP24763

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1MS, MC39372-1MSD, MC39372-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Aluminum, Chromium, Copper, Nickel, Silver, Vanadium, Zinc are outside control limits for sample MP24763-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 6020A

Matrix: AQ **Batch ID:** MP24763A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1MS, MC39372-1MSD, MC39372-1SDL were used as the QC samples for metals.

Metals By Method SW846 7470A

Matrix: AQ	**Batch ID:** MP24766

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-8FMS, MC39435-8FMSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	**Batch ID:** N:GP90084

- Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	**Batch ID:** GP19281

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-4MS, MC39401-4DUP were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	**Batch ID:** GP19282

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-6DUP, MC39435-6MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	**Batch ID:** R36817

- MC39435-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R36822

- MC39435-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R36823

- MC39435-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R36824

- MC39435-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R36830

- MC39435-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	**Batch ID:** GP19267

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-3MS, MC39435-3DUP were used as the QC samples for Nitrogen, Nitrite.
- RPD(s) for Duplicate for Nitrogen, Nitrite are outside control limits for sample GP19267-D1. RPD acceptable due to low duplicate and sample concentrations.

Wet Chemistry By Method SM21 2320B

Matrix: AQ	**Batch ID:** GN51008

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39218-3DUP, MC39218-3MS were used as the QC samples for Alkalinity, Total as CaCO3.

Matrix: AQ	**Batch ID:** GN51031

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ	**Batch ID:** GN50984

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39401-5DUP, MC39401-5MS were used as the QC samples for Sulfide.

Matrix: AQ	**Batch ID:** GN51004

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SM21 5310 B

Matrix: AQ	**Batch ID:** GP19293

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-6MS, MC39435-6MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC39435).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Accutest Labs of New England, Inc.	**Job No**	MC39435
Site:	HSMAW: Fort Devens, AOC50, Devens, MA	**Report Date**	6/25/2015 2:12:07 PM

On 06/23/2015, 5 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 5.3 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC39435 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP90084

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB97596-7DUP, JB97596-7MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39435-1	**G6M-04-02X-061815H**					
cis-1,2-Dichloroethene		5.6	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		0.81 J	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		3.5	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		2.9	1.0	0.50	ug/l	SW846 8260C
MC39435-1F	**G6M-04-02X-061815H**					
Arsenic		68.5	4.0	2.0	ug/l	SW846 6020A
Calcium		8090	5000	2500	ug/l	SW846 6010C
Manganese		341	15	7.5	ug/l	SW846 6010C
Potassium		60700	25000	13000	ug/l	SW846 6010C
Sodium		44200	25000	13000	ug/l	SW846 6010C
MC39435-2	**G6M-04-02X-061815**					
cis-1,2-Dichloroethene		15.7	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		62.2	1.0	0.50	ug/l	SW846 8260C
Toluene		2.7	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		20.3	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		1.8	1.0	0.50	ug/l	SW846 8260C
MC39435-2F	**G6M-04-02X-061815**					
Arsenic		362	20	10	ug/l	SW846 6020A
Barium		42.7 J	50	25	ug/l	SW846 6010C
Cadmium		3.2 J	4.0	2.0	ug/l	SW846 6010C
Calcium		35100	25000	13000	ug/l	SW846 6010C
Iron		82400	500	250	ug/l	SW846 6010C
Magnesium		4400 J	5000	2500	ug/l	SW846 6010C
Manganese		7220	75	38	ug/l	SW846 6010C
Potassium		9280	5000	2500	ug/l	SW846 6010C
Sodium		48600	25000	13000	ug/l	SW846 6010C
MC39435-3	**G6M-03-07X-061815H**					
cis-1,2-Dichloroethene		0.59 J	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene		2.0	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		0.70 J	1.0	0.50	ug/l	SW846 8260C
Methane		10500	200	100	ug/l	VRSK 175
Alkalinity, Total as CaCO3		215	5.0	3.9	mg/l	SM21 2320B
Sulfate [a]		0.56 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		24.5	1.0	0.70	mg/l	SM21 5310 B

Summary of Hits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39435-3F	**G6M-03-07X-061815H**					
Arsenic		108	4.0	2.0	ug/l	SW846 6020A
Barium		70.7	50	25	ug/l	SW846 6010C
Calcium		26100	10000	5000	ug/l	SW846 6010C
Iron		83900	500	250	ug/l	SW846 6010C
Magnesium		7080	5000	2500	ug/l	SW846 6010C
Manganese		1750	15	7.5	ug/l	SW846 6010C
Potassium		32900	10000	5000	ug/l	SW846 6010C
Sodium		35300	10000	5000	ug/l	SW846 6010C
Zinc		22.3	20	10	ug/l	SW846 6010C
MC39435-4	**G6M-03-01X-061815**					
1,1-Dichloroethene		0.55 J	1.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene		52.6	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		0.65 J	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		37.0	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		18.8	1.0	0.50	ug/l	SW846 8260C
MC39435-5	**G6M-03-07X-061815**					
cis-1,2-Dichloroethene		0.62 J	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene		2.1	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		0.77 J	1.0	0.50	ug/l	SW846 8260C
Methane		12400	200	100	ug/l	VRSK 175
Ethene		5.7 J	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		262	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [b]		0.15	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.15	0.10	0.054	mg/l	EPA 353.2
Total Organic Carbon		27.1	1.0	0.70	mg/l	SM21 5310 B
MC39435-5F	**G6M-03-07X-061815**					
Arsenic		97.1	4.0	2.0	ug/l	SW846 6020A
Barium		92.5	50	25	ug/l	SW846 6010C
Cadmium		4.2	4.0	2.0	ug/l	SW846 6010C
Calcium		28600	15000	7500	ug/l	SW846 6010C
Cobalt		25.9 J	50	25	ug/l	SW846 6010C
Iron		107000	1000	500	ug/l	SW846 6010C
Magnesium		7930	5000	2500	ug/l	SW846 6010C
Manganese		1810	15	7.5	ug/l	SW846 6010C
Potassium		37100	15000	7500	ug/l	SW846 6010C
Sodium		39800	15000	7500	ug/l	SW846 6010C

Summary of Hits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39435-6	**G6M-03-09X-061815**					
Methane		29.8	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		27.0	5.0	3.9	mg/l	SM21 2320B
Sulfate [a]		8.6 J	10	0.50	mg/l	EPA 300/SW846 9056A
MC39435-6F	**G6M-03-09X-061815**					
Calcium		21600	10000	5000	ug/l	SW846 6010C
Magnesium		2770 J	5000	2500	ug/l	SW846 6010C
Manganese		20.1	15	7.5	ug/l	SW846 6010C
Sodium		10000	5000	2500	ug/l	SW846 6010C
Zinc		12.0 J	20	10	ug/l	SW846 6010C
MC39435-7	**G6M-03-09X-061815H**					
Methane		113	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		11.4	5.0	3.9	mg/l	SM21 2320B
Sulfate [a]		8.9 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1.2	1.0	0.70	mg/l	SM21 5310 B
MC39435-7F	**G6M-03-09X-061815H**					
Calcium		12300	5000	2500	ug/l	SW846 6010C
Manganese		9.2 J	15	7.5	ug/l	SW846 6010C
Sodium		8660	5000	2500	ug/l	SW846 6010C
Zinc		23.7	20	10	ug/l	SW846 6010C
MC39435-8	**G6M-03-08X-061815**					
Trichloroethene		0.51 J	1.0	0.50	ug/l	SW846 8260C
Alkalinity, Total as CaCO3		83.2	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [b]		0.11	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.11	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		8.4 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		5.4	1.0	0.70	mg/l	SM21 5310 B
MC39435-8F	**G6M-03-08X-061815**					
Arsenic		2.5 J	4.0	2.0	ug/l	SW846 6020A
Calcium		23100	10000	5000	ug/l	SW846 6010C
Magnesium		2840 J	5000	2500	ug/l	SW846 6010C
Manganese		2320	15	7.5	ug/l	SW846 6010C
Potassium		19200	5000	2500	ug/l	SW846 6010C
Sodium		17500	5000	2500	ug/l	SW846 6010C

Summary of Hits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Zinc		14.6 J	20	10	ug/l	SW846 6010C

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

New England
ACCUTEST
LABORATORIES

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	G6M-04-02X-061815H			
Lab Sample ID:	MC39435-1		**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water		**Date Received:**	06/18/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40565.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	5.6	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X-061815H		
Lab Sample ID:	MC39435-1	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.81	1.0	0.50	ug/l	J
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	3.5	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	2.9	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X-061815H		
Lab Sample ID:	MC39435-1	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X-061815H		
Lab Sample ID:	MC39435-1F	**Date Sampled:**	06/18/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/18/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	68.5	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	8090	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	2500 U	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	341	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	60700	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	44200	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-02X-061815		
Lab Sample ID:	MC39435-2	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40566.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	15.7	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-02X-061815			
Lab Sample ID:	MC39435-2		**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water		**Date Received:**	06/18/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	62.2	1.0	0.50	ug/l	
108-88-3	Toluene	2.7	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	20.3	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	1.8	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-133%

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X-061815		
Lab Sample ID:	MC39435-2	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		85-114%
460-00-4	4-Bromofluorobenzene	95%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X-061815		
Lab Sample ID:	MC39435-2F	**Date Sampled:**	06/18/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/18/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	362	20	10	ug/l	10	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	42.7 J	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	3.2 J	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	35100	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	82400	500	250	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	4400 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	7220	75	38	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	9280	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	48600	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-07X-061815H		
Lab Sample ID:	MC39435-3	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40567.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.59	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	2.0	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-07X-061815H			
Lab Sample ID:	MC39435-3		**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water		**Date Received:**	06/18/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.70	1.0	0.50	ug/l	J
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X-061815H		
Lab Sample ID:	MC39435-3	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X-061815H		
Lab Sample ID:	MC39435-3	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22074.D	1	06/25/15	TB	n/a	n/a	GBA1502
Run #2	BA22075.D	1	06/25/15	TB	n/a	n/a	GBA1502

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	10500 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-07X-061815H		
Lab Sample ID:	MC39435-3	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	215	5.0	3.9	mg/l	1	06/25/15	CF	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	06/24/15 15:33	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	06/24/15 15:33	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/19/15 17:32	CF	SM 21 4500 NO2 B
Sulfate [b]	0.56 J	10	0.50	mg/l	1	06/25/15 04:32	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/22/15	BF	SM21 4500 S F
Total Organic Carbon	24.5	1.0	0.70	mg/l	1	06/26/15 14:42	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-07X-061815H			
Lab Sample ID:	MC39435-3F		**Date Sampled:**	06/18/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	06/18/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	108	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	70.7	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	26100	10000	5000	ug/l	2	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	83900	500	250	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	7080	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	1750	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	32900	10000	5000	ug/l	2	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	35300	10000	5000	ug/l	2	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	22.3	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-01X-061815			
Lab Sample ID:	MC39435-4		**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water		**Date Received:**	06/18/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40568.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.55	1.0	0.50	ug/l	J
156-59-2	cis-1,2-Dichloroethene	52.6	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-01X-061815		
Lab Sample ID:	MC39435-4	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.65	1.0	0.50	ug/l	J
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	37.0	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	18.8	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-01X-061815		
Lab Sample ID:	MC39435-4	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X-061815			
Lab Sample ID:	MC39435-5		**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water		**Date Received:**	06/18/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40569.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.62	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	2.1	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X-061815		
Lab Sample ID:	MC39435-5	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.77	1.0	0.50	ug/l	J
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X-061815		
Lab Sample ID:	MC39435-5	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X-061815		
Lab Sample ID:	MC39435-5	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22078.D	1	06/25/15	TB	n/a	n/a	GBA1502
Run #2	BA22079.D	1	06/25/15	TB	n/a	n/a	GBA1502

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	12400 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.7	10	5.0	ug/l	J

(a) Result is from Run# 2

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X-061815		
Lab Sample ID:	MC39435-5	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	262	5.0	3.9	mg/l	1	06/24/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.15	0.11	0.057	mg/l	1	06/24/15 15:49	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.15	0.10	0.054	mg/l	1	06/24/15 15:49	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/19/15 17:32	CF	SM 21 4500 NO2 B
Sulfate [b]	0.50 U	10	0.50	mg/l	1	06/25/15 04:56	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/24/15	BF	SM21 4500 S F
Total Organic Carbon	27.1	1.0	0.70	mg/l	1	06/26/15 14:59	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-07X-061815			
Lab Sample ID:	MC39435-5F		**Date Sampled:**	06/18/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	06/18/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	97.1	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	92.5	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	4.2	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	28600	15000	7500	ug/l	3	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25.9 J	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	107000	1000	500	ug/l	10	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	7930	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	1810	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	37100	15000	7500	ug/l	3	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	39800	15000	7500	ug/l	3	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-09X-061815			
Lab Sample ID:	MC39435-6		**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water		**Date Received:**	06/18/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40570.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-09X-061815			
Lab Sample ID:	MC39435-6		**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water		**Date Received:**	06/18/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-09X-061815			
Lab Sample ID:	MC39435-6		**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water		**Date Received:**	06/18/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		85-114%
460-00-4	4-Bromofluorobenzene	97%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-09X-061815		
Lab Sample ID:	MC39435-6	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22080.D	1	06/25/15	TB	n/a	n/a	GBA1502
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	29.8	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-09X-061815		
Lab Sample ID:	MC39435-6	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	27.0	5.0	3.9	mg/l	1	06/24/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	06/24/15 15:48	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	06/24/15 15:48	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/19/15 17:32	CF	SM 21 4500 NO2 B
Sulfate [b]	8.6 J	10	0.50	mg/l	1	06/25/15 06:08	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/24/15	BF	SM21 4500 S F
Total Organic Carbon	0.70 U	1.0	0.70	mg/l	1	06/26/15 14:05	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-09X-061815		
Lab Sample ID:	MC39435-6F	**Date Sampled:**	06/18/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/18/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	2.0 U	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	21600	10000	5000	ug/l	2	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	2770 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	20.1	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	2500 U	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	10000	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	12.0 J	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-09X-061815H		
Lab Sample ID:	MC39435-7	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40571.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-09X-061815H			
Lab Sample ID:	MC39435-7		**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water		**Date Received:**	06/18/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-09X-061815H		
Lab Sample ID:	MC39435-7	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		85-114%
460-00-4	4-Bromofluorobenzene	97%		70-134%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-09X-061815H		
Lab Sample ID:	MC39435-7	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22082.D	1	06/25/15	TB	n/a	n/a	GBA1502
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	113	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-09X-061815H		
Lab Sample ID:	MC39435-7	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	11.4	5.0	3.9	mg/l	1	06/24/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	06/24/15 15:50	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	06/24/15 15:50	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/19/15 17:32	CF	SM 21 4500 NO2 B
Sulfate [b]	8.9 J	10	0.50	mg/l	1	06/25/15 06:32	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/24/15	BF	SM21 4500 S F
Total Organic Carbon	1.2	1.0	0.70	mg/l	1	06/26/15 15:18	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-03-09X-061815H
Lab Sample ID: MC39435-7F
Matrix: AQ - Groundwater Filtered
Date Sampled: 06/18/15
Date Received: 06/18/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Arsenic	2.0 U	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [5]
Barium	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Calcium	12300	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Iron	50 U	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Magnesium	2500 U	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Manganese	9.2 J	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [6]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Potassium	2500 U	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Sodium	8660	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]
Zinc	23.7	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Prep QC Batch: MP24763
(5) Prep QC Batch: MP24763A
(6) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-08X-061815		
Lab Sample ID:	MC39435-8	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40572.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-08X-061815		
Lab Sample ID:	MC39435-8	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.51	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-08X-061815			
Lab Sample ID:	MC39435-8		**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water		**Date Received:**	06/18/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		85-114%
460-00-4	4-Bromofluorobenzene	97%		70-134%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-08X-061815		
Lab Sample ID:	MC39435-8	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22083.D	1	06/25/15	TB	n/a	n/a	GBA1502
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5.0 U	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-08X-061815		
Lab Sample ID:	MC39435-8	**Date Sampled:**	06/18/15
Matrix:	AQ - Ground Water	**Date Received:**	06/18/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	83.2	5.0	3.9	mg/l	1	06/24/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.11	0.11	0.057	mg/l	1	06/24/15 15:51	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.11	0.10	0.054	mg/l	1	06/24/15 15:51	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/19/15 17:32	CF	SM 21 4500 NO2 B
Sulfate [b]	8.4 J	10	0.50	mg/l	1	06/25/15 06:56	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/24/15	BF	SM21 4500 S F
Total Organic Carbon	5.4	1.0	0.70	mg/l	1	06/26/15 16:09	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-08X-061815		
Lab Sample ID:	MC39435-8F	**Date Sampled:**	06/18/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/18/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	2.5 J	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	23100	10000	5000	ug/l	2	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	2840 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	2320	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	19200	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	17500	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	14.6 J	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #	Bottle Order Control #
Accutest Quote # FD-10-2014-229	Accutest Job # MC39435

Client / Reporting Information

Company Name: H&S Environmental
Street Address: 160 E. Main Street
City: Westborough State: MA Zip:
Project Contact: E Anderson E-mail:
Phone #: Fax #:
Sampler(s) Name(s): Phone #:

Project Information

Project Name: Ft. Devens AOC 50
Street:
City:
Project#:
Client PO#:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention: PO#: Phos.

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB- Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	~~ENCORE~~	Bisulfate	VOC	Diss Metals Field Filtered	Diss. Metals Lab Filtered	Nitrate, sulfate, Alk	Sulfide * Needs Zn Ac	Methane, ethane, ethene	TOC					LAB USE ONLY
-1F	G6M-04-02X-061815H		6/18/15	0930	SL	GW	3	2				1					X		X									
-2F	G6M-04-02X-061815		↓	1120	↓	↓	3	2		1							X	X										
-3F	G6M-03-07X-061815H			1245			11	4	1		1	2			3		X		X	X	X	X	X					
-4	G6M-03-01X-061815			1445			2	2									X											
-5F	G6M-03-07X-061815			1335	SL		11	4	1	1	1	1			3		X	X		X	X	X	X					
-6F	G6M-03-09X-061815			1115	EF		11	4	1	1	1	1			3		X	X		X	X	X	X					
-7F	G6M-03-09X-061815H			0940	EF		11	4	1		1	2			3		X		X	X	X	X	X					
-8F	G6M-03-08X-061815		6/18/15	1310	EF	GW	11	4	1	1	1	1			3		X	X	X	X	X	X	X					
																												10C, 6C, 4N3,

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

* Sulfide samples need ZnAcetate only has NaOH

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Stacey Lee H&S	6/18/15 1630	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ] On Ice [x] Cooler Temp. 1.1C

5.1
5

MC39435: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39435 **Client:** H&S **Project:** FT DEVENS AOC50

Date / Time Received: 6/18/2015 4:30:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.1/1.1);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☑	☐	☐

Comments

MC39435: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463	SW846 8260C						
MSV1463-BS	67-64-1	Acetone	BSP	REC	159	%	39-160
MSV1463-BS	71-43-2	Benzene	BSP	REC	92	%	79-120
MSV1463-BS	108-86-1	Bromobenzene	BSP	REC	94	%	80-120
MSV1463-BS	74-97-5	Bromochloromethane	BSP	REC	91	%	78-123
MSV1463-BS	75-27-4	Bromodichloromethane	BSP	REC	95	%	79-125
MSV1463-BS	75-25-2	Bromoform	BSP	REC	99	%	66-130
MSV1463-BS	74-83-9	Bromomethane	BSP	REC	94	%	53-141
MSV1463-BS	78-93-3	2-Butanone (MEK)	BSP	REC	126	%	56-143
MSV1463-BS	104-51-8	n-Butylbenzene	BSP	REC	105	%	75-128
MSV1463-BS	135-98-8	sec-Butylbenzene	BSP	REC	105	%	77-126
MSV1463-BS	98-06-6	tert-Butylbenzene	BSP	REC	107	%	78-124
MSV1463-BS	75-15-0	Carbon disulfide	BSP	REC	91	%	64-133
MSV1463-BS	56-23-5	Carbon tetrachloride	BSP	REC	98	%	72-136
MSV1463-BS	108-90-7	Chlorobenzene	BSP	REC	93	%	82-118
MSV1463-BS	75-00-3	Chloroethane	BSP	REC	89	%	60-138
MSV1463-BS	67-66-3	Chloroform	BSP	REC	96	%	79-124
MSV1463-BS	74-87-3	Chloromethane	BSP	REC	91	%	50-139
MSV1463-BS	95-49-8	o-Chlorotoluene	BSP	REC	95	%	79-122
MSV1463-BS	106-43-4	p-Chlorotoluene	BSP	REC	93	%	78-122
MSV1463-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	98	%	62-128
MSV1463-BS	124-48-1	Dibromochloromethane	BSP	REC	101	%	74-126
MSV1463-BS	106-93-4	1,2-Dibromoethane	BSP	REC	93	%	77-121
MSV1463-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	96	%	80-119
MSV1463-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	97	%	80-119
MSV1463-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	93	%	79-118
MSV1463-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	103	%	32-152
MSV1463-BS	75-34-3	1,1-Dichloroethane	BSP	REC	89	%	77-125
MSV1463-BS	107-06-2	1,2-Dichloroethane	BSP	REC	90	%	73-128
MSV1463-BS	75-35-4	1,1-Dichloroethene	BSP	REC	93	%	71-131
MSV1463-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	88	%	78-123
MSV1463-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	98	%	75-124
MSV1463-BS	78-87-5	1,2-Dichloropropane	BSP	REC	93	%	78-122
MSV1463-BS	142-28-9	1,3-Dichloropropane	BSP	REC	90	%	80-119
MSV1463-BS	594-20-7	2,2-Dichloropropane	BSP	REC	119	%	60-139
MSV1463-BS	563-58-6	1,1-Dichloropropene	BSP	REC	108	%	79-125
MSV1463-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	99	%	75-124
MSV1463-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	107	%	73-127
MSV1463-BS	100-41-4	Ethylbenzene	BSP	REC	98	%	79-121
MSV1463-BS	87-68-3	Hexachlorobutadiene	BSP	REC	103	%	66-134
MSV1463-BS	591-78-6	2-Hexanone	BSP	REC	126	%	57-139
MSV1463-BS	74-88-4	Iodomethane	BSP	REC	90	%	69-131
MSV1463-BS	98-82-8	Isopropylbenzene	BSP	REC	102	%	72-131

* Sample used for QC is not from job MC39435

QC Evaluation: DOD QSM5 Limits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BS	99-87-6	p-Isopropyltoluene	BSP	REC	110	%	77-127
MSV1463-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	91	%	71-124
MSV1463-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	100	%	67-130
MSV1463-BS	74-95-3	Methylene bromide	BSP	REC	90	%	79-123
MSV1463-BS	75-09-2	Methylene chloride	BSP	REC	83	%	74-124
MSV1463-BS	91-20-3	Naphthalene	BSP	REC	116	%	61-128
MSV1463-BS	103-65-1	n-Propylbenzene	BSP	REC	102	%	76-126
MSV1463-BS	100-42-5	Styrene	BSP	REC	104	%	78-123
MSV1463-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	100	%	78-124
MSV1463-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	84	%	71-121
MSV1463-BS	127-18-4	Tetrachloroethene	BSP	REC	115	%	74-129
MSV1463-BS	108-88-3	Toluene	BSP	REC	94	%	80-121
MSV1463-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	107	%	69-129
MSV1463-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	107	%	69-130
MSV1463-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	91	%	74-131
MSV1463-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	92	%	80-119
MSV1463-BS	79-01-6	Trichloroethene	BSP	REC	94	%	79-123
MSV1463-BS	75-69-4	Trichlorofluoromethane	BSP	REC	95	%	65-141
MSV1463-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	88	%	73-122
MSV1463-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	102	%	76-124
MSV1463-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	101	%	75-124
MSV1463-BS	108-05-4	Vinyl Acetate	BSP	REC	100	%	54-146
MSV1463-BS	75-01-4	Vinyl chloride	BSP	REC	92	%	58-137
MSV1463-BS		m,p-Xylene	BSP	REC	99	%	80-121
MSV1463-BS	95-47-6	o-Xylene	BSP	REC	108	%	78-122
MSV1463-BS	1330-20-7	Xylene (total)	BSP	REC	102	%	79-121
MSV1463-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	97	%	80-119
MSV1463-BS	2037-26-5	Toluene-D8	BSP	SURR	100	%	89-112
MSV1463-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	97	%	85-114
MSV1463-BSD	67-64-1	Acetone	BSD	REC	151	%	39-160
MSV1463-BSD	71-43-2	Benzene	BSD	REC	90	%	79-120
MSV1463-BSD	108-86-1	Bromobenzene	BSD	REC	95	%	80-120
MSV1463-BSD	74-97-5	Bromochloromethane	BSD	REC	88	%	78-123
MSV1463-BSD	75-27-4	Bromodichloromethane	BSD	REC	92	%	79-125
MSV1463-BSD	75-25-2	Bromoform	BSD	REC	94	%	66-130
MSV1463-BSD	74-83-9	Bromomethane	BSD	REC	89	%	53-141
MSV1463-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	116	%	56-143
MSV1463-BSD	104-51-8	n-Butylbenzene	BSD	REC	105	%	75-128
MSV1463-BSD	135-98-8	sec-Butylbenzene	BSD	REC	107	%	77-126
MSV1463-BSD	98-06-6	tert-Butylbenzene	BSD	REC	108	%	78-124
MSV1463-BSD	75-15-0	Carbon disulfide	BSD	REC	96	%	64-133
MSV1463-BSD	56-23-5	Carbon tetrachloride	BSD	REC	97	%	72-136
MSV1463-BSD	108-90-7	Chlorobenzene	BSD	REC	92	%	82-118
MSV1463-BSD	75-00-3	Chloroethane	BSD	REC	80	%	60-138
MSV1463-BSD	67-66-3	Chloroform	BSD	REC	95	%	79-124

* Sample used for QC is not from job MC39435

QC Evaluation: DOD QSM5 Limits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BSD	74-87-3	Chloromethane	BSD	REC	84	%	50-139
MSV1463-BSD	95-49-8	o-Chlorotoluene	BSD	REC	96	%	79-122
MSV1463-BSD	106-43-4	p-Chlorotoluene	BSD	REC	93	%	78-122
MSV1463-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	90	%	62-128
MSV1463-BSD	124-48-1	Dibromochloromethane	BSD	REC	97	%	74-126
MSV1463-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	91	%	77-121
MSV1463-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	94	%	80-119
MSV1463-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	96	%	80-119
MSV1463-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	91	%	79-118
MSV1463-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	92	%	32-152
MSV1463-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	91	%	77-125
MSV1463-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	86	%	73-128
MSV1463-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	98	%	71-131
MSV1463-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	88	%	78-123
MSV1463-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	101	%	75-124
MSV1463-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	90	%	78-122
MSV1463-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	87	%	80-119
MSV1463-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	117	%	60-139
MSV1463-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	106	%	79-125
MSV1463-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	97	%	75-124
MSV1463-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	104	%	73-127
MSV1463-BSD	100-41-4	Ethylbenzene	BSD	REC	95	%	79-121
MSV1463-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	104	%	66-134
MSV1463-BSD	591-78-6	2-Hexanone	BSD	REC	116	%	57-139
MSV1463-BSD	74-88-4	Iodomethane	BSD	REC	95	%	69-131
MSV1463-BSD	98-82-8	Isopropylbenzene	BSD	REC	103	%	72-131
MSV1463-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	110	%	77-127
MSV1463-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	90	%	71-124
MSV1463-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	92	%	67-130
MSV1463-BSD	74-95-3	Methylene bromide	BSD	REC	86	%	79-123
MSV1463-BSD	75-09-2	Methylene chloride	BSD	REC	88	%	74-124
MSV1463-BSD	91-20-3	Naphthalene	BSD	REC	105	%	61-128
MSV1463-BSD	103-65-1	n-Propylbenzene	BSD	REC	102	%	76-126
MSV1463-BSD	100-42-5	Styrene	BSD	REC	101	%	78-123
MSV1463-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	98	%	78-124
MSV1463-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	79	%	71-121
MSV1463-BSD	127-18-4	Tetrachloroethene	BSD	REC	112	%	74-129
MSV1463-BSD	108-88-3	Toluene	BSD	REC	92	%	80-121
MSV1463-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	97	%	69-129
MSV1463-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	99	%	69-130
MSV1463-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	92	%	74-131
MSV1463-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	88	%	80-119
MSV1463-BSD	79-01-6	Trichloroethene	BSD	REC	92	%	79-123
MSV1463-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	91	%	65-141
MSV1463-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	85	%	73-122

* Sample used for QC is not from job MC39435

QC Evaluation: DOD QSM5 Limits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	103	%	76-124
MSV1463-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	101	%	75-124
MSV1463-BSD	108-05-4	Vinyl Acetate	BSD	REC	95	%	54-146
MSV1463-BSD	75-01-4	Vinyl chloride	BSD	REC	88	%	58-137
MSV1463-BSD		m,p-Xylene	BSD	REC	97	%	80-121
MSV1463-BSD	95-47-6	o-Xylene	BSD	REC	105	%	78-122
MSV1463-BSD	1330-20-7	Xylene (total)	BSD	REC	99	%	79-121
MSV1463-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	96	%	80-119
MSV1463-BSD	2037-26-5	Toluene-D8	BSD	SURR	99	%	89-112
MSV1463-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	100	%	85-114
MSV1463-MB	1868-53-7	Dibromofluoromethane	MB	SURR	101	%	80-119
MSV1463-MB	2037-26-5	Toluene-D8	MB	SURR	93	%	89-112
MSV1463-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	96	%	85-114
MC39435-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC39435-1	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39435-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC39435-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39435-2	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC39435-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC39435-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39435-3	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC39435-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC39435-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	80-119
MC39435-4	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39435-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC39435-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39435-5	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC39435-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC39435-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39435-6	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC39435-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC39435-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39435-7	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39435-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC39435-8	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	80-119
MC39435-8	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC39435-8	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MP24763	SW846 6010C						
MP24763-B1	7429-90-5	Aluminum	BSP	REC	100	%	86-115
MP24763-B1	7440-36-0	Antimony	BSP	REC	104.6	%	88-113
MP24763-B1	7440-39-3	Barium	BSP	REC	102.5	%	88-113
MP24763-B1	7440-41-7	Beryllium	BSP	REC	98.2	%	89-112
MP24763-B1	7440-43-9	Cadmium	BSP	REC	102.8	%	88-113

* Sample used for QC is not from job MC39435

QC Evaluation: DOD QSM5 Limits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24763-B1	7440-70-2	Calcium	BSP	REC	104	%	87-113
MP24763-B1	7440-47-3	Chromium	BSP	REC	99.4	%	90-113
MP24763-B1	7440-48-4	Cobalt	BSP	REC	99.6	%	89-114
MP24763-B1	7440-50-8	Copper	BSP	REC	98.6	%	86-114
MP24763-B1	7439-89-6	Iron	BSP	REC	101	%	87-115
MP24763-B1	7439-92-1	Lead	BSP	REC	100	%	86-113
MP24763-B1	7439-95-4	Magnesium	BSP	REC	105.6	%	85-113
MP24763-B1	7439-96-5	Manganese	BSP	REC	101.8	%	90-114
MP24763-B1	7440-02-0	Nickel	BSP	REC	102.8	%	88-113
MP24763-B1	7440-09-7	Potassium	BSP	REC	103.6	%	86-114
MP24763-B1	7782-49-2	Selenium	BSP	REC	103.8	%	83-114
MP24763-B1	7440-22-4	Silver	BSP	REC	90	%	84-115
MP24763-B1	7440-23-5	Sodium	BSP	REC	102.8	%	87-115
MP24763-B1	7440-28-0	Thallium	BSP	REC	102.8	%	85-114
MP24763-B1	7440-62-2	Vanadium	BSP	REC	98.8	%	90-111
MP24763-B1	7440-66-6	Zinc	BSP	REC	97.6	%	87-115
MP24763-S1*	7429-90-5	Aluminum	MS	REC	99.6	%	86-115
MP24763-S1*	7440-36-0	Antimony	MS	REC	106.2	%	88-113
MP24763-S1*	7440-39-3	Barium	MS	REC	102.1	%	88-113
MP24763-S1*	7440-41-7	Beryllium	MS	REC	98.4	%	89-112
MP24763-S1*	7440-43-9	Cadmium	MS	REC	104.4	%	88-113
MP24763-S1*	7440-70-2	Calcium	MS	REC	96.4	%	87-113
MP24763-S1*	7440-47-3	Chromium	MS	REC	99.2	%	90-113
MP24763-S1*	7440-48-4	Cobalt	MS	REC	100.8	%	89-114
MP24763-S1*	7440-50-8	Copper	MS	REC	99.1	%	86-114
MP24763-S1*	7439-89-6	Iron	MS	REC	99.5	%	87-115
MP24763-S1*	7439-92-1	Lead	MS	REC	100	%	86-113
MP24763-S1*	7439-95-4	Magnesium	MS	REC	101.1	%	85-113
MP24763-S1*	7439-96-5	Manganese	MS	REC	101.2	%	90-114
MP24763-S1*	7440-02-0	Nickel	MS	REC	103.1	%	88-113
MP24763-S1*	7440-09-7	Potassium	MS	REC	99.4	%	86-114
MP24763-S1*	7782-49-2	Selenium	MS	REC	88.4	%	83-114
MP24763-S1*	7440-22-4	Silver	MS	REC	91.2	%	84-115
MP24763-S1*	7440-23-5	Sodium	MS	REC	96.4	%	87-115
MP24763-S1*	7440-28-0	Thallium	MS	REC	102.2	%	85-114
MP24763-S1*	7440-62-2	Vanadium	MS	REC	99.4	%	90-111
MP24763-S1*	7440-66-6	Zinc	MS	REC	96.5	%	87-115
MP24763-S2*	7429-90-5	Aluminum	MSD	REC	101.6	%	86-115
MP24763-S2*	7429-90-5	Aluminum	MSD	RPD	1.9	%	20
MP24763-S2*	7440-36-0	Antimony	MSD	REC	105.8	%	88-113
MP24763-S2*	7440-36-0	Antimony	MSD	RPD	.4	%	20
MP24763-S2*	7440-39-3	Barium	MSD	REC	103.1	%	88-113
MP24763-S2*	7440-39-3	Barium	MSD	RPD	1	%	20
MP24763-S2*	7440-41-7	Beryllium	MSD	REC	99.4	%	89-112
MP24763-S2*	7440-41-7	Beryllium	MSD	RPD	1	%	20

* Sample used for QC is not from job MC39435

QC Evaluation: DOD QSM5 Limits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24763-S2*	7440-43-9	Cadmium	MSD	REC	103.8	%	88-113
MP24763-S2*	7440-43-9	Cadmium	MSD	RPD	.6	%	20
MP24763-S2*	7440-70-2	Calcium	MSD	REC	102.4	%	87-113
MP24763-S2*	7440-70-2	Calcium	MSD	RPD	1.9	%	20
MP24763-S2*	7440-47-3	Chromium	MSD	REC	97.6	%	90-113
MP24763-S2*	7440-47-3	Chromium	MSD	RPD	1.6	%	20
MP24763-S2*	7440-48-4	Cobalt	MSD	REC	100	%	89-114
MP24763-S2*	7440-48-4	Cobalt	MSD	RPD	.8	%	20
MP24763-S2*	7440-50-8	Copper	MSD	REC	97.9	%	86-114
MP24763-S2*	7440-50-8	Copper	MSD	RPD	1.2	%	20
MP24763-S2*	7439-89-6	Iron	MSD	REC	100.5	%	87-115
MP24763-S2*	7439-89-6	Iron	MSD	RPD	.6	%	20
MP24763-S2*	7439-92-1	Lead	MSD	REC	99.5	%	86-113
MP24763-S2*	7439-92-1	Lead	MSD	RPD	.5	%	20
MP24763-S2*	7439-95-4	Magnesium	MSD	REC	102.3	%	85-113
MP24763-S2*	7439-95-4	Magnesium	MSD	RPD	1	%	20
MP24763-S2*	7439-96-5	Manganese	MSD	REC	99.6	%	90-114
MP24763-S2*	7439-96-5	Manganese	MSD	RPD	1.2	%	20
MP24763-S2*	7440-02-0	Nickel	MSD	REC	102.7	%	88-113
MP24763-S2*	7440-02-0	Nickel	MSD	RPD	.4	%	20
MP24763-S2*	7440-09-7	Potassium	MSD	REC	100.6	%	86-114
MP24763-S2*	7440-09-7	Potassium	MSD	RPD	1	%	20
MP24763-S2*	7782-49-2	Selenium	MSD	REC	86	%	83-114
MP24763-S2*	7782-49-2	Selenium	MSD	RPD	2.8	%	20
MP24763-S2*	7440-22-4	Silver	MSD	REC	89.2	%	84-115
MP24763-S2*	7440-22-4	Silver	MSD	RPD	2.2	%	20
MP24763-S2*	7440-23-5	Sodium	MSD	REC	100.4	%	87-115
MP24763-S2*	7440-23-5	Sodium	MSD	RPD	1.7	%	20
MP24763-S2*	7440-28-0	Thallium	MSD	REC	101.8	%	85-114
MP24763-S2*	7440-28-0	Thallium	MSD	RPD	.4	%	20
MP24763-S2*	7440-62-2	Vanadium	MSD	REC	97.8	%	90-111
MP24763-S2*	7440-62-2	Vanadium	MSD	RPD	1.6	%	20
MP24763-S2*	7440-66-6	Zinc	MSD	REC	95.7	%	87-115
MP24763-S2*	7440-66-6	Zinc	MSD	RPD	.8	%	20
MP24763A	SW846 6020A						
MP24763A-B1	7440-38-2	Arsenic	BSP	REC	112.8	%	84-116
MP24763A-S1*	7440-38-2	Arsenic	MS	REC	106.9	%	84-116
MP24763A-S2*	7440-38-2	Arsenic	MSD	REC	110.1	%	84-116
MP24763A-S2*	7440-38-2	Arsenic	MSD	RPD	2.8	%	20
MP24766	SW846 7470A						
MP24766-B1	7439-97-6	Mercury	BSP	REC	100	%	82-119

* Sample used for QC is not from job MC39435

QC Evaluation: DOD QSM5 Limits

Job Number: MC39435
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24766-B2	7439-97-6	Mercury	BSD	REC	103.3	%	82-119
MP24766-S1	7439-97-6	Mercury	MS	REC	100	%	82-119
MP24766-S2	7439-97-6	Mercury	MSD	REC	100	%	82-119
MP24766-S2	7439-97-6	Mercury	MSD	RPD	0	%	20

* Sample used for QC is not from job MC39435

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39435
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39435-1, MC39435-2, MC39435-3, MC39435-4, MC39435-5, MC39435-6, MC39435-7, MC39435-8

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC39435
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39435-1, MC39435-2, MC39435-3, MC39435-4, MC39435-5, MC39435-6, MC39435-7, MC39435-8

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC39435
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39435-1, MC39435-2, MC39435-3, MC39435-4, MC39435-5, MC39435-6, MC39435-7, MC39435-8

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	72-133%
2037-26-5	Toluene-D8	93%	85-114%
460-00-4	4-Bromofluorobenzene	96%	70-134%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39435
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39435-1, MC39435-2, MC39435-3, MC39435-4, MC39435-5, MC39435-6, MC39435-7, MC39435-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	79.4	159	75.4	151	5	14-172/25
71-43-2	Benzene	50	45.9	92	45.0	90	2	68-127/25
108-86-1	Bromobenzene	50	47.0	94	47.4	95	1	74-124/25
74-97-5	Bromochloromethane	50	45.7	91	44.2	88	3	68-135/25
75-27-4	Bromodichloromethane	50	47.5	95	45.9	92	3	72-144/25
75-25-2	Bromoform	50	49.6	99	47.0	94	5	59-147/25
74-83-9	Bromomethane	50	47.2	94	44.7	89	5	34-175/25
78-93-3	2-Butanone (MEK)	50	62.8	126	57.8	116	8	43-147/25
104-51-8	n-Butylbenzene	50	52.5	105	52.6	105	0	77-136/25
135-98-8	sec-Butylbenzene	50	52.7	105	53.3	107	1	75-134/25
98-06-6	tert-Butylbenzene	50	53.3	107	53.9	108	1	74-132/25
75-15-0	Carbon disulfide	50	45.4	91	47.8	96	5	34-171/25
56-23-5	Carbon tetrachloride	50	49.0	98	48.7	97	1	55-153/25
108-90-7	Chlorobenzene	50	46.7	93	45.9	92	2	71-123/25
75-00-3	Chloroethane	50	44.4	89	40.0	80	10	58-175/25
67-66-3	Chloroform	50	47.8	96	47.5	95	1	67-136/25
74-87-3	Chloromethane	50	45.7	91	42.0	84	8	25-182/25
95-49-8	o-Chlorotoluene	50	47.7	95	48.0	96	1	72-130/25
106-43-4	p-Chlorotoluene	50	46.4	93	46.6	93	0	73-127/25
96-12-8	1,2-Dibromo-3-chloropropane	50	49.2	98	44.8	90	9	50-159/25
124-48-1	Dibromochloromethane	50	50.4	101	48.5	97	4	73-139/25
106-93-4	1,2-Dibromoethane	50	46.3	93	45.3	91	2	69-132/25
95-50-1	1,2-Dichlorobenzene	50	48.2	96	47.1	94	2	77-125/25
541-73-1	1,3-Dichlorobenzene	50	48.3	97	48.1	96	0	77-124/25
106-46-7	1,4-Dichlorobenzene	50	46.3	93	45.7	91	1	73-128/25
75-71-8	Dichlorodifluoromethane	50	51.4	103	46.1	92	11	23-157/25
75-34-3	1,1-Dichloroethane	50	44.5	89	45.4	91	2	63-145/25
107-06-2	1,2-Dichloroethane	50	45.1	90	43.1	86	5	58-145/25
75-35-4	1,1-Dichloroethene	50	46.4	93	49.2	98	6	56-158/25
156-59-2	cis-1,2-Dichloroethene	50	43.9	88	43.8	88	0	67-133/25
156-60-5	trans-1,2-Dichloroethene	50	49.1	98	50.3	101	2	66-136/25
78-87-5	1,2-Dichloropropane	50	46.4	93	45.2	90	3	75-133/25
142-28-9	1,3-Dichloropropane	50	44.8	90	43.3	87	3	70-127/25
594-20-7	2,2-Dichloropropane	50	59.4	119	58.3	117	2	52-163/25
563-58-6	1,1-Dichloropropene	50	53.8	108	52.8	106	2	77-140/25
10061-01-5	cis-1,3-Dichloropropene	50	49.6	99	48.3	97	3	74-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39435
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39435-1, MC39435-2, MC39435-3, MC39435-4, MC39435-5, MC39435-6, MC39435-7, MC39435-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	53.5	107	52.1	104	3	77-143/25
100-41-4	Ethylbenzene	50	48.9	98	47.6	95	3	71-129/25
87-68-3	Hexachlorobutadiene	50	51.4	103	51.8	104	1	64-146/25
591-78-6	2-Hexanone	50	63.1	126	58.0	116	8	22-163/25
74-88-4	Iodomethane	50	45.2	90	47.5	95	5	30-166/25
98-82-8	Isopropylbenzene	50	51.2	102	51.6	103	1	72-133/25
99-87-6	p-Isopropyltoluene	50	55.1	110	55.2	110	0	77-134/25
1634-04-4	Methyl Tert Butyl Ether	50	45.5	91	44.9	90	1	46-151/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.1	100	45.8	92	9	47-145/25
74-95-3	Methylene bromide	50	45.2	90	43.0	86	5	70-132/25
75-09-2	Methylene chloride	50	41.7	83	44.1	88	6	55-146/25
91-20-3	Naphthalene	50	58.2	116	52.7	105	10	39-176/25
103-65-1	n-Propylbenzene	50	51.0	102	51.0	102	0	74-134/25
100-42-5	Styrene	50	52.2	104	50.7	101	3	71-134/25
630-20-6	1,1,1,2-Tetrachloroethane	50	50.0	100	48.8	98	2	70-137/25
79-34-5	1,1,2,2-Tetrachloroethane	50	41.8	84	39.3	79	6	58-145/25
127-18-4	Tetrachloroethene	50	57.3	115	56.2	112	2	63-137/25
108-88-3	Toluene	50	46.9	94	45.9	92	2	75-126/25
87-61-6	1,2,3-Trichlorobenzene	50	53.7	107	48.6	97	10	27-181/25
120-82-1	1,2,4-Trichlorobenzene	50	53.3	107	49.7	99	7	40-176/25
71-55-6	1,1,1-Trichloroethane	50	45.7	91	45.8	92	0	68-144/25
79-00-5	1,1,2-Trichloroethane	50	46.1	92	44.0	88	5	72-133/25
79-01-6	Trichloroethene	50	47.1	94	46.2	92	2	73-126/25
75-69-4	Trichlorofluoromethane	50	47.6	95	45.4	91	5	43-152/25
96-18-4	1,2,3-Trichloropropane	50	44.2	88	42.5	85	4	58-141/25
95-63-6	1,2,4-Trimethylbenzene	50	51.2	102	51.5	103	1	76-129/25
108-67-8	1,3,5-Trimethylbenzene	50	50.4	101	50.6	101	0	71-127/25
108-05-4	Vinyl Acetate	50	50.2	100	47.6	95	5	10-170/25
75-01-4	Vinyl chloride	50	45.9	92	44.1	88	4	36-167/25
	m,p-Xylene	100	99.2	99	96.9	97	2	68-130/25
95-47-6	o-Xylene	50	54.1	108	52.3	105	3	69-126/25
1330-20-7	Xylene (total)	150	153	102	149	99	3	67-129/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39435
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39435-1, MC39435-2, MC39435-3, MC39435-4, MC39435-5, MC39435-6, MC39435-7, MC39435-8

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	97%	96%	72-133%
2037-26-5	Toluene-D8	100%	99%	85-114%
460-00-4	4-Bromofluorobenzene	97%	100%	70-134%

(*) = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC39435
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC39435-1	V40565.D	104	94	96
MC39435-2	V40566.D	106	95	95
MC39435-3	V40567.D	106	93	96
MC39435-4	V40568.D	105	94	96
MC39435-5	V40569.D	106	93	96
MC39435-6	V40570.D	106	93	97
MC39435-7	V40571.D	106	94	97
MC39435-8	V40572.D	105	95	97
MSV1463-BS	V40553.D	97	100	97
MSV1463-BSD	V40554.D	96	99	100
MSV1463-MB	V40556.D	101	93	96

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	72-133%
S2 = Toluene-D8	85-114%
S3 = 4-Bromofluorobenzene	70-134%

New England ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC39435
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1502-MB	BA22072.D	1	06/25/15	TB	n/a	n/a	GBA1502

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC39435
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1502-BSP	BA22073.D	1	06/25/15	TB	n/a	n/a	GBA1502

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	85.6	97	50-150
74-84-0	Ethane	166	166	100	50-150
74-85-1	Ethene	155	181	117	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC39435
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39435-3DUP	BA22076.D	1	06/25/15	TB	n/a	n/a	GBA1502
MC39435-3	BA22074.D	1	06/25/15	TB	n/a	n/a	GBA1502
MC39435-3	BA22075.D	1	06/25/15	TB	n/a	n/a	GBA1502

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8

CAS No.	Compound	MC39435-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	10500 [a]		8500	E	21	30
74-84-0	Ethane	10 U		ND		nc	30
74-85-1	Ethene	3.5		3.9	J	11	30

(a) Result is from Run #2.

* = Outside of Control Limits.

New England
ACCUTEST
LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15 06/22/15 06/22/15

Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Aluminum	200	14	28	9.2	<200	7.0	<200	-1.5	<200
Antimony	6.0	1.1	2	0.70	<6.0	0.20	<6.0	0.20	<6.0
Arsenic	4.0	1.6	1.7						
Barium	50	.35	1	-0.20	<50	0.10	<50	-0.30	<50
Beryllium	4.0	.15	.25	0.0	<4.0	0.10	<4.0	0.0	<4.0
Bismuth	50	1.3	2.1						
Boron	100	.9	1.1						
Cadmium	4.0	.16	.43	0.10	<4.0	0.10	<4.0	0.10	<4.0
Calcium	5000	6.9	15	14.7	<5000	53.1	<5000	45.0	<5000
Chromium	10	.36	.48	0.10	<10	0.10	<10	0.20	<10
Cobalt	50	.15	.28	0.0	<50	0.0	<50	0.0	<50
Copper	25	.59	2.4	0.80	<25	2.0	<25	1.4	<25
Gold	50	1.1	1.5						
Iron	100	3.3	17	5.2	<100	8.0	<100	17.6	<100
Lead	5.0	.78	1.7	0.0	<5.0	0.40	<5.0	0.20	<5.0
Lithium	500	2.3	2.5						
Magnesium	5000	23	54	10.4	<5000	12.1	<5000	5.0	<5000
Manganese	15	.056	1.4	0.0	<15	0.20	<15	0.0	<15
Molybdenum	100	1.7	3.6						
Nickel	40	.21	.5	0.0	<40	0.0	<40	0.0	<40
Palladium	50	.92	2.6						
Platinum	50	4.6	5.4						
Potassium	5000	41	49	39.0	<5000	31.7	<5000	11.7	<5000
Selenium	10	1.5	2	-0.20	<10	0.0	<10	0.0	<10
Silicon	100	1.1	30						
Silver	5.0	.56	1	0.50	<5.0	0.70	<5.0	0.70	<5.0
Sodium	5000	17	77	30.6	<5000	115	<5000	94.5	<5000
Sulfur	50	2.3	4.6						
Strontium	10	.2	.22						
Thallium	5.0	.54	1.7	-0.80	<5.0	-0.90	<5.0	-0.90	<5.0
Tin	100	.39	.81						
Titanium	50	.34	.51						
Tungsten	100	3.1	22						

8.1.1
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					06/22/15		06/22/15		06/22/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Vanadium	10	.61	.51	-0.20	<10	-0.10	<10	0.0	<10
Zinc	20	.53	1	1.2	<20	3.7	<20	1.1	<20
Zirconium	50	.19	1.2						

Associated samples MP24763: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	236	10200	10000	99.6	75-125
Antimony	0.0	531	500	106.2	75-125
Arsenic					
Barium	28.3	2070	2000	102.1	75-125
Beryllium	0.0	492	500	98.4	75-125
Bismuth					
Boron					
Cadmium	1.2	523	500	104.4	75-125
Calcium	52800	76900	25000	96.4	75-125
Chromium	1.1	497	500	99.2	75-125
Cobalt	0.0	504	500	100.8	75-125
Copper	2.5	498	500	99.1	75-125
Gold					
Iron	6350	16300	10000	99.5	75-125
Lead	0.0	1000	1000	100.0	75-125
Lithium					
Magnesium	4120	29400	25000	101.1	75-125
Manganese	191	697	500	101.2	75-125
Molybdenum					
Nickel	0.40	516	500	103.1	75-125
Palladium					
Platinum					
Potassium	3740	28600	25000	99.4	75-125
Selenium	0.0	442	500	88.4	75-125
Silicon					
Silver	0.70	183	200	91.2	75-125
Sodium	35500	59600	25000	96.4	75-125
Sulfur					
Strontium					
Thallium	0.0	511	500	102.2	75-125
Tin					
Titanium					
Tungsten					

8.1.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	0.80	498	500	99.4	75-125
Zinc	10.4	493	500	96.5	75-125
Zirconium					

Associated samples MP24763: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	236	10400	10000	101.6	1.9	20
Antimony	0.0	529	500	105.8	0.4	20
Arsenic						
Barium	28.3	2090	2000	103.1	1.0	20
Beryllium	0.0	497	500	99.4	1.0	20
Bismuth						
Boron						
Cadmium	1.2	520	500	103.8	0.6	20
Calcium	52800	78400	25000	102.4	1.9	20
Chromium	1.1	489	500	97.6	1.6	20
Cobalt	0.0	500	500	100.0	0.8	20
Copper	2.5	492	500	97.9	1.2	20
Gold						
Iron	6350	16400	10000	100.5	0.6	20
Lead	0.0	995	1000	99.5	0.5	20
Lithium						
Magnesium	4120	29700	25000	102.3	1.0	20
Manganese	191	689	500	99.6	1.2	20
Molybdenum						
Nickel	0.40	514	500	102.7	0.4	20
Palladium						
Platinum						
Potassium	3740	28900	25000	100.6	1.0	20
Selenium	0.0	430	500	86.0	2.8	20
Silicon						
Silver	0.70	179	200	89.2	2.2	20
Sodium	35500	60600	25000	100.4	1.7	20
Sulfur						
Strontium						
Thallium	0.0	509	500	101.8	0.4	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	0.80	490	500	97.8	1.6	20
Zinc	10.4	489	500	95.7	0.8	20
Zirconium						

Associated samples MP24763: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	10000	10000	100.0	80-120
Antimony	523	500	104.6	80-120
Arsenic				
Barium	2050	2000	102.5	80-120
Beryllium	491	500	98.2	80-120
Bismuth				
Boron				
Cadmium	514	500	102.8	80-120
Calcium	26000	25000	104.0	80-120
Chromium	497	500	99.4	80-120
Cobalt	498	500	99.6	80-120
Copper	493	500	98.6	80-120
Gold				
Iron	10100	10000	101.0	80-120
Lead	1000	1000	100.0	80-120
Lithium				
Magnesium	26400	25000	105.6	80-120
Manganese	509	500	101.8	80-120
Molybdenum				
Nickel	514	500	102.8	80-120
Palladium				
Platinum				
Potassium	25900	25000	103.6	80-120
Selenium	519	500	103.8	80-120
Silicon				
Silver	180	200	90.0	80-120
Sodium	25700	25000	102.8	80-120
Sulfur				
Strontium				
Thallium	514	500	102.8	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	494	500	98.8	80-120
Zinc	488	500	97.6	80-120
Zirconium				

Associated samples MP24763: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	236	290	22.7 (a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	28.3	27.6	2.5	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	1.20	1.20	0.0	0-10
Calcium	52800	54100	2.3	0-10
Chromium	1.10	0.00	100.0(a)	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	2.50	6.20	148.0(a)	0-10
Gold				
Iron	6350	6520	2.8	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	4120	4350	5.7	0-10
Manganese	191	204	6.8	0-10
Molybdenum				
Nickel	0.400	0.00	100.0(a)	0-10
Palladium				
Platinum				
Potassium	3740	3920	4.9	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.700	0.00	100.0(a)	0-10
Sodium	35500	36500	3.0	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.800	0.00	100.0(a)	0-10
Zinc	10.4	13.1	26.0 (a)	0-10
Zirconium				

Associated samples MP24763: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15 06/22/15 06/22/15

Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Aluminum	50	1.3	4.4						
Antimony	4.0	.022	.058						
Arsenic	4.0	.046	.42	0.68	<4.0	0.69	<4.0	0.72	<4.0
Barium	2.0	.016	.076						
Beryllium	1.0	.015	.042						
Boron	10	.24	.34						
Cadmium	2.0	.012	.026						
Calcium	500	4.2	30						
Chromium	8.0	.032	.42						
Cobalt	1.0	.0064	.028						
Copper	8.0	.017	1						
Iron	50	.72	3.4						
Lead	2.0	.013	.036						
Magnesium	500	1.4	2						
Manganese	4.0	.0096	1.2						
Molybdenum	2.0	.028	.24						
Nickel	4.0	.015	.14						
Potassium	500	3.4	5.2						
Selenium	2.0	.15	.3						
Silver	2.0	.0088	.022						
Sodium	500	2	8.8						
Strontium	20	.01	.026						
Thallium	2.0	.042	.068						
Tin	10	.015	.048						
Titanium	2.0	.2	.26						
Vanadium	20	.2	1.4						
Zinc	10	.066	2						

Associated samples MP24763A: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	37.5	572	500	106.9	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP24763A: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	37.5	588	500	110.1	2.8	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP24763A: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	564	500	112.8	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24763A: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	37.5	37.6	0.3	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24763A: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:					06/22/15		06/22/15		06/22/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Mercury	0.20	.038	.096	-0.027	<0.20	-0.017	<0.20	-0.019	<0.20

Associated samples MP24766: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39435-8F Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.0	3	100.0	75-125

Associated samples MP24766: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39435-8F Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	0.0	20

Associated samples MP24766: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/22/15 06/22/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	3.0	3	100.0	80-120	3.1	3	103.3	3.3	20

Associated samples MP24766: MC39435-1F, MC39435-2F, MC39435-3F, MC39435-5F, MC39435-6F, MC39435-7F, MC39435-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.3
8

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN51008	5.0	0.0	mg/l	250	252	100.8	80-120%
Alkalinity, Total as CaCO3	GN51031	5.0	0.0	mg/l	250	253	101.2	80-120%
Nitrogen, Nitrate + Nitrite	GP19281/GN51017	0.10	0.029	mg/l	2	2.17	108.5	90-110%
Nitrogen, Nitrate + Nitrite	GP19282/GN51017	0.10	0.037	mg/l	2	1.85	92.5	90-110%
Nitrogen, Nitrite	GP19267/GN50968	0.010	0.0	mg/l	0.02	0.020	100.0	80-120%
Sulfide	GN50984	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Sulfide	GN51004	2.0	0.0	mg/l	13.4	12.0	89.6	80-120%
Total Organic Carbon	GP19293/GN51057	1.0	0.0	mg/l	10	10.1	101.0	80-120%

Associated Samples:
Batch GN50984: MC39435-3
Batch GN51004: MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GN51008: MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GN51031: MC39435-3
Batch GP19267: MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GP19281: MC39435-3
Batch GP19282: MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GP19293: MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN51008	MC39218-3	mg/l	90.5	89.4	1.2	0-20%
Alkalinity, Total as CaCO3	GN51031	MC39533-3	mg/l	129	128	0.8	0-20%
Nitrogen, Nitrate + Nitrite	GP19281/GN51017	MC39401-4	mg/l	0.093	0.080	15.0	0-20%
Nitrogen, Nitrate + Nitrite	GP19282/GN51017	MC39435-6	mg/l	0.018 U	0.044	14.7	0-20%
Nitrogen, Nitrite	GP19267/GN50968	MC39435-3	mg/l	0.0011 U	0.0022	24.0(a)	0-20%
Sulfide	GN50984	MC39401-5	mg/l	0.34 U	0.0	0.0	0-20%
Sulfide	GN51004	MC39533-3	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN50984: MC39435-3
Batch GN51004: MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GN51008: MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GN51031: MC39435-3
Batch GP19267: MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GP19281: MC39435-3
Batch GP19282: MC39435-5, MC39435-6, MC39435-7, MC39435-8
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN51008	MC39218-3	mg/l	90.5	250	344	101.4	75-125%
Alkalinity, Total as CaCO3	GN51031	MC39533-3	mg/l	129	250	386	102.8	75-125%
Nitrogen, Nitrate + Nitrite	GP19281/GN51017	MC39401-4	mg/l	0.093	2	2.1	100.4	90-110%
Nitrogen, Nitrate + Nitrite	GP19282/GN51017	MC39435-6	mg/l	0.018 U	2	1.9	92.5	90-110%
Nitrogen, Nitrite	GP19267/GN50968	MC39435-3	mg/l	0.0011 U	0.02	0.022	96.0	75-125%
Sulfide	GN50984	MC39401-5	mg/l	0.34 U	13.4	13.0	97.0	75-125%
Sulfide	GN51004	MC39533-3	mg/l	0.34 U	10.7	10.4	97.2	75-125%
Total Organic Carbon	GP19293/GN51057	MC39435-6	mg/l	0.35 U	10	10	100.0	75-125%

Associated Samples:
Batch GN50984: MC39435-3
Batch GN51004: MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GN51008: MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GN51031: MC39435-3
Batch GP19267: MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GP19281: MC39435-3
Batch GP19282: MC39435-5, MC39435-6, MC39435-7, MC39435-8
Batch GP19293: MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39435
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19293/GN51057	MC39435-6	mg/l	0.35 U	10	10.1	1.0	

Associated Samples:
Batch GP19293: MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC39435
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information

Name: Accutest New England
Address: 50 D'Angelo Drive
City: Marlborough State: MA Zip: 01752
Send Report to: FrankD@accutest.com
Any questions contact: Frank D'Agostino
Phone/Fax #: (508)481-6200 / (508)481-7753

Subcontract Laboratory Information

Name: Accutest - New Jersey
Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Contact: Sample Management
Phone: (732) 329-0200

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300					Comments
MC39435 -3	6/18/15	12:45 PM		SO	1					x	X					
MC39435 -5	6/18/15	1:35 PM		SO	1					x	X					
MC39435 -6	6/18/15	11:15 AM		SO	1					x	X					
MC39435 -7	6/18/15	9:40 AM		SO	1					x	X					
MC39435 -8	6/18/15	1:10 PM		SO	1					x	X					TX

6/23/15 AQ

[x] STD 7/2/15
[ ] Other ______ (Days) *Please notify Accutest if surcharges are applied.

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

[ ] Commercial "A" [ ] PDF
[ ] Commercial "B" [ ] Compact Disk Deliverable
[X] Commercial "BN" [ ] Electronic Delivery:
[ ] Reduced Tier 1 [ ] State Forms
[ ] Full Tier 1 [ ] Other (Specify)

Comments / Remarks

All DW samples are subject to MCL compliance reporting

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1 [signature]	6/22/15 13:45	1 FedEx	1
2 FedEx	6-23-15	2 [signature]	2 6-23-15 13:45
3		3	3

Seal #:
Headspace: Yes | No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C 5.6 On Ice [X]

fx: 6406 1312 4349

INITIAL ASESSMENT 2A mB
LABEL VERIFICATION DG

sm022-01 (10/30/14)

10.1
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MC39435: Chain of Custody
Page 1 of 2
Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39435 **Client:** **Project:**

Date / Time Received: 6/23/2015 1:45:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (5.6);
Cooler Temps (Corrected) °C: Cooler 1: (5.3);

Cooler Security

	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

10.1
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MC39435: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC39435
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 06/18/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC39435

New England
ACCUTEST
LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39435
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP90084/GN27775	2.0	0.0	mg/l	80	80.6	100.8	90-110%
Sulfate	GP90084/GN27775	10	0.0	mg/l	80	79.3	99.1	90-110%

Associated Samples:
Batch GP90084: MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39435
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP90084/GN27850	JB97596-7	mg/l	685	677	1.2	0-20%
Sulfate	GP90084/GN27775	JB97596-7	mg/l	19.4	20.0	3.0	0-20%

Associated Samples:
Batch GP90084: MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8
(*) Outside of QC limits

11.2
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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39435
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP90084/GN27850	JB97596-7	mg/l	685	480	1220	111.5	80-120%
Sulfate	GP90084/GN27775	JB97596-7	mg/l	19.4	80	99.1	99.6	80-120%

Associated Samples:
Batch GP90084: MC39435-3, MC39435-5, MC39435-6, MC39435-7, MC39435-8
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

11.3
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New England
ACCUTEST
LABORATORIES

07/08/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

Accutest Job Number: MC39479

Sampling Date: 06/19/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
eanderson@hsenv.com

ATTN: Elizabeth Anderson

Total number of pages in report: **133**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

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Sample Summary

H&S Environmental

Fort Devens, AOC50, Devens, MA

Job No: MC39479

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC39479-1	06/19/15	09:00 SL	06/19/15	AQ	Ground Water	G6M-04-10A-061915H
MC39479-1F	06/19/15	09:00 SL	06/19/15	AQ	Groundwater Filtered	G6M-04-10A-061915H
MC39479-2	06/19/15	09:50 SL	06/19/15	AQ	Ground Water	G6M-04-10A-061915
MC39479-2F	06/19/15	09:50 SL	06/19/15	AQ	Groundwater Filtered	G6M-04-10A-061915
MC39479-3	06/19/15	11:20 SL	06/19/15	AQ	Ground Water	G6M-97-05B-061915H
MC39479-3F	06/19/15	11:20 SL	06/19/15	AQ	Groundwater Filtered	G6M-97-05B-061915H
MC39479-4	06/19/15	12:35 SL	06/19/15	AQ	Ground Water	G6M-97-05B-061915
MC39479-4F	06/19/15	12:35 SL	06/19/15	AQ	Groundwater Filtered	G6M-97-05B-061915
MC39479-5	06/19/15	13:00 SL	06/19/15	AQ	Ground Water	G6M-13-01X-061915H
MC39479-5F	06/19/15	13:00 SL	06/19/15	AQ	Groundwater Filtered	G6M-13-01X-061915H
MC39479-6	06/19/15	00:00 SL	06/19/15	AQ	Ground Water	DUP-1-061915
MC39479-6F	06/19/15	00:00 SL	06/19/15	AQ	Groundwater Filtered	DUP-1-061915

ACCUTEST LABORATORIES

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC39479

Site: Fort Devens, AOC50, Devens, MA **Report Date** 7/8/2015 2:25:09 PM

6 Sample(s) were collected on 06/19/2015 and were received at Accutest on 06/19/2015 properly preserved, at 2 Deg. C and intact. These Samples received an Accutest job number of MC39479. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix AQ **Batch ID:** MSV1463

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix AQ **Batch ID:** MSV1465

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- RPD of MSV1465-BSD for Dichlorodifluoromethane: Outside control limits. Individual spike recoveries within acceptance limits.

Volatiles by GC By Method VRSK 175

Matrix AQ **Batch ID:** GBA1504

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3MS, MC39533-3MSD were used as the QC samples indicated.
- MC39533-3MSD for Methane: Outside control limits due to high level in sample relative to spike amount.

Metals By Method SW846 6010C

Matrix AQ	Batch ID: MP24763

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1MS, MC39372-1MSD, MC39372-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Aluminum, Chromium, Copper, Nickel, Silver, Vanadium, Zinc are outside control limits for sample MP24763-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix AQ	Batch ID: MP24785

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1FSDL, MC39533-3FMS, MC39533-3FMSD, MC39372-1FSDL were used as the QC samples for metals.
- MS/MSD Recovery(s) for Manganese are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Aluminum, Cadmium, Chromium, Copper, Zinc are outside control limits for sample MP24785-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MSD for Sodium: Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

Metals By Method SW846 6020A

Matrix AQ	Batch ID: MP24763A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1MS, MC39372-1MSD, MC39372-1SDL were used as the QC samples for metals.

Matrix AQ	Batch ID: MP24785A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1FSDL, MC39533-3FMSD were used as the QC samples for metals.
- MP24785A-S3 for Arsenic: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

Metals By Method SW846 7470A

Matrix AQ	Batch ID: MP24766

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-8FMS, MC39435-8FMSD were used as the QC samples for metals.

Matrix AQ	Batch ID: MP24781

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3FMS, MC39533-3FMSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix AQ	**Batch ID:** N:GP90081

- Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix AQ	**Batch ID:** GP19282

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-6DUP, MC39435-6MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix AQ	**Batch ID:** R36825

- MC39479-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix AQ	**Batch ID:** R36826

- MC39479-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix AQ	**Batch ID:** R36827

- MC39479-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix AQ	**Batch ID:** R36828

- MC39479-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix AQ	**Batch ID:** R36829

- MC39479-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix AQ	**Batch ID:** GP19267

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-3MS, MC39435-3DUP were used as the QC samples for Nitrogen, Nitrite.
- RPD(s) for Duplicate for Nitrogen, Nitrite are outside control limits for sample GP19267-D1. RPD acceptable due to low duplicate and sample concentrations.

Wet Chemistry By Method SM21 2320B

Matrix AQ	**Batch ID:** GN51031

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix AQ	**Batch ID:** GN51004

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SM21 5310 B

Matrix AQ **Batch ID:** GP19293

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-6MS, MC39435-6MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC39479).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Accutest Labs of New England, Inc.	**Job No**	MC39479
Site:	HSMAW: Fort Devens, AOC50, Devens, MA	**Report Date**	6/26/2015 2:41:30 PM

On 06/23/2015, 5 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 5.3 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC39479 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP90081

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB97390-1DUP, MC39479-3MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39479-1	**G6M-04-10A-061915H**					
cis-1,2-Dichloroethene		2.1	1.0	0.50	ug/l	SW846 8260C
Toluene		0.59 J	1.0	0.50	ug/l	SW846 8260C
1,2,4-Trimethylbenzene		1.3 J	5.0	0.50	ug/l	SW846 8260C
1,3,5-Trimethylbenzene		0.95 J	5.0	0.50	ug/l	SW846 8260C
Vinyl chloride		81.2	1.0	0.50	ug/l	SW846 8260C
m,p-Xylene		1.2	1.0	1.0	ug/l	SW846 8260C
o-Xylene		0.63 J	1.0	0.50	ug/l	SW846 8260C
Xylene (total)		1.8	1.0	0.50	ug/l	SW846 8260C
Methane		8930	100	50	ug/l	VRSK 175
Ethene		7.7 J	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		452	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.062 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.062 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		6.0 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		28.3	1.0	0.70	mg/l	SM21 5310 B
MC39479-1F	**G6M-04-10A-061915H**					
Aluminum		115 J	200	100	ug/l	SW846 6010C
Arsenic		68.7	4.0	2.0	ug/l	SW846 6020A
Barium		365	50	25	ug/l	SW846 6010C
Calcium		70700	50000	25000	ug/l	SW846 6010C
Iron		123000	1000	500	ug/l	SW846 6010C
Magnesium		6610	5000	2500	ug/l	SW846 6010C
Manganese		2190	15	7.5	ug/l	SW846 6010C
Potassium		92400	50000	25000	ug/l	SW846 6010C
Sodium		59100	50000	25000	ug/l	SW846 6010C
MC39479-2	**G6M-04-10A-061915**					
cis-1,2-Dichloroethene		0.50 J	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		5.0	1.0	0.50	ug/l	SW846 8260C
Xylene (total)		0.67 J	1.0	0.50	ug/l	SW846 8260C
Methane		7510	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		278	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.072 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.072 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		21.7	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		18.3	1.0	0.70	mg/l	SM21 5310 B
MC39479-2F	**G6M-04-10A-061915**					
Arsenic		274	20	10	ug/l	SW846 6020A

Summary of Hits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Barium		430	50	25	ug/l	SW846 6010C
Cadmium		2.5 J	4.0	2.0	ug/l	SW846 6010C
Calcium		43400	25000	13000	ug/l	SW846 6010C
Iron		145000	2500	1300	ug/l	SW846 6010C
Magnesium		5210	5000	2500	ug/l	SW846 6010C
Manganese		1940	15	7.5	ug/l	SW846 6010C
Potassium		63300	25000	13000	ug/l	SW846 6010C
Sodium		386000	130000	63000	ug/l	SW846 6010C
MC39479-3	**G6M-97-05B-061915H**					
Carbon tetrachloride		0.90 J	1.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene		1.2	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		87.6	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		3.0	1.0	0.50	ug/l	SW846 8260C
Alkalinity, Total as CaCO3		26.0	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		1.0	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		1.0	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		7.7 J	10	0.50	mg/l	EPA 300/SW846 9056A
MC39479-3F	**G6M-97-05B-061915H**					
Barium		26.9 J	50	25	ug/l	SW846 6010C
Calcium		45100	25000	13000	ug/l	SW846 6010C
Magnesium		8840	5000	2500	ug/l	SW846 6010C
Potassium		3950 J	5000	2500	ug/l	SW846 6010C
Sodium		39100	25000	13000	ug/l	SW846 6010C
Zinc		23.1	20	10	ug/l	SW846 6010C
MC39479-4	**G6M-97-05B-061915**					
Carbon tetrachloride		0.98 J	1.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene		2.3	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		89.4	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		4.8	1.0	0.50	ug/l	SW846 8260C
Alkalinity, Total as CaCO3		27.0	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		1.0	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		1.0	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		7.8 J	10	0.50	mg/l	EPA 300/SW846 9056A
MC39479-4F	**G6M-97-05B-061915**					
Arsenic		3.1 J	4.0	2.0	ug/l	SW846 6020A
Barium		31.3 J	50	25	ug/l	SW846 6010C
Calcium		52000	25000	13000	ug/l	SW846 6010C

Summary of Hits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Magnesium		10400	5000	2500	ug/l	SW846 6010C
Potassium		4220 J	5000	2500	ug/l	SW846 6010C
Sodium		48800	25000	13000	ug/l	SW846 6010C
MC39479-5	**G6M-13-01X-061915H**					
cis-1,2-Dichloroethene		1.8	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		29.3	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		0.69 J	1.0	0.50	ug/l	SW846 8260C
MC39479-5F	**G6M-13-01X-061915H**					
Arsenic		2.3 J	4.0	2.0	ug/l	SW846 6020A
Barium		41.7 J	50	25	ug/l	SW846 6010C
Calcium		48000	25000	13000	ug/l	SW846 6010C
Magnesium		7110	5000	2500	ug/l	SW846 6010C
Manganese		10.7 J	15	7.5	ug/l	SW846 6010C
Potassium		5600	5000	2500	ug/l	SW846 6010C
Sodium		85100	25000	13000	ug/l	SW846 6010C
Zinc		12.7 J	20	10	ug/l	SW846 6010C
MC39479-6	**DUP-1-061915**					
cis-1,2-Dichloroethene		0.57 J	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		5.9	1.0	0.50	ug/l	SW846 8260C
Xylene (total)		0.71 J	1.0	0.50	ug/l	SW846 8260C
Methane		8070	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		249	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.068 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.068 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		22.4	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		18.2	1.0	0.70	mg/l	SM21 5310 B
MC39479-6F	**DUP-1-061915**					
Arsenic		276	20	10	ug/l	SW846 6020A
Barium		435	50	25	ug/l	SW846 6010C
Cadmium		3.8 J	4.0	2.0	ug/l	SW846 6010C
Calcium		43600	25000	13000	ug/l	SW846 6010C
Iron		148000	1000	500	ug/l	SW846 6010C
Magnesium		5350	5000	2500	ug/l	SW846 6010C
Manganese		2060	15	7.5	ug/l	SW846 6010C
Potassium		64500	25000	13000	ug/l	SW846 6010C
Sodium		371000	250000	130000	ug/l	SW846 6010C

Summary of Hits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

New England
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LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-10A-061915H		
Lab Sample ID:	MC39479-1	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40573.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	2.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A-061915H			
Lab Sample ID:	MC39479-1		**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water		**Date Received:**	06/19/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.59	1.0	0.50	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	1.3	5.0	0.50	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	0.95	5.0	0.50	ug/l	J
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	81.2	1.0	0.50	ug/l	
	m,p-Xylene	1.2	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.63	1.0	0.50	ug/l	J
1330-20-7	Xylene (total)	1.8	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A-061915H		
Lab Sample ID:	MC39479-1	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		85-114%
460-00-4	4-Bromofluorobenzene	95%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A-061915H		
Lab Sample ID:	MC39479-1	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22099.D	1	06/30/15	TB	n/a	n/a	GBA1504
Run #2	BA22100.D	1	06/30/15	TB	n/a	n/a	GBA1504

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	8930 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	7.7	10	5.0	ug/l	J

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A-061915H		
Lab Sample ID:	MC39479-1	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	452	5.0	3.9	mg/l	1	06/25/15	CF	SM21 2320B
Nitrogen, Nitrate [a]	0.062 J	0.11	0.057	mg/l	1	06/24/15 15:53	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.062 J	0.10	0.054	mg/l	1	06/24/15 15:53	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/19/15 17:34	CF	SM 21 4500 NO2 B
Sulfate [b]	6.0 J	10	0.50	mg/l	1	06/26/15 01:46	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/24/15	BF	SM21 4500 S F
Total Organic Carbon	28.3	1.0	0.70	mg/l	1	06/26/15 16:25	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-10A-061915H		
Lab Sample ID:	MC39479-1F	**Date Sampled:**	06/19/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	115 J	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	68.7	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	365	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	70700	50000	25000	ug/l	10	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	123000	1000	500	ug/l	10	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	6610	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	2190	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	92400	50000	25000	ug/l	10	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	59100	50000	25000	ug/l	10	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-10A-061915		
Lab Sample ID:	MC39479-2	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40574.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A-061915		
Lab Sample ID:	MC39479-2	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	5.0	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.67	1.0	0.50	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A-061915		
Lab Sample ID:	MC39479-2	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A-061915		
Lab Sample ID:	MC39479-2	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22101.D	1	06/30/15	TB	n/a	n/a	GBA1504
Run #2	BA22102.D	1	06/30/15	TB	n/a	n/a	GBA1504

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	7510 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A-061915		
Lab Sample ID:	MC39479-2	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	278	5.0	3.9	mg/l	1	06/25/15	CF	SM21 2320B
Nitrogen, Nitrate [a]	0.072 J	0.11	0.057	mg/l	1	06/24/15 15:56	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.072 J	0.10	0.054	mg/l	1	06/24/15 15:56	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/19/15 17:34	CF	SM 21 4500 NO2 B
Sulfate [b]	21.7	10	0.50	mg/l	1	06/26/15 02:10	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/24/15	BF	SM21 4500 S F
Total Organic Carbon	18.3	1.0	0.70	mg/l	1	06/26/15 16:41	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-10A-061915		
Lab Sample ID:	MC39479-2F	**Date Sampled:**	06/19/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	274	20	10	ug/l	10	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	430	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.5 J	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	43400	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	145000	2500	1300	ug/l	25	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	5210	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	1940	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	63300	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	386000	130000	63000	ug/l	25	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-97-05B-061915H		
Lab Sample ID:	MC39479-3	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40575.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.90	1.0	0.50	ug/l	J
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	1.2	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-05B-061915H		
Lab Sample ID:	MC39479-3	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	87.6	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	3.0	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-05B-061915H		
Lab Sample ID:	MC39479-3	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		85-114%
460-00-4	4-Bromofluorobenzene	97%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-05B-061915H		
Lab Sample ID:	MC39479-3	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22103.D	1	06/30/15	TB	n/a	n/a	GBA1504
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5.0 U	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-97-05B-061915H		
Lab Sample ID:	MC39479-3	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	26.0	5.0	3.9	mg/l	1	06/25/15	CF	SM21 2320B
Nitrogen, Nitrate [a]	1.0	0.11	0.057	mg/l	1	06/24/15 15:58	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	1.0	0.10	0.054	mg/l	1	06/24/15 15:58	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/19/15 17:34	CF	SM 21 4500 NO2 B
Sulfate [b]	7.7 J	10	0.50	mg/l	1	06/26/15 02:58	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/24/15	BF	SM21 4500 S F

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID: G6M-97-05B-061915H
Lab Sample ID: MC39479-3F
Matrix: AQ - Groundwater Filtered
Date Sampled: 06/19/15
Date Received: 06/19/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	2.0 U	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	26.9 J	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	45100	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	8840	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	7.5 U	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	3950 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	39100	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	23.1	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-97-05B-061915		
Lab Sample ID:	MC39479-4	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40576.D	1	06/30/15	JB	n/a	n/a	MSV1463
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.98	1.0	0.50	ug/l	J
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	2.3	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-05B-061915		
Lab Sample ID:	MC39479-4	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	89.4	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	4.8	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-97-05B-061915		
Lab Sample ID:	MC39479-4	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-97-05B-061915		
Lab Sample ID:	MC39479-4	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22105.D	1	06/30/15	TB	n/a	n/a	GBA1504
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5.0 U	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-97-05B-061915		
Lab Sample ID:	MC39479-4	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	27.0	5.0	3.9	mg/l	1	06/25/15	CF	SM21 2320B
Nitrogen, Nitrate [a]	1.0	0.11	0.057	mg/l	1	06/24/15 15:59	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	1.0	0.10	0.054	mg/l	1	06/24/15 15:59	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/19/15 17:34	CF	SM 21 4500 NO2 B
Sulfate [b]	7.8 J	10	0.50	mg/l	1	06/26/15 03:22	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/24/15	BF	SM21 4500 S F

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-97-05B-061915
Lab Sample ID: MC39479-4F
Matrix: AQ - Groundwater Filtered
Date Sampled: 06/19/15
Date Received: 06/19/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	3.1 J	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	31.3 J	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	52000	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	10400	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	7.5 U	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	4220 J	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	48800	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-01X-061915H		
Lab Sample ID:	MC39479-5	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40613.D	1	07/01/15	JB	n/a	n/a	MSV1465
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	1.8	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-01X-061915H			
Lab Sample ID:	MC39479-5		**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water		**Date Received:**	06/19/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	29.3	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.69	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-01X-061915H		
Lab Sample ID:	MC39479-5	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		85-114%
460-00-4	4-Bromofluorobenzene	97%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-01X-061915H		
Lab Sample ID:	MC39479-5F	**Date Sampled:**	06/19/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	2.3 J	4.0	2.0	ug/l	2	06/22/15	06/25/15	VY	SW846 6020A [3]	SW846 3010A [6]
Barium	41.7 J	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	48000	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	7110	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	10.7 J	15	7.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/22/15	06/23/15	EC	SW846 7470A [1]	SW846 7470A [7]
Nickel	20 U	40	20	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	5600	5000	2500	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	85100	25000	13000	ug/l	5	06/22/15	06/26/15	EAL	SW846 6010C [4]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	12.7 J	20	10	ug/l	1	06/22/15	06/23/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18230
(2) Instrument QC Batch: MA18234
(3) Instrument QC Batch: MA18241
(4) Instrument QC Batch: MA18246
(5) Prep QC Batch: MP24763
(6) Prep QC Batch: MP24763A
(7) Prep QC Batch: MP24766

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	DUP-1-061915		
Lab Sample ID:	MC39479-6	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40614.D	1	07/01/15	JB	n/a	n/a	MSV1465
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.57	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	DUP-1-061915			
Lab Sample ID:	MC39479-6		**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water		**Date Received:**	06/19/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	5.9	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.71	1.0	0.50	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-1-061915		
Lab Sample ID:	MC39479-6	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		85-114%
460-00-4	4-Bromofluorobenzene	94%		70-134%

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	DUP-1-061915		
Lab Sample ID:	MC39479-6	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22106.D	1	06/30/15	TB	n/a	n/a	GBA1504
Run #2	BA22107.D	1	06/30/15	TB	n/a	n/a	GBA1504

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	8070 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	DUP-1-061915		
Lab Sample ID:	MC39479-6	**Date Sampled:**	06/19/15
Matrix:	AQ - Ground Water	**Date Received:**	06/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	249	5.0	3.9	mg/l	1	06/25/15	CF	SM21 2320B
Nitrogen, Nitrate [a]	0.068 J	0.11	0.057	mg/l	1	06/24/15 16:00	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.068 J	0.10	0.054	mg/l	1	06/24/15 16:00	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/19/15 17:34	CF	SM 21 4500 NO2 B
Sulfate [b]	22.4	10	0.50	mg/l	1	06/26/15 03:46	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/24/15	BF	SM21 4500 S F
Total Organic Carbon	18.2	1.0	0.70	mg/l	1	06/26/15 16:57	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: DUP-1-061915
Lab Sample ID: MC39479-6F
Matrix: AQ - Groundwater Filtered
Date Sampled: 06/19/15
Date Received: 06/19/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	276	20	10	ug/l	10	06/26/15	06/30/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	435	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	3.8 J	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	43600	25000	13000	ug/l	5	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	148000	1000	500	ug/l	10	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	5350	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	2060	15	7.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/26/15	06/26/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	64500	25000	13000	ug/l	5	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	371000	250000	130000	ug/l	50	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18243
(2) Instrument QC Batch: MA18246
(3) Instrument QC Batch: MA18251
(4) Instrument QC Batch: MA18254
(5) Prep QC Batch: MP24781
(6) Prep QC Batch: MP24785
(7) Prep QC Batch: MP24785A

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #: FD-10-2014-229
Accutest Job #: MC39479

Client / Reporting Information

Company Name: H&S Environmental
Street Address: 160 E Main Street
City: Westborough State: MA Zip:
Project Contact: E. Anderson E-mail:
Phone #: 508 366 7442 Fax #:
Sampler(s) Name(s): Phone #:

Project Information

Project Name: Ft. Devens AOC 50
Street:
City:
Project#:
Client PO#:
Project Manager:

Billing Information (If different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	~~ENCORE~~ Phosphoric Acid	Bisulfate	VOC	DISS Metals Field Filtered	DISS Metals Lab Filtered	Nitrate, Sulfate, ALK	Methane ethane ethene	TOC	Sulfide *	LAB USE ONLY
-1F	G6M-04-10A-061915H		6/19/15	0900	SL	GW	11	4	1		1	2			3		X		X	X	X	X	X	
-2F	G6M-04-10A-061915			0950	SL	GW	11	4	1	1	1	1			3		X	X		X	X	X	X	
-3F	G6M-97-05B-061915H			1120	SL	GW	6	2	1		1	2					X		X	X	X		X	
-4F	G6M-97-05B-061915			1235	SL	GW	6	2	1	1	1	1					X	X		X	X		X	
-5F	G6M-13-01X-061915H		6/19/15	1300	SL	GW	3	2			1						X		X					
-6F	DUP-1-061915		6/19/15	0000	SL	GW	11	4	1	1	1	1			3		X	X		X	X	X	X	

LAB USE ONLY: 5A1, 10D, 6D

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL - Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB- Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [x] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

*Sulfide Needs Zn Acetate

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	6/19/15 ~~1305~~ 1500	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☐ Cooler Temp. 2.0 °C

MC39479: Chain of Custody
Page 1 of 2

5.1
5

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39479 **Client:** H&S ENV **Project:** FT DEVENS AOC 50

Date / Time Received: 6/19/2015 3:00:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2/2);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☑	☐	☐

Comments

MC39479: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463	SW846 8260C						
MSV1463-BS	67-64-1	Acetone	BSP	REC	159	%	39-160
MSV1463-BS	71-43-2	Benzene	BSP	REC	92	%	79-120
MSV1463-BS	108-86-1	Bromobenzene	BSP	REC	94	%	80-120
MSV1463-BS	74-97-5	Bromochloromethane	BSP	REC	91	%	78-123
MSV1463-BS	75-27-4	Bromodichloromethane	BSP	REC	95	%	79-125
MSV1463-BS	75-25-2	Bromoform	BSP	REC	99	%	66-130
MSV1463-BS	74-83-9	Bromomethane	BSP	REC	94	%	53-141
MSV1463-BS	78-93-3	2-Butanone (MEK)	BSP	REC	126	%	56-143
MSV1463-BS	104-51-8	n-Butylbenzene	BSP	REC	105	%	75-128
MSV1463-BS	135-98-8	sec-Butylbenzene	BSP	REC	105	%	77-126
MSV1463-BS	98-06-6	tert-Butylbenzene	BSP	REC	107	%	78-124
MSV1463-BS	75-15-0	Carbon disulfide	BSP	REC	91	%	64-133
MSV1463-BS	56-23-5	Carbon tetrachloride	BSP	REC	98	%	72-136
MSV1463-BS	108-90-7	Chlorobenzene	BSP	REC	93	%	82-118
MSV1463-BS	75-00-3	Chloroethane	BSP	REC	89	%	60-138
MSV1463-BS	67-66-3	Chloroform	BSP	REC	96	%	79-124
MSV1463-BS	74-87-3	Chloromethane	BSP	REC	91	%	50-139
MSV1463-BS	95-49-8	o-Chlorotoluene	BSP	REC	95	%	79-122
MSV1463-BS	106-43-4	p-Chlorotoluene	BSP	REC	93	%	78-122
MSV1463-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	98	%	62-128
MSV1463-BS	124-48-1	Dibromochloromethane	BSP	REC	101	%	74-126
MSV1463-BS	106-93-4	1,2-Dibromoethane	BSP	REC	93	%	77-121
MSV1463-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	96	%	80-119
MSV1463-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	97	%	80-119
MSV1463-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	93	%	79-118
MSV1463-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	103	%	32-152
MSV1463-BS	75-34-3	1,1-Dichloroethane	BSP	REC	89	%	77-125
MSV1463-BS	107-06-2	1,2-Dichloroethane	BSP	REC	90	%	73-128
MSV1463-BS	75-35-4	1,1-Dichloroethene	BSP	REC	93	%	71-131
MSV1463-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	88	%	78-123
MSV1463-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	98	%	75-124
MSV1463-BS	78-87-5	1,2-Dichloropropane	BSP	REC	93	%	78-122
MSV1463-BS	142-28-9	1,3-Dichloropropane	BSP	REC	90	%	80-119
MSV1463-BS	594-20-7	2,2-Dichloropropane	BSP	REC	119	%	60-139
MSV1463-BS	563-58-6	1,1-Dichloropropene	BSP	REC	108	%	79-125
MSV1463-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	99	%	75-124
MSV1463-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	107	%	73-127
MSV1463-BS	100-41-4	Ethylbenzene	BSP	REC	98	%	79-121
MSV1463-BS	87-68-3	Hexachlorobutadiene	BSP	REC	103	%	66-134
MSV1463-BS	591-78-6	2-Hexanone	BSP	REC	126	%	57-139
MSV1463-BS	74-88-4	Iodomethane	BSP	REC	90	%	69-131
MSV1463-BS	98-82-8	Isopropylbenzene	BSP	REC	102	%	72-131

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BS	99-87-6	p-Isopropyltoluene	BSP	REC	110	%	77-127
MSV1463-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	91	%	71-124
MSV1463-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	100	%	67-130
MSV1463-BS	74-95-3	Methylene bromide	BSP	REC	90	%	79-123
MSV1463-BS	75-09-2	Methylene chloride	BSP	REC	83	%	74-124
MSV1463-BS	91-20-3	Naphthalene	BSP	REC	116	%	61-128
MSV1463-BS	103-65-1	n-Propylbenzene	BSP	REC	102	%	76-126
MSV1463-BS	100-42-5	Styrene	BSP	REC	104	%	78-123
MSV1463-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	100	%	78-124
MSV1463-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	84	%	71-121
MSV1463-BS	127-18-4	Tetrachloroethene	BSP	REC	115	%	74-129
MSV1463-BS	108-88-3	Toluene	BSP	REC	94	%	80-121
MSV1463-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	107	%	69-129
MSV1463-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	107	%	69-130
MSV1463-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	91	%	74-131
MSV1463-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	92	%	80-119
MSV1463-BS	79-01-6	Trichloroethene	BSP	REC	94	%	79-123
MSV1463-BS	75-69-4	Trichlorofluoromethane	BSP	REC	95	%	65-141
MSV1463-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	88	%	73-122
MSV1463-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	102	%	76-124
MSV1463-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	101	%	75-124
MSV1463-BS	108-05-4	Vinyl Acetate	BSP	REC	100	%	54-146
MSV1463-BS	75-01-4	Vinyl chloride	BSP	REC	92	%	58-137
MSV1463-BS		m,p-Xylene	BSP	REC	99	%	80-121
MSV1463-BS	95-47-6	o-Xylene	BSP	REC	108	%	78-122
MSV1463-BS	1330-20-7	Xylene (total)	BSP	REC	102	%	79-121
MSV1463-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	97	%	80-119
MSV1463-BS	2037-26-5	Toluene-D8	BSP	SURR	100	%	89-112
MSV1463-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	97	%	85-114
MSV1463-BSD	67-64-1	Acetone	BSD	REC	151	%	39-160
MSV1463-BSD	71-43-2	Benzene	BSD	REC	90	%	79-120
MSV1463-BSD	108-86-1	Bromobenzene	BSD	REC	95	%	80-120
MSV1463-BSD	74-97-5	Bromochloromethane	BSD	REC	88	%	78-123
MSV1463-BSD	75-27-4	Bromodichloromethane	BSD	REC	92	%	79-125
MSV1463-BSD	75-25-2	Bromoform	BSD	REC	94	%	66-130
MSV1463-BSD	74-83-9	Bromomethane	BSD	REC	89	%	53-141
MSV1463-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	116	%	56-143
MSV1463-BSD	104-51-8	n-Butylbenzene	BSD	REC	105	%	75-128
MSV1463-BSD	135-98-8	sec-Butylbenzene	BSD	REC	107	%	77-126
MSV1463-BSD	98-06-6	tert-Butylbenzene	BSD	REC	108	%	78-124
MSV1463-BSD	75-15-0	Carbon disulfide	BSD	REC	96	%	64-133
MSV1463-BSD	56-23-5	Carbon tetrachloride	BSD	REC	97	%	72-136
MSV1463-BSD	108-90-7	Chlorobenzene	BSD	REC	92	%	82-118
MSV1463-BSD	75-00-3	Chloroethane	BSD	REC	80	%	60-138
MSV1463-BSD	67-66-3	Chloroform	BSD	REC	95	%	79-124

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BSD	74-87-3	Chloromethane	BSD	REC	84	%	50-139
MSV1463-BSD	95-49-8	o-Chlorotoluene	BSD	REC	96	%	79-122
MSV1463-BSD	106-43-4	p-Chlorotoluene	BSD	REC	93	%	78-122
MSV1463-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	90	%	62-128
MSV1463-BSD	124-48-1	Dibromochloromethane	BSD	REC	97	%	74-126
MSV1463-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	91	%	77-121
MSV1463-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	94	%	80-119
MSV1463-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	96	%	80-119
MSV1463-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	91	%	79-118
MSV1463-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	92	%	32-152
MSV1463-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	91	%	77-125
MSV1463-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	86	%	73-128
MSV1463-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	98	%	71-131
MSV1463-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	88	%	78-123
MSV1463-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	101	%	75-124
MSV1463-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	90	%	78-122
MSV1463-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	87	%	80-119
MSV1463-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	117	%	60-139
MSV1463-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	106	%	79-125
MSV1463-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	97	%	75-124
MSV1463-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	104	%	73-127
MSV1463-BSD	100-41-4	Ethylbenzene	BSD	REC	95	%	79-121
MSV1463-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	104	%	66-134
MSV1463-BSD	591-78-6	2-Hexanone	BSD	REC	116	%	57-139
MSV1463-BSD	74-88-4	Iodomethane	BSD	REC	95	%	69-131
MSV1463-BSD	98-82-8	Isopropylbenzene	BSD	REC	103	%	72-131
MSV1463-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	110	%	77-127
MSV1463-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	90	%	71-124
MSV1463-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	92	%	67-130
MSV1463-BSD	74-95-3	Methylene bromide	BSD	REC	86	%	79-123
MSV1463-BSD	75-09-2	Methylene chloride	BSD	REC	88	%	74-124
MSV1463-BSD	91-20-3	Naphthalene	BSD	REC	105	%	61-128
MSV1463-BSD	103-65-1	n-Propylbenzene	BSD	REC	102	%	76-126
MSV1463-BSD	100-42-5	Styrene	BSD	REC	101	%	78-123
MSV1463-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	98	%	78-124
MSV1463-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	79	%	71-121
MSV1463-BSD	127-18-4	Tetrachloroethene	BSD	REC	112	%	74-129
MSV1463-BSD	108-88-3	Toluene	BSD	REC	92	%	80-121
MSV1463-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	97	%	69-129
MSV1463-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	99	%	69-130
MSV1463-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	92	%	74-131
MSV1463-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	88	%	80-119
MSV1463-BSD	79-01-6	Trichloroethene	BSD	REC	92	%	79-123
MSV1463-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	91	%	65-141
MSV1463-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	85	%	73-122

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1463-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	103	%	76-124
MSV1463-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	101	%	75-124
MSV1463-BSD	108-05-4	Vinyl Acetate	BSD	REC	95	%	54-146
MSV1463-BSD	75-01-4	Vinyl chloride	BSD	REC	88	%	58-137
MSV1463-BSD		m,p-Xylene	BSD	REC	97	%	80-121
MSV1463-BSD	95-47-6	o-Xylene	BSD	REC	105	%	78-122
MSV1463-BSD	1330-20-7	Xylene (total)	BSD	REC	99	%	79-121
MSV1463-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	96	%	80-119
MSV1463-BSD	2037-26-5	Toluene-D8	BSD	SURR	99	%	89-112
MSV1463-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	100	%	85-114
MSV1463-MB	1868-53-7	Dibromofluoromethane	MB	SURR	101	%	80-119
MSV1463-MB	2037-26-5	Toluene-D8	MB	SURR	93	%	89-112
MSV1463-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	96	%	85-114
MC39479-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC39479-1	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC39479-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC39479-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39479-2	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39479-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC39479-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC39479-3	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39479-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC39479-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC39479-4	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39479-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MSV1465	SW846 8260C						
MSV1465-BS	67-64-1	Acetone	BSP	REC	146	%	39-160
MSV1465-BS	71-43-2	Benzene	BSP	REC	92	%	79-120
MSV1465-BS	108-86-1	Bromobenzene	BSP	REC	95	%	80-120
MSV1465-BS	74-97-5	Bromochloromethane	BSP	REC	90	%	78-123
MSV1465-BS	75-27-4	Bromodichloromethane	BSP	REC	91	%	79-125
MSV1465-BS	75-25-2	Bromoform	BSP	REC	95	%	66-130
MSV1465-BS	74-83-9	Bromomethane	BSP	REC	91	%	53-141
MSV1465-BS	78-93-3	2-Butanone (MEK)	BSP	REC	118	%	56-143
MSV1465-BS	104-51-8	n-Butylbenzene	BSP	REC	107	%	75-128
MSV1465-BS	135-98-8	sec-Butylbenzene	BSP	REC	107	%	77-126
MSV1465-BS	98-06-6	tert-Butylbenzene	BSP	REC	106	%	78-124
MSV1465-BS	75-15-0	Carbon disulfide	BSP	REC	84	%	64-133
MSV1465-BS	56-23-5	Carbon tetrachloride	BSP	REC	95	%	72-136
MSV1465-BS	108-90-7	Chlorobenzene	BSP	REC	94	%	82-118
MSV1465-BS	75-00-3	Chloroethane	BSP	REC	84	%	60-138
MSV1465-BS	67-66-3	Chloroform	BSP	REC	96	%	79-124
MSV1465-BS	74-87-3	Chloromethane	BSP	REC	86	%	50-139

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1465-BS	95-49-8	o-Chlorotoluene	BSP	REC	97	%	79-122
MSV1465-BS	106-43-4	p-Chlorotoluene	BSP	REC	94	%	78-122
MSV1465-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	90	%	62-128
MSV1465-BS	124-48-1	Dibromochloromethane	BSP	REC	98	%	74-126
MSV1465-BS	106-93-4	1,2-Dibromoethane	BSP	REC	89	%	77-121
MSV1465-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	96	%	80-119
MSV1465-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	98	%	80-119
MSV1465-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	93	%	79-118
MSV1465-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	146	%	32-152
MSV1465-BS	75-34-3	1,1-Dichloroethane	BSP	REC	88	%	77-125
MSV1465-BS	107-06-2	1,2-Dichloroethane	BSP	REC	86	%	73-128
MSV1465-BS	75-35-4	1,1-Dichloroethene	BSP	REC	86	%	71-131
MSV1465-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	89	%	78-123
MSV1465-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	97	%	75-124
MSV1465-BS	78-87-5	1,2-Dichloropropane	BSP	REC	91	%	78-122
MSV1465-BS	142-28-9	1,3-Dichloropropane	BSP	REC	86	%	80-119
MSV1465-BS	594-20-7	2,2-Dichloropropane	BSP	REC	113	%	60-139
MSV1465-BS	563-58-6	1,1-Dichloropropene	BSP	REC	107	%	79-125
MSV1465-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	95	%	75-124
MSV1465-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	100	%	73-127
MSV1465-BS	100-41-4	Ethylbenzene	BSP	REC	98	%	79-121
MSV1465-BS	87-68-3	Hexachlorobutadiene	BSP	REC	105	%	66-134
MSV1465-BS	591-78-6	2-Hexanone	BSP	REC	119	%	57-139
MSV1465-BS	74-88-4	Iodomethane	BSP	REC	85	%	69-131
MSV1465-BS	98-82-8	Isopropylbenzene	BSP	REC	104	%	72-131
MSV1465-BS	99-87-6	p-Isopropyltoluene	BSP	REC	112	%	77-127
MSV1465-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	86	%	71-124
MSV1465-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	92	%	67-130
MSV1465-BS	74-95-3	Methylene bromide	BSP	REC	85	%	79-123
MSV1465-BS	75-09-2	Methylene chloride	BSP	REC	78	%	74-124
MSV1465-BS	91-20-3	Naphthalene	BSP	REC	106	%	61-128
MSV1465-BS	103-65-1	n-Propylbenzene	BSP	REC	103	%	76-126
MSV1465-BS	100-42-5	Styrene	BSP	REC	103	%	78-123
MSV1465-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	101	%	78-124
MSV1465-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	80	%	71-121
MSV1465-BS	127-18-4	Tetrachloroethene	BSP	REC	115	%	74-129
MSV1465-BS	108-88-3	Toluene	BSP	REC	92	%	80-121
MSV1465-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	100	%	69-129
MSV1465-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	102	%	69-130
MSV1465-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	89	%	74-131
MSV1465-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	87	%	80-119
MSV1465-BS	79-01-6	Trichloroethene	BSP	REC	94	%	79-123
MSV1465-BS	75-69-4	Trichlorofluoromethane	BSP	REC	90	%	65-141
MSV1465-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	102	%	73-122
MSV1465-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	105	%	76-124

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1465-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	103	%	75-124
MSV1465-BS	108-05-4	Vinyl Acetate	BSP	REC	96	%	54-146
MSV1465-BS	75-01-4	Vinyl chloride	BSP	REC	87	%	58-137
MSV1465-BS		m,p-Xylene	BSP	REC	99	%	80-121
MSV1465-BS	95-47-6	o-Xylene	BSP	REC	108	%	78-122
MSV1465-BS	1330-20-7	Xylene (total)	BSP	REC	102	%	79-121
MSV1465-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	97	%	80-119
MSV1465-BS	2037-26-5	Toluene-D8	BSP	SURR	98	%	89-112
MSV1465-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	98	%	85-114
MSV1465-BSD	67-64-1	Acetone	BSD	REC	146	%	39-160
MSV1465-BSD	71-43-2	Benzene	BSD	REC	89	%	79-120
MSV1465-BSD	108-86-1	Bromobenzene	BSD	REC	93	%	80-120
MSV1465-BSD	74-97-5	Bromochloromethane	BSD	REC	86	%	78-123
MSV1465-BSD	75-27-4	Bromodichloromethane	BSD	REC	90	%	79-125
MSV1465-BSD	75-25-2	Bromoform	BSD	REC	93	%	66-130
MSV1465-BSD	74-83-9	Bromomethane	BSD	REC	87	%	53-141
MSV1465-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	111	%	56-143
MSV1465-BSD	104-51-8	n-Butylbenzene	BSD	REC	102	%	75-128
MSV1465-BSD	135-98-8	sec-Butylbenzene	BSD	REC	104	%	77-126
MSV1465-BSD	98-06-6	tert-Butylbenzene	BSD	REC	104	%	78-124
MSV1465-BSD	75-15-0	Carbon disulfide	BSD	REC	90	%	64-133
MSV1465-BSD	56-23-5	Carbon tetrachloride	BSD	REC	93	%	72-136
MSV1465-BSD	108-90-7	Chlorobenzene	BSD	REC	91	%	82-118
MSV1465-BSD	75-00-3	Chloroethane	BSD	REC	78	%	60-138
MSV1465-BSD	67-66-3	Chloroform	BSD	REC	93	%	79-124
MSV1465-BSD	74-87-3	Chloromethane	BSD	REC	81	%	50-139
MSV1465-BSD	95-49-8	o-Chlorotoluene	BSD	REC	94	%	79-122
MSV1465-BSD	106-43-4	p-Chlorotoluene	BSD	REC	92	%	78-122
MSV1465-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	84	%	62-128
MSV1465-BSD	124-48-1	Dibromochloromethane	BSD	REC	96	%	74-126
MSV1465-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	90	%	77-121
MSV1465-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	93	%	80-119
MSV1465-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	95	%	80-119
MSV1465-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	90	%	79-118
MSV1465-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	94	%	32-152
MSV1465-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	88	%	77-125
MSV1465-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	84	%	73-128
MSV1465-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	94	%	71-131
MSV1465-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	86	%	78-123
MSV1465-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	98	%	75-124
MSV1465-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	89	%	78-122
MSV1465-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	85	%	80-119
MSV1465-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	112	%	60-139
MSV1465-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	104	%	79-125
MSV1465-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	95	%	75-124

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1465-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	102	%	73-127
MSV1465-BSD	100-41-4	Ethylbenzene	BSD	REC	95	%	79-121
MSV1465-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	103	%	66-134
MSV1465-BSD	591-78-6	2-Hexanone	BSD	REC	114	%	57-139
MSV1465-BSD	74-88-4	Iodomethane	BSD	REC	92	%	69-131
MSV1465-BSD	98-82-8	Isopropylbenzene	BSD	REC	102	%	72-131
MSV1465-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	108	%	77-127
MSV1465-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	89	%	71-124
MSV1465-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	90	%	67-130
MSV1465-BSD	74-95-3	Methylene bromide	BSD	REC	84	%	79-123
MSV1465-BSD	75-09-2	Methylene chloride	BSD	REC	84	%	74-124
MSV1465-BSD	91-20-3	Naphthalene	BSD	REC	100	%	61-128
MSV1465-BSD	103-65-1	n-Propylbenzene	BSD	REC	100	%	76-126
MSV1465-BSD	100-42-5	Styrene	BSD	REC	101	%	78-123
MSV1465-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	96	%	78-124
MSV1465-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	76	%	71-121
MSV1465-BSD	127-18-4	Tetrachloroethene	BSD	REC	113	%	74-129
MSV1465-BSD	108-88-3	Toluene	BSD	REC	91	%	80-121
MSV1465-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	94	%	69-129
MSV1465-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	96	%	69-130
MSV1465-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	88	%	74-131
MSV1465-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	87	%	80-119
MSV1465-BSD	79-01-6	Trichloroethene	BSD	REC	92	%	79-123
MSV1465-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	88	%	65-141
MSV1465-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	83	%	73-122
MSV1465-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	101	%	76-124
MSV1465-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	99	%	75-124
MSV1465-BSD	108-05-4	Vinyl Acetate	BSD	REC	93	%	54-146
MSV1465-BSD	75-01-4	Vinyl chloride	BSD	REC	85	%	58-137
MSV1465-BSD		m,p-Xylene	BSD	REC	96	%	80-121
MSV1465-BSD	95-47-6	o-Xylene	BSD	REC	105	%	78-122
MSV1465-BSD	1330-20-7	Xylene (total)	BSD	REC	99	%	79-121
MSV1465-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	95	%	80-119
MSV1465-BSD	2037-26-5	Toluene-D8	BSD	SURR	99	%	89-112
MSV1465-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	100	%	85-114
MSV1465-MB	1868-53-7	Dibromofluoromethane	MB	SURR	99	%	80-119
MSV1465-MB	2037-26-5	Toluene-D8	MB	SURR	91	%	89-112
MSV1465-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	96	%	85-114
MC39479-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	80-119
MC39479-5	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC39479-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC39479-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC39479-6	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC39479-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24763	SW846 6010C						
MP24763-B1	7429-90-5	Aluminum	BSP	REC	100	%	86-115
MP24763-B1	7440-36-0	Antimony	BSP	REC	104.6	%	88-113
MP24763-B1	7440-39-3	Barium	BSP	REC	102.5	%	88-113
MP24763-B1	7440-41-7	Beryllium	BSP	REC	98.2	%	89-112
MP24763-B1	7440-43-9	Cadmium	BSP	REC	102.8	%	88-113
MP24763-B1	7440-70-2	Calcium	BSP	REC	104	%	87-113
MP24763-B1	7440-47-3	Chromium	BSP	REC	99.4	%	90-113
MP24763-B1	7440-48-4	Cobalt	BSP	REC	99.6	%	89-114
MP24763-B1	7440-50-8	Copper	BSP	REC	98.6	%	86-114
MP24763-B1	7439-89-6	Iron	BSP	REC	101	%	87-115
MP24763-B1	7439-92-1	Lead	BSP	REC	100	%	86-113
MP24763-B1	7439-95-4	Magnesium	BSP	REC	105.6	%	85-113
MP24763-B1	7439-96-5	Manganese	BSP	REC	101.8	%	90-114
MP24763-B1	7440-02-0	Nickel	BSP	REC	102.8	%	88-113
MP24763-B1	7440-09-7	Potassium	BSP	REC	103.6	%	86-114
MP24763-B1	7782-49-2	Selenium	BSP	REC	103.8	%	83-114
MP24763-B1	7440-22-4	Silver	BSP	REC	90	%	84-115
MP24763-B1	7440-23-5	Sodium	BSP	REC	102.8	%	87-115
MP24763-B1	7440-28-0	Thallium	BSP	REC	102.8	%	85-114
MP24763-B1	7440-62-2	Vanadium	BSP	REC	98.8	%	90-111
MP24763-B1	7440-66-6	Zinc	BSP	REC	97.6	%	87-115
MP24763-S1*	7429-90-5	Aluminum	MS	REC	99.6	%	86-115
MP24763-S1*	7440-36-0	Antimony	MS	REC	106.2	%	88-113
MP24763-S1*	7440-39-3	Barium	MS	REC	102.1	%	88-113
MP24763-S1*	7440-41-7	Beryllium	MS	REC	98.4	%	89-112
MP24763-S1*	7440-43-9	Cadmium	MS	REC	104.4	%	88-113
MP24763-S1*	7440-70-2	Calcium	MS	REC	96.4	%	87-113
MP24763-S1*	7440-47-3	Chromium	MS	REC	99.2	%	90-113
MP24763-S1*	7440-48-4	Cobalt	MS	REC	100.8	%	89-114
MP24763-S1*	7440-50-8	Copper	MS	REC	99.1	%	86-114
MP24763-S1*	7439-89-6	Iron	MS	REC	99.5	%	87-115
MP24763-S1*	7439-92-1	Lead	MS	REC	100	%	86-113
MP24763-S1*	7439-95-4	Magnesium	MS	REC	101.1	%	85-113
MP24763-S1*	7439-96-5	Manganese	MS	REC	101.2	%	90-114
MP24763-S1*	7440-02-0	Nickel	MS	REC	103.1	%	88-113
MP24763-S1*	7440-09-7	Potassium	MS	REC	99.4	%	86-114
MP24763-S1*	7782-49-2	Selenium	MS	REC	88.4	%	83-114
MP24763-S1*	7440-22-4	Silver	MS	REC	91.2	%	84-115
MP24763-S1*	7440-23-5	Sodium	MS	REC	96.4	%	87-115
MP24763-S1*	7440-28-0	Thallium	MS	REC	102.2	%	85-114
MP24763-S1*	7440-62-2	Vanadium	MS	REC	99.4	%	90-111
MP24763-S1*	7440-66-6	Zinc	MS	REC	96.5	%	87-115

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24763-S2*	7429-90-5	Aluminum	MSD	REC	101.6	%	86-115
MP24763-S2*	7429-90-5	Aluminum	MSD	RPD	1.9	%	20
MP24763-S2*	7440-36-0	Antimony	MSD	REC	105.8	%	88-113
MP24763-S2*	7440-36-0	Antimony	MSD	RPD	.4	%	20
MP24763-S2*	7440-39-3	Barium	MSD	REC	103.1	%	88-113
MP24763-S2*	7440-39-3	Barium	MSD	RPD	1	%	20
MP24763-S2*	7440-41-7	Beryllium	MSD	REC	99.4	%	89-112
MP24763-S2*	7440-41-7	Beryllium	MSD	RPD	1	%	20
MP24763-S2*	7440-43-9	Cadmium	MSD	REC	103.8	%	88-113
MP24763-S2*	7440-43-9	Cadmium	MSD	RPD	.6	%	20
MP24763-S2*	7440-70-2	Calcium	MSD	REC	102.4	%	87-113
MP24763-S2*	7440-70-2	Calcium	MSD	RPD	1.9	%	20
MP24763-S2*	7440-47-3	Chromium	MSD	REC	97.6	%	90-113
MP24763-S2*	7440-47-3	Chromium	MSD	RPD	1.6	%	20
MP24763-S2*	7440-48-4	Cobalt	MSD	REC	100	%	89-114
MP24763-S2*	7440-48-4	Cobalt	MSD	RPD	.8	%	20
MP24763-S2*	7440-50-8	Copper	MSD	REC	97.9	%	86-114
MP24763-S2*	7440-50-8	Copper	MSD	RPD	1.2	%	20
MP24763-S2*	7439-89-6	Iron	MSD	REC	100.5	%	87-115
MP24763-S2*	7439-89-6	Iron	MSD	RPD	.6	%	20
MP24763-S2*	7439-92-1	Lead	MSD	REC	99.5	%	86-113
MP24763-S2*	7439-92-1	Lead	MSD	RPD	.5	%	20
MP24763-S2*	7439-95-4	Magnesium	MSD	REC	102.3	%	85-113
MP24763-S2*	7439-95-4	Magnesium	MSD	RPD	1	%	20
MP24763-S2*	7439-96-5	Manganese	MSD	REC	99.6	%	90-114
MP24763-S2*	7439-96-5	Manganese	MSD	RPD	1.2	%	20
MP24763-S2*	7440-02-0	Nickel	MSD	REC	102.7	%	88-113
MP24763-S2*	7440-02-0	Nickel	MSD	RPD	.4	%	20
MP24763-S2*	7440-09-7	Potassium	MSD	REC	100.6	%	86-114
MP24763-S2*	7440-09-7	Potassium	MSD	RPD	1	%	20
MP24763-S2*	7782-49-2	Selenium	MSD	REC	86	%	83-114
MP24763-S2*	7782-49-2	Selenium	MSD	RPD	2.8	%	20
MP24763-S2*	7440-22-4	Silver	MSD	REC	89.2	%	84-115
MP24763-S2*	7440-22-4	Silver	MSD	RPD	2.2	%	20
MP24763-S2*	7440-23-5	Sodium	MSD	REC	100.4	%	87-115
MP24763-S2*	7440-23-5	Sodium	MSD	RPD	1.7	%	20
MP24763-S2*	7440-28-0	Thallium	MSD	REC	101.8	%	85-114
MP24763-S2*	7440-28-0	Thallium	MSD	RPD	.4	%	20
MP24763-S2*	7440-62-2	Vanadium	MSD	REC	97.8	%	90-111
MP24763-S2*	7440-62-2	Vanadium	MSD	RPD	1.6	%	20
MP24763-S2*	7440-66-6	Zinc	MSD	REC	95.7	%	87-115
MP24763-S2*	7440-66-6	Zinc	MSD	RPD	.8	%	20
MP24763A	SW846 6020A						

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24763A-B1	7440-38-2	Arsenic	BSP	REC	112.8	%	84-116
MP24763A-S1*	7440-38-2	Arsenic	MS	REC	106.9	%	84-116
MP24763A-S2*	7440-38-2	Arsenic	MSD	REC	110.1	%	84-116
MP24763A-S2*	7440-38-2	Arsenic	MSD	RPD	2.8	%	20
MP24766	SW846 7470A						
MP24766-B1	7439-97-6	Mercury	BSP	REC	100	%	82-119
MP24766-B2	7439-97-6	Mercury	BSD	REC	103.3	%	82-119
MP24766-S1*	7439-97-6	Mercury	MS	REC	100	%	82-119
MP24766-S2*	7439-97-6	Mercury	MSD	REC	100	%	82-119
MP24766-S2*	7439-97-6	Mercury	MSD	RPD	0	%	20
MP24781	SW846 7470A						
MP24781-B1	7439-97-6	Mercury	BSP	REC	103.3	%	82-119
MP24781-S1*	7439-97-6	Mercury	MS	REC	110	%	82-119
MP24781-S2*	7439-97-6	Mercury	MSD	REC	113.3	%	82-119
MP24781-S2*	7439-97-6	Mercury	MSD	RPD	3	%	20
MP24785	SW846 6010C						
MP24785-B1	7429-90-5	Aluminum	BSP	REC	102	%	86-115
MP24785-B1	7440-36-0	Antimony	BSP	REC	106.4	%	88-113
MP24785-B1	7440-39-3	Barium	BSP	REC	104	%	88-113
MP24785-B1	7440-41-7	Beryllium	BSP	REC	104	%	89-112
MP24785-B1	7440-43-9	Cadmium	BSP	REC	108.4	%	88-113
MP24785-B1	7440-70-2	Calcium	BSP	REC	104	%	87-113
MP24785-B1	7440-47-3	Chromium	BSP	REC	107	%	90-113
MP24785-B1	7440-48-4	Cobalt	BSP	REC	104.4	%	89-114
MP24785-B1	7440-50-8	Copper	BSP	REC	99.6	%	86-114
MP24785-B1	7439-89-6	Iron	BSP	REC	106	%	87-115
MP24785-B1	7439-92-1	Lead	BSP	REC	103	%	86-113
MP24785-B1	7439-95-4	Magnesium	BSP	REC	104.8	%	85-113
MP24785-B1	7439-96-5	Manganese	BSP	REC	106	%	90-114
MP24785-B1	7440-02-0	Nickel	BSP	REC	104	%	88-113
MP24785-B1	7440-09-7	Potassium	BSP	REC	101.6	%	86-114
MP24785-B1	7782-49-2	Selenium	BSP	REC	106.8	%	83-114
MP24785-B1	7440-22-4	Silver	BSP	REC	95	%	84-115
MP24785-B1	7440-23-5	Sodium	BSP	REC	105.2	%	87-115
MP24785-B1	7440-28-0	Thallium	BSP	REC	104.8	%	85-114
MP24785-B1	7440-62-2	Vanadium	BSP	REC	104.4	%	90-111
MP24785-B1	7440-66-6	Zinc	BSP	REC	105.4	%	87-115
MP24785-S3*	7429-90-5	Aluminum	MS	REC	101.7	%	86-115
MP24785-S3*	7440-36-0	Antimony	MS	REC	106.6	%	88-113

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24785-S3*	7440-39-3	Barium	MS	REC	103.7	%	88-113
MP24785-S3*	7440-41-7	Beryllium	MS	REC	103.4	%	89-112
MP24785-S3*	7440-43-9	Cadmium	MS	REC	108.2	%	88-113
MP24785-S3*	7440-70-2	Calcium	MS	REC	102.4	%	87-113
MP24785-S3*	7440-47-3	Chromium	MS	REC	106.3	%	90-113
MP24785-S3*	7440-48-4	Cobalt	MS	REC	105.1	%	89-114
MP24785-S3*	7440-50-8	Copper	MS	REC	101.4	%	86-114
MP24785-S3*	7439-89-6	Iron	MS	REC	108	%	87-115
MP24785-S3*	7439-92-1	Lead	MS	REC	102	%	86-113
MP24785-S3*	7439-95-4	Magnesium	MS	REC	104.4	%	85-113
MP24785-S3*	7439-96-5	Manganese	MS	REC	154 [a]	%	90-114
MP24785-S3*	7440-02-0	Nickel	MS	REC	105.2	%	88-113
MP24785-S3*	7440-09-7	Potassium	MS	REC	100.8	%	86-114
MP24785-S3*	7782-49-2	Selenium	MS	REC	107.8	%	83-114
MP24785-S3*	7440-22-4	Silver	MS	REC	96.5	%	84-115
MP24785-S3*	7440-23-5	Sodium	MS	REC	104	%	87-115
MP24785-S3*	7440-28-0	Thallium	MS	REC	102.2	%	85-114
MP24785-S3*	7440-62-2	Vanadium	MS	REC	105.1	%	90-111
MP24785-S3*	7440-66-6	Zinc	MS	REC	103.4	%	87-115
MP24785-S4*	7429-90-5	Aluminum	MSD	REC	103.7	%	86-115
MP24785-S4*	7429-90-5	Aluminum	MSD	RPD	1.9	%	20
MP24785-S4*	7440-36-0	Antimony	MSD	REC	106.6	%	88-113
MP24785-S4*	7440-36-0	Antimony	MSD	RPD	0	%	20
MP24785-S4*	7440-39-3	Barium	MSD	REC	103.7	%	88-113
MP24785-S4*	7440-39-3	Barium	MSD	RPD	0	%	20
MP24785-S4*	7440-41-7	Beryllium	MSD	REC	103.2	%	89-112
MP24785-S4*	7440-41-7	Beryllium	MSD	RPD	.2	%	20
MP24785-S4*	7440-43-9	Cadmium	MSD	REC	107.8	%	88-113
MP24785-S4*	7440-43-9	Cadmium	MSD	RPD	.4	%	20
MP24785-S4*	7440-70-2	Calcium	MSD	REC	110.4	%	87-113
MP24785-S4*	7440-70-2	Calcium	MSD	RPD	1.7	%	20
MP24785-S4*	7440-47-3	Chromium	MSD	REC	106.3	%	90-113
MP24785-S4*	7440-47-3	Chromium	MSD	RPD	0	%	20
MP24785-S4*	7440-48-4	Cobalt	MSD	REC	105.1	%	89-114
MP24785-S4*	7440-48-4	Cobalt	MSD	RPD	0	%	20
MP24785-S4*	7440-50-8	Copper	MSD	REC	101.8	%	86-114
MP24785-S4*	7440-50-8	Copper	MSD	RPD	.4	%	20
MP24785-S4*	7439-89-6	Iron	MSD	REC	104	%	87-115
MP24785-S4*	7439-89-6	Iron	MSD	RPD	1	%	20
MP24785-S4*	7439-92-1	Lead	MSD	REC	103	%	86-113
MP24785-S4*	7439-92-1	Lead	MSD	RPD	1	%	20
MP24785-S4*	7439-95-4	Magnesium	MSD	REC	103.2	%	85-113
MP24785-S4*	7439-95-4	Magnesium	MSD	RPD	.8	%	20
MP24785-S4*	7439-96-5	Manganese	MSD	REC	154 [a]	%	90-114
MP24785-S4*	7439-96-5	Manganese	MSD	RPD	0	%	20

* Sample used for QC is not from job MC39479

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24785-S4*	7440-02-0	Nickel	MSD	REC	105.8	%	88-113
MP24785-S4*	7440-02-0	Nickel	MSD	RPD	.6	%	20
MP24785-S4*	7440-09-7	Potassium	MSD	REC	100	%	86-114
MP24785-S4*	7440-09-7	Potassium	MSD	RPD	.6	%	20
MP24785-S4*	7782-49-2	Selenium	MSD	REC	107.2	%	83-114
MP24785-S4*	7782-49-2	Selenium	MSD	RPD	.6	%	20
MP24785-S4*	7440-22-4	Silver	MSD	REC	96.5	%	84-115
MP24785-S4*	7440-22-4	Silver	MSD	RPD	0	%	20
MP24785-S4*	7440-23-5	Sodium	MSD	REC	116 [b]	%	87-115
MP24785-S4*	7440-23-5	Sodium	MSD	RPD	1.9	%	20
MP24785-S4*	7440-28-0	Thallium	MSD	REC	102.4	%	85-114
MP24785-S4*	7440-28-0	Thallium	MSD	RPD	.2	%	20
MP24785-S4*	7440-62-2	Vanadium	MSD	REC	104.9	%	90-111
MP24785-S4*	7440-62-2	Vanadium	MSD	RPD	.2	%	20
MP24785-S4*	7440-66-6	Zinc	MSD	REC	103.2	%	87-115
MP24785-S4*	7440-66-6	Zinc	MSD	RPD	.2	%	20
MP24785A	SW846 6020A						
MP24785A-B1	7440-38-2	Arsenic	BSP	REC	114.2	%	84-116
MP24785A-S3*	7440-38-2	Arsenic	MS	REC	117.6 [c]	%	84-116
MP24785A-S4*	7440-38-2	Arsenic	MSD	REC	116.8 [b]	%	84-116
MP24785A-S4*	7440-38-2	Arsenic	MSD	RPD	.4	%	20

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.
(c) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

* Sample used for QC is not from job MC39479

New England
ACCUTEST
LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-1, MC39479-2, MC39479-3, MC39479-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-1, MC39479-2, MC39479-3, MC39479-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-MB	V40556.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-1, MC39479-2, MC39479-3, MC39479-4

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	72-133%
2037-26-5	Toluene-D8	93%	85-114%
460-00-4	4-Bromofluorobenzene	96%	70-134%

Method Blank Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1465-MB	V40609.D	1	07/01/15	JB	n/a	n/a	MSV1465

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-5, MC39479-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1465-MB	V40609.D	1	07/01/15	JB	n/a	n/a	MSV1465

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-5, MC39479-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1465-MB	V40609.D	1	07/01/15	JB	n/a	n/a	MSV1465

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-5, MC39479-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	72-133%
2037-26-5	Toluene-D8	91%	85-114%
460-00-4	4-Bromofluorobenzene	96%	70-134%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-1, MC39479-2, MC39479-3, MC39479-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	79.4	159	75.4	151	5	14-172/25
71-43-2	Benzene	50	45.9	92	45.0	90	2	68-127/25
108-86-1	Bromobenzene	50	47.0	94	47.4	95	1	74-124/25
74-97-5	Bromochloromethane	50	45.7	91	44.2	88	3	68-135/25
75-27-4	Bromodichloromethane	50	47.5	95	45.9	92	3	72-144/25
75-25-2	Bromoform	50	49.6	99	47.0	94	5	59-147/25
74-83-9	Bromomethane	50	47.2	94	44.7	89	5	34-175/25
78-93-3	2-Butanone (MEK)	50	62.8	126	57.8	116	8	43-147/25
104-51-8	n-Butylbenzene	50	52.5	105	52.6	105	0	77-136/25
135-98-8	sec-Butylbenzene	50	52.7	105	53.3	107	1	75-134/25
98-06-6	tert-Butylbenzene	50	53.3	107	53.9	108	1	74-132/25
75-15-0	Carbon disulfide	50	45.4	91	47.8	96	5	34-171/25
56-23-5	Carbon tetrachloride	50	49.0	98	48.7	97	1	55-153/25
108-90-7	Chlorobenzene	50	46.7	93	45.9	92	2	71-123/25
75-00-3	Chloroethane	50	44.4	89	40.0	80	10	58-175/25
67-66-3	Chloroform	50	47.8	96	47.5	95	1	67-136/25
74-87-3	Chloromethane	50	45.7	91	42.0	84	8	25-182/25
95-49-8	o-Chlorotoluene	50	47.7	95	48.0	96	1	72-130/25
106-43-4	p-Chlorotoluene	50	46.4	93	46.6	93	0	73-127/25
96-12-8	1,2-Dibromo-3-chloropropane	50	49.2	98	44.8	90	9	50-159/25
124-48-1	Dibromochloromethane	50	50.4	101	48.5	97	4	73-139/25
106-93-4	1,2-Dibromoethane	50	46.3	93	45.3	91	2	69-132/25
95-50-1	1,2-Dichlorobenzene	50	48.2	96	47.1	94	2	77-125/25
541-73-1	1,3-Dichlorobenzene	50	48.3	97	48.1	96	0	77-124/25
106-46-7	1,4-Dichlorobenzene	50	46.3	93	45.7	91	1	73-128/25
75-71-8	Dichlorodifluoromethane	50	51.4	103	46.1	92	11	23-157/25
75-34-3	1,1-Dichloroethane	50	44.5	89	45.4	91	2	63-145/25
107-06-2	1,2-Dichloroethane	50	45.1	90	43.1	86	5	58-145/25
75-35-4	1,1-Dichloroethene	50	46.4	93	49.2	98	6	56-158/25
156-59-2	cis-1,2-Dichloroethene	50	43.9	88	43.8	88	0	67-133/25
156-60-5	trans-1,2-Dichloroethene	50	49.1	98	50.3	101	2	66-136/25
78-87-5	1,2-Dichloropropane	50	46.4	93	45.2	90	3	75-133/25
142-28-9	1,3-Dichloropropane	50	44.8	90	43.3	87	3	70-127/25
594-20-7	2,2-Dichloropropane	50	59.4	119	58.3	117	2	52-163/25
563-58-6	1,1-Dichloropropene	50	53.8	108	52.8	106	2	77-140/25
10061-01-5	cis-1,3-Dichloropropene	50	49.6	99	48.3	97	3	74-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-1, MC39479-2, MC39479-3, MC39479-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	53.5	107	52.1	104	3	77-143/25
100-41-4	Ethylbenzene	50	48.9	98	47.6	95	3	71-129/25
87-68-3	Hexachlorobutadiene	50	51.4	103	51.8	104	1	64-146/25
591-78-6	2-Hexanone	50	63.1	126	58.0	116	8	22-163/25
74-88-4	Iodomethane	50	45.2	90	47.5	95	5	30-166/25
98-82-8	Isopropylbenzene	50	51.2	102	51.6	103	1	72-133/25
99-87-6	p-Isopropyltoluene	50	55.1	110	55.2	110	0	77-134/25
1634-04-4	Methyl Tert Butyl Ether	50	45.5	91	44.9	90	1	46-151/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	50.1	100	45.8	92	9	47-145/25
74-95-3	Methylene bromide	50	45.2	90	43.0	86	5	70-132/25
75-09-2	Methylene chloride	50	41.7	83	44.1	88	6	55-146/25
91-20-3	Naphthalene	50	58.2	116	52.7	105	10	39-176/25
103-65-1	n-Propylbenzene	50	51.0	102	51.0	102	0	74-134/25
100-42-5	Styrene	50	52.2	104	50.7	101	3	71-134/25
630-20-6	1,1,1,2-Tetrachloroethane	50	50.0	100	48.8	98	2	70-137/25
79-34-5	1,1,2,2-Tetrachloroethane	50	41.8	84	39.3	79	6	58-145/25
127-18-4	Tetrachloroethene	50	57.3	115	56.2	112	2	63-137/25
108-88-3	Toluene	50	46.9	94	45.9	92	2	75-126/25
87-61-6	1,2,3-Trichlorobenzene	50	53.7	107	48.6	97	10	27-181/25
120-82-1	1,2,4-Trichlorobenzene	50	53.3	107	49.7	99	7	40-176/25
71-55-6	1,1,1-Trichloroethane	50	45.7	91	45.8	92	0	68-144/25
79-00-5	1,1,2-Trichloroethane	50	46.1	92	44.0	88	5	72-133/25
79-01-6	Trichloroethene	50	47.1	94	46.2	92	2	73-126/25
75-69-4	Trichlorofluoromethane	50	47.6	95	45.4	91	5	43-152/25
96-18-4	1,2,3-Trichloropropane	50	44.2	88	42.5	85	4	58-141/25
95-63-6	1,2,4-Trimethylbenzene	50	51.2	102	51.5	103	1	76-129/25
108-67-8	1,3,5-Trimethylbenzene	50	50.4	101	50.6	101	0	71-127/25
108-05-4	Vinyl Acetate	50	50.2	100	47.6	95	5	10-170/25
75-01-4	Vinyl chloride	50	45.9	92	44.1	88	4	36-167/25
	m,p-Xylene	100	99.2	99	96.9	97	2	68-130/25
95-47-6	o-Xylene	50	54.1	108	52.3	105	3	69-126/25
1330-20-7	Xylene (total)	150	153	102	149	99	3	67-129/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1463-BS	V40553.D	1	06/30/15	JB	n/a	n/a	MSV1463
MSV1463-BSD	V40554.D	1	06/30/15	JB	n/a	n/a	MSV1463

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-1, MC39479-2, MC39479-3, MC39479-4

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	97%	96%	72-133%
2037-26-5	Toluene-D8	100%	99%	85-114%
460-00-4	4-Bromofluorobenzene	97%	100%	70-134%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1465-BS	V40606.D	1	07/01/15	JB	n/a	n/a	MSV1465
MSV1465-BSD	V40607.D	1	07/01/15	JB	n/a	n/a	MSV1465

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-5, MC39479-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	72.8	146	72.9	146	0	14-172/25
71-43-2	Benzene	50	45.9	92	44.4	89	3	68-127/25
108-86-1	Bromobenzene	50	47.5	95	46.7	93	2	74-124/25
74-97-5	Bromochloromethane	50	45.2	90	43.2	86	5	68-135/25
75-27-4	Bromodichloromethane	50	45.7	91	45.0	90	2	72-144/25
75-25-2	Bromoform	50	47.3	95	46.4	93	2	59-147/25
74-83-9	Bromomethane	50	45.6	91	43.4	87	5	34-175/25
78-93-3	2-Butanone (MEK)	50	59.0	118	55.7	111	6	43-147/25
104-51-8	n-Butylbenzene	50	53.4	107	50.8	102	5	77-136/25
135-98-8	sec-Butylbenzene	50	53.3	107	51.9	104	3	75-134/25
98-06-6	tert-Butylbenzene	50	53.1	106	51.9	104	2	74-132/25
75-15-0	Carbon disulfide	50	41.8	84	45.1	90	8	34-171/25
56-23-5	Carbon tetrachloride	50	47.6	95	46.5	93	2	55-153/25
108-90-7	Chlorobenzene	50	46.8	94	45.6	91	3	71-123/25
75-00-3	Chloroethane	50	42.2	84	38.9	78	8	58-175/25
67-66-3	Chloroform	50	48.1	96	46.5	93	3	67-136/25
74-87-3	Chloromethane	50	43.0	86	40.3	81	6	25-182/25
95-49-8	o-Chlorotoluene	50	48.6	97	46.9	94	4	72-130/25
106-43-4	p-Chlorotoluene	50	47.0	94	45.8	92	3	73-127/25
96-12-8	1,2-Dibromo-3-chloropropane	50	45.0	90	42.2	84	6	50-159/25
124-48-1	Dibromochloromethane	50	48.8	98	48.0	96	2	73-139/25
106-93-4	1,2-Dibromoethane	50	44.5	89	45.1	90	1	69-132/25
95-50-1	1,2-Dichlorobenzene	50	47.8	96	46.4	93	3	77-125/25
541-73-1	1,3-Dichlorobenzene	50	48.8	98	47.5	95	3	77-124/25
106-46-7	1,4-Dichlorobenzene	50	46.5	93	45.1	90	3	73-128/25
75-71-8	Dichlorodifluoromethane	50	73.2	146	46.9	94	44* [a]	23-157/25
75-34-3	1,1-Dichloroethane	50	44.1	88	43.8	88	1	63-145/25
107-06-2	1,2-Dichloroethane	50	43.2	86	42.1	84	3	58-145/25
75-35-4	1,1-Dichloroethene	50	43.0	86	47.0	94	9	56-158/25
156-59-2	cis-1,2-Dichloroethene	50	44.5	89	43.1	86	3	67-133/25
156-60-5	trans-1,2-Dichloroethene	50	48.5	97	48.8	98	1	66-136/25
78-87-5	1,2-Dichloropropane	50	45.6	91	44.7	89	2	75-133/25
142-28-9	1,3-Dichloropropane	50	43.2	86	42.6	85	1	70-127/25
594-20-7	2,2-Dichloropropane	50	56.6	113	55.9	112	1	52-163/25
563-58-6	1,1-Dichloropropene	50	53.5	107	52.0	104	3	77-140/25
10061-01-5	cis-1,3-Dichloropropene	50	47.4	95	47.5	95	0	74-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1465-BS	V40606.D	1	07/01/15	JB	n/a	n/a	MSV1465
MSV1465-BSD	V40607.D	1	07/01/15	JB	n/a	n/a	MSV1465

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-5, MC39479-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	50.1	100	50.9	102	2	77-143/25
100-41-4	Ethylbenzene	50	48.8	98	47.3	95	3	71-129/25
87-68-3	Hexachlorobutadiene	50	52.4	105	51.3	103	2	64-146/25
591-78-6	2-Hexanone	50	59.7	119	56.8	114	5	22-163/25
74-88-4	Iodomethane	50	42.7	85	46.0	92	7	30-166/25
98-82-8	Isopropylbenzene	50	52.1	104	50.9	102	2	72-133/25
99-87-6	p-Isopropyltoluene	50	55.8	112	54.0	108	3	77-134/25
1634-04-4	Methyl Tert Butyl Ether	50	42.9	86	44.3	89	3	46-151/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	46.0	92	45.1	90	2	47-145/25
74-95-3	Methylene bromide	50	42.4	85	42.0	84	1	70-132/25
75-09-2	Methylene chloride	50	39.2	78	41.9	84	7	55-146/25
91-20-3	Naphthalene	50	52.9	106	49.8	100	6	39-176/25
103-65-1	n-Propylbenzene	50	51.7	103	49.8	100	4	74-134/25
100-42-5	Styrene	50	51.7	103	50.4	101	3	71-134/25
630-20-6	1,1,1,2-Tetrachloroethane	50	50.4	101	48.1	96	5	70-137/25
79-34-5	1,1,2,2-Tetrachloroethane	50	39.8	80	37.9	76	5	58-145/25
127-18-4	Tetrachloroethene	50	57.4	115	56.3	113	2	63-137/25
108-88-3	Toluene	50	45.8	92	45.4	91	1	75-126/25
87-61-6	1,2,3-Trichlorobenzene	50	49.8	100	46.8	94	6	27-181/25
120-82-1	1,2,4-Trichlorobenzene	50	50.8	102	47.8	96	6	40-176/25
71-55-6	1,1,1-Trichloroethane	50	44.5	89	44.1	88	1	68-144/25
79-00-5	1,1,2-Trichloroethane	50	43.6	87	43.4	87	0	72-133/25
79-01-6	Trichloroethene	50	46.8	94	45.9	92	2	73-126/25
75-69-4	Trichlorofluoromethane	50	44.9	90	44.1	88	2	43-152/25
96-18-4	1,2,3-Trichloropropane	50	50.9	102	41.5	83	20	58-141/25
95-63-6	1,2,4-Trimethylbenzene	50	52.5	105	50.5	101	4	76-129/25
108-67-8	1,3,5-Trimethylbenzene	50	51.4	103	49.7	99	3	71-127/25
108-05-4	Vinyl Acetate	50	47.8	96	46.3	93	3	10-170/25
75-01-4	Vinyl chloride	50	43.5	87	42.3	85	3	36-167/25
	m,p-Xylene	100	99.3	99	96.1	96	3	68-130/25
95-47-6	o-Xylene	50	54.0	108	52.5	105	3	69-126/25
1330-20-7	Xylene (total)	150	153	102	149	99	3	67-129/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1465-BS	V40606.D	1	07/01/15	JB	n/a	n/a	MSV1465
MSV1465-BSD	V40607.D	1	07/01/15	JB	n/a	n/a	MSV1465

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39479-5, MC39479-6

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	97%	95%	72-133%
2037-26-5	Toluene-D8	98%	99%	85-114%
460-00-4	4-Bromofluorobenzene	98%	100%	70-134%

(a) Outside control limits. Individual spike recoveries within acceptance limits.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC39479-1	V40573.D	107	95	95
MC39479-2	V40574.D	106	94	96
MC39479-3	V40575.D	106	94	97
MC39479-4	V40576.D	107	94	96
MC39479-5	V40613.D	105	94	97
MC39479-6	V40614.D	104	95	94
MSV1463-BS	V40553.D	97	100	97
MSV1463-BSD	V40554.D	96	99	100
MSV1463-MB	V40556.D	101	93	96
MSV1465-BS	V40606.D	97	98	98
MSV1465-BSD	V40607.D	95	99	100
MSV1465-MB	V40609.D	99	91	96

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	72-133%
S2 = Toluene-D8	85-114%
S3 = 4-Bromofluorobenzene	70-134%

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GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1504-MB	BA22092.D	1	06/30/15	TB	n/a	n/a	GBA1504

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1504-BSP	BA22093.D	1	06/30/15	TB	n/a	n/a	GBA1504

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	90.7	102	50-150
74-84-0	Ethane	166	171	103	50-150
74-85-1	Ethene	155	179	115	50-150

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39479
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39533-3MS	BA22095.D	1	06/30/15	TB	n/a	n/a	GBA1504
MC39533-3MSD	BA22096.D	1	06/30/15	TB	n/a	n/a	GBA1504
MC39533-3	BA22094.D	1	06/30/15	TB	n/a	n/a	GBA1504

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6

CAS No.	Compound	MC39533-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
74-82-8	Methane	719		88.7	777	65	88.7	762	48* [a]	2	50-150/30
74-84-0	Ethane	10	U	166	155	93	166	145	87	7	50-150/30
74-85-1	Ethene	4.4		155	163	102	155	151	95	8	50-150/30

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					06/22/15		06/22/15		06/22/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Aluminum	200	14	28	9.2	<200	7.0	<200	-1.5	<200
Antimony	6.0	1.1	2	0.70	<6.0	0.20	<6.0	0.20	<6.0
Arsenic	4.0	1.6	1.7						
Barium	50	.35	1	-0.20	<50	0.10	<50	-0.30	<50
Beryllium	4.0	.15	.25	0.0	<4.0	0.10	<4.0	0.0	<4.0
Bismuth	50	1.3	2.1						
Boron	100	.9	1.1						
Cadmium	4.0	.16	.43	0.10	<4.0	0.10	<4.0	0.10	<4.0
Calcium	5000	6.9	15	14.7	<5000	53.1	<5000	45.0	<5000
Chromium	10	.36	.48	0.10	<10	0.10	<10	0.20	<10
Cobalt	50	.15	.28	0.0	<50	0.0	<50	0.0	<50
Copper	25	.59	2.4	0.80	<25	2.0	<25	1.4	<25
Gold	50	1.1	1.5						
Iron	100	3.3	17	5.2	<100	8.0	<100	17.6	<100
Lead	5.0	.78	1.7	0.0	<5.0	0.40	<5.0	0.20	<5.0
Lithium	500	2.3	2.5						
Magnesium	5000	23	54	10.4	<5000	12.1	<5000	5.0	<5000
Manganese	15	.056	1.4	0.0	<15	0.20	<15	0.0	<15
Molybdenum	100	1.7	3.6						
Nickel	40	.21	.5	0.0	<40	0.0	<40	0.0	<40
Palladium	50	.92	2.6						
Platinum	50	4.6	5.4						
Potassium	5000	41	49	39.0	<5000	31.7	<5000	11.7	<5000
Selenium	10	1.5	2	-0.20	<10	0.0	<10	0.0	<10
Silicon	100	1.1	30						
Silver	5.0	.56	1	0.50	<5.0	0.70	<5.0	0.70	<5.0
Sodium	5000	17	77	30.6	<5000	115	<5000	94.5	<5000
Sulfur	50	2.3	4.6						
Strontium	10	.2	.22						
Thallium	5.0	.54	1.7	-0.80	<5.0	-0.90	<5.0	-0.90	<5.0
Tin	100	.39	.81						
Titanium	50	.34	.51						
Tungsten	100	3.1	22						

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					06/22/15		06/22/15		06/22/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Vanadium	10	.61	.51	-0.20	<10	-0.10	<10	0.0	<10
Zinc	20	.53	1	1.2	<20	3.7	<20	1.1	<20
Zirconium	50	.19	1.2						

Associated samples MP24763: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	236	10200	10000	99.6	75-125
Antimony	0.0	531	500	106.2	75-125
Arsenic					
Barium	28.3	2070	2000	102.1	75-125
Beryllium	0.0	492	500	98.4	75-125
Bismuth					
Boron					
Cadmium	1.2	523	500	104.4	75-125
Calcium	52800	76900	25000	96.4	75-125
Chromium	1.1	497	500	99.2	75-125
Cobalt	0.0	504	500	100.8	75-125
Copper	2.5	498	500	99.1	75-125
Gold					
Iron	6350	16300	10000	99.5	75-125
Lead	0.0	1000	1000	100.0	75-125
Lithium					
Magnesium	4120	29400	25000	101.1	75-125
Manganese	191	697	500	101.2	75-125
Molybdenum					
Nickel	0.40	516	500	103.1	75-125
Palladium					
Platinum					
Potassium	3740	28600	25000	99.4	75-125
Selenium	0.0	442	500	88.4	75-125
Silicon					
Silver	0.70	183	200	91.2	75-125
Sodium	35500	59600	25000	96.4	75-125
Sulfur					
Strontium					
Thallium	0.0	511	500	102.2	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	0.80	498	500	99.4	75-125
Zinc	10.4	493	500	96.5	75-125
Zirconium					

Associated samples MP24763: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	236	10400	10000	101.6	1.9	20
Antimony	0.0	529	500	105.8	0.4	20
Arsenic						
Barium	28.3	2090	2000	103.1	1.0	20
Beryllium	0.0	497	500	99.4	1.0	20
Bismuth						
Boron						
Cadmium	1.2	520	500	103.8	0.6	20
Calcium	52800	78400	25000	102.4	1.9	20
Chromium	1.1	489	500	97.6	1.6	20
Cobalt	0.0	500	500	100.0	0.8	20
Copper	2.5	492	500	97.9	1.2	20
Gold						
Iron	6350	16400	10000	100.5	0.6	20
Lead	0.0	995	1000	99.5	0.5	20
Lithium						
Magnesium	4120	29700	25000	102.3	1.0	20
Manganese	191	689	500	99.6	1.2	20
Molybdenum						
Nickel	0.40	514	500	102.7	0.4	20
Palladium						
Platinum						
Potassium	3740	28900	25000	100.6	1.0	20
Selenium	0.0	430	500	86.0	2.8	20
Silicon						
Silver	0.70	179	200	89.2	2.2	20
Sodium	35500	60600	25000	100.4	1.7	20
Sulfur						
Strontium						
Thallium	0.0	509	500	101.8	0.4	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	0.80	490	500	97.8	1.6	20
Zinc	10.4	489	500	95.7	0.8	20
Zirconium						

Associated samples MP24763: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	10000	10000	100.0	80-120
Antimony	523	500	104.6	80-120
Arsenic				
Barium	2050	2000	102.5	80-120
Beryllium	491	500	98.2	80-120
Bismuth				
Boron				
Cadmium	514	500	102.8	80-120
Calcium	26000	25000	104.0	80-120
Chromium	497	500	99.4	80-120
Cobalt	498	500	99.6	80-120
Copper	493	500	98.6	80-120
Gold				
Iron	10100	10000	101.0	80-120
Lead	1000	1000	100.0	80-120
Lithium				
Magnesium	26400	25000	105.6	80-120
Manganese	509	500	101.8	80-120
Molybdenum				
Nickel	514	500	102.8	80-120
Palladium				
Platinum				
Potassium	25900	25000	103.6	80-120
Selenium	519	500	103.8	80-120
Silicon				
Silver	180	200	90.0	80-120
Sodium	25700	25000	102.8	80-120
Sulfur				
Strontium				
Thallium	514	500	102.8	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	494	500	98.8	80-120
Zinc	488	500	97.6	80-120
Zirconium				

Associated samples MP24763: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	236	290	22.7 (a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	28.3	27.6	2.5	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	1.20	1.20	0.0	0-10
Calcium	52800	54100	2.3	0-10
Chromium	1.10	0.00	100.0(a)	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	2.50	6.20	148.0(a)	0-10
Gold				
Iron	6350	6520	2.8	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	4120	4350	5.7	0-10
Manganese	191	204	6.8	0-10
Molybdenum				
Nickel	0.400	0.00	100.0(a)	0-10
Palladium				
Platinum				
Potassium	3740	3920	4.9	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.700	0.00	100.0(a)	0-10
Sodium	35500	36500	3.0	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.800	0.00	100.0(a)	0-10
Zinc	10.4	13.1	26.0 (a)	0-10
Zirconium				

Associated samples MP24763: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date:					06/22/15		06/22/15		06/22/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Aluminum	50	1.3	4.4						
Antimony	4.0	.022	.058						
Arsenic	4.0	.046	.42	0.68	<4.0	0.69	<4.0	0.72	<4.0
Barium	2.0	.016	.076						
Beryllium	1.0	.015	.042						
Boron	10	.24	.34						
Cadmium	2.0	.012	.026						
Calcium	500	4.2	30						
Chromium	8.0	.032	.42						
Cobalt	1.0	.0064	.028						
Copper	8.0	.017	1						
Iron	50	.72	3.4						
Lead	2.0	.013	.036						
Magnesium	500	1.4	2						
Manganese	4.0	.0096	1.2						
Molybdenum	2.0	.028	.24						
Nickel	4.0	.015	.14						
Potassium	500	3.4	5.2						
Selenium	2.0	.15	.3						
Silver	2.0	.0088	.022						
Sodium	500	2	8.8						
Strontium	20	.01	.026						
Thallium	2.0	.042	.068						
Tin	10	.015	.048						
Titanium	2.0	.2	.26						
Vanadium	20	.2	1.4						
Zinc	10	.066	2						

Associated samples MP24763A: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	37.5	572	500	106.9	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP24763A: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	37.5	588	500	110.1	2.8	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP24763A: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	564	500	112.8	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24763A: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24763A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39372-1 Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	37.5	37.6	0.3	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24763A: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Prep Date:					06/22/15		06/22/15		06/22/15
Mercury	0.20	.038	.096	-0.027	<0.20	-0.017	<0.20	-0.019	<0.20

Associated samples MP24766: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39435-8F Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.0	3	100.0	75-125

Associated samples MP24766: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/22/15

Metal	MC39435-8F Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	0.0	20

Associated samples MP24766: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24766
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:			06/22/15					06/22/15	
Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	3.0	3	100.0	80-120	3.1	3	103.3	3.3	20

Associated samples MP24766: MC39479-1F, MC39479-2F, MC39479-3F, MC39479-4F, MC39479-5F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.3

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:					06/26/15		06/26/15		06/26/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Mercury	0.20	.035	.096	0.024	<0.20	0.020	<0.20	0.018	<0.20

Associated samples MP24781: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.4.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.3	3	110.0	75-125

Associated samples MP24781: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.4.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.4	3	113.3	3.0	20

Associated samples MP24781: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.4.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits
Mercury	3.1	3	103.3	80-120

Associated samples MP24781: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					06/26/15		06/26/15		06/26/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Aluminum	200	14	28	-18	<200	-7.6	<200	-8.6	<200
Antimony	6.0	1.1	2	0.10	<6.0	0.30	<6.0	-0.30	<6.0
Arsenic	4.0	1.6	1.7						
Barium	50	.35	1	0.0	<50	0.30	<50	0.30	<50
Beryllium	4.0	.15	.25	0.0	<4.0	0.0	<4.0	0.0	<4.0
Bismuth	50	1.3	2.1						
Boron	100	.9	1.1						
Cadmium	4.0	.16	.43	0.20	<4.0	0.10	<4.0	0.10	<4.0
Calcium	5000	6.9	15	19.2	<5000	24.8	<5000	26.7	<5000
Chromium	10	.36	.48	0.20	<10	0.20	<10	0.0	<10
Cobalt	50	.15	.28	0.0	<50	-0.10	<50	0.0	<50
Copper	25	.59	2.4	-0.30	<25	0.10	<25	0.10	<25
Gold	50	1.1	1.5						
Iron	100	3.3	17	-0.10	<100	1.4	<100	10.0	<100
Lead	5.0	.78	1.7	-0.10	<5.0	0.30	<5.0	0.10	<5.0
Lithium	500	2.3	2.5						
Magnesium	5000	23	54	-5.0	<5000	-10	<5000	-4.1	<5000
Manganese	15	.056	1.4	0.0	<15	0.0	<15	0.0	<15
Molybdenum	100	1.7	3.6						
Nickel	40	.21	.5	0.0	<40	-0.10	<40	-0.30	<40
Palladium	50	.92	2.6						
Platinum	50	4.6	5.4						
Potassium	5000	41	49	44.2	<5000	34.3	<5000	38.3	<5000
Selenium	10	1.5	2	1.1	<10	1.6	<10	1.8	<10
Silicon	100	1.1	30						
Silver	5.0	.56	1	-0.50	<5.0	-0.40	<5.0	-0.50	<5.0
Sodium	5000	17	77	84.9	<5000	129	<5000	110	<5000
Sulfur	50	2.3	4.6						
Strontium	10	.2	.22						
Thallium	5.0	.54	1.7	-0.60	<5.0	-0.80	<5.0	-0.70	<5.0
Tin	100	.39	.81						
Titanium	50	.34	.51						
Tungsten	100	3.1	22						

8.5.1
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					06/26/15		06/26/15		06/26/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Vanadium	10	.61	.51	0.0	<10	-0.20	<10	0.0	<10
Zinc	20	.53	1	0.50	<20	0.50	<20	0.80	<20
Zirconium	50	.19	1.2						

Associated samples MP24785: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	128	10300	10000	101.7	75-125
Antimony	0.0	533	500	106.6	75-125
Arsenic					
Barium	55.8	2130	2000	103.7	75-125
Beryllium	0.0	517	500	103.4	75-125
Bismuth					
Boron					
Cadmium	4.8	546	500	108.2	75-125
Calcium	88400	114000	25000	102.4	75-125
Chromium	0.40	532	500	106.3	75-125
Cobalt	4.3	530	500	105.1	75-125
Copper	0.90	508	500	101.4	75-125
Gold					
Iron	29300	40100	10000	108.0	75-125
Lead	0.0	1020	1000	102.0	75-125
Lithium					
Magnesium	13900	40000	25000	104.4	75-125
Manganese	3840	4610	500	154.0(a)	75-125
Molybdenum					
Nickel	0.90	527	500	105.2	75-125
Palladium					
Platinum					
Potassium	6010	31200	25000	100.8	75-125
Selenium	0.0	539	500	107.8	75-125
Silicon					
Silver	0.0	193	200	96.5	75-125
Sodium	131000	157000	25000	104.0	75-125
Sulfur					
Strontium					
Thallium	0.0	511	500	102.2	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	1.7	527	500	105.1	75-125
Zinc	5.2	522	500	103.4	75-125
Zirconium					

Associated samples MP24785: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

8.5.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	128	10500	10000	103.7	1.9	20
Antimony	0.0	533	500	106.6	0.0	20
Arsenic						
Barium	55.8	2130	2000	103.7	0.0	20
Beryllium	0.0	516	500	103.2	0.2	20
Bismuth						
Boron						
Cadmium	4.8	544	500	107.8	0.4	20
Calcium	88400	116000	25000	110.4	1.7	20
Chromium	0.40	532	500	106.3	0.0	20
Cobalt	4.3	530	500	105.1	0.0	20
Copper	0.90	510	500	101.8	0.4	20
Gold						
Iron	29300	39700	10000	104.0	1.0	20
Lead	0.0	1030	1000	103.0	1.0	20
Lithium						
Magnesium	13900	39700	25000	103.2	0.8	20
Manganese	3840	4610	500	154.0(a)	0.0	20
Molybdenum						
Nickel	0.90	530	500	105.8	0.6	20
Palladium						
Platinum						
Potassium	6010	31000	25000	100.0	0.6	20
Selenium	0.0	536	500	107.2	0.6	20
Silicon						
Silver	0.0	193	200	96.5	0.0	20
Sodium	131000	160000	25000	116.0(b)	1.9	20
Sulfur						
Strontium						
Thallium	0.0	512	500	102.4	0.2	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	1.7	526	500	104.9	0.2	20
Zinc	5.2	521	500	103.2	0.2	20
Zirconium						

Associated samples MP24785: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	10200	10000	102.0	80-120
Antimony	532	500	106.4	80-120
Arsenic				
Barium	2080	2000	104.0	80-120
Beryllium	520	500	104.0	80-120
Bismuth				
Boron				
Cadmium	542	500	108.4	80-120
Calcium	26000	25000	104.0	80-120
Chromium	535	500	107.0	80-120
Cobalt	522	500	104.4	80-120
Copper	498	500	99.6	80-120
Gold				
Iron	10600	10000	106.0	80-120
Lead	1030	1000	103.0	80-120
Lithium				
Magnesium	26200	25000	104.8	80-120
Manganese	530	500	106.0	80-120
Molybdenum				
Nickel	520	500	104.0	80-120
Palladium				
Platinum				
Potassium	25400	25000	101.6	80-120
Selenium	534	500	106.8	80-120
Silicon				
Silver	190	200	95.0	80-120
Sodium	26300	25000	105.2	80-120
Sulfur				
Strontium				
Thallium	524	500	104.8	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	522	500	104.4	80-120
Zinc	527	500	105.4	80-120
Zirconium				

Associated samples MP24785: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 06/26/15

Metal	MC39372-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum	96.4	76.2	21.0 (a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	29.3	29.9	2.0	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.400	0.00	100.0(a)	0-10
Calcium	54500	55800	2.5	0-10
Chromium	0.500	0.00	100.0(a)	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	1.20	0.00	100.0(a)	0-10
Gold				
Iron	4470	4580	2.4	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	4440	4550	2.5	0-10
Manganese	202	210	4.4	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Palladium				
Platinum				
Potassium	3820	3960	3.7	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	39400	40300	2.3	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39372-1F Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.00	0.00	NC	0-10
Zinc	7.20	8.50	18.1 (a)	0-10
Zirconium				

Associated samples MP24785: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.5.4

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BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date:					06/26/15		06/26/15		06/26/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Aluminum	50	1.3	4.4						
Antimony	4.0	.022	.058						
Arsenic	4.0	.046	.42	0.78	<4.0	0.81	<4.0	0.75	<4.0
Barium	2.0	.016	.076						
Beryllium	1.0	.015	.042						
Boron	10	.24	.34						
Cadmium	2.0	.012	.026						
Calcium	500	4.2	30						
Chromium	8.0	.032	.42						
Cobalt	1.0	.0064	.028						
Copper	8.0	.017	1						
Iron	50	.72	3.4						
Lead	2.0	.013	.036						
Magnesium	500	1.4	2						
Manganese	4.0	.0096	1.2						
Molybdenum	2.0	.028	.24						
Nickel	4.0	.015	.14						
Potassium	500	3.4	5.2						
Selenium	2.0	.15	.3						
Silver	2.0	.0088	.022						
Sodium	500	2	8.8						
Strontium	20	.01	.026						
Thallium	2.0	.042	.068						
Tin	10	.015	.048						
Titanium	2.0	.2	.26						
Vanadium	20	.2	1.4						
Zinc	10	.066	2						

Associated samples MP24785A: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	360	948	500	117.6(a)	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP24785A: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	360	944	500	116.8(a)	0.4	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP24785A: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	571	500	114.2	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24785A: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39372-1F Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	22.0	22.4	2.0	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24785A: MC39479-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN51031	5.0	0.0	mg/l	250	253	101.2	80-120%
Nitrogen, Nitrate + Nitrite	GP19282/GN51017	0.10	0.037	mg/l	2	1.85	92.5	90-110%
Nitrogen, Nitrite	GP19267/GN50968	0.010	0.0	mg/l	0.02	0.020	100.0	80-120%
Sulfide	GN51004	2.0	0.0	mg/l	13.4	12.0	89.6	80-120%
Total Organic Carbon	GP19293/GN51057	1.0	0.0	mg/l	10	10.1	101.0	80-120%

Associated Samples:
Batch GN51004: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GN51031: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GP19267: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GP19282: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GP19293: MC39479-1, MC39479-2, MC39479-6
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN51031	MC39533-3	mg/l	129	128	0.8	0-20%
Nitrogen, Nitrate + Nitrite	GP19282/GN51017	MC39435-6	mg/l	0.018 U	0.044	14.7	0-20%
Nitrogen, Nitrite	GP19267/GN50968	MC39435-3	mg/l	0.0011 U	0.0022	24.0(a)	0-20%
Sulfide	GN51004	MC39533-3	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN51004: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GN51031: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GP19267: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GP19282: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

9.2

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN51031	MC39533-3	mg/l	129	250	386	102.8	75-125%
Nitrogen, Nitrate + Nitrite	GP19282/GN51017	MC39435-6	mg/l	0.018 U	2	1.9	92.5	90-110%
Nitrogen, Nitrite	GP19267/GN50968	MC39435-3	mg/l	0.0011 U	0.02	0.022	96.0	75-125%
Sulfide	GN51004	MC39533-3	mg/l	0.34 U	10.7	10.4	97.2	75-125%
Total Organic Carbon	GP19293/GN51057	MC39435-6	mg/l	0.35 U	10	10	100.0	75-125%

Associated Samples:
Batch GN51004: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GN51031: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GP19267: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GP19282: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
Batch GP19293: MC39479-1, MC39479-2, MC39479-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39479
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19293/GN51057	MC39435-6	mg/l	0.35 U	10	10.1	1.0	

Associated Samples:
Batch GP19293: MC39479-1, MC39479-2, MC39479-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

9.4
9

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

CHAIN OF CUSTODY

ACCUTEST LABORATORIES

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC39479
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information			Subcontract Laboratory Information		
Name: Accutest New England			Name: Accutest - New Jersey		
Address: 50 D'Angelo Drive			Address: 2235 Route 130		
City: Marlborough	State: MA	Zip: 01752	City: Dayton	State: NJ	Zip: 08810
Send Report to: FrankD@accutest.com			Contact: Sample Management		
Any questions contact: Frank D'Agostino					
Phone/Fax #: (508)481-6200 / (508)481-7753			Phone: (732) 329-0200		

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300					Comments
MC39479 -1	6/19/15	9:00 AM		GW	1					x	X					
MC39479 -2	6/19/15	9:50 AM		GW	1					x	X					
MC39479 -3	6/19/15	11:20 AM		GW	1					x	X					
MC39479 -4	6/19/15	12:35 PM		GW	1					x	X					
MC39479 -6	6/19/15	00:00		GW	1					x	X					TX

Turnaround: [x] STD 7/3/15
[ ] Other ______ (Days) *Please notify Accutest if surcharges are applied.

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [X] Commercial "BN"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

Comments / Remarks
All DW samples are subject to MCL compliance reporting

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1 [signature]	6/22/15	1 [signature]	1
2 FedEx	6-23-15 13:45	2 [signature]	2
3		3	3

Seal #: Headspace: Yes / No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C 6.6 °C On Ice [x]

fx: 6406 1312 4349

INITIAL ASESSMENT 2A MB
LABEL VERIFICATION DG

sm022-01 (10/30/14)

10.1 10

MC39479: Chain of Custody
Page 1 of 2
Accutest New Jersey

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39479 **Client:** **Project:**

Date / Time Received: 6/23/2015 1:45:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (5.6);

Cooler Temps (Corrected) °C: Cooler 1: (5.3);

Cooler Security	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

MC39479: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC39479
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 06/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC39479

New England
ACCUTEST
LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39479
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Sulfate	GP90081/GN27843	10	0.0	mg/l	80	78.4	98.0	90-110%
Sulfate	GP90081/GN27850	10	0.33	mg/l	80	80.3	100.4	90-110%

Associated Samples:
Batch GP90081: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39479
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Sulfate	GP90081/GN27774	JB97390-1	mg/l	192	192	0.0	0-20%

Associated Samples:
Batch GP90081: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39479
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Sulfate	GP90081/GN27850	MC39479-3	mg/l	7.7	80	89.1	101.8	80-120%

Associated Samples:
Batch GP90081: MC39479-1, MC39479-2, MC39479-3, MC39479-4, MC39479-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
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LABORATORIES

07/13/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

Accutest Job Number: MC39533

Sampling Date: 06/22/15

Report to:

H&S Environmental
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ATTN: Elizabeth Anderson

Total number of pages in report: **98**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

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Sample Summary

H&S Environmental

Job No: MC39533

Fort Devens, AOC50, Devens, MA

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC39533-1	06/22/15	11:40	SL	06/22/15	AQ	Ground Water	G6M-13-01X-062215
MC39533-1F	06/22/15	11:40	SL	06/22/15	AQ	Groundwater Filtered	G6M-13-01X-062215
MC39533-2	06/22/15	12:35	SL	06/22/15	AQ	Ground Water	G6M-13-04X-062215H
MC39533-2F	06/22/15	12:35	SL	06/22/15	AQ	Groundwater Filtered	G6M-13-04X-062215H
MC39533-3	06/22/15	14:40	SL	06/22/15	AQ	Ground Water	G6M-13-04X-062215
MC39533-3D	06/22/15	14:40	SL	06/22/15	AQ	Water Dup/MSD	G6M-13-04X-062215
MC39533-3F	06/22/15	14:40	SL	06/22/15	AQ	Groundwater Filtered	G6M-13-04X-062215
MC39533-3FD	06/22/15	14:40	SL	06/22/15	AQ	Water Dup/MSD	G6M-13-04X-062215
MC39533-3FS	06/22/15	14:40	SL	06/22/15	AQ	Water Matrix Spike	G6M-13-04X-062215
MC39533-3S	06/22/15	14:40	SL	06/22/15	AQ	Water Matrix Spike	G6M-13-04X-062215
MC39533-4	06/22/15	00:00	SL	06/22/15	AQ	Ground Water	DUP-2-062215
MC39533-4F	06/22/15	00:00	SL	06/22/15	AQ	Groundwater Filtered	DUP-2-062215

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC39533

Site: Fort Devens, AOC50, Devens, MA **Report Date** 7/13/2015 5:41:53 PM

4 Sample(s) were collected on 06/22/2015 and were received at Accutest on 06/22/2015 properly preserved, at 1.4 Deg. C and intact. These Samples received an Accutest job number of MC39533. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix	AQ	Batch ID:	MSV1467

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC39533-3MS, MC39533-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD of MSV1467-BSD for Acetone: Outside control limits. Individual spike recoveries within acceptance limits.
- MC39533-3MS/MSD for 1,2,3-Trichloropropane: Outside DoD control limits, but within in-house control limits.

Volatiles by GC By Method VRSK 175

Matrix	AQ	Batch ID:	GBA1504

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC39533-3MS, MC39533-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MC39533-3MSD for Methane: Outside control limits due to high level in sample relative to spike amount.

Metals By Method SW846 6010C

Matrix	AQ	Batch ID:	MP24785

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1FSDL, MC39533-3FMS, MC39533-3FMSD, MC39372-1FSDL were used as the QC samples for metals.
- MS/MSD Recovery(s) for Manganese are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Aluminum, Cadmium, Chromium, Copper, Zinc are outside control limits for sample MP24785-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MC39533-3F for Manganese: Matrix spike and Duplicate recoveries outside of the control limits. J-flag applied.
- MC39533-3F for Sodium: Matrix spike duplicate recovery outside of the control limits. J-flag applied.
- MSD for Sodium: Outside of the control limits. Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

Metals By Method SW846 6020A

Matrix	AQ	Batch ID:	MP24785A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1FSDL, MC39533-3FMSD were used as the QC samples for metals.
- MC39533-3F for Arsenic: Matrix spike and Duplicate recoveries outside of the control limits. J-flag applied.
- MS/MSDfor Arsenic: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

Metals By Method SW846 7470A

Matrix	AQ	Batch ID:	MP24781

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3FMS, MC39533-3FMSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix	AQ	Batch ID:	N:GP90193

- Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix	AQ	Batch ID:	GP19320

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix	AQ	Batch ID:	R36873

- MC39533-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix	AQ	Batch ID:	R36874

- MC39533-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix	AQ	Batch ID:	R36875

- MC39533-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix	AQ	Batch ID:	GP19276

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 2320B

Matrix AQ	**Batch ID:** GN51031

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix AQ	**Batch ID:** GN51004

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Sulfide.

Matrix AQ	**Batch ID:** GN51053

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-2DUP, MC39533-2MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SM21 5310 B

Matrix AQ	**Batch ID:** GP19317

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3MS, MC39533-3MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC39533).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Accutest Labs of New England, Inc. **Job No** MC39533

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 6/30/2015 2:54:11 PM

On 06/24/2015, 3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 4.5 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC39533 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP90193

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39533-1	**G6M-13-01X-062215**					
cis-1,2-Dichloroethene		1.3	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		15.5	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		0.65 J	1.0	0.50	ug/l	SW846 8260C
MC39533-1F	**G6M-13-01X-062215**					
Arsenic		2.3 J	4.0	2.0	ug/l	SW846 6020A
Barium		48.3 J	50	25	ug/l	SW846 6010C
Calcium		49600	25000	13000	ug/l	SW846 6010C
Magnesium		8390	5000	2500	ug/l	SW846 6010C
Manganese		8.7 J	15	7.5	ug/l	SW846 6010C
Potassium		4900 J	5000	2500	ug/l	SW846 6010C
Sodium		95600	25000	13000	ug/l	SW846 6010C
MC39533-2	**G6M-13-04X-062215H**					
cis-1,2-Dichloroethene		1.5	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		1.4	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		0.82 J	1.0	0.50	ug/l	SW846 8260C
Methane		102	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		132	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.098 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.10	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		18.5	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		2.8	1.0	0.70	mg/l	SM21 5310 B
MC39533-2F	**G6M-13-04X-062215H**					
Arsenic		17.1	4.0	2.0	ug/l	SW846 6020A
Calcium		54600	25000	13000	ug/l	SW846 6010C
Iron		284	100	50	ug/l	SW846 6010C
Magnesium		5150	5000	2500	ug/l	SW846 6010C
Manganese		437	15	7.5	ug/l	SW846 6010C
Potassium		19600	5000	2500	ug/l	SW846 6010C
Sodium		84500	25000	13000	ug/l	SW846 6010C
Zinc		10.5 J	20	10	ug/l	SW846 6010C
MC39533-3	**G6M-13-04X-062215**					
cis-1,2-Dichloroethene		2.2	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		1.8	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		1.4	1.0	0.50	ug/l	SW846 8260C
Methane		719	10	5.0	ug/l	VRSK 175

Summary of Hits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

Lab Sample ID Client Sample ID Analyte	Result/ Qual	LOQ	LOD	Units	Method
Alkalinity, Total as CaCO3	129	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]	0.065 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.065 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]	30.5	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	3.2	1.0	0.70	mg/l	SM21 5310 B
MC39533-3F G6M-13-04X-062215					
Aluminum	128 J	200	100	ug/l	SW846 6010C
Arsenic [c]	360 J	20	10	ug/l	SW846 6020A
Barium	55.8	50	25	ug/l	SW846 6010C
Cadmium	4.8	4.0	2.0	ug/l	SW846 6010C
Calcium	88400	25000	13000	ug/l	SW846 6010C
Iron	29300	500	250	ug/l	SW846 6010C
Magnesium	13900	5000	2500	ug/l	SW846 6010C
Manganese [c]	3840 J	15	7.5	ug/l	SW846 6010C
Potassium	6010	5000	2500	ug/l	SW846 6010C
Sodium [d]	131000 J	50000	25000	ug/l	SW846 6010C
MC39533-4 DUP-2-062215					
Carbon disulfide	0.65 J	5.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene	2.2	1.0	0.50	ug/l	SW846 8260C
Trichloroethene	1.7	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride	1.2	1.0	0.50	ug/l	SW846 8260C
Methane	895	10	5.0	ug/l	VRSK 175
Ethene	5.0 J	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3	148	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]	0.077 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.077 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]	8.4 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	3.4	1.0	0.70	mg/l	SM21 5310 B
MC39533-4F DUP-2-062215					
Aluminum	147 J	200	100	ug/l	SW846 6010C
Arsenic	397	20	10	ug/l	SW846 6020A
Barium	68.7	50	25	ug/l	SW846 6010C
Cadmium	5.2	4.0	2.0	ug/l	SW846 6010C
Calcium	103000	50000	25000	ug/l	SW846 6010C
Iron	32400	1000	500	ug/l	SW846 6010C
Magnesium	16300	5000	2500	ug/l	SW846 6010C
Manganese	5200	150	75	ug/l	SW846 6010C
Potassium	5540	5000	2500	ug/l	SW846 6010C
Sodium	150000	50000	25000	ug/l	SW846 6010C

Summary of Hits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.
(c) Matrix spike and Duplicate recoveries outside of the control limits. J-flag applied.
(d) Matrix spike duplicate recovery outside of the control limits. J-flag applied.

New England
ACCUTEST
LABORATORIES

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Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-01X-062215		
Lab Sample ID:	MC39533-1	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40667.D	1	07/02/15	JB	n/a	n/a	MSV1467
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	1.3	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-01X-062215		
Lab Sample ID:	MC39533-1	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	15.5	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.65	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-01X-062215			
Lab Sample ID:	MC39533-1		**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water		**Date Received:**	06/22/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		85-114%
460-00-4	4-Bromofluorobenzene	95%		70-134%

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-01X-062215		
Lab Sample ID:	MC39533-1F	**Date Sampled:**	06/22/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/22/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	2.3 J	4.0	2.0	ug/l	2	06/26/15	06/30/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	48.3 J	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	49600	25000	13000	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	50 U	100	50	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	8390	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	8.7 J	15	7.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/26/15	06/26/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	4900 J	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	95600	25000	13000	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18243
(2) Instrument QC Batch: MA18246
(3) Instrument QC Batch: MA18251
(4) Instrument QC Batch: MA18254
(5) Prep QC Batch: MP24781
(6) Prep QC Batch: MP24785
(7) Prep QC Batch: MP24785A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-04X-062215H		
Lab Sample ID:	MC39533-2	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40668.D	1	07/02/15	JB	n/a	n/a	MSV1467
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	1.5	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-04X-062215H		
Lab Sample ID:	MC39533-2	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	1.4	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.82	1.0	0.50	ug/l	J
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-04X-062215H		
Lab Sample ID:	MC39533-2	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		85-114%
460-00-4	4-Bromofluorobenzene	95%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-04X-062215H		
Lab Sample ID:	MC39533-2	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22097.D	1	06/30/15	TB	n/a	n/a	GBA1504
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	102	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-04X-062215H			
Lab Sample ID:	MC39533-2		**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water		**Date Received:**	06/22/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	132	5.0	3.9	mg/l	1	06/25/15	CF	SM21 2320B
Nitrogen, Nitrate [a]	0.098 J	0.11	0.057	mg/l	1	07/04/15 10:08	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.10	0.10	0.054	mg/l	1	07/04/15 10:08	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/23/15 18:25	CF	SM 21 4500 NO2 B
Sulfate [b]	18.5	10	0.50	mg/l	1	06/30/15 01:15	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/29/15	BF	SM21 4500 S F
Total Organic Carbon	2.8	1.0	0.70	mg/l	1	07/02/15 15:10	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-04X-062215H		
Lab Sample ID:	MC39533-2F	**Date Sampled:**	06/22/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/22/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	17.1	4.0	2.0	ug/l	2	06/26/15	06/30/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	25 U	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	54600	25000	13000	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	284	100	50	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	5150	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	437	15	7.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/26/15	06/26/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	19600	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	84500	25000	13000	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10.5 J	20	10	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18243
(2) Instrument QC Batch: MA18246
(3) Instrument QC Batch: MA18251
(4) Instrument QC Batch: MA18254
(5) Prep QC Batch: MP24781
(6) Prep QC Batch: MP24785
(7) Prep QC Batch: MP24785A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-04X-062215			
Lab Sample ID:	MC39533-3		**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water		**Date Received:**	06/22/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40666.D	1	07/02/15	JB	n/a	n/a	MSV1467
Run #2	V40707.D	1	07/06/15	JB	n/a	n/a	MSV1467

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	2.2	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-04X-062215		
Lab Sample ID:	MC39533-3	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U [a]	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	1.8	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	1.4	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	101%	72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-04X-062215		
Lab Sample ID:	MC39533-3	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%	93%	85-114%
460-00-4	4-Bromofluorobenzene	94%	92%	70-134%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-04X-062215		
Lab Sample ID:	MC39533-3	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22094.D	1	06/30/15	TB	n/a	n/a	GBA1504
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	719	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-04X-062215		
Lab Sample ID:	MC39533-3	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	129	5.0	3.9	mg/l	1	06/25/15	CF	SM21 2320B
Nitrogen, Nitrate [a]	0.065 J	0.11	0.057	mg/l	1	07/04/15 10:07	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.065 J	0.10	0.054	mg/l	1	07/04/15 10:07	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/23/15 18:25	CF	SM 21 4500 NO2 B
Sulfate [b]	30.5	10	0.50	mg/l	1	06/30/15 03:15	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/24/15	BF	SM21 4500 S F
Total Organic Carbon	3.2	1.0	0.70	mg/l	1	07/02/15 14:22	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-13-04X-062215
Lab Sample ID: MC39533-3F
Matrix: AQ - Groundwater Filtered
Date Sampled: 06/22/15
Date Received: 06/22/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	128 J	200	100	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic [a]	360 J	20	10	ug/l	10	06/26/15	06/30/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	55.8	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	4.8	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	88400	25000	13000	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	29300	500	250	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	13900	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese [a]	3840 J	15	7.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/26/15	06/26/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	6010	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium [b]	131000 J	50000	25000	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18243
(2) Instrument QC Batch: MA18246
(3) Instrument QC Batch: MA18251
(4) Instrument QC Batch: MA18254
(5) Prep QC Batch: MP24781
(6) Prep QC Batch: MP24785
(7) Prep QC Batch: MP24785A

(a) Matrix spike and Duplicate recoveries outside of the control limits. J-flag applied.
(b) Matrix spike duplicate recovery outside of the control limits. J-flag applied.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	DUP-2-062215		
Lab Sample ID:	MC39533-4	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40669.D	1	07/02/15	JB	n/a	n/a	MSV1467
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.65	5.0	0.50	ug/l	J
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	2.2	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-2-062215		
Lab Sample ID:	MC39533-4	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	1.7	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	1.2	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-2-062215		
Lab Sample ID:	MC39533-4	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		85-114%
460-00-4	4-Bromofluorobenzene	95%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-2-062215		
Lab Sample ID:	MC39533-4	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22098.D	1	06/30/15	TB	n/a	n/a	GBA1504
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	895	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0	10	5.0	ug/l	J

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-2-062215		
Lab Sample ID:	MC39533-4	**Date Sampled:**	06/22/15
Matrix:	AQ - Ground Water	**Date Received:**	06/22/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	148	5.0	3.9	mg/l	1	06/25/15	CF	SM21 2320B
Nitrogen, Nitrate [a]	0.077 J	0.11	0.057	mg/l	1	07/04/15 10:09	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.077 J	0.10	0.054	mg/l	1	07/04/15 10:09	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/23/15 18:25	CF	SM 21 4500 NO2 B
Sulfate [b]	8.4 J	10	0.50	mg/l	1	06/30/15 03:39	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/29/15	BF	SM21 4500 S F
Total Organic Carbon	3.4	1.0	0.70	mg/l	1	07/02/15 15:25	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	DUP-2-062215		
Lab Sample ID:	MC39533-4F	**Date Sampled:**	06/22/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/22/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	147 J	200	100	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	397	20	10	ug/l	10	06/26/15	06/30/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	68.7	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	5.2	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	103000	50000	25000	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	32400	1000	500	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	16300	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	5200	150	75	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/26/15	06/26/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	5540	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	150000	50000	25000	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18243
(2) Instrument QC Batch: MA18246
(3) Instrument QC Batch: MA18251
(4) Instrument QC Batch: MA18254
(5) Prep QC Batch: MP24781
(6) Prep QC Batch: MP24785
(7) Prep QC Batch: MP24785A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #: FD-10-2014-229
Accutest Job #: MC39533

Client / Reporting Information

Company Name: Hes Environmental
Street Address: 160 E. Main Street
City: Westborough State: MA Zip:
Project Contact: E. Anderson E-mail:
Phone #: Fax #:
Sampler(s) Name(s): Phone #:

Project Information

Project Name: Ft. Devens AOC 50
Street:
City:
Project#:
Client PO#:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB- Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	~~ENCORE~~	Bisulfate	VOC	Diss. Metals Field Filtered	Diss Metals Lab Filtered	Nitrate, Sulfate, Alk	Sulfide * needs Zinc	methane ethane ethene	TOC					LAB USE ONLY
-1	GGM-13-01X-062215		6/22/15	1140	SL	GW	3	2		1							X	X										
2F	GGM-13-04X-062215H			1235	SL		11	4	1		1	2			3		X		X	X	X	X	X					10F,
-3	GGM-13-04X-062215			1440	SL		33	12	3	3	3	3			9		X	X		X	X	X	X					6D,
-4	DUP-2-062215			0000	SL		11	4	1	1	1	1			3		X	X		X	X	X	X					SD2

Phos. Acid

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

*Sulfide samples need Zinc acetate

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Stacey Lee	6/22/15 1419	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #:	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 1.4°

5.1

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MC39533: Chain of Custody
Page 1 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39533 **Client:** HES ENV **Immediate Client Services Action Required:** No

Date / Time Received: 6/22/2015 5:10:00 PM **Delivery Method:**

Project: **No. Coolers:** 1 **Airbill #'s:**

Cooler Security

	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	Infared Gun	
3. Cooler media:	Ice (Bag)	

Quality Control_Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	
2. Trip Blank listed on COC:	☐	☑	
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample rec'd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☑	☐	
3. Sufficient volume rec'd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☑	☐	☐

Comments

-3 MS/MSD volume received, not requested on COC.

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

MC39533: Chain of Custody
Page 2 of 3

ACCUTEST LABORATORIES

Sample Receipt Summary - Problem Resolution

Accutest Job Number: MC39533

CSR: Frank D'Agostino **Response Date:** 6/24/2015

Response: #3 will need MS/MSD

MC39533: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1467	SW846 8260C						
MSV1467-BS	67-64-1	Acetone	BSP	REC	94	%	39-160
MSV1467-BS	71-43-2	Benzene	BSP	REC	90	%	79-120
MSV1467-BS	108-86-1	Bromobenzene	BSP	REC	95	%	80-120
MSV1467-BS	74-97-5	Bromochloromethane	BSP	REC	87	%	78-123
MSV1467-BS	75-27-4	Bromodichloromethane	BSP	REC	93	%	79-125
MSV1467-BS	75-25-2	Bromoform	BSP	REC	98	%	66-130
MSV1467-BS	74-83-9	Bromomethane	BSP	REC	90	%	53-141
MSV1467-BS	78-93-3	2-Butanone (MEK)	BSP	REC	93	%	56-143
MSV1467-BS	104-51-8	n-Butylbenzene	BSP	REC	106	%	75-128
MSV1467-BS	135-98-8	sec-Butylbenzene	BSP	REC	107	%	77-126
MSV1467-BS	98-06-6	tert-Butylbenzene	BSP	REC	108	%	78-124
MSV1467-BS	75-15-0	Carbon disulfide	BSP	REC	89	%	64-133
MSV1467-BS	56-23-5	Carbon tetrachloride	BSP	REC	99	%	72-136
MSV1467-BS	108-90-7	Chlorobenzene	BSP	REC	94	%	82-118
MSV1467-BS	75-00-3	Chloroethane	BSP	REC	81	%	60-138
MSV1467-BS	67-66-3	Chloroform	BSP	REC	95	%	79-124
MSV1467-BS	74-87-3	Chloromethane	BSP	REC	83	%	50-139
MSV1467-BS	95-49-8	o-Chlorotoluene	BSP	REC	96	%	79-122
MSV1467-BS	106-43-4	p-Chlorotoluene	BSP	REC	94	%	78-122
MSV1467-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	86	%	62-128
MSV1467-BS	124-48-1	Dibromochloromethane	BSP	REC	100	%	74-126
MSV1467-BS	106-93-4	1,2-Dibromoethane	BSP	REC	89	%	77-121
MSV1467-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	94	%	80-119
MSV1467-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	97	%	80-119
MSV1467-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	92	%	79-118
MSV1467-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	103	%	32-152
MSV1467-BS	75-34-3	1,1-Dichloroethane	BSP	REC	86	%	77-125
MSV1467-BS	107-06-2	1,2-Dichloroethane	BSP	REC	87	%	73-128
MSV1467-BS	75-35-4	1,1-Dichloroethene	BSP	REC	91	%	71-131
MSV1467-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	86	%	78-123
MSV1467-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	96	%	75-124
MSV1467-BS	78-87-5	1,2-Dichloropropane	BSP	REC	90	%	78-122
MSV1467-BS	142-28-9	1,3-Dichloropropane	BSP	REC	86	%	80-119
MSV1467-BS	594-20-7	2,2-Dichloropropane	BSP	REC	117	%	60-139
MSV1467-BS	563-58-6	1,1-Dichloropropene	BSP	REC	106	%	79-125
MSV1467-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	94	%	75-124
MSV1467-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	100	%	73-127
MSV1467-BS	100-41-4	Ethylbenzene	BSP	REC	98	%	79-121
MSV1467-BS	87-68-3	Hexachlorobutadiene	BSP	REC	103	%	66-134
MSV1467-BS	591-78-6	2-Hexanone	BSP	REC	88	%	57-139
MSV1467-BS	74-88-4	Iodomethane	BSP	REC	90	%	69-131
MSV1467-BS	98-82-8	Isopropylbenzene	BSP	REC	104	%	72-131

* Sample used for QC is not from job MC39533

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1467-BS	99-87-6	p-Isopropyltoluene	BSP	REC	111	%	77-127
MSV1467-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	81	%	71-124
MSV1467-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	83	%	67-130
MSV1467-BS	74-95-3	Methylene bromide	BSP	REC	85	%	79-123
MSV1467-BS	75-09-2	Methylene chloride	BSP	REC	81	%	74-124
MSV1467-BS	91-20-3	Naphthalene	BSP	REC	93	%	61-128
MSV1467-BS	103-65-1	n-Propylbenzene	BSP	REC	103	%	76-126
MSV1467-BS	100-42-5	Styrene	BSP	REC	104	%	78-123
MSV1467-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	103	%	78-124
MSV1467-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	76	%	71-121
MSV1467-BS	127-18-4	Tetrachloroethene	BSP	REC	118	%	74-129
MSV1467-BS	108-88-3	Toluene	BSP	REC	92	%	80-121
MSV1467-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	87	%	69-129
MSV1467-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	93	%	69-130
MSV1467-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	91	%	74-131
MSV1467-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	86	%	80-119
MSV1467-BS	79-01-6	Trichloroethene	BSP	REC	94	%	79-123
MSV1467-BS	75-69-4	Trichlorofluoromethane	BSP	REC	92	%	65-141
MSV1467-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	79	%	73-122
MSV1467-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	103	%	76-124
MSV1467-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	102	%	75-124
MSV1467-BS	108-05-4	Vinyl Acetate	BSP	REC	92	%	54-146
MSV1467-BS	75-01-4	Vinyl chloride	BSP	REC	85	%	58-137
MSV1467-BS		m,p-Xylene	BSP	REC	100	%	80-121
MSV1467-BS	95-47-6	o-Xylene	BSP	REC	108	%	78-122
MSV1467-BS	1330-20-7	Xylene (total)	BSP	REC	103	%	79-121
MSV1467-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	96	%	80-119
MSV1467-BS	2037-26-5	Toluene-D8	BSP	SURR	99	%	89-112
MSV1467-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	98	%	85-114
MSV1467-BS1	91-20-3	Naphthalene	BSP	REC	83	%	61-128
MSV1467-BS1	1868-53-7	Dibromofluoromethane	BSP	SURR	96	%	80-119
MSV1467-BS1	2037-26-5	Toluene-D8	BSP	SURR	98	%	89-112
MSV1467-BS1	460-00-4	4-Bromofluorobenzene	BSP	SURR	97	%	85-114
MSV1467-BSD	67-64-1	Acetone	BSD	REC	139	%	39-160
MSV1467-BSD	71-43-2	Benzene	BSD	REC	89	%	79-120
MSV1467-BSD	108-86-1	Bromobenzene	BSD	REC	94	%	80-120
MSV1467-BSD	74-97-5	Bromochloromethane	BSD	REC	89	%	78-123
MSV1467-BSD	75-27-4	Bromodichloromethane	BSD	REC	93	%	79-125
MSV1467-BSD	75-25-2	Bromoform	BSD	REC	100	%	66-130
MSV1467-BSD	74-83-9	Bromomethane	BSD	REC	88	%	53-141
MSV1467-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	112	%	56-143
MSV1467-BSD	104-51-8	n-Butylbenzene	BSD	REC	102	%	75-128
MSV1467-BSD	135-98-8	sec-Butylbenzene	BSD	REC	104	%	77-126
MSV1467-BSD	98-06-6	tert-Butylbenzene	BSD	REC	105	%	78-124
MSV1467-BSD	75-15-0	Carbon disulfide	BSD	REC	86	%	64-133

* Sample used for QC is not from job MC39533

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1467-BSD	56-23-5	Carbon tetrachloride	BSD	REC	98	%	72-136
MSV1467-BSD	108-90-7	Chlorobenzene	BSD	REC	93	%	82-118
MSV1467-BSD	75-00-3	Chloroethane	BSD	REC	80	%	60-138
MSV1467-BSD	67-66-3	Chloroform	BSD	REC	95	%	79-124
MSV1467-BSD	74-87-3	Chloromethane	BSD	REC	84	%	50-139
MSV1467-BSD	95-49-8	o-Chlorotoluene	BSD	REC	94	%	79-122
MSV1467-BSD	106-43-4	p-Chlorotoluene	BSD	REC	91	%	78-122
MSV1467-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	94	%	62-128
MSV1467-BSD	124-48-1	Dibromochloromethane	BSD	REC	101	%	74-126
MSV1467-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	90	%	77-121
MSV1467-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	94	%	80-119
MSV1467-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	96	%	80-119
MSV1467-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	91	%	79-118
MSV1467-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	101	%	32-152
MSV1467-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	87	%	77-125
MSV1467-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	87	%	73-128
MSV1467-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	88	%	71-131
MSV1467-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	86	%	78-123
MSV1467-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	98	%	75-124
MSV1467-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	89	%	78-122
MSV1467-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	86	%	80-119
MSV1467-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	113	%	60-139
MSV1467-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	104	%	79-125
MSV1467-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	95	%	75-124
MSV1467-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	101	%	73-127
MSV1467-BSD	100-41-4	Ethylbenzene	BSD	REC	96	%	79-121
MSV1467-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	104	%	66-134
MSV1467-BSD	591-78-6	2-Hexanone	BSD	REC	110	%	57-139
MSV1467-BSD	74-88-4	Iodomethane	BSD	REC	88	%	69-131
MSV1467-BSD	98-82-8	Isopropylbenzene	BSD	REC	102	%	72-131
MSV1467-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	108	%	77-127
MSV1467-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	83	%	71-124
MSV1467-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	91	%	67-130
MSV1467-BSD	74-95-3	Methylene bromide	BSD	REC	86	%	79-123
MSV1467-BSD	75-09-2	Methylene chloride	BSD	REC	80	%	74-124
MSV1467-BSD	91-20-3	Naphthalene	BSD	REC	107	%	61-128
MSV1467-BSD	103-65-1	n-Propylbenzene	BSD	REC	100	%	76-126
MSV1467-BSD	100-42-5	Styrene	BSD	REC	102	%	78-123
MSV1467-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	103	%	78-124
MSV1467-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	79	%	71-121
MSV1467-BSD	127-18-4	Tetrachloroethene	BSD	REC	115	%	74-129
MSV1467-BSD	108-88-3	Toluene	BSD	REC	91	%	80-121
MSV1467-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	100	%	69-129
MSV1467-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	100	%	69-130
MSV1467-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	90	%	74-131

* Sample used for QC is not from job MC39533

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1467-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	86	%	80-119
MSV1467-BSD	79-01-6	Trichloroethene	BSD	REC	93	%	79-123
MSV1467-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	92	%	65-141
MSV1467-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	83	%	73-122
MSV1467-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	101	%	76-124
MSV1467-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	100	%	75-124
MSV1467-BSD	108-05-4	Vinyl Acetate	BSD	REC	93	%	54-146
MSV1467-BSD	75-01-4	Vinyl chloride	BSD	REC	85	%	58-137
MSV1467-BSD		m,p-Xylene	BSD	REC	98	%	80-121
MSV1467-BSD	95-47-6	o-Xylene	BSD	REC	107	%	78-122
MSV1467-BSD	1330-20-7	Xylene (total)	BSD	REC	101	%	79-121
MSV1467-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	96	%	80-119
MSV1467-BSD	2037-26-5	Toluene-D8	BSD	SURR	98	%	89-112
MSV1467-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	97	%	85-114
MC39533-3MS	67-64-1	Acetone	MS	REC	87	%	39-160
MC39533-3MS	71-43-2	Benzene	MS	REC	88	%	79-120
MC39533-3MS	108-86-1	Bromobenzene	MS	REC	91	%	80-120
MC39533-3MS	74-97-5	Bromochloromethane	MS	REC	87	%	78-123
MC39533-3MS	75-27-4	Bromodichloromethane	MS	REC	97	%	79-125
MC39533-3MS	75-25-2	Bromoform	MS	REC	108	%	66-130
MC39533-3MS	74-83-9	Bromomethane	MS	REC	86	%	53-141
MC39533-3MS	78-93-3	2-Butanone (MEK)	MS	REC	88	%	56-143
MC39533-3MS	104-51-8	n-Butylbenzene	MS	REC	96	%	75-128
MC39533-3MS	135-98-8	sec-Butylbenzene	MS	REC	100	%	77-126
MC39533-3MS	98-06-6	tert-Butylbenzene	MS	REC	101	%	78-124
MC39533-3MS	75-15-0	Carbon disulfide	MS	REC	97	%	64-133
MC39533-3MS	56-23-5	Carbon tetrachloride	MS	REC	101	%	72-136
MC39533-3MS	108-90-7	Chlorobenzene	MS	REC	93	%	82-118
MC39533-3MS	75-00-3	Chloroethane	MS	REC	78	%	60-138
MC39533-3MS	67-66-3	Chloroform	MS	REC	94	%	79-124
MC39533-3MS	74-87-3	Chloromethane	MS	REC	84	%	50-139
MC39533-3MS	95-49-8	o-Chlorotoluene	MS	REC	90	%	79-122
MC39533-3MS	106-43-4	p-Chlorotoluene	MS	REC	88	%	78-122
MC39533-3MS	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	94	%	62-128
MC39533-3MS	124-48-1	Dibromochloromethane	MS	REC	105	%	74-126
MC39533-3MS	106-93-4	1,2-Dibromoethane	MS	REC	93	%	77-121
MC39533-3MS	95-50-1	1,2-Dichlorobenzene	MS	REC	92	%	80-119
MC39533-3MS	541-73-1	1,3-Dichlorobenzene	MS	REC	92	%	80-119
MC39533-3MS	106-46-7	1,4-Dichlorobenzene	MS	REC	89	%	79-118
MC39533-3MS	75-71-8	Dichlorodifluoromethane	MS	REC	95	%	32-152
MC39533-3MS	75-34-3	1,1-Dichloroethane	MS	REC	86	%	77-125
MC39533-3MS	107-06-2	1,2-Dichloroethane	MS	REC	88	%	73-128
MC39533-3MS	75-35-4	1,1-Dichloroethene	MS	REC	97	%	71-131
MC39533-3MS	156-59-2	cis-1,2-Dichloroethene	MS	REC	82	%	78-123
MC39533-3MS	156-60-5	trans-1,2-Dichloroethene	MS	REC	97	%	75-124

* Sample used for QC is not from job MC39533

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39533-3MS	78-87-5	1,2-Dichloropropane	MS	REC	90	%	78-122
MC39533-3MS	142-28-9	1,3-Dichloropropane	MS	REC	88	%	80-119
MC39533-3MS	594-20-7	2,2-Dichloropropane	MS	REC	102	%	60-139
MC39533-3MS	563-58-6	1,1-Dichloropropene	MS	REC	103	%	79-125
MC39533-3MS	10061-01-5	cis-1,3-Dichloropropene	MS	REC	94	%	75-124
MC39533-3MS	10061-02-6	trans-1,3-Dichloropropene	MS	REC	103	%	73-127
MC39533-3MS	100-41-4	Ethylbenzene	MS	REC	95	%	79-121
MC39533-3MS	87-68-3	Hexachlorobutadiene	MS	REC	91	%	66-134
MC39533-3MS	591-78-6	2-Hexanone	MS	REC	91	%	57-139
MC39533-3MS	74-88-4	Iodomethane	MS	REC	93	%	69-131
MC39533-3MS	98-82-8	Isopropylbenzene	MS	REC	97	%	72-131
MC39533-3MS	99-87-6	p-Isopropyltoluene	MS	REC	104	%	77-127
MC39533-3MS	1634-04-4	Methyl Tert Butyl Ether	MS	REC	86	%	71-124
MC39533-3MS	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	92	%	67-130
MC39533-3MS	74-95-3	Methylene bromide	MS	REC	89	%	79-123
MC39533-3MS	75-09-2	Methylene chloride	MS	REC	87	%	74-124
MC39533-3MS	91-20-3	Naphthalene	MS	REC	98	%	61-128
MC39533-3MS	103-65-1	n-Propylbenzene	MS	REC	95	%	76-126
MC39533-3MS	100-42-5	Styrene	MS	REC	102	%	78-123
MC39533-3MS	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	101	%	78-124
MC39533-3MS	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	78	%	71-121
MC39533-3MS	127-18-4	Tetrachloroethene	MS	REC	114	%	74-129
MC39533-3MS	108-88-3	Toluene	MS	REC	93	%	80-121
MC39533-3MS	87-61-6	1,2,3-Trichlorobenzene	MS	REC	88	%	69-129
MC39533-3MS	120-82-1	1,2,4-Trichlorobenzene	MS	REC	91	%	69-130
MC39533-3MS	71-55-6	1,1,1-Trichloroethane	MS	REC	92	%	74-131
MC39533-3MS	79-00-5	1,1,2-Trichloroethane	MS	REC	92	%	80-119
MC39533-3MS	79-01-6	Trichloroethene	MS	REC	92	%	79-123
MC39533-3MS	75-69-4	Trichlorofluoromethane	MS	REC	95	%	65-141
MC39533-3MS	96-18-4	1,2,3-Trichloropropane	MS	REC	69	%	73-122
MC39533-3MS	95-63-6	1,2,4-Trimethylbenzene	MS	REC	97	%	76-124
MC39533-3MS	108-67-8	1,3,5-Trimethylbenzene	MS	REC	95	%	75-124
MC39533-3MS	108-05-4	Vinyl Acetate	MS	REC	87	%	54-146
MC39533-3MS	75-01-4	Vinyl chloride	MS	REC	89	%	58-137
MC39533-3MS		m,p-Xylene	MS	REC	97	%	80-121
MC39533-3MS	95-47-6	o-Xylene	MS	REC	105	%	78-122
MC39533-3MS	1330-20-7	Xylene (total)	MS	REC	99	%	79-121
MC39533-3MS	1868-53-7	Dibromofluoromethane	MS	SURR	95	%	80-119
MC39533-3MS	2037-26-5	Toluene-D8	MS	SURR	101	%	89-112
MC39533-3MS	460-00-4	4-Bromofluorobenzene	MS	SURR	96	%	85-114
MC39533-3MSD	67-64-1	Acetone	MSD	REC	82	%	39-160
MC39533-3MSD	67-64-1	Acetone	MSD	RPD	5	%	20
MC39533-3MSD	71-43-2	Benzene	MSD	REC	91	%	79-120
MC39533-3MSD	71-43-2	Benzene	MSD	RPD	3	%	20
MC39533-3MSD	108-86-1	Bromobenzene	MSD	REC	95	%	80-120

* Sample used for QC is not from job MC39533

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39533-3MSD	108-86-1	Bromobenzene	MSD	RPD	4	%	20
MC39533-3MSD	74-97-5	Bromochloromethane	MSD	REC	90	%	78-123
MC39533-3MSD	74-97-5	Bromochloromethane	MSD	RPD	2	%	20
MC39533-3MSD	75-27-4	Bromodichloromethane	MSD	REC	97	%	79-125
MC39533-3MSD	75-27-4	Bromodichloromethane	MSD	RPD	0	%	20
MC39533-3MSD	75-25-2	Bromoform	MSD	REC	105	%	66-130
MC39533-3MSD	75-25-2	Bromoform	MSD	RPD	2	%	20
MC39533-3MSD	74-83-9	Bromomethane	MSD	REC	87	%	53-141
MC39533-3MSD	74-83-9	Bromomethane	MSD	RPD	2	%	20
MC39533-3MSD	78-93-3	2-Butanone (MEK)	MSD	REC	87	%	56-143
MC39533-3MSD	78-93-3	2-Butanone (MEK)	MSD	RPD	0	%	20
MC39533-3MSD	104-51-8	n-Butylbenzene	MSD	REC	103	%	75-128
MC39533-3MSD	104-51-8	n-Butylbenzene	MSD	RPD	7	%	20
MC39533-3MSD	135-98-8	sec-Butylbenzene	MSD	REC	108	%	77-126
MC39533-3MSD	135-98-8	sec-Butylbenzene	MSD	RPD	7	%	20
MC39533-3MSD	98-06-6	tert-Butylbenzene	MSD	REC	109	%	78-124
MC39533-3MSD	98-06-6	tert-Butylbenzene	MSD	RPD	8	%	20
MC39533-3MSD	75-15-0	Carbon disulfide	MSD	REC	97	%	64-133
MC39533-3MSD	75-15-0	Carbon disulfide	MSD	RPD	0	%	20
MC39533-3MSD	56-23-5	Carbon tetrachloride	MSD	REC	101	%	72-136
MC39533-3MSD	56-23-5	Carbon tetrachloride	MSD	RPD	0	%	20
MC39533-3MSD	108-90-7	Chlorobenzene	MSD	REC	95	%	82-118
MC39533-3MSD	108-90-7	Chlorobenzene	MSD	RPD	3	%	20
MC39533-3MSD	75-00-3	Chloroethane	MSD	REC	78	%	60-138
MC39533-3MSD	75-00-3	Chloroethane	MSD	RPD	1	%	20
MC39533-3MSD	67-66-3	Chloroform	MSD	REC	96	%	79-124
MC39533-3MSD	67-66-3	Chloroform	MSD	RPD	2	%	20
MC39533-3MSD	74-87-3	Chloromethane	MSD	REC	86	%	50-139
MC39533-3MSD	74-87-3	Chloromethane	MSD	RPD	2	%	20
MC39533-3MSD	95-49-8	o-Chlorotoluene	MSD	REC	96	%	79-122
MC39533-3MSD	95-49-8	o-Chlorotoluene	MSD	RPD	7	%	20
MC39533-3MSD	106-43-4	p-Chlorotoluene	MSD	REC	93	%	78-122
MC39533-3MSD	106-43-4	p-Chlorotoluene	MSD	RPD	5	%	20
MC39533-3MSD	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	91	%	62-128
MC39533-3MSD	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	3	%	20
MC39533-3MSD	124-48-1	Dibromochloromethane	MSD	REC	106	%	74-126
MC39533-3MSD	124-48-1	Dibromochloromethane	MSD	RPD	1	%	20
MC39533-3MSD	106-93-4	1,2-Dibromoethane	MSD	REC	92	%	77-121
MC39533-3MSD	106-93-4	1,2-Dibromoethane	MSD	RPD	0	%	20
MC39533-3MSD	95-50-1	1,2-Dichlorobenzene	MSD	REC	95	%	80-119
MC39533-3MSD	95-50-1	1,2-Dichlorobenzene	MSD	RPD	3	%	20
MC39533-3MSD	541-73-1	1,3-Dichlorobenzene	MSD	REC	97	%	80-119
MC39533-3MSD	541-73-1	1,3-Dichlorobenzene	MSD	RPD	5	%	20
MC39533-3MSD	106-46-7	1,4-Dichlorobenzene	MSD	REC	93	%	79-118
MC39533-3MSD	106-46-7	1,4-Dichlorobenzene	MSD	RPD	4	%	20

* Sample used for QC is not from job MC39533

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39533-3MSD	75-71-8	Dichlorodifluoromethane	MSD	REC	92	%	32-152
MC39533-3MSD	75-71-8	Dichlorodifluoromethane	MSD	RPD	3	%	20
MC39533-3MSD	75-34-3	1,1-Dichloroethane	MSD	REC	87	%	77-125
MC39533-3MSD	75-34-3	1,1-Dichloroethane	MSD	RPD	2	%	20
MC39533-3MSD	107-06-2	1,2-Dichloroethane	MSD	REC	88	%	73-128
MC39533-3MSD	107-06-2	1,2-Dichloroethane	MSD	RPD	0	%	20
MC39533-3MSD	75-35-4	1,1-Dichloroethene	MSD	REC	98	%	71-131
MC39533-3MSD	75-35-4	1,1-Dichloroethene	MSD	RPD	1	%	20
MC39533-3MSD	156-59-2	cis-1,2-Dichloroethene	MSD	REC	86	%	78-123
MC39533-3MSD	156-59-2	cis-1,2-Dichloroethene	MSD	RPD	5	%	20
MC39533-3MSD	156-60-5	trans-1,2-Dichloroethene	MSD	REC	97	%	75-124
MC39533-3MSD	156-60-5	trans-1,2-Dichloroethene	MSD	RPD	0	%	20
MC39533-3MSD	78-87-5	1,2-Dichloropropane	MSD	REC	91	%	78-122
MC39533-3MSD	78-87-5	1,2-Dichloropropane	MSD	RPD	1	%	20
MC39533-3MSD	142-28-9	1,3-Dichloropropane	MSD	REC	88	%	80-119
MC39533-3MSD	142-28-9	1,3-Dichloropropane	MSD	RPD	0	%	20
MC39533-3MSD	594-20-7	2,2-Dichloropropane	MSD	REC	104	%	60-139
MC39533-3MSD	594-20-7	2,2-Dichloropropane	MSD	RPD	2	%	20
MC39533-3MSD	563-58-6	1,1-Dichloropropene	MSD	REC	107	%	79-125
MC39533-3MSD	563-58-6	1,1-Dichloropropene	MSD	RPD	3	%	20
MC39533-3MSD	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	92	%	75-124
MC39533-3MSD	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	1	%	20
MC39533-3MSD	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	98	%	73-127
MC39533-3MSD	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	5	%	20
MC39533-3MSD	100-41-4	Ethylbenzene	MSD	REC	98	%	79-121
MC39533-3MSD	100-41-4	Ethylbenzene	MSD	RPD	4	%	20
MC39533-3MSD	87-68-3	Hexachlorobutadiene	MSD	REC	101	%	66-134
MC39533-3MSD	87-68-3	Hexachlorobutadiene	MSD	RPD	10	%	20
MC39533-3MSD	591-78-6	2-Hexanone	MSD	REC	88	%	57-139
MC39533-3MSD	591-78-6	2-Hexanone	MSD	RPD	4	%	20
MC39533-3MSD	74-88-4	Iodomethane	MSD	REC	96	%	69-131
MC39533-3MSD	74-88-4	Iodomethane	MSD	RPD	3	%	20
MC39533-3MSD	98-82-8	Isopropylbenzene	MSD	REC	104	%	72-131
MC39533-3MSD	98-82-8	Isopropylbenzene	MSD	RPD	7	%	20
MC39533-3MSD	99-87-6	p-Isopropyltoluene	MSD	REC	111	%	77-127
MC39533-3MSD	99-87-6	p-Isopropyltoluene	MSD	RPD	7	%	20
MC39533-3MSD	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	88	%	71-124
MC39533-3MSD	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	2	%	20
MC39533-3MSD	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	90	%	67-130
MC39533-3MSD	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	3	%	20
MC39533-3MSD	74-95-3	Methylene bromide	MSD	REC	87	%	79-123
MC39533-3MSD	74-95-3	Methylene bromide	MSD	RPD	2	%	20
MC39533-3MSD	75-09-2	Methylene chloride	MSD	REC	87	%	74-124
MC39533-3MSD	75-09-2	Methylene chloride	MSD	RPD	0	%	20
MC39533-3MSD	91-20-3	Naphthalene	MSD	REC	97	%	61-128

* Sample used for QC is not from job MC39533

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39533-3MSD	91-20-3	Naphthalene	MSD	RPD	0	%	20
MC39533-3MSD	103-65-1	n-Propylbenzene	MSD	REC	100	%	76-126
MC39533-3MSD	103-65-1	n-Propylbenzene	MSD	RPD	6	%	20
MC39533-3MSD	100-42-5	Styrene	MSD	REC	104	%	78-123
MC39533-3MSD	100-42-5	Styrene	MSD	RPD	2	%	20
MC39533-3MSD	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	106	%	78-124
MC39533-3MSD	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	5	%	20
MC39533-3MSD	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	79	%	71-121
MC39533-3MSD	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	1	%	20
MC39533-3MSD	127-18-4	Tetrachloroethene	MSD	REC	120	%	74-129
MC39533-3MSD	127-18-4	Tetrachloroethene	MSD	RPD	5	%	20
MC39533-3MSD	108-88-3	Toluene	MSD	REC	94	%	80-121
MC39533-3MSD	108-88-3	Toluene	MSD	RPD	1	%	20
MC39533-3MSD	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	90	%	69-129
MC39533-3MSD	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	2	%	20
MC39533-3MSD	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	94	%	69-130
MC39533-3MSD	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	3	%	20
MC39533-3MSD	71-55-6	1,1,1-Trichloroethane	MSD	REC	94	%	74-131
MC39533-3MSD	71-55-6	1,1,1-Trichloroethane	MSD	RPD	2	%	20
MC39533-3MSD	79-00-5	1,1,2-Trichloroethane	MSD	REC	90	%	80-119
MC39533-3MSD	79-00-5	1,1,2-Trichloroethane	MSD	RPD	2	%	20
MC39533-3MSD	79-01-6	Trichloroethene	MSD	REC	95	%	79-123
MC39533-3MSD	79-01-6	Trichloroethene	MSD	RPD	3	%	20
MC39533-3MSD	75-69-4	Trichlorofluoromethane	MSD	REC	93	%	65-141
MC39533-3MSD	75-69-4	Trichlorofluoromethane	MSD	RPD	2	%	20
MC39533-3MSD	96-18-4	1,2,3-Trichloropropane	MSD	REC	66	%	73-122
MC39533-3MSD	96-18-4	1,2,3-Trichloropropane	MSD	RPD	4	%	20
MC39533-3MSD	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	104	%	76-124
MC39533-3MSD	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	7	%	20
MC39533-3MSD	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	102	%	75-124
MC39533-3MSD	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	6	%	20
MC39533-3MSD	108-05-4	Vinyl Acetate	MSD	REC	87	%	54-146
MC39533-3MSD	108-05-4	Vinyl Acetate	MSD	RPD	0	%	20
MC39533-3MSD	75-01-4	Vinyl chloride	MSD	REC	89	%	58-137
MC39533-3MSD	75-01-4	Vinyl chloride	MSD	RPD	0	%	20
MC39533-3MSD		m,p-Xylene	MSD	REC	100	%	80-121
MC39533-3MSD		m,p-Xylene	MSD	RPD	3	%	20
MC39533-3MSD	95-47-6	o-Xylene	MSD	REC	109	%	78-122
MC39533-3MSD	95-47-6	o-Xylene	MSD	RPD	4	%	20
MC39533-3MSD	1330-20-7	Xylene (total)	MSD	REC	103	%	79-121
MC39533-3MSD	1330-20-7	Xylene (total)	MSD	RPD	4	%	20
MC39533-3MSD	1868-53-7	Dibromofluoromethane	MSD	SURR	96	%	80-119
MC39533-3MSD	2037-26-5	Toluene-D8	MSD	SURR	99	%	89-112
MC39533-3MSD	460-00-4	4-Bromofluorobenzene	MSD	SURR	97	%	85-114
MSV1467-MB	1868-53-7	Dibromofluoromethane	MB	SURR	101	%	80-119

* Sample used for QC is not from job MC39533

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1467-MB	2037-26-5	Toluene-D8	MB	SURR	91	%	89-112
MSV1467-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	95	%	85-114
MSV1467-MB1	1868-53-7	Dibromofluoromethane	MB	SURR	99	%	80-119
MSV1467-MB1	2037-26-5	Toluene-D8	MB	SURR	91	%	89-112
MSV1467-MB1	460-00-4	4-Bromofluorobenzene	MB	SURR	92	%	85-114
MC39533-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	100	%	80-119
MC39533-1	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC39533-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC39533-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	100	%	80-119
MC39533-2	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC39533-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC39533-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
MC39533-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	101	%	80-119
MC39533-3	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC39533-3	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC39533-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC39533-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
MC39533-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC39533-4	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
MC39533-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MP24781	SW846 7470A						
MP24781-B1	7439-97-6	Mercury	BSP	REC	103.3	%	82-119
MP24781-S1	7439-97-6	Mercury	MS	REC	110	%	82-119
MP24781-S2	7439-97-6	Mercury	MSD	REC	113.3	%	82-119
MP24781-S2	7439-97-6	Mercury	MSD	RPD	3	%	20
MP24785	SW846 6010C						
MP24785-B1	7429-90-5	Aluminum	BSP	REC	102	%	86-115
MP24785-B1	7440-36-0	Antimony	BSP	REC	106.4	%	88-113
MP24785-B1	7440-39-3	Barium	BSP	REC	104	%	88-113
MP24785-B1	7440-41-7	Beryllium	BSP	REC	104	%	89-112
MP24785-B1	7440-43-9	Cadmium	BSP	REC	108.4	%	88-113
MP24785-B1	7440-70-2	Calcium	BSP	REC	104	%	87-113
MP24785-B1	7440-47-3	Chromium	BSP	REC	107	%	90-113
MP24785-B1	7440-48-4	Cobalt	BSP	REC	104.4	%	89-114
MP24785-B1	7440-50-8	Copper	BSP	REC	99.6	%	86-114
MP24785-B1	7439-89-6	Iron	BSP	REC	106	%	87-115
MP24785-B1	7439-92-1	Lead	BSP	REC	103	%	86-113
MP24785-B1	7439-95-4	Magnesium	BSP	REC	104.8	%	85-113
MP24785-B1	7439-96-5	Manganese	BSP	REC	106	%	90-114
MP24785-B1	7440-02-0	Nickel	BSP	REC	104	%	88-113
MP24785-B1	7440-09-7	Potassium	BSP	REC	101.6	%	86-114

* Sample used for QC is not from job MC39533

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24785-B1	7782-49-2	Selenium	BSP	REC	106.8	%	83-114
MP24785-B1	7440-22-4	Silver	BSP	REC	95	%	84-115
MP24785-B1	7440-23-5	Sodium	BSP	REC	105.2	%	87-115
MP24785-B1	7440-28-0	Thallium	BSP	REC	104.8	%	85-114
MP24785-B1	7440-62-2	Vanadium	BSP	REC	104.4	%	90-111
MP24785-B1	7440-66-6	Zinc	BSP	REC	105.4	%	87-115
MP24785-S3	7429-90-5	Aluminum	MS	REC	101.7	%	86-115
MP24785-S3	7440-36-0	Antimony	MS	REC	106.6	%	88-113
MP24785-S3	7440-39-3	Barium	MS	REC	103.7	%	88-113
MP24785-S3	7440-41-7	Beryllium	MS	REC	103.4	%	89-112
MP24785-S3	7440-43-9	Cadmium	MS	REC	108.2	%	88-113
MP24785-S3	7440-70-2	Calcium	MS	REC	102.4	%	87-113
MP24785-S3	7440-47-3	Chromium	MS	REC	106.3	%	90-113
MP24785-S3	7440-48-4	Cobalt	MS	REC	105.1	%	89-114
MP24785-S3	7440-50-8	Copper	MS	REC	101.4	%	86-114
MP24785-S3	7439-89-6	Iron	MS	REC	108	%	87-115
MP24785-S3	7439-92-1	Lead	MS	REC	102	%	86-113
MP24785-S3	7439-95-4	Magnesium	MS	REC	104.4	%	85-113
MP24785-S3	7439-96-5	Manganese	MS	REC	154 [a]	%	90-114
MP24785-S3	7440-02-0	Nickel	MS	REC	105.2	%	88-113
MP24785-S3	7440-09-7	Potassium	MS	REC	100.8	%	86-114
MP24785-S3	7782-49-2	Selenium	MS	REC	107.8	%	83-114
MP24785-S3	7440-22-4	Silver	MS	REC	96.5	%	84-115
MP24785-S3	7440-23-5	Sodium	MS	REC	104	%	87-115
MP24785-S3	7440-28-0	Thallium	MS	REC	102.2	%	85-114
MP24785-S3	7440-62-2	Vanadium	MS	REC	105.1	%	90-111
MP24785-S3	7440-66-6	Zinc	MS	REC	103.4	%	87-115
MP24785-S4	7429-90-5	Aluminum	MSD	REC	103.7	%	86-115
MP24785-S4	7429-90-5	Aluminum	MSD	RPD	1.9	%	20
MP24785-S4	7440-36-0	Antimony	MSD	REC	106.6	%	88-113
MP24785-S4	7440-36-0	Antimony	MSD	RPD	0	%	20
MP24785-S4	7440-39-3	Barium	MSD	REC	103.7	%	88-113
MP24785-S4	7440-39-3	Barium	MSD	RPD	0	%	20
MP24785-S4	7440-41-7	Beryllium	MSD	REC	103.2	%	89-112
MP24785-S4	7440-41-7	Beryllium	MSD	RPD	.2	%	20
MP24785-S4	7440-43-9	Cadmium	MSD	REC	107.8	%	88-113
MP24785-S4	7440-43-9	Cadmium	MSD	RPD	.4	%	20
MP24785-S4	7440-70-2	Calcium	MSD	REC	110.4	%	87-113
MP24785-S4	7440-70-2	Calcium	MSD	RPD	1.7	%	20
MP24785-S4	7440-47-3	Chromium	MSD	REC	106.3	%	90-113
MP24785-S4	7440-47-3	Chromium	MSD	RPD	0	%	20
MP24785-S4	7440-48-4	Cobalt	MSD	REC	105.1	%	89-114
MP24785-S4	7440-48-4	Cobalt	MSD	RPD	0	%	20
MP24785-S4	7440-50-8	Copper	MSD	REC	101.8	%	86-114
MP24785-S4	7440-50-8	Copper	MSD	RPD	.4	%	20

* Sample used for QC is not from job MC39533

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24785-S4	7439-89-6	Iron	MSD	REC	104	%	87-115
MP24785-S4	7439-89-6	Iron	MSD	RPD	1	%	20
MP24785-S4	7439-92-1	Lead	MSD	REC	103	%	86-113
MP24785-S4	7439-92-1	Lead	MSD	RPD	1	%	20
MP24785-S4	7439-95-4	Magnesium	MSD	REC	103.2	%	85-113
MP24785-S4	7439-95-4	Magnesium	MSD	RPD	.8	%	20
MP24785-S4	7439-96-5	Manganese	MSD	REC	154 [a]	%	90-114
MP24785-S4	7439-96-5	Manganese	MSD	RPD	0	%	20
MP24785-S4	7440-02-0	Nickel	MSD	REC	105.8	%	88-113
MP24785-S4	7440-02-0	Nickel	MSD	RPD	.6	%	20
MP24785-S4	7440-09-7	Potassium	MSD	REC	100	%	86-114
MP24785-S4	7440-09-7	Potassium	MSD	RPD	.6	%	20
MP24785-S4	7782-49-2	Selenium	MSD	REC	107.2	%	83-114
MP24785-S4	7782-49-2	Selenium	MSD	RPD	.6	%	20
MP24785-S4	7440-22-4	Silver	MSD	REC	96.5	%	84-115
MP24785-S4	7440-22-4	Silver	MSD	RPD	0	%	20
MP24785-S4	7440-23-5	Sodium	MSD	REC	116 [b]	%	87-115
MP24785-S4	7440-23-5	Sodium	MSD	RPD	1.9	%	20
MP24785-S4	7440-28-0	Thallium	MSD	REC	102.4	%	85-114
MP24785-S4	7440-28-0	Thallium	MSD	RPD	.2	%	20
MP24785-S4	7440-62-2	Vanadium	MSD	REC	104.9	%	90-111
MP24785-S4	7440-62-2	Vanadium	MSD	RPD	.2	%	20
MP24785-S4	7440-66-6	Zinc	MSD	REC	103.2	%	87-115
MP24785-S4	7440-66-6	Zinc	MSD	RPD	.2	%	20
MP24785A	SW846 6020A						
MP24785A-B1	7440-38-2	Arsenic	BSP	REC	114.2	%	84-116
MP24785A-S3	7440-38-2	Arsenic	MS	REC	117.6 [c]	%	84-116
MP24785A-S4	7440-38-2	Arsenic	MSD	REC	116.8 [b]	%	84-116
MP24785A-S4	7440-38-2	Arsenic	MSD	RPD	.4	%	20

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.
(c) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

* Sample used for QC is not from job MC39533

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GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1467-MB	V40658.D	1	07/02/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-1, MC39533-2, MC39533-3, MC39533-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1467-MB	V40658.D	1	07/02/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-1, MC39533-2, MC39533-3, MC39533-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1467-MB	V40658.D	1	07/02/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-1, MC39533-2, MC39533-3, MC39533-4

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	72-133%
2037-26-5	Toluene-D8	91%	85-114%
460-00-4	4-Bromofluorobenzene	95%	70-134%

Method Blank Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1467-MB1	V40705.D	1	07/06/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-3

CAS No.	Compound	Result	RL	MDL	Units	Q
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	72-133%
2037-26-5	Toluene-D8	91%	85-114%
460-00-4	4-Bromofluorobenzene	92%	70-134%

Blank Spike Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1467-BS1	V40702.D	1	07/06/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
91-20-3	Naphthalene	50	41.3	83	39-176

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	72-133%
2037-26-5	Toluene-D8	98%	85-114%
460-00-4	4-Bromofluorobenzene	97%	70-134%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1467-BS	V40655.D	1	07/02/15	JB	n/a	n/a	MSV1467
MSV1467-BSD	V40656.D	1	07/02/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-1, MC39533-2, MC39533-3, MC39533-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	47.0	94	69.4	139	38* [a]	14-172/25
71-43-2	Benzene	50	44.8	90	44.5	89	1	68-127/25
108-86-1	Bromobenzene	50	47.3	95	46.8	94	1	74-124/25
74-97-5	Bromochloromethane	50	43.6	87	44.5	89	2	68-135/25
75-27-4	Bromodichloromethane	50	46.7	93	46.6	93	0	72-144/25
75-25-2	Bromoform	50	48.9	98	49.9	100	2	59-147/25
74-83-9	Bromomethane	50	44.9	90	44.2	88	2	34-175/25
78-93-3	2-Butanone (MEK)	50	46.6	93	56.0	112	18	43-147/25
104-51-8	n-Butylbenzene	50	53.0	106	51.2	102	3	77-136/25
135-98-8	sec-Butylbenzene	50	53.3	107	52.2	104	2	75-134/25
98-06-6	tert-Butylbenzene	50	54.0	108	52.6	105	3	74-132/25
75-15-0	Carbon disulfide	50	44.3	89	43.1	86	3	34-171/25
56-23-5	Carbon tetrachloride	50	49.6	99	49.0	98	1	55-153/25
108-90-7	Chlorobenzene	50	47.0	94	46.5	93	1	71-123/25
75-00-3	Chloroethane	50	40.4	81	40.2	80	0	58-175/25
67-66-3	Chloroform	50	47.4	95	47.3	95	0	67-136/25
74-87-3	Chloromethane	50	41.6	83	41.8	84	0	25-182/25
95-49-8	o-Chlorotoluene	50	48.2	96	46.8	94	3	72-130/25
106-43-4	p-Chlorotoluene	50	46.9	94	45.6	91	3	73-127/25
96-12-8	1,2-Dibromo-3-chloropropane	50	42.8	86	46.9	94	9	50-159/25
124-48-1	Dibromochloromethane	50	49.9	100	50.4	101	1	73-139/25
106-93-4	1,2-Dibromoethane	50	44.4	89	45.1	90	2	69-132/25
95-50-1	1,2-Dichlorobenzene	50	47.2	94	47.2	94	0	77-125/25
541-73-1	1,3-Dichlorobenzene	50	48.4	97	47.8	96	1	77-124/25
106-46-7	1,4-Dichlorobenzene	50	46.0	92	45.3	91	2	73-128/25
75-71-8	Dichlorodifluoromethane	50	51.7	103	50.5	101	2	23-157/25
75-34-3	1,1-Dichloroethane	50	43.1	86	43.5	87	1	63-145/25
107-06-2	1,2-Dichloroethane	50	43.3	87	43.6	87	1	58-145/25
75-35-4	1,1-Dichloroethene	50	45.4	91	43.8	88	4	56-158/25
156-59-2	cis-1,2-Dichloroethene	50	43.0	86	43.0	86	0	67-133/25
156-60-5	trans-1,2-Dichloroethene	50	48.2	96	48.9	98	1	66-136/25
78-87-5	1,2-Dichloropropane	50	44.8	90	44.4	89	1	75-133/25
142-28-9	1,3-Dichloropropane	50	43.1	86	43.2	86	0	70-127/25
594-20-7	2,2-Dichloropropane	50	58.3	117	56.3	113	3	52-163/25
563-58-6	1,1-Dichloropropene	50	53.1	106	52.1	104	2	77-140/25
10061-01-5	cis-1,3-Dichloropropene	50	47.2	94	47.3	95	0	74-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1467-BS	V40655.D	1	07/02/15	JB	n/a	n/a	MSV1467
MSV1467-BSD	V40656.D	1	07/02/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-1, MC39533-2, MC39533-3, MC39533-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	50.2	100	50.3	101	0	77-143/25
100-41-4	Ethylbenzene	50	49.2	98	48.2	96	2	71-129/25
87-68-3	Hexachlorobutadiene	50	51.5	103	52.2	104	1	64-146/25
591-78-6	2-Hexanone	50	44.1	88	55.1	110	22	22-163/25
74-88-4	Iodomethane	50	44.8	90	43.8	88	2	30-166/25
98-82-8	Isopropylbenzene	50	51.8	104	51.1	102	1	72-133/25
99-87-6	p-Isopropyltoluene	50	55.4	111	54.2	108	2	77-134/25
1634-04-4	Methyl Tert Butyl Ether	50	40.5	81	41.6	83	3	46-151/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	41.4	83	45.5	91	9	47-145/25
74-95-3	Methylene bromide	50	42.6	85	43.1	86	1	70-132/25
75-09-2	Methylene chloride	50	40.7	81	40.1	80	1	55-146/25
91-20-3	Naphthalene	50	46.5	93	53.7	107	14	39-176/25
103-65-1	n-Propylbenzene	50	51.3	103	49.8	100	3	74-134/25
100-42-5	Styrene	50	52.1	104	51.0	102	2	71-134/25
630-20-6	1,1,1,2-Tetrachloroethane	50	51.4	103	51.5	103	0	70-137/25
79-34-5	1,1,2,2-Tetrachloroethane	50	37.8	76	39.3	79	4	58-145/25
127-18-4	Tetrachloroethene	50	58.9	118	57.7	115	2	63-137/25
108-88-3	Toluene	50	46.0	92	45.4	91	1	75-126/25
87-61-6	1,2,3-Trichlorobenzene	50	43.7	87	49.9	100	13	27-181/25
120-82-1	1,2,4-Trichlorobenzene	50	46.3	93	50.1	100	8	40-176/25
71-55-6	1,1,1-Trichloroethane	50	45.6	91	45.1	90	1	68-144/25
79-00-5	1,1,2-Trichloroethane	50	42.9	86	43.2	86	1	72-133/25
79-01-6	Trichloroethene	50	47.1	94	46.3	93	2	73-126/25
75-69-4	Trichlorofluoromethane	50	46.1	92	45.8	92	1	43-152/25
96-18-4	1,2,3-Trichloropropane	50	39.7	79	41.7	83	5	58-141/25
95-63-6	1,2,4-Trimethylbenzene	50	51.7	103	50.4	101	3	76-129/25
108-67-8	1,3,5-Trimethylbenzene	50	51.1	102	50.0	100	2	71-127/25
108-05-4	Vinyl Acetate	50	46.2	92	46.6	93	1	10-170/25
75-01-4	Vinyl chloride	50	42.7	85	42.6	85	0	36-167/25
	m,p-Xylene	100	100	100	97.6	98	2	68-130/25
95-47-6	o-Xylene	50	54.2	108	53.5	107	1	69-126/25
1330-20-7	Xylene (total)	150	155	103	151	101	3	67-129/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1467-BS	V40655.D	1	07/02/15	JB	n/a	n/a	MSV1467
MSV1467-BSD	V40656.D	1	07/02/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-1, MC39533-2, MC39533-3, MC39533-4

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	96%	96%	72-133%
2037-26-5	Toluene-D8	99%	98%	85-114%
460-00-4	4-Bromofluorobenzene	98%	97%	70-134%

(a) Outside control limits. Individual spike recoveries within acceptance limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39533-3MS	V40676.D	1	07/02/15	JB	n/a	n/a	MSV1467
MC39533-3MSD	V40677.D	1	07/02/15	JB	n/a	n/a	MSV1467
MC39533-3	V40666.D	1	07/02/15	JB	n/a	n/a	MSV1467
MC39533-3	V40707.D	1	07/06/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-1, MC39533-2, MC39533-3, MC39533-4

CAS No.	Compound	MC39533-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10 U		50	43.5	87	50	41.2	82	5	10-135/30
71-43-2	Benzene	0.50 U		50	44.0	88	50	45.4	91	3	61-138/30
108-86-1	Bromobenzene	5.0 U		50	45.6	91	50	47.5	95	4	71-126/30
74-97-5	Bromochloromethane	5.0 U		50	43.7	87	50	44.8	90	2	70-136/30
75-27-4	Bromodichloromethane	1.0 U		50	48.5	97	50	48.7	97	0	73-146/30
75-25-2	Bromoform	1.0 U		50	54.0	108	50	52.7	105	2	54-147/30
74-83-9	Bromomethane	2.0 U		50	42.9	86	50	43.7	87	2	20-171/30
78-93-3	2-Butanone (MEK)	5.0 U		50	43.8	88	50	43.7	87	0	33-127/30
104-51-8	n-Butylbenzene	5.0 U		50	47.8	96	50	51.4	103	7	69-138/30
135-98-8	sec-Butylbenzene	5.0 U		50	50.1	100	50	53.9	108	7	71-137/30
98-06-6	tert-Butylbenzene	5.0 U		50	50.7	101	50	54.7	109	8	68-137/30
75-15-0	Carbon disulfide	0.48		50	48.8	97	50	48.8	97	0	29-178/30
56-23-5	Carbon tetrachloride	1.0 U		50	50.4	101	50	50.5	101	0	57-155/30
108-90-7	Chlorobenzene	1.0 U		50	46.5	93	50	47.7	95	3	69-126/30
75-00-3	Chloroethane	2.0 U		50	39.1	78	50	38.8	78	1	57-182/30
67-66-3	Chloroform	1.0 U		50	46.8	94	50	47.9	96	2	66-142/30
74-87-3	Chloromethane	2.0 U		50	42.2	84	50	43.1	86	2	18-182/30
95-49-8	o-Chlorotoluene	5.0 U		50	44.9	90	50	48.0	96	7	60-145/30
106-43-4	p-Chlorotoluene	5.0 U		50	44.2	88	50	46.4	93	5	64-138/30
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		50	47.2	94	50	45.7	91	3	46-160/30
124-48-1	Dibromochloromethane	1.0 U		50	52.6	105	50	53.1	106	1	71-138/30
106-93-4	1,2-Dibromoethane	1.0 U		50	46.3	93	50	46.1	92	0	71-129/30
95-50-1	1,2-Dichlorobenzene	1.0 U		50	45.9	92	50	47.4	95	3	75-125/30
541-73-1	1,3-Dichlorobenzene	1.0 U		50	46.1	92	50	48.5	97	5	74-125/30
106-46-7	1,4-Dichlorobenzene	1.0 U		50	44.3	89	50	46.3	93	4	72-128/30
75-71-8	Dichlorodifluoromethane	2.0 U		50	47.5	95	50	45.9	92	3	23-159/30
75-34-3	1,1-Dichloroethane	1.0 U		50	42.9	86	50	43.6	87	2	63-150/30
107-06-2	1,2-Dichloroethane	1.0 U		50	44.0	88	50	43.8	88	0	57-150/30
75-35-4	1,1-Dichloroethene	1.0 U		50	48.4	97	50	48.8	98	1	53-165/30
156-59-2	cis-1,2-Dichloroethene	2.2		50	43.4	82	50	45.4	86	5	66-138/30
156-60-5	trans-1,2-Dichloroethene	1.0 U		50	48.5	97	50	48.6	97	0	65-141/30
78-87-5	1,2-Dichloropropane	2.0 U		50	45.0	90	50	45.5	91	1	76-136/30
142-28-9	1,3-Dichloropropane	5.0 U		50	43.8	88	50	44.0	88	0	71-127/30
594-20-7	2,2-Dichloropropane	5.0 U		50	51.1	102	50	51.9	104	2	33-175/30
563-58-6	1,1-Dichloropropene	5.0 U		50	51.7	103	50	53.3	107	3	76-145/30
10061-01-5	cis-1,3-Dichloropropene	0.50 U		50	46.8	94	50	46.2	92	1	75-137/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39533-3MS	V40676.D	1	07/02/15	JB	n/a	n/a	MSV1467
MC39533-3MSD	V40677.D	1	07/02/15	JB	n/a	n/a	MSV1467
MC39533-3	V40666.D	1	07/02/15	JB	n/a	n/a	MSV1467
MC39533-3	V40707.D	1	07/06/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-1, MC39533-2, MC39533-3, MC39533-4

CAS No.	Compound	MC39533-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	0.50 U		50	51.7	103	50	49.2	98	5	77-139/30
100-41-4	Ethylbenzene	1.0 U		50	47.4	95	50	49.1	98	4	61-137/30
87-68-3	Hexachlorobutadiene	5.0 U		50	45.7	91	50	50.7	101	10	59-141/30
591-78-6	2-Hexanone	5.0 U		50	45.6	91	50	44.0	88	4	12-141/30
74-88-4	Iodomethane	5.0 U		50	46.6	93	50	48.0	96	3	21-171/30
98-82-8	Isopropylbenzene	5.0 U		50	48.4	97	50	52.0	104	7	64-141/30
99-87-6	p-Isopropyltoluene	5.0 U		50	51.8	104	50	55.6	111	7	73-135/30
1634-04-4	Methyl Tert Butyl Ether	1.0 U		50	43.1	86	50	43.8	88	2	34-160/30
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		50	46.2	92	50	45.0	90	3	47-143/30
74-95-3	Methylene bromide	5.0 U		50	44.7	89	50	43.7	87	2	73-132/30
75-09-2	Methylene chloride	2.0 U		50	43.5	87	50	43.3	87	0	52-154/30
91-20-3	Naphthalene	5.0 U [a]		50	48.9	98	50	48.7	97	0	21-185/30
103-65-1	n-Propylbenzene	5.0 U		50	47.5	95	50	50.2	100	6	66-141/30
100-42-5	Styrene	5.0 U		50	50.9	102	50	51.8	104	2	60-142/30
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U		50	50.6	101	50	53.2	106	5	69-138/30
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U		50	39.2	78	50	39.7	79	1	58-147/30
127-18-4	Tetrachloroethene	1.0 U		50	57.1	114	50	60.2	120	5	60-140/30
108-88-3	Toluene	1.0 U		50	46.5	93	50	46.8	94	1	74-131/30
87-61-6	1,2,3-Trichlorobenzene	5.0 U		50	44.0	88	50	45.0	90	2	12-184/30
120-82-1	1,2,4-Trichlorobenzene	5.0 U		50	45.4	91	50	47.0	94	3	30-175/30
71-55-6	1,1,1-Trichloroethane	1.0 U		50	46.0	92	50	47.0	94	2	67-151/30
79-00-5	1,1,2-Trichloroethane	1.0 U		50	45.9	92	50	45.1	90	2	73-134/30
79-01-6	Trichloroethene	1.8		50	47.9	92	50	49.2	95	3	68-133/30
75-69-4	Trichlorofluoromethane	1.0 U		50	47.4	95	50	46.6	93	2	40-159/30
96-18-4	1,2,3-Trichloropropane	5.0 U		50	34.4	69	50	33.0	66	4	54-141/30
95-63-6	1,2,4-Trimethylbenzene	5.0 U		50	48.3	97	50	51.8	104	7	62-142/30
108-67-8	1,3,5-Trimethylbenzene	5.0 U		50	47.7	95	50	50.9	102	6	62-133/30
108-05-4	Vinyl Acetate	5.0 U		50	43.7	87	50	43.5	87	0	10-169/30
75-01-4	Vinyl chloride	1.4		50	45.8	89	50	45.7	89	0	29-176/30
	m,p-Xylene	1.0 U		100	97.0	97	100	100	100	3	58-139/30
95-47-6	o-Xylene	1.0 U		50	52.5	105	50	54.4	109	4	61-135/30
1330-20-7	Xylene (total)	1.0 U		150	149	99	150	155	103	4	60-136/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39533-3MS	V40676.D	1	07/02/15	JB	n/a	n/a	MSV1467
MC39533-3MSD	V40677.D	1	07/02/15	JB	n/a	n/a	MSV1467
MC39533-3	V40666.D	1	07/02/15	JB	n/a	n/a	MSV1467
MC39533-3	V40707.D	1	07/06/15	JB	n/a	n/a	MSV1467

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39533-1, MC39533-2, MC39533-3, MC39533-4

CAS No.	Surrogate Recoveries	MS	MSD	MC39533-3	MC39533-3	Limits
1868-53-7	Dibromofluoromethane	95%	96%	99%	101%	72-133%
2037-26-5	Toluene-D8	101%	99%	93%	93%	85-114%
460-00-4	4-Bromofluorobenzene	96%	97%	94%	92%	70-134%

(a) Result is from Run #2.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC39533-1	V40667.D	100	93	95
MC39533-2	V40668.D	100	93	95
MC39533-3	V40666.D	99	93	94
MC39533-3	V40707.D	101	93	92
MC39533-4	V40669.D	102	92	95
MC39533-3MS	V40676.D	95	101	96
MC39533-3MSD	V40677.D	96	99	97
MSV1467-BS	V40655.D	96	99	98
MSV1467-BS1	V40702.D	96	98	97
MSV1467-BSD	V40656.D	96	98	97
MSV1467-MB	V40658.D	101	91	95
MSV1467-MB1	V40705.D	99	91	92

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	72-133%
S2 = Toluene-D8	85-114%
S3 = 4-Bromofluorobenzene	70-134%

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1504-MB	BA22092.D	1	06/30/15	TB	n/a	n/a	GBA1504

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39533-2, MC39533-3, MC39533-4

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1504-BSP	BA22093.D	1	06/30/15	TB	n/a	n/a	GBA1504

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39533-2, MC39533-3, MC39533-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	90.7	102	50-150
74-84-0	Ethane	166	171	103	50-150
74-85-1	Ethene	155	179	115	50-150

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39533
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39533-3MS	BA22095.D	1	06/30/15	TB	n/a	n/a	GBA1504
MC39533-3MSD	BA22096.D	1	06/30/15	TB	n/a	n/a	GBA1504
MC39533-3	BA22094.D	1	06/30/15	TB	n/a	n/a	GBA1504

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39533-2, MC39533-3, MC39533-4

CAS No.	Compound	MC39533-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
74-82-8	Methane	719		88.7	777	65	88.7	762	48* [a]	2	50-150/30
74-84-0	Ethane	10 U		166	155	93	166	145	87	7	50-150/30
74-85-1	Ethene	4.4		155	163	102	155	151	95	8	50-150/30

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

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LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:					06/26/15		06/26/15		06/26/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Mercury	0.20	.035	.096	0.024	<0.20	0.020	<0.20	0.018	<0.20

Associated samples MP24781: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.3	3	110.0	75-125

Associated samples MP24781: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.4	3	113.3	3.0	20

Associated samples MP24781: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits
Mercury	3.1	3	103.3	80-120

Associated samples MP24781: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.3
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					06/26/15		06/26/15		06/26/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Aluminum	200	14	28	-18	<200	-7.6	<200	-8.6	<200
Antimony	6.0	1.1	2	0.10	<6.0	0.30	<6.0	-0.30	<6.0
Arsenic	4.0	1.6	1.7						
Barium	50	.35	1	0.0	<50	0.30	<50	0.30	<50
Beryllium	4.0	.15	.25	0.0	<4.0	0.0	<4.0	0.0	<4.0
Bismuth	50	1.3	2.1						
Boron	100	.9	1.1						
Cadmium	4.0	.16	.43	0.20	<4.0	0.10	<4.0	0.10	<4.0
Calcium	5000	6.9	15	19.2	<5000	24.8	<5000	26.7	<5000
Chromium	10	.36	.48	0.20	<10	0.20	<10	0.0	<10
Cobalt	50	.15	.28	0.0	<50	-0.10	<50	0.0	<50
Copper	25	.59	2.4	-0.30	<25	0.10	<25	0.10	<25
Gold	50	1.1	1.5						
Iron	100	3.3	17	-0.10	<100	1.4	<100	10.0	<100
Lead	5.0	.78	1.7	-0.10	<5.0	0.30	<5.0	0.10	<5.0
Lithium	500	2.3	2.5						
Magnesium	5000	23	54	-5.0	<5000	-10	<5000	-4.1	<5000
Manganese	15	.056	1.4	0.0	<15	0.0	<15	0.0	<15
Molybdenum	100	1.7	3.6						
Nickel	40	.21	.5	0.0	<40	-0.10	<40	-0.30	<40
Palladium	50	.92	2.6						
Platinum	50	4.6	5.4						
Potassium	5000	41	49	44.2	<5000	34.3	<5000	38.3	<5000
Selenium	10	1.5	2	1.1	<10	1.6	<10	1.8	<10
Silicon	100	1.1	30						
Silver	5.0	.56	1	-0.50	<5.0	-0.40	<5.0	-0.50	<5.0
Sodium	5000	17	77	84.9	<5000	129	<5000	110	<5000
Sulfur	50	2.3	4.6						
Strontium	10	.2	.22						
Thallium	5.0	.54	1.7	-0.60	<5.0	-0.80	<5.0	-0.70	<5.0
Tin	100	.39	.81						
Titanium	50	.34	.51						
Tungsten	100	3.1	22						

8.2.1
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					06/26/15		06/26/15		06/26/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Vanadium	10	.61	.51	0.0	<10	-0.20	<10	0.0	<10
Zinc	20	.53	1	0.50	<20	0.50	<20	0.80	<20
Zirconium	50	.19	1.2						

Associated samples MP24785: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	128	10300	10000	101.7	75-125
Antimony	0.0	533	500	106.6	75-125
Arsenic					
Barium	55.8	2130	2000	103.7	75-125
Beryllium	0.0	517	500	103.4	75-125
Bismuth					
Boron					
Cadmium	4.8	546	500	108.2	75-125
Calcium	88400	114000	25000	102.4	75-125
Chromium	0.40	532	500	106.3	75-125
Cobalt	4.3	530	500	105.1	75-125
Copper	0.90	508	500	101.4	75-125
Gold					
Iron	29300	40100	10000	108.0	75-125
Lead	0.0	1020	1000	102.0	75-125
Lithium					
Magnesium	13900	40000	25000	104.4	75-125
Manganese	3840	4610	500	154.0(a)	75-125
Molybdenum					
Nickel	0.90	527	500	105.2	75-125
Palladium					
Platinum					
Potassium	6010	31200	25000	100.8	75-125
Selenium	0.0	539	500	107.8	75-125
Silicon					
Silver	0.0	193	200	96.5	75-125
Sodium	131000	157000	25000	104.0	75-125
Sulfur					
Strontium					
Thallium	0.0	511	500	102.2	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	1.7	527	500	105.1	75-125
Zinc	5.2	522	500	103.4	75-125
Zirconium					

Associated samples MP24785: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	128	10500	10000	103.7	1.9	20
Antimony	0.0	533	500	106.6	0.0	20
Arsenic						
Barium	55.8	2130	2000	103.7	0.0	20
Beryllium	0.0	516	500	103.2	0.2	20
Bismuth						
Boron						
Cadmium	4.8	544	500	107.8	0.4	20
Calcium	88400	116000	25000	110.4	1.7	20
Chromium	0.40	532	500	106.3	0.0	20
Cobalt	4.3	530	500	105.1	0.0	20
Copper	0.90	510	500	101.8	0.4	20
Gold						
Iron	29300	39700	10000	104.0	1.0	20
Lead	0.0	1030	1000	103.0	1.0	20
Lithium						
Magnesium	13900	39700	25000	103.2	0.8	20
Manganese	3840	4610	500	154.0(a)	0.0	20
Molybdenum						
Nickel	0.90	530	500	105.8	0.6	20
Palladium						
Platinum						
Potassium	6010	31000	25000	100.0	0.6	20
Selenium	0.0	536	500	107.2	0.6	20
Silicon						
Silver	0.0	193	200	96.5	0.0	20
Sodium	131000	160000	25000	116.0(b)	1.9	20
Sulfur						
Strontium						
Thallium	0.0	512	500	102.4	0.2	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	1.7	526	500	104.9	0.2	20
Zinc	5.2	521	500	103.2	0.2	20
Zirconium						

Associated samples MP24785: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	10200	10000	102.0	80-120
Antimony	532	500	106.4	80-120
Arsenic				
Barium	2080	2000	104.0	80-120
Beryllium	520	500	104.0	80-120
Bismuth				
Boron				
Cadmium	542	500	108.4	80-120
Calcium	26000	25000	104.0	80-120
Chromium	535	500	107.0	80-120
Cobalt	522	500	104.4	80-120
Copper	498	500	99.6	80-120
Gold				
Iron	10600	10000	106.0	80-120
Lead	1030	1000	103.0	80-120
Lithium				
Magnesium	26200	25000	104.8	80-120
Manganese	530	500	106.0	80-120
Molybdenum				
Nickel	520	500	104.0	80-120
Palladium				
Platinum				
Potassium	25400	25000	101.6	80-120
Selenium	534	500	106.8	80-120
Silicon				
Silver	190	200	95.0	80-120
Sodium	26300	25000	105.2	80-120
Sulfur				
Strontium				
Thallium	524	500	104.8	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	522	500	104.4	80-120
Zinc	527	500	105.4	80-120
Zirconium				

Associated samples MP24785: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39372-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum	96.4	76.2	21.0 (a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	29.3	29.9	2.0	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.400	0.00	100.0(a)	0-10
Calcium	54500	55800	2.5	0-10
Chromium	0.500	0.00	100.0(a)	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	1.20	0.00	100.0(a)	0-10
Gold				
Iron	4470	4580	2.4	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	4440	4550	2.5	0-10
Manganese	202	210	4.4	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Palladium				
Platinum				
Potassium	3820	3960	3.7	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	39400	40300	2.3	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39372-1F Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.00	0.00	NC	0-10
Zinc	7.20	8.50	18.1 (a)	0-10
Zirconium				

Associated samples MP24785: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date:

Metal	RL	IDL	MDL	MB raw	06/26/15 final	MB raw	06/26/15 final	MB raw	06/26/15 final
Aluminum	50	1.3	4.4						
Antimony	4.0	.022	.058						
Arsenic	4.0	.046	.42	0.78	<4.0	0.81	<4.0	0.75	<4.0
Barium	2.0	.016	.076						
Beryllium	1.0	.015	.042						
Boron	10	.24	.34						
Cadmium	2.0	.012	.026						
Calcium	500	4.2	30						
Chromium	8.0	.032	.42						
Cobalt	1.0	.0064	.028						
Copper	8.0	.017	1						
Iron	50	.72	3.4						
Lead	2.0	.013	.036						
Magnesium	500	1.4	2						
Manganese	4.0	.0096	1.2						
Molybdenum	2.0	.028	.24						
Nickel	4.0	.015	.14						
Potassium	500	3.4	5.2						
Selenium	2.0	.15	.3						
Silver	2.0	.0088	.022						
Sodium	500	2	8.8						
Strontium	20	.01	.026						
Thallium	2.0	.042	.068						
Tin	10	.015	.048						
Titanium	2.0	.2	.26						
Vanadium	20	.2	1.4						
Zinc	10	.066	2						

Associated samples MP24785A: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	360	948	500	117.6(a)	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP24785A: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	360	944	500	116.8(a)	0.4	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP24785A: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	571	500	114.2	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24785A: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39372-1F Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	22.0	22.4	2.0	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24785A: MC39533-1F, MC39533-2F, MC39533-3F, MC39533-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN51031	5.0	0.0	mg/l	250	253	101.2	80-120%
Nitrogen, Nitrate + Nitrite	GP19320/GN51110	0.10	0.026	mg/l	2	2.04	102.0	90-110%
Nitrogen, Nitrite	GP19276/GN51002	0.010	0.0	mg/l	0.02	0.020	100.0	80-120%
Sulfide	GN51004	2.0	0.0	mg/l	13.4	12.0	89.6	80-120%
Sulfide	GN51053	2.0	0.0	mg/l	13.4	12.0	89.6	80-120%
Total Organic Carbon	GP19317/GN51117	1.0	0.0	mg/l	10	10.0	100.0	80-120%

Associated Samples:
Batch GN51004: MC39533-3
Batch GN51031: MC39533-2, MC39533-3, MC39533-4
Batch GN51053: MC39533-2, MC39533-4
Batch GP19276: MC39533-2, MC39533-3, MC39533-4
Batch GP19317: MC39533-2, MC39533-3, MC39533-4
Batch GP19320: MC39533-2, MC39533-3, MC39533-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN51031	MC39533-3	mg/l	129	128	0.8	0-20%
Nitrogen, Nitrate + Nitrite	GP19320/GN51110	MC39533-3	mg/l	0.065	0.059	9.7	0-20%
Nitrogen, Nitrite	GP19276/GN51002	MC39533-3	mg/l	0.0011 U	0.0	0.0	0-20%
Sulfide	GN51004	MC39533-3	mg/l	0.34 U	0.0	0.0	0-20%
Sulfide	GN51053	MC39533-2	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN51004: MC39533-3
Batch GN51031: MC39533-2, MC39533-3, MC39533-4
Batch GN51053: MC39533-2, MC39533-4
Batch GP19276: MC39533-2, MC39533-3, MC39533-4
Batch GP19320: MC39533-2, MC39533-3, MC39533-4
(*) Outside of QC limits

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN51031	MC39533-3	mg/l	129	250	386	102.8	75-125%
Nitrogen, Nitrate + Nitrite	GP19320/GN51110	MC39533-3	mg/l	0.065	2	2.1	101.8	90-110%
Nitrogen, Nitrite	GP19276/GN51002	MC39533-3	mg/l	0.0011 U	0.02	0.019	95.0	75-125%
Sulfide	GN51004	MC39533-3	mg/l	0.34 U	10.7	10.4	97.2	75-125%
Sulfide	GN51053	MC39533-2	mg/l	0.34 U	13.4	12.0	89.6	75-125%
Total Organic Carbon	GP19317/GN51117	MC39533-3	mg/l	3.2	10	13.6	104.0	75-125%

Associated Samples:
Batch GN51004: MC39533-3
Batch GN51031: MC39533-2, MC39533-3, MC39533-4
Batch GN51053: MC39533-2, MC39533-4
Batch GP19276: MC39533-2, MC39533-3, MC39533-4
Batch GP19317: MC39533-2, MC39533-3, MC39533-4
Batch GP19320: MC39533-2, MC39533-3, MC39533-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39533
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19317/GN51117	MC39533-3	mg/l	3.2	10	13.2	3.0	

Associated Samples:
Batch GP19317: MC39533-2, MC39533-3, MC39533-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC39533
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information	Subcontract Laboratory Information
Name: Accutest New England	Name: Accutest - New Jersey
Address: 50 D'Angelo Drive	Address: 2235 Route 130
City: Marlborough State: MA Zip: 01752	City: Dayton State: NJ Zip: 08810
Send Report to: FrankD@accutest.com	Contact: Sample Management
Any questions contact: Frank D'Agostino	
Phone/Fax #: (508)481-6200 / (508)481-7753	Phone: (732) 329-0200

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300	MS/MSD				Comments
MC39533 -2	6/22/15	12:35 PM		GW	1					x	X					250ml
MC39533 -3,-3S,-3D	6/22/15	2:40 PM		GW	1					x	X	X				500ml
MC39533 -4	6/22/15	00:00		GW	1					x	X					250ml
																MA

Turnaround: [x] STD 7/6/15
[ ] Other ______ (Days) *Please notify Accutest if surcharges are applied.

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] Commercial "BN"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

Comments / Remarks
All DW samples are subject to MCL compliance reporting

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:	
1 [signature]	6/23/15	1 FedEx	1	Seal #: Headspace: Yes No [ ] NA [ ]
2 FEDEX	6-24-15 1000	2 [signature]	2	Preserved where applicable: [ ]
3		3	3	Temperature °C 2.1 On Ice [✓]

FEDEX 6406-1312-4419

INITIAL ASESSMENT [initials] 323 FP

LABEL VERIFICATION MB

sm022-01 (10/30/14)

10.1 10

MC39533: Chain of Custody
Page 1 of 2
Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39533 **Client:** **Project:**

Date / Time Received: 6/24/2015 10:00:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (2.1);

Cooler Temps (Corrected) °C: Cooler 1: (1.8);

Cooler Security	Y	N
1. Custody Seals Present:	✓	
2. Custody Seals Intact:	✓	
3. COC Present:	✓	
4. Smpl Dates/Time OK	✓	

Cooler Temperature	Y	N
1. Temp criteria achieved:	✓	
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:			✓
2. Trip Blank listed on COC:			✓
3. Samples preserved properly:	✓		
4. VOCs headspace free:			✓

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	✓	
2. Container labeling complete:	✓	
3. Sample container label / COC agree:	✓	

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	✓	
2. All containers accounted for:	✓	
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	✓		
2. Bottles received for unspecified tests		✓	
3. Sufficient volume recvd for analysis:	✓		
4. Compositing instructions clear:			✓
5. Filtering instructions clear:			✓

Comments

MC39533: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC39533
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 06/22/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC39533

New England
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LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39533
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Sulfate	GP90193/GN28061	10	2.2	mg/l	80	81.0	101.3	90-110%

Associated Samples:
Batch GP90193: MC39533-2, MC39533-3, MC39533-4
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39533
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Sulfate	GP90193/GN28061	MC39533-3	mg/l	30.5	30.6	0.3	0-20%

Associated Samples:
Batch GP90193: MC39533-2, MC39533-3, MC39533-4
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39533
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Sulfate	GP90193/GN28061	MC39533-3	mg/l	30.5	80	110	99.4	80-120%

Associated Samples:
Batch GP90193: MC39533-2, MC39533-3, MC39533-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

07/07/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

Accutest Job Number: MC39548

Sampling Date: 06/23/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
eanderson@hsenv.com

ATTN: Elizabeth Anderson

Total number of pages in report: **98**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

New England • 495 Tech Center West • Building 1 • Marlborough, MA 01752 • tel: 508-481-6200 • fax: 508-481-7753 • http://www.accutest.com

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Sample Summary

H&S Environmental

Fort Devens, AOC50, Devens, MA

Job No: MC39548

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC39548-1	06/23/15	10:30	SL	06/23/15	AQ	Ground Water	G6M-02-13X-062315H
MC39548-1F	06/23/15	10:30	SL	06/23/15	AQ	Groundwater Filtered	G6M-02-13X-062315H
MC39548-2	06/23/15	11:30	SL	06/23/15	AQ	Ground Water	G6M-02-13X-062315
MC39548-2F	06/23/15	11:30	SL	06/23/15	AQ	Groundwater Filtered	G6M-02-13X-062315
MC39548-3	06/23/15	09:00	SL	06/23/15	AQ	Ground Water	MW-3-062315H
MC39548-3F	06/23/15	09:00	SL	06/23/15	AQ	Groundwater Filtered	MW-3-062315H
MC39548-4	06/23/15	09:50	SL	06/23/15	AQ	Ground Water	MW-3-062315
MC39548-4F	06/23/15	09:50	SL	06/23/15	AQ	Groundwater Filtered	MW-3-062315

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SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	H&S Environmental	**Job No**	MC39548
Site:	Fort Devens, AOC50, Devens, MA	**Report Date**	7/7/2015 11:49:05 AM

4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 06/23/2015 and were received at Accutest on 06/23/2015 properly preserved, at 1 Deg. C and intact. These Samples received an Accutest job number of MC39548. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSV1469

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC39558-4MS, MC39558-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MC39558-4MS/MSD Recovery(s) for Trichloroethene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- MC39548-1, 2, 3, 4 for Methylene chloride, 1,1,2,2-Tetrachloroethane: Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.
- MC39558-4MS for 1,1-Dichloroethane, 1,1,2,2-Tetrachloroethane are outside DoD control limits, but within in-house control limits.
- MC39558-4MSD for 1,1-Dichloroethane, Methylene chloride, 1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane are outside DoD control limits, but within in-house control limits.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1505

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC39638-3DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP24785

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1FSDL, MC39533-3FMS, MC39533-3FMSD, MC39372-1FSDL were used as the QC samples for metals.
- MP24785-MS/MSD Recovery(s) for Manganese are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Aluminum, Cadmium, Chromium, Copper, Zinc are outside control limits for sample MP24785-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 6020A

Matrix: AQ	**Batch ID:** MP24785A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39372-1FSDL, MC39533-3FMSD were used as the QC samples for metals.
- MP24785A-MS/MSD for Arsenic: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

Metals By Method SW846 7470A

Matrix: AQ	**Batch ID:** MP24781

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3FMS, MC39533-3FMSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	**Batch ID:** N:GP90193

- MC39548-1, 2, 3, 4 for Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	**Batch ID:** GP19282

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-6DUP, MC39435-6MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	**Batch ID:** GP19320

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	**Batch ID:** R36831

- MC39548-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R36876

- MC39548-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R36877

- MC39548-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R36878

- MC39548-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	Batch ID: GP19276

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 2320B

Matrix: AQ	Batch ID: GN51055

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39548-1DUP, MC39548-1MS were used as the QC samples for Alkalinity, Total as $CaCO_3$.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ	Batch ID: GN51053

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-2DUP, MC39533-2MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SM21 5310 B

Matrix: AQ	Batch ID: GP19293

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39435-6MS, MC39435-6MSD were used as the QC samples for Total Organic Carbon.

Matrix: AQ	Batch ID: GP19317

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3MS, MC39533-3MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC39548).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Accutest Labs of New England, Inc. **Job No** MC39548

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 6/30/2015 2:45:45 PM

On 06/24/2015, 4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 1.2 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC39548 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP90193

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39548-1	**G6M-02-13X-062315H**					
cis-1,2-Dichloroethene		3.9	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		1.4	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		1.7	1.0	0.50	ug/l	SW846 8260C
Methane		567	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		252	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.063 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.064 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		3.3 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		4.8	1.0	0.70	mg/l	SM21 5310 B
MC39548-1F	**G6M-02-13X-062315H**					
Aluminum		131 J	200	100	ug/l	SW846 6010C
Arsenic		53.6	4.0	2.0	ug/l	SW846 6020A
Barium		27.5 J	50	25	ug/l	SW846 6010C
Calcium		74100	50000	25000	ug/l	SW846 6010C
Iron		4410	100	50	ug/l	SW846 6010C
Magnesium		7900	5000	2500	ug/l	SW846 6010C
Manganese		11300	150	75	ug/l	SW846 6010C
Potassium		3540 J	5000	2500	ug/l	SW846 6010C
Sodium		88700	50000	25000	ug/l	SW846 6010C
MC39548-2	**G6M-02-13X-062315**					
cis-1,2-Dichloroethene		3.4	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		1.7	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		2.5	1.0	0.50	ug/l	SW846 8260C
Methane		1840	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		250	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.073 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.073 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		2.6 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		2.9	1.0	0.70	mg/l	SM21 5310 B
MC39548-2F	**G6M-02-13X-062315**					
Aluminum		145 J	200	100	ug/l	SW846 6010C
Arsenic		142	4.0	2.0	ug/l	SW846 6020A
Barium		28.8 J	50	25	ug/l	SW846 6010C
Cadmium		2.1 J	4.0	2.0	ug/l	SW846 6010C
Calcium		79900	25000	13000	ug/l	SW846 6010C
Iron		12500	100	50	ug/l	SW846 6010C
Magnesium		9040	5000	2500	ug/l	SW846 6010C

Summary of Hits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Manganese		11000	75	38	ug/l	SW846 6010C
Potassium		3440 J	5000	2500	ug/l	SW846 6010C
Sodium		63800	25000	13000	ug/l	SW846 6010C
Zinc		12.5 J	20	10	ug/l	SW846 6010C
MC39548-3	**MW-3-062315H**					
cis-1,2-Dichloroethene		4.5	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		0.67 J	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		2.4	1.0	0.50	ug/l	SW846 8260C
Methane		3030	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		343	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.062 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.068 J	0.10	0.054	mg/l	EPA 353.2
Nitrogen, Nitrite		0.0058 J	0.010	0.0033	mg/l	SM 21 4500 NO2 B
Sulfate [b]		8.2 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		15.1	1.0	0.70	mg/l	SM21 5310 B
MC39548-3F	**MW-3-062315H**					
Aluminum		132 J	200	100	ug/l	SW846 6010C
Arsenic		45.9	4.0	2.0	ug/l	SW846 6020A
Barium		44.8 J	50	25	ug/l	SW846 6010C
Calcium		89700	25000	13000	ug/l	SW846 6010C
Iron		14300	100	50	ug/l	SW846 6010C
Magnesium		7710	5000	2500	ug/l	SW846 6010C
Manganese		9810	75	38	ug/l	SW846 6010C
Potassium		31000	25000	13000	ug/l	SW846 6010C
Sodium		124000	50000	25000	ug/l	SW846 6010C
MC39548-4	**MW-3-062315**					
Methane		4830	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		366	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.070 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.070 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		5.1 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		5.0	1.0	0.70	mg/l	SM21 5310 B
MC39548-4F	**MW-3-062315**					
Aluminum		164 J	200	100	ug/l	SW846 6010C
Arsenic		409	20	10	ug/l	SW846 6020A
Barium		57.6	50	25	ug/l	SW846 6010C
Cadmium		5.4	4.0	2.0	ug/l	SW846 6010C

Summary of Hits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Calcium		122000	50000	25000	ug/l	SW846 6010C
Iron		37100	1000	500	ug/l	SW846 6010C
Magnesium		9830	5000	2500	ug/l	SW846 6010C
Manganese		11100	150	75	ug/l	SW846 6010C
Potassium		8150	5000	2500	ug/l	SW846 6010C
Sodium		111000	50000	25000	ug/l	SW846 6010C

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

New England
ACCUTEST
LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	G6M-02-13X-062315H			
Lab Sample ID:	MC39548-1		**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water		**Date Received:**	06/23/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40708.D	1	07/06/15	JB	n/a	n/a	MSV1469
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.9	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X-062315H		
Lab Sample ID:	MC39548-1	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride [a]	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane [a]	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	1.4	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	1.7	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-133%

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LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X-062315H		
Lab Sample ID:	MC39548-1	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		85-114%
460-00-4	4-Bromofluorobenzene	92%		70-134%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-13X-062315H		
Lab Sample ID:	MC39548-1	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22125.D	1	07/01/15	AF	n/a	n/a	GBA1505
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	567	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-13X-062315H		
Lab Sample ID:	MC39548-1	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	252	5.0	3.9	mg/l	1	06/29/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.063 J	0.11	0.057	mg/l	1	06/24/15 16:01	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.064 J	0.10	0.054	mg/l	1	06/24/15 16:01	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/23/15 18:25	CF	SM 21 4500 NO2 B
Sulfate [b]	3.3 J	10	0.50	mg/l	1	06/30/15 07:14	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/29/15	BF	SM21 4500 S F
Total Organic Carbon	4.8	1.0	0.70	mg/l	1	06/26/15 17:50	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-13X-062315H		
Lab Sample ID:	MC39548-1F	**Date Sampled:**	06/23/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/23/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	131 J	200	100	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	53.6	4.0	2.0	ug/l	2	06/26/15	06/30/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	27.5 J	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	74100	50000	25000	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	4410	100	50	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	7900	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	11300	150	75	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/26/15	06/26/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	3540 J	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	88700	50000	25000	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18243
(2) Instrument QC Batch: MA18246
(3) Instrument QC Batch: MA18251
(4) Instrument QC Batch: MA18254
(5) Prep QC Batch: MP24781
(6) Prep QC Batch: MP24785
(7) Prep QC Batch: MP24785A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-13X-062315		
Lab Sample ID:	MC39548-2	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40709.D	1	07/06/15	JB	n/a	n/a	MSV1469
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.4	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X-062315		
Lab Sample ID:	MC39548-2	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride [a]	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane [a]	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	1.7	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	2.5	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		72-133%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X-062315		
Lab Sample ID:	MC39548-2	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		85-114%
460-00-4	4-Bromofluorobenzene	92%		70-134%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X-062315		
Lab Sample ID:	MC39548-2	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22126.D	1	07/01/15	AF	n/a	n/a	GBA1505
Run #2	BA22128.D	1	07/01/15	AF	n/a	n/a	GBA1505

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	1840 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X-062315		
Lab Sample ID:	MC39548-2	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	250	5.0	3.9	mg/l	1	06/29/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.073 J	0.11	0.057	mg/l	1	07/04/15 10:10	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.073 J	0.10	0.054	mg/l	1	07/04/15 10:10	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/23/15 18:25	CF	SM 21 4500 NO2 B
Sulfate [b]	2.6 J	10	0.50	mg/l	1	06/30/15 07:38	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/29/15	BF	SM21 4500 S F
Total Organic Carbon	2.9	1.0	0.70	mg/l	1	07/02/15 16:19	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-13X-062315		
Lab Sample ID:	MC39548-2F	**Date Sampled:**	06/23/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/23/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	145 J	200	100	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	142	4.0	2.0	ug/l	2	06/26/15	06/30/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	28.8 J	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.1 J	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	79900	25000	13000	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	12500	100	50	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	9040	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	11000	75	38	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/26/15	06/26/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	3440 J	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	63800	25000	13000	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	12.5 J	20	10	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18243
(2) Instrument QC Batch: MA18246
(3) Instrument QC Batch: MA18251
(4) Instrument QC Batch: MA18254
(5) Prep QC Batch: MP24781
(6) Prep QC Batch: MP24785
(7) Prep QC Batch: MP24785A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	MW-3-062315H		
Lab Sample ID:	MC39548-3	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40710.D	1	07/06/15	JB	n/a	n/a	MSV1469
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	4.5	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3-062315H			
Lab Sample ID:	MC39548-3		**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water		**Date Received:**	06/23/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride [a]	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane [a]	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.67	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	2.4	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3-062315H		
Lab Sample ID:	MC39548-3	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		85-114%
460-00-4	4-Bromofluorobenzene	92%		70-134%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3-062315H		
Lab Sample ID:	MC39548-3	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22129.D	1	07/01/15	AF	n/a	n/a	GBA1505
Run #2	BA22130.D	1	07/01/15	AF	n/a	n/a	GBA1505

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	3030 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3-062315H		
Lab Sample ID:	MC39548-3	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	343	5.0	3.9	mg/l	1	06/29/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.062 J	0.11	0.057	mg/l	1	07/04/15 10:11	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.068 J	0.10	0.054	mg/l	1	07/04/15 10:11	MC	EPA 353.2
Nitrogen, Nitrite	0.0058 J	0.010	0.0033	mg/l	1	06/23/15 18:25	CF	SM 21 4500 NO2 B
Sulfate [b]	8.2 J	10	0.50	mg/l	1	06/30/15 08:02	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/29/15	BF	SM21 4500 S F
Total Organic Carbon	15.1	1.0	0.70	mg/l	1	07/02/15 16:34	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-3-062315H		
Lab Sample ID:	MC39548-3F	**Date Sampled:**	06/23/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/23/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	132 J	200	100	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Arsenic	45.9	4.0	2.0	ug/l	2	06/26/15	06/30/15	VY	SW846 6020A [4]	SW846 3010A [8]
Barium	44.8 J	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Calcium	89700	25000	13000	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [7]
Chromium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Cobalt	25 U	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Copper	13 U	25	13	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Iron	14300	100	50	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Lead	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Magnesium	7710	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Manganese	9810	75	38	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [7]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/26/15	06/26/15	EC	SW846 7470A [1]	SW846 7470A [6]
Nickel	20 U	40	20	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Potassium	31000	25000	13000	ug/l	5	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [7]
Selenium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Silver	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Sodium	124000	50000	25000	ug/l	10	06/26/15	06/30/15	EAL	SW846 6010C [5]	SW846 3010A [7]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Vanadium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]
Zinc	10 U	20	10	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [7]

(1) Instrument QC Batch: MA18243
(2) Instrument QC Batch: MA18246
(3) Instrument QC Batch: MA18251
(4) Instrument QC Batch: MA18254
(5) Instrument QC Batch: MA18255
(6) Prep QC Batch: MP24781
(7) Prep QC Batch: MP24785
(8) Prep QC Batch: MP24785A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	MW-3-062315		
Lab Sample ID:	MC39548-4	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V40711.D	1	07/06/15	JB	n/a	n/a	MSV1469
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3-062315		
Lab Sample ID:	MC39548-4	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride [a]	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane [a]	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3-062315		
Lab Sample ID:	MC39548-4	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		85-114%
460-00-4	4-Bromofluorobenzene	92%		70-134%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-3-062315		
Lab Sample ID:	MC39548-4	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22131.D	1	07/01/15	AF	n/a	n/a	GBA1505
Run #2	BA22136.D	1	07/01/15	AF	n/a	n/a	GBA1505

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	4830 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-3-062315		
Lab Sample ID:	MC39548-4	**Date Sampled:**	06/23/15
Matrix:	AQ - Ground Water	**Date Received:**	06/23/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	366	5.0	3.9	mg/l	1	06/29/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.070 J	0.11	0.057	mg/l	1	07/04/15 10:15	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.070 J	0.10	0.054	mg/l	1	07/04/15 10:15	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/23/15 18:30	CF	SM 21 4500 NO2 B
Sulfate [b]	5.1 J	10	0.50	mg/l	1	06/30/15 08:26	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	06/29/15	BF	SM21 4500 S F
Total Organic Carbon	5.0	1.0	0.70	mg/l	1	07/02/15 16:50	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: MW-3-062315
Lab Sample ID: MC39548-4F
Matrix: AQ - Groundwater Filtered
Date Sampled: 06/23/15
Date Received: 06/23/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	164 J	200	100	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	409	20	10	ug/l	10	06/26/15	06/30/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	57.6	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	5.4	4.0	2.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	122000	50000	25000	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	37100	1000	500	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	9830	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	11100	150	75	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/26/15	06/26/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	8150	5000	2500	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	111000	50000	25000	ug/l	10	06/26/15	06/29/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	06/26/15	06/26/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18243
(2) Instrument QC Batch: MA18246
(3) Instrument QC Batch: MA18251
(4) Instrument QC Batch: MA18254
(5) Prep QC Batch: MP24781
(6) Prep QC Batch: MP24785
(7) Prep QC Batch: MP24785A

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England
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5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #: FD-10-2014-229
Accutest Job #: MC39548

Client / Reporting Information
Company Name: HES Environmental
Street Address: 160 E. Main Street
City: Westborough State: MA Zip:
Project Contact: E. Anderson E-mail:
Phone #: Fax #:
Sampler(s) Name(s): Phone #:

Project Information
Project Name: Ft Devens AOC 50
Street:
City:
Project#:
Client PO#:
Project Manager:

Billing Information (If different from Report to)
Company Name:
Street Address:
City: State: Zip:
Attention: PO#: Phos.

Requested Analysis (see TEST CODE sheet): VOC; Dissolved Metals field filtered; Dissolved Metals lab filtered; Nitrate Sulfate Alk; Sulfide **; Methane ethane ethene; TOC

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	~~ENCORE~~	Bisulfate	VOC	Dissolved Metals field filtered	Dissolved Metals lab filtered	Nitrate Sulfate Alk	Sulfide **	Methane ethane ethene	TOC	LAB USE ONLY
-1F	G6M-02-13X-062315H		6/23/15	1030			11	4	1		1	2				3	X		X	X	X	X	X	
-2F	G6M-02-13X-062315			1130			11	4	1	1	1	1				3	X	X		X	X	X	X	
-3F	MW-3-062315 H			0900			11	4	1		1	2				3	X		X	X	X	X	X	
-4F	MW-3-062315		↓	0950			11	4	1	1	1	1				3	X	X		X	X	X	X	
			6/23/15 TF																					
																								11A, 6D, 5E2,

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Turnaround Time (Business days)
- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions
* sulfide needs zinc acetate
Collection date per Sample labels - 6/23/15 TF

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Stacey Lee	6/23/15 1230	1 Scott Plas[illegible]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 1.0

5.1 5

MC39548: Chain of Custody
Page 1 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39548 **Client:** H&S **Immediate Client Services Action Required:** No

Date / Time Received: 6/23/2015 12:30:00 PM **Delivery Method:**

Project: FT DEVENS AOC 50 **No. Coolers:** 1 **Airbill #'s:**

Cooler Security

	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☐	☑

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	Glass Thermometer	
3. Cooler media:	Ice (Bag)	

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	
2. Trip Blank listed on COC:	☐	☑	
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample rec'd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Broken / Leaking	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume rec'd for analysis:	☐	☑	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☑	☐	☐

Comments

Collection date of 6/23/15 added to COC per sample labels.
-2 we received a few bottles with the caps on, but not tight.
-2 the 250ml bottle with H2SO4 had the cap loose, and has half the volume remaining.
-2 the 250ml bottle with NAOH+ZINC had the cap loose, and has very little volume left inside.
-2 2 of the 3 vials received for TOC were received empty.. 1 remains for analysis.

MC39548: Chain of Custody
Page 2 of 3

Sample Receipt Summary - Problem Resolution

Accutest Job Number: MC39548

CSR: Frank D'Agostino **Response Date:** 6/29/2015

Response: See the email

MC39548: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1469	SW846 8260C						
MSV1469-BS	67-64-1	Acetone	BSP	REC	139	%	39-160
MSV1469-BS	71-43-2	Benzene	BSP	REC	87	%	79-120
MSV1469-BS	108-86-1	Bromobenzene	BSP	REC	93	%	80-120
MSV1469-BS	74-97-5	Bromochloromethane	BSP	REC	86	%	78-123
MSV1469-BS	75-27-4	Bromodichloromethane	BSP	REC	91	%	79-125
MSV1469-BS	75-25-2	Bromoform	BSP	REC	103	%	66-130
MSV1469-BS	74-83-9	Bromomethane	BSP	REC	92	%	53-141
MSV1469-BS	78-93-3	2-Butanone (MEK)	BSP	REC	114	%	56-143
MSV1469-BS	104-51-8	n-Butylbenzene	BSP	REC	101	%	75-128
MSV1469-BS	135-98-8	sec-Butylbenzene	BSP	REC	104	%	77-126
MSV1469-BS	98-06-6	tert-Butylbenzene	BSP	REC	108	%	78-124
MSV1469-BS	75-15-0	Carbon disulfide	BSP	REC	82	%	64-133
MSV1469-BS	56-23-5	Carbon tetrachloride	BSP	REC	101	%	72-136
MSV1469-BS	108-90-7	Chlorobenzene	BSP	REC	92	%	82-118
MSV1469-BS	75-00-3	Chloroethane	BSP	REC	88	%	60-138
MSV1469-BS	67-66-3	Chloroform	BSP	REC	94	%	79-124
MSV1469-BS	74-87-3	Chloromethane	BSP	REC	88	%	50-139
MSV1469-BS	95-49-8	o-Chlorotoluene	BSP	REC	92	%	79-122
MSV1469-BS	106-43-4	p-Chlorotoluene	BSP	REC	91	%	78-122
MSV1469-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	87	%	62-128
MSV1469-BS	124-48-1	Dibromochloromethane	BSP	REC	101	%	74-126
MSV1469-BS	106-93-4	1,2-Dibromoethane	BSP	REC	87	%	77-121
MSV1469-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	92	%	80-119
MSV1469-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	94	%	80-119
MSV1469-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	89	%	79-118
MSV1469-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	110	%	32-152
MSV1469-BS	75-34-3	1,1-Dichloroethane	BSP	REC	80	%	77-125
MSV1469-BS	107-06-2	1,2-Dichloroethane	BSP	REC	84	%	73-128
MSV1469-BS	75-35-4	1,1-Dichloroethene	BSP	REC	84	%	71-131
MSV1469-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	87	%	78-123
MSV1469-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	84	%	75-124
MSV1469-BS	78-87-5	1,2-Dichloropropane	BSP	REC	85	%	78-122
MSV1469-BS	142-28-9	1,3-Dichloropropane	BSP	REC	86	%	80-119
MSV1469-BS	594-20-7	2,2-Dichloropropane	BSP	REC	114	%	60-139
MSV1469-BS	563-58-6	1,1-Dichloropropene	BSP	REC	92	%	79-125
MSV1469-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	96	%	75-124
MSV1469-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	99	%	73-127
MSV1469-BS	100-41-4	Ethylbenzene	BSP	REC	97	%	79-121
MSV1469-BS	87-68-3	Hexachlorobutadiene	BSP	REC	102	%	66-134
MSV1469-BS	591-78-6	2-Hexanone	BSP	REC	110	%	57-139
MSV1469-BS	74-88-4	Iodomethane	BSP	REC	89	%	69-131
MSV1469-BS	98-82-8	Isopropylbenzene	BSP	REC	102	%	72-131

* Sample used for QC is not from job MC39548

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1469-BS	99-87-6	p-Isopropyltoluene	BSP	REC	107	%	77-127
MSV1469-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	80	%	71-124
MSV1469-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	82	%	67-130
MSV1469-BS	74-95-3	Methylene bromide	BSP	REC	83	%	79-123
MSV1469-BS	75-09-2	Methylene chloride	BSP	REC	77	%	74-124
MSV1469-BS	91-20-3	Naphthalene	BSP	REC	83	%	61-128
MSV1469-BS	103-65-1	n-Propylbenzene	BSP	REC	97	%	76-126
MSV1469-BS	100-42-5	Styrene	BSP	REC	102	%	78-123
MSV1469-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	107	%	78-124
MSV1469-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	73	%	71-121
MSV1469-BS	127-18-4	Tetrachloroethene	BSP	REC	118	%	74-129
MSV1469-BS	108-88-3	Toluene	BSP	REC	90	%	80-121
MSV1469-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	85	%	69-129
MSV1469-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	91	%	69-130
MSV1469-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	89	%	74-131
MSV1469-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	83	%	80-119
MSV1469-BS	79-01-6	Trichloroethene	BSP	REC	91	%	79-123
MSV1469-BS	75-69-4	Trichlorofluoromethane	BSP	REC	93	%	65-141
MSV1469-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	81	%	73-122
MSV1469-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	101	%	76-124
MSV1469-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	103	%	75-124
MSV1469-BS	108-05-4	Vinyl Acetate	BSP	REC	87	%	54-146
MSV1469-BS	75-01-4	Vinyl chloride	BSP	REC	89	%	58-137
MSV1469-BS		m,p-Xylene	BSP	REC	99	%	80-121
MSV1469-BS	95-47-6	o-Xylene	BSP	REC	106	%	78-122
MSV1469-BS	1330-20-7	Xylene (total)	BSP	REC	101	%	79-121
MSV1469-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	96	%	80-119
MSV1469-BS	2037-26-5	Toluene-D8	BSP	SURR	98	%	89-112
MSV1469-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	97	%	85-114
MSV1469-BSD	67-64-1	Acetone	BSD	REC	149	%	39-160
MSV1469-BSD	71-43-2	Benzene	BSD	REC	87	%	79-120
MSV1469-BSD	108-86-1	Bromobenzene	BSD	REC	93	%	80-120
MSV1469-BSD	74-97-5	Bromochloromethane	BSD	REC	87	%	78-123
MSV1469-BSD	75-27-4	Bromodichloromethane	BSD	REC	91	%	79-125
MSV1469-BSD	75-25-2	Bromoform	BSD	REC	106	%	66-130
MSV1469-BSD	74-83-9	Bromomethane	BSD	REC	97	%	53-141
MSV1469-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	117	%	56-143
MSV1469-BSD	104-51-8	n-Butylbenzene	BSD	REC	101	%	75-128
MSV1469-BSD	135-98-8	sec-Butylbenzene	BSD	REC	102	%	77-126
MSV1469-BSD	98-06-6	tert-Butylbenzene	BSD	REC	103	%	78-124
MSV1469-BSD	75-15-0	Carbon disulfide	BSD	REC	79	%	64-133
MSV1469-BSD	56-23-5	Carbon tetrachloride	BSD	REC	101	%	72-136
MSV1469-BSD	108-90-7	Chlorobenzene	BSD	REC	93	%	82-118
MSV1469-BSD	75-00-3	Chloroethane	BSD	REC	94	%	60-138
MSV1469-BSD	67-66-3	Chloroform	BSD	REC	92	%	79-124

* Sample used for QC is not from job MC39548

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1469-BSD	74-87-3	Chloromethane	BSD	REC	92	%	50-139
MSV1469-BSD	95-49-8	o-Chlorotoluene	BSD	REC	92	%	79-122
MSV1469-BSD	106-43-4	p-Chlorotoluene	BSD	REC	90	%	78-122
MSV1469-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	89	%	62-128
MSV1469-BSD	124-48-1	Dibromochloromethane	BSD	REC	102	%	74-126
MSV1469-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	89	%	77-121
MSV1469-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	93	%	80-119
MSV1469-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	94	%	80-119
MSV1469-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	91	%	79-118
MSV1469-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	112	%	32-152
MSV1469-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	80	%	77-125
MSV1469-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	85	%	73-128
MSV1469-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	81	%	71-131
MSV1469-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	87	%	78-123
MSV1469-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	86	%	75-124
MSV1469-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	84	%	78-122
MSV1469-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	87	%	80-119
MSV1469-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	115	%	60-139
MSV1469-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	92	%	79-125
MSV1469-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	97	%	75-124
MSV1469-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	99	%	73-127
MSV1469-BSD	100-41-4	Ethylbenzene	BSD	REC	98	%	79-121
MSV1469-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	103	%	66-134
MSV1469-BSD	591-78-6	2-Hexanone	BSD	REC	119	%	57-139
MSV1469-BSD	74-88-4	Iodomethane	BSD	REC	88	%	69-131
MSV1469-BSD	98-82-8	Isopropylbenzene	BSD	REC	100	%	72-131
MSV1469-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	107	%	77-127
MSV1469-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	83	%	71-124
MSV1469-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	87	%	67-130
MSV1469-BSD	74-95-3	Methylene bromide	BSD	REC	84	%	79-123
MSV1469-BSD	75-09-2	Methylene chloride	BSD	REC	74	%	74-124
MSV1469-BSD	91-20-3	Naphthalene	BSD	REC	93	%	61-128
MSV1469-BSD	103-65-1	n-Propylbenzene	BSD	REC	96	%	76-126
MSV1469-BSD	100-42-5	Styrene	BSD	REC	104	%	78-123
MSV1469-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	106	%	78-124
MSV1469-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	75	%	71-121
MSV1469-BSD	127-18-4	Tetrachloroethene	BSD	REC	119	%	74-129
MSV1469-BSD	108-88-3	Toluene	BSD	REC	90	%	80-121
MSV1469-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	95	%	69-129
MSV1469-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	98	%	69-130
MSV1469-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	90	%	74-131
MSV1469-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	84	%	80-119
MSV1469-BSD	79-01-6	Trichloroethene	BSD	REC	91	%	79-123
MSV1469-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	95	%	65-141
MSV1469-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	81	%	73-122

* Sample used for QC is not from job MC39548

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSV1469-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	99	%	76-124
MSV1469-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	102	%	75-124
MSV1469-BSD	108-05-4	Vinyl Acetate	BSD	REC	90	%	54-146
MSV1469-BSD	75-01-4	Vinyl chloride	BSD	REC	93	%	58-137
MSV1469-BSD		m,p-Xylene	BSD	REC	101	%	80-121
MSV1469-BSD	95-47-6	o-Xylene	BSD	REC	108	%	78-122
MSV1469-BSD	1330-20-7	Xylene (total)	BSD	REC	103	%	79-121
MSV1469-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	95	%	80-119
MSV1469-BSD	2037-26-5	Toluene-D8	BSD	SURR	98	%	89-112
MSV1469-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	95	%	85-114
MC39558-4MS*	67-64-1	Acetone	MS	REC	50	%	39-160
MC39558-4MS*	71-43-2	Benzene	MS	REC	82	%	79-120
MC39558-4MS*	108-86-1	Bromobenzene	MS	REC	87	%	80-120
MC39558-4MS*	74-97-5	Bromochloromethane	MS	REC	81	%	78-123
MC39558-4MS*	75-27-4	Bromodichloromethane	MS	REC	86	%	79-125
MC39558-4MS*	75-25-2	Bromoform	MS	REC	98	%	66-130
MC39558-4MS*	74-83-9	Bromomethane	MS	REC	89	%	53-141
MC39558-4MS*	78-93-3	2-Butanone (MEK)	MS	REC	75	%	56-143
MC39558-4MS*	104-51-8	n-Butylbenzene	MS	REC	93	%	75-128
MC39558-4MS*	135-98-8	sec-Butylbenzene	MS	REC	95	%	77-126
MC39558-4MS*	98-06-6	tert-Butylbenzene	MS	REC	96	%	78-124
MC39558-4MS*	75-15-0	Carbon disulfide	MS	REC	78	%	64-133
MC39558-4MS*	56-23-5	Carbon tetrachloride	MS	REC	94	%	72-136
MC39558-4MS*	108-90-7	Chlorobenzene	MS	REC	90	%	82-118
MC39558-4MS*	75-00-3	Chloroethane	MS	REC	85	%	60-138
MC39558-4MS*	67-66-3	Chloroform	MS	REC	88	%	79-124
MC39558-4MS*	74-87-3	Chloromethane	MS	REC	83	%	50-139
MC39558-4MS*	95-49-8	o-Chlorotoluene	MS	REC	85	%	79-122
MC39558-4MS*	106-43-4	p-Chlorotoluene	MS	REC	85	%	78-122
MC39558-4MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	78	%	62-128
MC39558-4MS*	124-48-1	Dibromochloromethane	MS	REC	95	%	74-126
MC39558-4MS*	106-93-4	1,2-Dibromoethane	MS	REC	84	%	77-121
MC39558-4MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	87	%	80-119
MC39558-4MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	89	%	80-119
MC39558-4MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	86	%	79-118
MC39558-4MS*	75-71-8	Dichlorodifluoromethane	MS	REC	98	%	32-152
MC39558-4MS*	75-34-3	1,1-Dichloroethane	MS	REC	74	%	77-125
MC39558-4MS*	107-06-2	1,2-Dichloroethane	MS	REC	80	%	73-128
MC39558-4MS*	75-35-4	1,1-Dichloroethene	MS	REC	79	%	71-131
MC39558-4MS*	156-59-2	cis-1,2-Dichloroethene	MS	REC	81	%	78-123
MC39558-4MS*	156-60-5	trans-1,2-Dichloroethene	MS	REC	80	%	75-124
MC39558-4MS*	78-87-5	1,2-Dichloropropane	MS	REC	80	%	78-122
MC39558-4MS*	142-28-9	1,3-Dichloropropane	MS	REC	83	%	80-119
MC39558-4MS*	594-20-7	2,2-Dichloropropane	MS	REC	101	%	60-139
MC39558-4MS*	563-58-6	1,1-Dichloropropene	MS	REC	86	%	79-125

* Sample used for QC is not from job MC39548

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39558-4MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	87	%	75-124
MC39558-4MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	93	%	73-127
MC39558-4MS*	100-41-4	Ethylbenzene	MS	REC	93	%	79-121
MC39558-4MS*	87-68-3	Hexachlorobutadiene	MS	REC	91	%	66-134
MC39558-4MS*	591-78-6	2-Hexanone	MS	REC	75	%	57-139
MC39558-4MS*	74-88-4	Iodomethane	MS	REC	84	%	69-131
MC39558-4MS*	98-82-8	Isopropylbenzene	MS	REC	92	%	72-131
MC39558-4MS*	99-87-6	p-Isopropyltoluene	MS	REC	99	%	77-127
MC39558-4MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	77	%	71-124
MC39558-4MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	76	%	67-130
MC39558-4MS*	74-95-3	Methylene bromide	MS	REC	81	%	79-123
MC39558-4MS*	75-09-2	Methylene chloride	MS	REC	74	%	74-124
MC39558-4MS*	91-20-3	Naphthalene	MS	REC	74	%	61-128
MC39558-4MS*	103-65-1	n-Propylbenzene	MS	REC	89	%	76-126
MC39558-4MS*	100-42-5	Styrene	MS	REC	97	%	78-123
MC39558-4MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	101	%	78-124
MC39558-4MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	69	%	71-121
MC39558-4MS*	127-18-4	Tetrachloroethene	MS	REC	113	%	74-129
MC39558-4MS*	108-88-3	Toluene	MS	REC	87	%	80-121
MC39558-4MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	75	%	69-129
MC39558-4MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	84	%	69-130
MC39558-4MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	84	%	74-131
MC39558-4MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	80	%	80-119
MC39558-4MS*	79-01-6	Trichloroethene	MS	REC	50 [a]	%	79-123
MC39558-4MS*	75-69-4	Trichlorofluoromethane	MS	REC	91	%	65-141
MC39558-4MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	76	%	73-122
MC39558-4MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	92	%	76-124
MC39558-4MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	94	%	75-124
MC39558-4MS*	108-05-4	Vinyl Acetate	MS	REC	79	%	54-146
MC39558-4MS*	75-01-4	Vinyl chloride	MS	REC	86	%	58-137
MC39558-4MS*		m,p-Xylene	MS	REC	95	%	80-121
MC39558-4MS*	95-47-6	o-Xylene	MS	REC	102	%	78-122
MC39558-4MS*	1330-20-7	Xylene (total)	MS	REC	97	%	79-121
MC39558-4MS*	1868-53-7	Dibromofluoromethane	MS	SURR	95	%	80-119
MC39558-4MS*	2037-26-5	Toluene-D8	MS	SURR	98	%	89-112
MC39558-4MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	94	%	85-114
MC39558-4MSD*	67-64-1	Acetone	MSD	REC	46	%	39-160
MC39558-4MSD*	67-64-1	Acetone	MSD	RPD	6	%	20
MC39558-4MSD*	71-43-2	Benzene	MSD	REC	81	%	79-120
MC39558-4MSD*	71-43-2	Benzene	MSD	RPD	2	%	20
MC39558-4MSD*	108-86-1	Bromobenzene	MSD	REC	88	%	80-120
MC39558-4MSD*	108-86-1	Bromobenzene	MSD	RPD	1	%	20
MC39558-4MSD*	74-97-5	Bromochloromethane	MSD	REC	79	%	78-123
MC39558-4MSD*	74-97-5	Bromochloromethane	MSD	RPD	1	%	20
MC39558-4MSD*	75-27-4	Bromodichloromethane	MSD	REC	84	%	79-125

* Sample used for QC is not from job MC39548

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39558-4MSD*	75-27-4	Bromodichloromethane	MSD	RPD	2	%	20
MC39558-4MSD*	75-25-2	Bromoform	MSD	REC	98	%	66-130
MC39558-4MSD*	75-25-2	Bromoform	MSD	RPD	1	%	20
MC39558-4MSD*	74-83-9	Bromomethane	MSD	REC	85	%	53-141
MC39558-4MSD*	74-83-9	Bromomethane	MSD	RPD	4	%	20
MC39558-4MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	77	%	56-143
MC39558-4MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	2	%	20
MC39558-4MSD*	104-51-8	n-Butylbenzene	MSD	REC	94	%	75-128
MC39558-4MSD*	104-51-8	n-Butylbenzene	MSD	RPD	0	%	20
MC39558-4MSD*	135-98-8	sec-Butylbenzene	MSD	REC	95	%	77-126
MC39558-4MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	0	%	20
MC39558-4MSD*	98-06-6	tert-Butylbenzene	MSD	REC	97	%	78-124
MC39558-4MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	1	%	20
MC39558-4MSD*	75-15-0	Carbon disulfide	MSD	REC	70	%	64-133
MC39558-4MSD*	75-15-0	Carbon disulfide	MSD	RPD	10	%	20
MC39558-4MSD*	56-23-5	Carbon tetrachloride	MSD	REC	91	%	72-136
MC39558-4MSD*	56-23-5	Carbon tetrachloride	MSD	RPD	3	%	20
MC39558-4MSD*	108-90-7	Chlorobenzene	MSD	REC	90	%	82-118
MC39558-4MSD*	108-90-7	Chlorobenzene	MSD	RPD	0	%	20
MC39558-4MSD*	75-00-3	Chloroethane	MSD	REC	83	%	60-138
MC39558-4MSD*	75-00-3	Chloroethane	MSD	RPD	3	%	20
MC39558-4MSD*	67-66-3	Chloroform	MSD	REC	85	%	79-124
MC39558-4MSD*	67-66-3	Chloroform	MSD	RPD	3	%	20
MC39558-4MSD*	74-87-3	Chloromethane	MSD	REC	80	%	50-139
MC39558-4MSD*	74-87-3	Chloromethane	MSD	RPD	4	%	20
MC39558-4MSD*	95-49-8	o-Chlorotoluene	MSD	REC	86	%	79-122
MC39558-4MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	0	%	20
MC39558-4MSD*	106-43-4	p-Chlorotoluene	MSD	REC	85	%	78-122
MC39558-4MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	0	%	20
MC39558-4MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	79	%	62-128
MC39558-4MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	1	%	20
MC39558-4MSD*	124-48-1	Dibromochloromethane	MSD	REC	95	%	74-126
MC39558-4MSD*	124-48-1	Dibromochloromethane	MSD	RPD	1	%	20
MC39558-4MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	84	%	77-121
MC39558-4MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	0	%	20
MC39558-4MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	87	%	80-119
MC39558-4MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	0	%	20
MC39558-4MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	89	%	80-119
MC39558-4MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	0	%	20
MC39558-4MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	86	%	79-118
MC39558-4MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	0	%	20
MC39558-4MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	99	%	32-152
MC39558-4MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	1	%	20
MC39558-4MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	72	%	77-125
MC39558-4MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	3	%	20

* Sample used for QC is not from job MC39548

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39558-4MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	79	%	73-128
MC39558-4MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	1	%	20
MC39558-4MSD*	75-35-4	1,1-Dichloroethene	MSD	REC	72	%	71-131
MC39558-4MSD*	75-35-4	1,1-Dichloroethene	MSD	RPD	9	%	20
MC39558-4MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	REC	80	%	78-123
MC39558-4MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	RPD	1	%	20
MC39558-4MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	REC	76	%	75-124
MC39558-4MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	RPD	5	%	20
MC39558-4MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	79	%	78-122
MC39558-4MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	2	%	20
MC39558-4MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	83	%	80-119
MC39558-4MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	0	%	20
MC39558-4MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	96	%	60-139
MC39558-4MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	4	%	20
MC39558-4MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	85	%	79-125
MC39558-4MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	1	%	20
MC39558-4MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	85	%	75-124
MC39558-4MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	3	%	20
MC39558-4MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	90	%	73-127
MC39558-4MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	3	%	20
MC39558-4MSD*	100-41-4	Ethylbenzene	MSD	REC	93	%	79-121
MC39558-4MSD*	100-41-4	Ethylbenzene	MSD	RPD	0	%	20
MC39558-4MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	96	%	66-134
MC39558-4MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	6	%	20
MC39558-4MSD*	591-78-6	2-Hexanone	MSD	REC	77	%	57-139
MC39558-4MSD*	591-78-6	2-Hexanone	MSD	RPD	3	%	20
MC39558-4MSD*	74-88-4	Iodomethane	MSD	REC	78	%	69-131
MC39558-4MSD*	74-88-4	Iodomethane	MSD	RPD	7	%	20
MC39558-4MSD*	98-82-8	Isopropylbenzene	MSD	REC	93	%	72-131
MC39558-4MSD*	98-82-8	Isopropylbenzene	MSD	RPD	1	%	20
MC39558-4MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	99	%	77-127
MC39558-4MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	0	%	20
MC39558-4MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	73	%	71-124
MC39558-4MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	5	%	20
MC39558-4MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	76	%	67-130
MC39558-4MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	1	%	20
MC39558-4MSD*	74-95-3	Methylene bromide	MSD	REC	79	%	79-123
MC39558-4MSD*	74-95-3	Methylene bromide	MSD	RPD	2	%	20
MC39558-4MSD*	75-09-2	Methylene chloride	MSD	REC	67	%	74-124
MC39558-4MSD*	75-09-2	Methylene chloride	MSD	RPD	9	%	20
MC39558-4MSD*	91-20-3	Naphthalene	MSD	REC	80	%	61-128
MC39558-4MSD*	91-20-3	Naphthalene	MSD	RPD	7	%	20
MC39558-4MSD*	103-65-1	n-Propylbenzene	MSD	REC	89	%	76-126
MC39558-4MSD*	103-65-1	n-Propylbenzene	MSD	RPD	0	%	20
MC39558-4MSD*	100-42-5	Styrene	MSD	REC	98	%	78-123

* Sample used for QC is not from job MC39548

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39558-4MSD*	100-42-5	Styrene	MSD	RPD	1	%	20
MC39558-4MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	101	%	78-124
MC39558-4MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	0	%	20
MC39558-4MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	69	%	71-121
MC39558-4MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	0	%	20
MC39558-4MSD*	127-18-4	Tetrachloroethene	MSD	REC	113	%	74-129
MC39558-4MSD*	127-18-4	Tetrachloroethene	MSD	RPD	0	%	20
MC39558-4MSD*	108-88-3	Toluene	MSD	REC	85	%	80-121
MC39558-4MSD*	108-88-3	Toluene	MSD	RPD	2	%	20
MC39558-4MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	82	%	69-129
MC39558-4MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	10	%	20
MC39558-4MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	87	%	69-130
MC39558-4MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	4	%	20
MC39558-4MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	80	%	74-131
MC39558-4MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	4	%	20
MC39558-4MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	79	%	80-119
MC39558-4MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	2	%	20
MC39558-4MSD*	79-01-6	Trichloroethene	MSD	REC	46 [a]	%	79-123
MC39558-4MSD*	79-01-6	Trichloroethene	MSD	RPD	1	%	20
MC39558-4MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	86	%	65-141
MC39558-4MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	6	%	20
MC39558-4MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	76	%	73-122
MC39558-4MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	1	%	20
MC39558-4MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	92	%	76-124
MC39558-4MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	0	%	20
MC39558-4MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	94	%	75-124
MC39558-4MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	0	%	20
MC39558-4MSD*	108-05-4	Vinyl Acetate	MSD	REC	78	%	54-146
MC39558-4MSD*	108-05-4	Vinyl Acetate	MSD	RPD	2	%	20
MC39558-4MSD*	75-01-4	Vinyl chloride	MSD	REC	82	%	58-137
MC39558-4MSD*	75-01-4	Vinyl chloride	MSD	RPD	4	%	20
MC39558-4MSD*		m,p-Xylene	MSD	REC	96	%	80-121
MC39558-4MSD*		m,p-Xylene	MSD	RPD	1	%	20
MC39558-4MSD*	95-47-6	o-Xylene	MSD	REC	103	%	78-122
MC39558-4MSD*	95-47-6	o-Xylene	MSD	RPD	1	%	20
MC39558-4MSD*	1330-20-7	Xylene (total)	MSD	REC	99	%	79-121
MC39558-4MSD*	1330-20-7	Xylene (total)	MSD	RPD	1	%	20
MC39558-4MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	93	%	80-119
MC39558-4MSD*	2037-26-5	Toluene-D8	MSD	SURR	97	%	89-112
MC39558-4MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	94	%	85-114
MSV1469-MB	1868-53-7	Dibromofluoromethane	MB	SURR	99	%	80-119
MSV1469-MB	2037-26-5	Toluene-D8	MB	SURR	91	%	89-112
MSV1469-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	92	%	85-114
MC39548-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	103	%	80-119
MC39548-1	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112

* Sample used for QC is not from job MC39548

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC39548-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC39548-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	103	%	80-119
MC39548-2	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC39548-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC39548-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC39548-3	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
MC39548-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC39548-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC39548-4	2037-26-5	Toluene-D8	SAMP	SURR	91	%	89-112
MC39548-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MP24781	SW846 7470A						
MP24781-B1	7439-97-6	Mercury	BSP	REC	103.3	%	82-119
MP24781-S1*	7439-97-6	Mercury	MS	REC	110	%	82-119
MP24781-S2*	7439-97-6	Mercury	MSD	REC	113.3	%	82-119
MP24781-S2*	7439-97-6	Mercury	MSD	RPD	3	%	20
MP24785	SW846 6010C						
MP24785-B1	7429-90-5	Aluminum	BSP	REC	102	%	86-115
MP24785-B1	7440-36-0	Antimony	BSP	REC	106.4	%	88-113
MP24785-B1	7440-39-3	Barium	BSP	REC	104	%	88-113
MP24785-B1	7440-41-7	Beryllium	BSP	REC	104	%	89-112
MP24785-B1	7440-43-9	Cadmium	BSP	REC	108.4	%	88-113
MP24785-B1	7440-70-2	Calcium	BSP	REC	104	%	87-113
MP24785-B1	7440-47-3	Chromium	BSP	REC	107	%	90-113
MP24785-B1	7440-48-4	Cobalt	BSP	REC	104.4	%	89-114
MP24785-B1	7440-50-8	Copper	BSP	REC	99.6	%	86-114
MP24785-B1	7439-89-6	Iron	BSP	REC	106	%	87-115
MP24785-B1	7439-92-1	Lead	BSP	REC	103	%	86-113
MP24785-B1	7439-95-4	Magnesium	BSP	REC	104.8	%	85-113
MP24785-B1	7439-96-5	Manganese	BSP	REC	106	%	90-114
MP24785-B1	7440-02-0	Nickel	BSP	REC	104	%	88-113
MP24785-B1	7440-09-7	Potassium	BSP	REC	101.6	%	86-114
MP24785-B1	7782-49-2	Selenium	BSP	REC	106.8	%	83-114
MP24785-B1	7440-22-4	Silver	BSP	REC	95	%	84-115
MP24785-B1	7440-23-5	Sodium	BSP	REC	105.2	%	87-115
MP24785-B1	7440-28-0	Thallium	BSP	REC	104.8	%	85-114
MP24785-B1	7440-62-2	Vanadium	BSP	REC	104.4	%	90-111
MP24785-B1	7440-66-6	Zinc	BSP	REC	105.4	%	87-115
MP24785-S3*	7429-90-5	Aluminum	MS	REC	101.7	%	86-115
MP24785-S3*	7440-36-0	Antimony	MS	REC	106.6	%	88-113
MP24785-S3*	7440-39-3	Barium	MS	REC	103.7	%	88-113
MP24785-S3*	7440-41-7	Beryllium	MS	REC	103.4	%	89-112

* Sample used for QC is not from job MC39548

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24785-S3*	7440-43-9	Cadmium	MS	REC	108.2	%	88-113
MP24785-S3*	7440-70-2	Calcium	MS	REC	102.4	%	87-113
MP24785-S3*	7440-47-3	Chromium	MS	REC	106.3	%	90-113
MP24785-S3*	7440-48-4	Cobalt	MS	REC	105.1	%	89-114
MP24785-S3*	7440-50-8	Copper	MS	REC	101.4	%	86-114
MP24785-S3*	7439-89-6	Iron	MS	REC	108	%	87-115
MP24785-S3*	7439-92-1	Lead	MS	REC	102	%	86-113
MP24785-S3*	7439-95-4	Magnesium	MS	REC	104.4	%	85-113
MP24785-S3*	7439-96-5	Manganese	MS	REC	154 [b]	%	90-114
MP24785-S3*	7440-02-0	Nickel	MS	REC	105.2	%	88-113
MP24785-S3*	7440-09-7	Potassium	MS	REC	100.8	%	86-114
MP24785-S3*	7782-49-2	Selenium	MS	REC	107.8	%	83-114
MP24785-S3*	7440-22-4	Silver	MS	REC	96.5	%	84-115
MP24785-S3*	7440-23-5	Sodium	MS	REC	104	%	87-115
MP24785-S3*	7440-28-0	Thallium	MS	REC	102.2	%	85-114
MP24785-S3*	7440-62-2	Vanadium	MS	REC	105.1	%	90-111
MP24785-S3*	7440-66-6	Zinc	MS	REC	103.4	%	87-115
MP24785-S4*	7429-90-5	Aluminum	MSD	REC	103.7	%	86-115
MP24785-S4*	7429-90-5	Aluminum	MSD	RPD	1.9	%	20
MP24785-S4*	7440-36-0	Antimony	MSD	REC	106.6	%	88-113
MP24785-S4*	7440-36-0	Antimony	MSD	RPD	0	%	20
MP24785-S4*	7440-39-3	Barium	MSD	REC	103.7	%	88-113
MP24785-S4*	7440-39-3	Barium	MSD	RPD	0	%	20
MP24785-S4*	7440-41-7	Beryllium	MSD	REC	103.2	%	89-112
MP24785-S4*	7440-41-7	Beryllium	MSD	RPD	.2	%	20
MP24785-S4*	7440-43-9	Cadmium	MSD	REC	107.8	%	88-113
MP24785-S4*	7440-43-9	Cadmium	MSD	RPD	.4	%	20
MP24785-S4*	7440-70-2	Calcium	MSD	REC	110.4	%	87-113
MP24785-S4*	7440-70-2	Calcium	MSD	RPD	1.7	%	20
MP24785-S4*	7440-47-3	Chromium	MSD	REC	106.3	%	90-113
MP24785-S4*	7440-47-3	Chromium	MSD	RPD	0	%	20
MP24785-S4*	7440-48-4	Cobalt	MSD	REC	105.1	%	89-114
MP24785-S4*	7440-48-4	Cobalt	MSD	RPD	0	%	20
MP24785-S4*	7440-50-8	Copper	MSD	REC	101.8	%	86-114
MP24785-S4*	7440-50-8	Copper	MSD	RPD	.4	%	20
MP24785-S4*	7439-89-6	Iron	MSD	REC	104	%	87-115
MP24785-S4*	7439-89-6	Iron	MSD	RPD	1	%	20
MP24785-S4*	7439-92-1	Lead	MSD	REC	103	%	86-113
MP24785-S4*	7439-92-1	Lead	MSD	RPD	1	%	20
MP24785-S4*	7439-95-4	Magnesium	MSD	REC	103.2	%	85-113
MP24785-S4*	7439-95-4	Magnesium	MSD	RPD	.8	%	20
MP24785-S4*	7439-96-5	Manganese	MSD	REC	154 [b]	%	90-114
MP24785-S4*	7439-96-5	Manganese	MSD	RPD	0	%	20
MP24785-S4*	7440-02-0	Nickel	MSD	REC	105.8	%	88-113
MP24785-S4*	7440-02-0	Nickel	MSD	RPD	.6	%	20

* Sample used for QC is not from job MC39548

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24785-S4*	7440-09-7	Potassium	MSD	REC	100	%	86-114
MP24785-S4*	7440-09-7	Potassium	MSD	RPD	.6	%	20
MP24785-S4*	7782-49-2	Selenium	MSD	REC	107.2	%	83-114
MP24785-S4*	7782-49-2	Selenium	MSD	RPD	.6	%	20
MP24785-S4*	7440-22-4	Silver	MSD	REC	96.5	%	84-115
MP24785-S4*	7440-22-4	Silver	MSD	RPD	0	%	20
MP24785-S4*	7440-23-5	Sodium	MSD	REC	116 [c]	%	87-115
MP24785-S4*	7440-23-5	Sodium	MSD	RPD	1.9	%	20
MP24785-S4*	7440-28-0	Thallium	MSD	REC	102.4	%	85-114
MP24785-S4*	7440-28-0	Thallium	MSD	RPD	.2	%	20
MP24785-S4*	7440-62-2	Vanadium	MSD	REC	104.9	%	90-111
MP24785-S4*	7440-62-2	Vanadium	MSD	RPD	.2	%	20
MP24785-S4*	7440-66-6	Zinc	MSD	REC	103.2	%	87-115
MP24785-S4*	7440-66-6	Zinc	MSD	RPD	.2	%	20
MP24785A	SW846 6020A						
MP24785A-B1	7440-38-2	Arsenic	BSP	REC	114.2	%	84-116
MP24785A-S3*	7440-38-2	Arsenic	MS	REC	117.6 [d]	%	84-116
MP24785A-S4*	7440-38-2	Arsenic	MSD	REC	116.8 [c]	%	84-116
MP24785A-S4*	7440-38-2	Arsenic	MSD	RPD	.4	%	20

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(c) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.
(d) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

* Sample used for QC is not from job MC39548

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1469-MB	V40705.D	1	07/06/15	JB	n/a	n/a	MSV1469

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1469-MB	V40705.D	1	07/06/15	JB	n/a	n/a	MSV1469

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1469-MB	V40705.D	1	07/06/15	JB	n/a	n/a	MSV1469

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	72-133%
2037-26-5	Toluene-D8	91%	85-114%
460-00-4	4-Bromofluorobenzene	92%	70-134%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1469-BS	V40702.D	1	07/06/15	JB	n/a	n/a	MSV1469
MSV1469-BSD	V40703.D	1	07/06/15	JB	n/a	n/a	MSV1469

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	69.4	139	74.4	149	7	14-172/25
71-43-2	Benzene	50	43.5	87	43.4	87	0	68-127/25
108-86-1	Bromobenzene	50	46.5	93	46.3	93	0	74-124/25
74-97-5	Bromochloromethane	50	43.0	86	43.3	87	1	68-135/25
75-27-4	Bromodichloromethane	50	45.4	91	45.3	91	0	72-144/25
75-25-2	Bromoform	50	51.3	103	53.2	106	4	59-147/25
74-83-9	Bromomethane	50	46.0	92	48.3	97	5	34-175/25
78-93-3	2-Butanone (MEK)	50	56.9	114	58.7	117	3	43-147/25
104-51-8	n-Butylbenzene	50	50.3	101	50.6	101	1	77-136/25
135-98-8	sec-Butylbenzene	50	52.2	104	51.1	102	2	75-134/25
98-06-6	tert-Butylbenzene	50	53.8	108	51.5	103	4	74-132/25
75-15-0	Carbon disulfide	50	41.1	82	39.5	79	4	34-171/25
56-23-5	Carbon tetrachloride	50	50.3	101	50.5	101	0	55-153/25
108-90-7	Chlorobenzene	50	46.0	92	46.4	93	1	71-123/25
75-00-3	Chloroethane	50	43.8	88	46.8	94	7	58-175/25
67-66-3	Chloroform	50	46.8	94	46.2	92	1	67-136/25
74-87-3	Chloromethane	50	43.8	88	46.0	92	5	25-182/25
95-49-8	o-Chlorotoluene	50	46.1	92	45.9	92	0	72-130/25
106-43-4	p-Chlorotoluene	50	45.3	91	45.2	90	0	73-127/25
96-12-8	1,2-Dibromo-3-chloropropane	50	43.6	87	44.6	89	2	50-159/25
124-48-1	Dibromochloromethane	50	50.3	101	51.1	102	2	73-139/25
106-93-4	1,2-Dibromoethane	50	43.4	87	44.4	89	2	69-132/25
95-50-1	1,2-Dichlorobenzene	50	45.9	92	46.3	93	1	77-125/25
541-73-1	1,3-Dichlorobenzene	50	47.1	94	47.2	94	0	77-124/25
106-46-7	1,4-Dichlorobenzene	50	44.7	89	45.4	91	2	73-128/25
75-71-8	Dichlorodifluoromethane	50	54.9	110	55.8	112	2	23-157/25
75-34-3	1,1-Dichloroethane	50	40.0	80	39.8	80	1	63-145/25
107-06-2	1,2-Dichloroethane	50	42.1	84	42.3	85	0	58-145/25
75-35-4	1,1-Dichloroethene	50	41.8	84	40.3	81	4	56-158/25
156-59-2	cis-1,2-Dichloroethene	50	43.3	87	43.6	87	1	67-133/25
156-60-5	trans-1,2-Dichloroethene	50	42.1	84	42.9	86	2	66-136/25
78-87-5	1,2-Dichloropropane	50	42.4	85	42.2	84	0	75-133/25
142-28-9	1,3-Dichloropropane	50	43.1	86	43.7	87	1	70-127/25
594-20-7	2,2-Dichloropropane	50	57.1	114	57.5	115	1	52-163/25
563-58-6	1,1-Dichloropropene	50	45.8	92	45.8	92	0	77-140/25
10061-01-5	cis-1,3-Dichloropropene	50	47.9	96	48.3	97	1	74-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1469-BS	V40702.D	1	07/06/15	JB	n/a	n/a	MSV1469
MSV1469-BSD	V40703.D	1	07/06/15	JB	n/a	n/a	MSV1469

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	49.5	99	49.6	99	0	77-143/25
100-41-4	Ethylbenzene	50	48.4	97	49.1	98	1	71-129/25
87-68-3	Hexachlorobutadiene	50	51.1	102	51.3	103	0	64-146/25
591-78-6	2-Hexanone	50	55.1	110	59.3	119	7	22-163/25
74-88-4	Iodomethane	50	44.7	89	44.0	88	2	30-166/25
98-82-8	Isopropylbenzene	50	51.0	102	50.2	100	2	72-133/25
99-87-6	p-Isopropyltoluene	50	53.7	107	53.4	107	1	77-134/25
1634-04-4	Methyl Tert Butyl Ether	50	40.0	80	41.5	83	4	46-151/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	41.2	82	43.7	87	6	47-145/25
74-95-3	Methylene bromide	50	41.7	83	42.2	84	1	70-132/25
75-09-2	Methylene chloride	50	38.3	77	36.8	74	4	55-146/25
91-20-3	Naphthalene	50	41.3	83	46.5	93	12	39-176/25
103-65-1	n-Propylbenzene	50	48.6	97	48.1	96	1	74-134/25
100-42-5	Styrene	50	51.0	102	52.1	104	2	71-134/25
630-20-6	1,1,1,2-Tetrachloroethane	50	53.6	107	53.2	106	1	70-137/25
79-34-5	1,1,2,2-Tetrachloroethane	50	36.3	73	37.5	75	3	58-145/25
127-18-4	Tetrachloroethene	50	59.1	118	59.5	119	1	63-137/25
108-88-3	Toluene	50	45.1	90	45.2	90	0	75-126/25
87-61-6	1,2,3-Trichlorobenzene	50	42.4	85	47.7	95	12	27-181/25
120-82-1	1,2,4-Trichlorobenzene	50	45.5	91	49.2	98	8	40-176/25
71-55-6	1,1,1-Trichloroethane	50	44.6	89	45.2	90	1	68-144/25
79-00-5	1,1,2-Trichloroethane	50	41.4	83	41.9	84	1	72-133/25
79-01-6	Trichloroethene	50	45.6	91	45.7	91	0	73-126/25
75-69-4	Trichlorofluoromethane	50	46.6	93	47.6	95	2	43-152/25
96-18-4	1,2,3-Trichloropropane	50	40.3	81	40.7	81	1	58-141/25
95-63-6	1,2,4-Trimethylbenzene	50	50.4	101	49.7	99	1	76-129/25
108-67-8	1,3,5-Trimethylbenzene	50	51.3	103	50.9	102	1	71-127/25
108-05-4	Vinyl Acetate	50	43.4	87	44.9	90	3	10-170/25
75-01-4	Vinyl chloride	50	44.6	89	46.4	93	4	36-167/25
	m,p-Xylene	100	98.6	99	101	101	2	68-130/25
95-47-6	o-Xylene	50	53.2	106	54.0	108	1	69-126/25
1330-20-7	Xylene (total)	150	152	101	155	103	2	67-129/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1469-BS	V40702.D	1	07/06/15	JB	n/a	n/a	MSV1469
MSV1469-BSD	V40703.D	1	07/06/15	JB	n/a	n/a	MSV1469

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	96%	95%	72-133%
2037-26-5	Toluene-D8	98%	98%	85-114%
460-00-4	4-Bromofluorobenzene	97%	95%	70-134%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39558-4MS	V40724.D	1	07/06/15	JB	n/a	n/a	MSV1469
MC39558-4MSD	V40725.D	1	07/06/15	JB	n/a	n/a	MSV1469
MC39558-4	V40712.D	1	07/06/15	JB	n/a	n/a	MSV1469

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Compound	MC39558-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10.3		50	35.4	50	50	33.5	46	6	10-135/30
71-43-2	Benzene	ND		50	41.2	82	50	40.5	81	2	61-138/30
108-86-1	Bromobenzene	ND		50	43.6	87	50	44.1	88	1	71-126/30
74-97-5	Bromochloromethane	ND		50	40.3	81	50	39.7	79	1	70-136/30
75-27-4	Bromodichloromethane	ND		50	43.2	86	50	42.2	84	2	73-146/30
75-25-2	Bromoform	ND		50	49.2	98	50	48.9	98	1	54-147/30
74-83-9	Bromomethane	ND		50	44.3	89	50	42.6	85	4	20-171/30
78-93-3	2-Butanone (MEK)	ND		50	37.5	75	50	38.3	77	2	33-127/30
104-51-8	n-Butylbenzene	ND		50	46.7	93	50	46.9	94	0	69-138/30
135-98-8	sec-Butylbenzene	ND		50	47.3	95	50	47.5	95	0	71-137/30
98-06-6	tert-Butylbenzene	ND		50	48.2	96	50	48.6	97	1	68-137/30
75-15-0	Carbon disulfide	ND		50	38.8	78	50	35.2	70	10	29-178/30
56-23-5	Carbon tetrachloride	ND		50	47.1	94	50	45.5	91	3	57-155/30
108-90-7	Chlorobenzene	ND		50	44.9	90	50	45.0	90	0	69-126/30
75-00-3	Chloroethane	ND		50	42.6	85	50	41.3	83	3	57-182/30
67-66-3	Chloroform	ND		50	43.8	88	50	42.6	85	3	66-142/30
74-87-3	Chloromethane	ND		50	41.6	83	50	40.1	80	4	18-182/30
95-49-8	o-Chlorotoluene	ND		50	42.7	85	50	42.8	86	0	60-145/30
106-43-4	p-Chlorotoluene	ND		50	42.5	85	50	42.3	85	0	64-138/30
96-12-8	1,2-Dibromo-3-chloropropane	ND		50	39.2	78	50	39.4	79	1	46-160/30
124-48-1	Dibromochloromethane	ND		50	47.6	95	50	47.3	95	1	71-138/30
106-93-4	1,2-Dibromoethane	ND		50	42.1	84	50	42.0	84	0	71-129/30
95-50-1	1,2-Dichlorobenzene	ND		50	43.7	87	50	43.7	87	0	75-125/30
541-73-1	1,3-Dichlorobenzene	ND		50	44.5	89	50	44.7	89	0	74-125/30
106-46-7	1,4-Dichlorobenzene	ND		50	42.9	86	50	43.0	86	0	72-128/30
75-71-8	Dichlorodifluoromethane	ND		50	48.9	98	50	49.5	99	1	23-159/30
75-34-3	1,1-Dichloroethane	ND		50	37.1	74	50	35.9	72	3	63-150/30
107-06-2	1,2-Dichloroethane	ND		50	39.9	80	50	39.5	79	1	57-150/30
75-35-4	1,1-Dichloroethene	ND		50	39.4	79	50	36.0	72	9	53-165/30
156-59-2	cis-1,2-Dichloroethene	ND		50	40.4	81	50	39.9	80	1	66-138/30
156-60-5	trans-1,2-Dichloroethene	ND		50	39.9	80	50	38.0	76	5	65-141/30
78-87-5	1,2-Dichloropropane	ND		50	40.1	80	50	39.4	79	2	76-136/30
142-28-9	1,3-Dichloropropane	ND		50	41.7	83	50	41.6	83	0	71-127/30
594-20-7	2,2-Dichloropropane	ND		50	50.3	101	50	48.1	96	4	33-175/30
563-58-6	1,1-Dichloropropene	ND		50	42.9	86	50	42.6	85	1	76-145/30
10061-01-5	cis-1,3-Dichloropropene	ND		50	43.6	87	50	42.5	85	3	75-137/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39558-4MS	V40724.D	1	07/06/15	JB	n/a	n/a	MSV1469
MC39558-4MSD	V40725.D	1	07/06/15	JB	n/a	n/a	MSV1469
MC39558-4	V40712.D	1	07/06/15	JB	n/a	n/a	MSV1469

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Compound	MC39558-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		50	46.3	93	50	44.8	90	3	77-139/30
100-41-4	Ethylbenzene	ND		50	46.4	93	50	46.6	93	0	61-137/30
87-68-3	Hexachlorobutadiene	ND		50	45.3	91	50	48.1	96	6	59-141/30
591-78-6	2-Hexanone	ND		50	37.7	75	50	38.7	77	3	12-141/30
74-88-4	Iodomethane	ND		50	42.0	84	50	39.1	78	7	21-171/30
98-82-8	Isopropylbenzene	ND		50	46.1	92	50	46.4	93	1	64-141/30
99-87-6	p-Isopropyltoluene	ND		50	49.5	99	50	49.7	99	0	73-135/30
1634-04-4	Methyl Tert Butyl Ether	ND		50	38.3	77	50	36.5	73	5	34-160/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50	38.2	76	50	37.8	76	1	47-143/30
74-95-3	Methylene bromide	ND		50	40.6	81	50	39.6	79	2	73-132/30
75-09-2	Methylene chloride	ND		50	36.8	74	50	33.6	67	9	52-154/30
91-20-3	Naphthalene	ND		50	37.2	74	50	39.8	80	7	21-185/30
103-65-1	n-Propylbenzene	ND		50	44.7	89	50	44.7	89	0	66-141/30
100-42-5	Styrene	ND		50	48.6	97	50	48.9	98	1	60-142/30
630-20-6	1,1,1,2-Tetrachloroethane	ND		50	50.7	101	50	50.5	101	0	69-138/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50	34.7	69	50	34.6	69	0	58-147/30
127-18-4	Tetrachloroethene	ND		50	56.6	113	50	56.6	113	0	60-140/30
108-88-3	Toluene	ND		50	43.3	87	50	42.5	85	2	74-131/30
87-61-6	1,2,3-Trichlorobenzene	ND		50	37.3	75	50	41.2	82	10	12-184/30
120-82-1	1,2,4-Trichlorobenzene	ND		50	42.0	84	50	43.5	87	4	30-175/30
71-55-6	1,1,1-Trichloroethane	ND		50	41.8	84	50	40.0	80	4	67-151/30
79-00-5	1,1,2-Trichloroethane	ND		50	40.2	80	50	39.3	79	2	73-134/30
79-01-6	Trichloroethene	114		50	139	50* [a]	50	137	46* [a]	1	68-133/30
75-69-4	Trichlorofluoromethane	ND		50	45.5	91	50	43.0	86	6	40-159/30
96-18-4	1,2,3-Trichloropropane	ND		50	37.9	76	50	38.1	76	1	54-141/30
95-63-6	1,2,4-Trimethylbenzene	ND		50	46.1	92	50	46.0	92	0	62-142/30
108-67-8	1,3,5-Trimethylbenzene	ND		50	46.8	94	50	46.8	94	0	62-133/30
108-05-4	Vinyl Acetate	ND		50	39.7	79	50	38.8	78	2	10-169/30
75-01-4	Vinyl chloride	ND		50	42.9	86	50	41.2	82	4	29-176/30
	m,p-Xylene	ND		100	95.3	95	100	96.4	96	1	58-139/30
95-47-6	o-Xylene	ND		50	51.1	102	50	51.5	103	1	61-135/30
1330-20-7	Xylene (total)	ND		150	146	97	150	148	99	1	60-136/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39558-4MS	V40724.D	1	07/06/15	JB	n/a	n/a	MSV1469
MC39558-4MSD	V40725.D	1	07/06/15	JB	n/a	n/a	MSV1469
MC39558-4	V40712.D	1	07/06/15	JB	n/a	n/a	MSV1469

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Surrogate Recoveries	MS	MSD	MC39558-4	Limits
1868-53-7	Dibromofluoromethane	95%	93%	105%	72-133%
2037-26-5	Toluene-D8	98%	97%	93%	85-114%
460-00-4	4-Bromofluorobenzene	94%	94%	92%	70-134%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC39548-1	V40708.D	103	92	92
MC39548-2	V40709.D	103	93	92
MC39548-3	V40710.D	104	92	92
MC39548-4	V40711.D	104	91	92
MC39558-4MS	V40724.D	95	98	94
MC39558-4MSD	V40725.D	93	97	94
MSV1469-BS	V40702.D	96	98	97
MSV1469-BSD	V40703.D	95	98	95
MSV1469-MB	V40705.D	99	91	92

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	72-133%
S2 = Toluene-D8	85-114%
S3 = 4-Bromofluorobenzene	70-134%

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1505-MB	BA22115.D	1	07/01/15	AF	n/a	n/a	GBA1505

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1505-BSP	BA22116.D	1	07/01/15	AF	n/a	n/a	GBA1505

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	95.2	107	50-150
74-84-0	Ethane	166	179	108	50-150
74-85-1	Ethene	155	185	119	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC39548
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39638-3DUP	BA22118.D	1	07/01/15	AF	n/a	n/a	GBA1505
MC39638-3	BA22117.D	1	07/01/15	AF	n/a	n/a	GBA1505
MC39638-3	BA22119.D	1	07/01/15	AF	n/a	n/a	GBA1505

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39548-1, MC39548-2, MC39548-3, MC39548-4

CAS No.	Compound	MC39638-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	1660 [a]		1540	E	8	30
74-84-0	Ethane	112		116		4	30
74-85-1	Ethene	14.0		14.5		4	30

(a) Result is from Run #2.

* = Outside of Control Limits.

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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:					06/26/15		06/26/15		06/26/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Mercury	0.20	.035	.096	0.024	<0.20	0.020	<0.20	0.018	<0.20

Associated samples MP24781: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.1

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.3	3	110.0	75-125

Associated samples MP24781: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2
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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.4	3	113.3	3.0	20

Associated samples MP24781: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24781
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits
Mercury	3.1	3	103.3	80-120

Associated samples MP24781: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal	RL	IDL	MDL	MB raw	06/26/15 final	MB raw	06/26/15 final	MB raw	06/26/15 final
Aluminum	200	14	28	-18	<200	-7.6	<200	-8.6	<200
Antimony	6.0	1.1	2	0.10	<6.0	0.30	<6.0	-0.30	<6.0
Arsenic	4.0	1.6	1.7						
Barium	50	.35	1	0.0	<50	0.30	<50	0.30	<50
Beryllium	4.0	.15	.25	0.0	<4.0	0.0	<4.0	0.0	<4.0
Bismuth	50	1.3	2.1						
Boron	100	.9	1.1						
Cadmium	4.0	.16	.43	0.20	<4.0	0.10	<4.0	0.10	<4.0
Calcium	5000	6.9	15	19.2	<5000	24.8	<5000	26.7	<5000
Chromium	10	.36	.48	0.20	<10	0.20	<10	0.0	<10
Cobalt	50	.15	.28	0.0	<50	-0.10	<50	0.0	<50
Copper	25	.59	2.4	-0.30	<25	0.10	<25	0.10	<25
Gold	50	1.1	1.5						
Iron	100	3.3	17	-0.10	<100	1.4	<100	10.0	<100
Lead	5.0	.78	1.7	-0.10	<5.0	0.30	<5.0	0.10	<5.0
Lithium	500	2.3	2.5						
Magnesium	5000	23	54	-5.0	<5000	-10	<5000	-4.1	<5000
Manganese	15	.056	1.4	0.0	<15	0.0	<15	0.0	<15
Molybdenum	100	1.7	3.6						
Nickel	40	.21	.5	0.0	<40	-0.10	<40	-0.30	<40
Palladium	50	.92	2.6						
Platinum	50	4.6	5.4						
Potassium	5000	41	49	44.2	<5000	34.3	<5000	38.3	<5000
Selenium	10	1.5	2	1.1	<10	1.6	<10	1.8	<10
Silicon	100	1.1	30						
Silver	5.0	.56	1	-0.50	<5.0	-0.40	<5.0	-0.50	<5.0
Sodium	5000	17	77	84.9	<5000	129	<5000	110	<5000
Sulfur	50	2.3	4.6						
Strontium	10	.2	.22						
Thallium	5.0	.54	1.7	-0.60	<5.0	-0.80	<5.0	-0.70	<5.0
Tin	100	.39	.81						
Titanium	50	.34	.51						
Tungsten	100	3.1	22						

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BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					06/26/15		06/26/15		06/26/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Vanadium	10	.61	.51	0.0	<10	-0.20	<10	0.0	<10
Zinc	20	.53	1	0.50	<20	0.50	<20	0.80	<20
Zirconium	50	.19	1.2						

Associated samples MP24785: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	128	10300	10000	101.7	75-125
Antimony	0.0	533	500	106.6	75-125
Arsenic					
Barium	55.8	2130	2000	103.7	75-125
Beryllium	0.0	517	500	103.4	75-125
Bismuth					
Boron					
Cadmium	4.8	546	500	108.2	75-125
Calcium	88400	114000	25000	102.4	75-125
Chromium	0.40	532	500	106.3	75-125
Cobalt	4.3	530	500	105.1	75-125
Copper	0.90	508	500	101.4	75-125
Gold					
Iron	29300	40100	10000	108.0	75-125
Lead	0.0	1020	1000	102.0	75-125
Lithium					
Magnesium	13900	40000	25000	104.4	75-125
Manganese	3840	4610	500	154.0(a)	75-125
Molybdenum					
Nickel	0.90	527	500	105.2	75-125
Palladium					
Platinum					
Potassium	6010	31200	25000	100.8	75-125
Selenium	0.0	539	500	107.8	75-125
Silicon					
Silver	0.0	193	200	96.5	75-125
Sodium	131000	157000	25000	104.0	75-125
Sulfur					
Strontium					
Thallium	0.0	511	500	102.2	75-125
Tin					
Titanium					
Tungsten					

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	1.7	527	500	105.1	75-125
Zinc	5.2	522	500	103.4	75-125
Zirconium					

Associated samples MP24785: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	128	10500	10000	103.7	1.9	20
Antimony	0.0	533	500	106.6	0.0	20
Arsenic						
Barium	55.8	2130	2000	103.7	0.0	20
Beryllium	0.0	516	500	103.2	0.2	20
Bismuth						
Boron						
Cadmium	4.8	544	500	107.8	0.4	20
Calcium	88400	116000	25000	110.4	1.7	20
Chromium	0.40	532	500	106.3	0.0	20
Cobalt	4.3	530	500	105.1	0.0	20
Copper	0.90	510	500	101.8	0.4	20
Gold						
Iron	29300	39700	10000	104.0	1.0	20
Lead	0.0	1030	1000	103.0	1.0	20
Lithium						
Magnesium	13900	39700	25000	103.2	0.8	20
Manganese	3840	4610	500	154.0(a)	0.0	20
Molybdenum						
Nickel	0.90	530	500	105.8	0.6	20
Palladium						
Platinum						
Potassium	6010	31000	25000	100.0	0.6	20
Selenium	0.0	536	500	107.2	0.6	20
Silicon						
Silver	0.0	193	200	96.5	0.0	20
Sodium	131000	160000	25000	116.0(b)	1.9	20
Sulfur						
Strontium						
Thallium	0.0	512	500	102.4	0.2	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	1.7	526	500	104.9	0.2	20
Zinc	5.2	521	500	103.2	0.2	20
Zirconium						

Associated samples MP24785: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	10200	10000	102.0	80-120
Antimony	532	500	106.4	80-120
Arsenic				
Barium	2080	2000	104.0	80-120
Beryllium	520	500	104.0	80-120
Bismuth				
Boron				
Cadmium	542	500	108.4	80-120
Calcium	26000	25000	104.0	80-120
Chromium	535	500	107.0	80-120
Cobalt	522	500	104.4	80-120
Copper	498	500	99.6	80-120
Gold				
Iron	10600	10000	106.0	80-120
Lead	1030	1000	103.0	80-120
Lithium				
Magnesium	26200	25000	104.8	80-120
Manganese	530	500	106.0	80-120
Molybdenum				
Nickel	520	500	104.0	80-120
Palladium				
Platinum				
Potassium	25400	25000	101.6	80-120
Selenium	534	500	106.8	80-120
Silicon				
Silver	190	200	95.0	80-120
Sodium	26300	25000	105.2	80-120
Sulfur				
Strontium				
Thallium	524	500	104.8	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	522	500	104.4	80-120
Zinc	527	500	105.4	80-120
Zirconium				

Associated samples MP24785: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39372-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum	96.4	76.2	21.0 (a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	29.3	29.9	2.0	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.400	0.00	100.0(a)	0-10
Calcium	54500	55800	2.5	0-10
Chromium	0.500	0.00	100.0(a)	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	1.20	0.00	100.0(a)	0-10
Gold				
Iron	4470	4580	2.4	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	4440	4550	2.5	0-10
Manganese	202	210	4.4	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Palladium				
Platinum				
Potassium	3820	3960	3.7	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	39400	40300	2.3	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/26/15

Metal	MC39372-1F Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.00	0.00	NC	0-10
Zinc	7.20	8.50	18.1 (a)	0-10
Zirconium				

Associated samples MP24785: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date:					06/26/15		06/26/15		06/26/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Aluminum	50	1.3	4.4						
Antimony	4.0	.022	.058						
Arsenic	4.0	.046	.42	0.78	<4.0	0.81	<4.0	0.75	<4.0
Barium	2.0	.016	.076						
Beryllium	1.0	.015	.042						
Boron	10	.24	.34						
Cadmium	2.0	.012	.026						
Calcium	500	4.2	30						
Chromium	8.0	.032	.42						
Cobalt	1.0	.0064	.028						
Copper	8.0	.017	1						
Iron	50	.72	3.4						
Lead	2.0	.013	.036						
Magnesium	500	1.4	2						
Manganese	4.0	.0096	1.2						
Molybdenum	2.0	.028	.24						
Nickel	4.0	.015	.14						
Potassium	500	3.4	5.2						
Selenium	2.0	.15	.3						
Silver	2.0	.0088	.022						
Sodium	500	2	8.8						
Strontium	20	.01	.026						
Thallium	2.0	.042	.068						
Tin	10	.015	.048						
Titanium	2.0	.2	.26						
Vanadium	20	.2	1.4						
Zinc	10	.066	2						

Associated samples MP24785A: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	360	948	500	117.6(a)	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP24785A: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39533-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	360	944	500	116.8(a)	0.4	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP24785A: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	571	500	114.2	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24785A: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24785A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/26/15

Metal	MC39372-1F Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	22.0	22.4	2.0	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24785A: MC39548-1F, MC39548-2F, MC39548-3F, MC39548-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England
ACCUTEST
LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN51055	5.0	0.0	mg/l	250	254	101.6	80-120%
Nitrogen, Nitrate + Nitrite	GP19282/GN51017	0.10	0.037	mg/l	2	1.85	92.5	90-110%
Nitrogen, Nitrate + Nitrite	GP19320/GN51110	0.10	0.026	mg/l	2	2.04	102.0	90-110%
Nitrogen, Nitrite	GP19276/GN51002	0.010	0.0	mg/l	0.02	0.020	100.0	80-120%
Sulfide	GN51053	2.0	0.0	mg/l	13.4	12.0	89.6	80-120%
Total Organic Carbon	GP19293/GN51057	1.0	0.0	mg/l	10	10.1	101.0	80-120%
Total Organic Carbon	GP19317/GN51117	1.0	0.0	mg/l	10	10.0	100.0	80-120%

Associated Samples:
Batch GN51053: MC39548-1, MC39548-2, MC39548-3, MC39548-4
Batch GN51055: MC39548-1, MC39548-2, MC39548-3, MC39548-4
Batch GP19276: MC39548-1, MC39548-2, MC39548-3, MC39548-4
Batch GP19282: MC39548-1
Batch GP19293: MC39548-1
Batch GP19317: MC39548-2, MC39548-3, MC39548-4
Batch GP19320: MC39548-2, MC39548-3, MC39548-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN51055	MC39548-1	mg/l	252	253	0.4	0-20%
Nitrogen, Nitrate + Nitrite	GP19282/GN51017	MC39435-6	mg/l	0.018 U	0.044	14.7	0-20%
Nitrogen, Nitrate + Nitrite	GP19320/GN51110	MC39533-3	mg/l	0.065	0.059	9.7	0-20%
Nitrogen, Nitrite	GP19276/GN51002	MC39533-3	mg/l	0.0011 U	0.0	0.0	0-20%
Sulfide	GN51053	MC39533-2	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN51053: MC39548-1, MC39548-2, MC39548-3, MC39548-4
Batch GN51055: MC39548-1, MC39548-2, MC39548-3, MC39548-4
Batch GP19276: MC39548-1, MC39548-2, MC39548-3, MC39548-4
Batch GP19282: MC39548-1
Batch GP19320: MC39548-2, MC39548-3, MC39548-4
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN51055	MC39548-1	mg/l	252	250	501	99.6	75-125%
Nitrogen, Nitrate + Nitrite	GP19282/GN51017	MC39435-6	mg/l	0.018 U	2	1.9	92.5	90-110%
Nitrogen, Nitrate + Nitrite	GP19320/GN51110	MC39533-3	mg/l	0.065	2	2.1	101.8	90-110%
Nitrogen, Nitrite	GP19276/GN51002	MC39533-3	mg/l	0.0011 U	0.02	0.019	95.0	75-125%
Sulfide	GN51053	MC39533-2	mg/l	0.34 U	13.4	12.0	89.6	75-125%
Total Organic Carbon	GP19293/GN51057	MC39435-6	mg/l	0.35 U	10	10	100.0	75-125%
Total Organic Carbon	GP19317/GN51117	MC39533-3	mg/l	3.2	10	13.6	104.0	75-125%

Associated Samples:
Batch GN51053: MC39548-1, MC39548-2, MC39548-3, MC39548-4
Batch GN51055: MC39548-1, MC39548-2, MC39548-3, MC39548-4
Batch GP19276: MC39548-1, MC39548-2, MC39548-3, MC39548-4
Batch GP19282: MC39548-1
Batch GP19293: MC39548-1
Batch GP19317: MC39548-2, MC39548-3, MC39548-4
Batch GP19320: MC39548-2, MC39548-3, MC39548-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39548
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19293/GN51057	MC39435-6	mg/l	0.35 U	10	10.1	1.0	
Total Organic Carbon	GP19317/GN51117	MC39533-3	mg/l	3.2	10	13.2	3.0	

Associated Samples:
Batch GP19293: MC39548-1
Batch GP19317: MC39548-2, MC39548-3, MC39548-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

Trk# 6406 1312 4430

CHAIN OF CUSTODY

ACCUTEST LABORATORIES

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC39548
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information	Subcontract Laboratory Information
Name: Accutest New England	Name: Accutest - New Jersey
Address: 50 D'Angelo Drive	Address: 2235 Route 130
City: Marlborough State: MA Zip: 01752	City: Dayton State: NJ Zip: 08810
Send Report to: FrankD@accutest.com	Contact: Sample Management
Any questions contact: Frank D'Agostino	
Phone/Fax #: (508)481-6200 / (508)481-7753	Phone: (732) 329-0200

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300					Comments
MC39548 -1	6/23/15	10:30 AM		GW	1					x	X					
MC39548 -2	6/23/15	11:30 AM		GW	1					x	X					MA
MC39548 -3	6/23/15	9:00 AM		GW	1					x	X					
MC39548 -4	6/23/15	9:50 AM		GW	1					x	X					

Data Deliverable Information

- [x] STD — 7/7/15
- [ ] Other ________ (Days)

*Please notify Accutest if surcharges are applied.

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

- [ ] Commercial "A"
- [ ] Commercial "B"
- [x] Commercial "BN"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

Comments / Remarks

All DW samples are subject to MCL compliance reporting

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1 [signature]	6/23/15	1 FedEx	1
2 FedEX	6/24/15 10:00	2 [signature]	2
3		3	3

Seal #: ________ Headspace: Yes ☐ No ☐ NA ☐

Preserved where applicable: ☐

Temperature °C 1.5°C IR On Ice ☒

INITIAL ASESSMENT RtR 2B

LABEL VERIFICATION MB

sm022-01 (10/30/14)

10.1

10

MC39548: Chain of Custody
Page 1 of 2
Accutest New Jersey

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39548 **Client:** **Project:**

Date / Time Received: 6/24/2015 10:00:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (1.5);

Cooler Temps (Corrected) °C: Cooler 1: (1.2);

Cooler Security	Y	N
1. Custody Seals Present:	✔	☐
2. Custody Seals Intact:	✔	☐
3. COC Present:	✔	☐
4. Smpl Dates/Time OK	✔	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	✔	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☐	✔
2. Trip Blank listed on COC:	☐	☐	✔
3. Samples preserved properly:	✔	☐	
4. VOCs headspace free:	☐	☐	✔

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	✔	☐
2. Container labeling complete:	✔	☐
3. Sample container label / COC agree:	✔	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	✔	☐
2. All containers accounted for:	✔	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	✔	☐	
2. Bottles received for unspecified tests	☐	✔	
3. Sufficient volume recvd for analysis:	✔	☐	
4. Compositing instructions clear:	☐	☐	✔
5. Filtering instructions clear:	☐	☐	✔

Comments

10.1
10

MC39548: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC39548
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 06/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC39548

New England
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General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39548
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Sulfate	GP90193/GN28061	10	2.2	mg/l	80	81.0	101.3	90-110%

Associated Samples:
Batch GP90193: MC39548-1, MC39548-2, MC39548-3, MC39548-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39548
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Sulfate	GP90193/GN28061	MC39533-3	mg/l	30.5	30.6	0.3	0-20%

Associated Samples:
Batch GP90193: MC39548-1, MC39548-2, MC39548-3, MC39548-4
(*) Outside of QC limits

11.2

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39548
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Sulfate	GP90193/GN28061	MC39533-3	mg/l	30.5	80	110	99.4	80-120%

Associated Samples:
Batch GP90193: MC39548-1, MC39548-2, MC39548-3, MC39548-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

07/13/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

Accutest Job Number: MC39667

Sampling Date: 06/26/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
eanderson@hsenv.com

ATTN: Elizabeth Anderson

Total number of pages in report: **100**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Sections: 1 2 3 4 5 6 7 8 9 10 11

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Sections: 1 2 3 4 5 6 7 8 9 10 11

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Accutest Laboratories

Sample Summary

H&S Environmental

Fort Devens, AOC50, Devens, MA

Job No: MC39667

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC39667-1	06/26/15	14:15		06/26/15	AQ	Ground Water	G6M-13-02X-062615
MC39667-1F	06/26/15	14:15		06/26/15	AQ	Groundwater Filtered	G6M-13-02X-062615
MC39667-2	06/26/15	13:10		06/26/15	AQ	Ground Water	G6M-13-02X-062615H
MC39667-2F	06/26/15	13:10		06/26/15	AQ	Groundwater Filtered	G6M-13-02X-062615H
MC39667-3	06/26/15	13:30		06/26/15	AQ	Ground Water	G6M-02-04X-062615
MC39667-3F	06/26/15	13:30		06/26/15	AQ	Groundwater Filtered	G6M-02-04X-062615
MC39667-4	06/26/15	12:30		06/26/15	AQ	Ground Water	G6M-02-04X-062615H
MC39667-4F	06/26/15	12:30		06/26/15	AQ	Groundwater Filtered	G6M-02-04X-062615H
MC39667-5	06/26/15	11:20		06/26/15	AQ	Ground Water	G6M-02-11X-062615
MC39667-5F	06/26/15	11:20		06/26/15	AQ	Groundwater Filtered	G6M-02-11X-062615
MC39667-6	06/26/15	09:15		06/26/15	AQ	Ground Water	G6M-02-11X-062615H
MC39667-6F	06/26/15	09:15		06/26/15	AQ	Groundwater Filtered	G6M-02-11X-062615H

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	H&S Environmental	**Job No**	MC39667
Site:	Fort Devens, AOC50, Devens, MA	**Report Date**	7/13/2015 9:31:04 AM

6 Sample(s) were collected on 06/26/2015 and were received at Accutest on 06/26/2015 properly preserved, at 0.7 Deg. C and intact. These Samples received an Accutest job number of MC39667. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix AQ **Batch ID:** MSH2428

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method VRSK 175

Matrix AQ **Batch ID:** GBA1506

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39699-1DUP were used as the QC samples indicated.

Metals By Method SW846 6010C

Matrix AQ **Batch ID:** MP24800

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39713-5FMS, MC39713-5FMSD, MC39713-5FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Aluminum, Iron, Nickel, Zinc are outside control limits for sample MP24800-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 6020A

Matrix AQ **Batch ID:** MP24800A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39713-5FMS, MC39713-5FMSD, MC39713-5FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP24800A-SD1. Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

Metals By Method SW846 7470A

Matrix AQ	Batch ID: MP24791

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39667-1FMS, MC39667-1FMSD were used as the QC samples for metals.

Matrix AQ	Batch ID: MP24797

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39713-5MS, MC39713-5MSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix AQ	Batch ID: N:GP90330

- Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix AQ	Batch ID: GP19320

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3DUP, MC39533-3MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix AQ	Batch ID: R36879

- MC39667-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix AQ	Batch ID: R36880

- MC39667-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix AQ	Batch ID: GP19296

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39667-6DUP, MC39667-6MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 2320B

Matrix AQ	Batch ID: GN51055

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39548-1DUP, MC39548-1MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix	AQ	Batch ID:	GN51095

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39667-5DUP, MC39667-5MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SM21 5310 B

Matrix	AQ	Batch ID:	GP19317

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC39533-3MS, MC39533-3MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC39667).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Accutest Labs of New England, Inc. **Job No** MC39667

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 7/8/2015 8:49:19 AM

On 06/30/2015, 2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 1.9 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC39667 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP90330

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB98233-11DUP, JB98233-11MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC39667
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39667-1	**G6M-13-02X-062615**					
Acetone		35.8	10	5.0	ug/l	SW846 8260C
cis-1,2-Dichloroethene		38.1	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		105	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		49.6	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		1.1	1.0	0.50	ug/l	SW846 8260C
MC39667-1F	**G6M-13-02X-062615**					
Arsenic		2.1 J	4.0	2.0	ug/l	SW846 6020A
Barium		43.1 J	50	25	ug/l	SW846 6010C
Calcium		48900	25000	13000	ug/l	SW846 6010C
Magnesium		6870	5000	2500	ug/l	SW846 6010C
Manganese		9.4 J	15	7.5	ug/l	SW846 6010C
Potassium		4230 J	5000	2500	ug/l	SW846 6010C
Sodium		141000	50000	25000	ug/l	SW846 6010C
Zinc		10.2 J	20	10	ug/l	SW846 6010C
MC39667-2	**G6M-13-02X-062615H**					
cis-1,2-Dichloroethene		17.8	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		64.8	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		24.8	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		0.90 J	1.0	0.50	ug/l	SW846 8260C
MC39667-2F	**G6M-13-02X-062615H**					
Arsenic		2.7 J	4.0	2.0	ug/l	SW846 6020A
Barium		36.7 J	50	25	ug/l	SW846 6010C
Calcium		52600	25000	13000	ug/l	SW846 6010C
Iron		125	100	50	ug/l	SW846 6010C
Magnesium		6220	5000	2500	ug/l	SW846 6010C
Manganese		49.6	15	7.5	ug/l	SW846 6010C
Potassium		9400	5000	2500	ug/l	SW846 6010C
Sodium		110000	50000	25000	ug/l	SW846 6010C
MC39667-3	**G6M-02-04X-062615**					
cis-1,2-Dichloroethene		0.91 J	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		0.60 J	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		0.52 J	1.0	0.50	ug/l	SW846 8260C

Summary of Hits

Job Number: MC39667
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39667-3F	**G6M-02-04X-062615**					
Arsenic		157	10	5.0	ug/l	SW846 6020A
Barium		54.1	50	25	ug/l	SW846 6010C
Calcium		67000	25000	13000	ug/l	SW846 6010C
Iron		10400	100	50	ug/l	SW846 6010C
Magnesium		7730	5000	2500	ug/l	SW846 6010C
Manganese		1060	15	7.5	ug/l	SW846 6010C
Potassium		4980 J	5000	2500	ug/l	SW846 6010C
Sodium		152000	50000	25000	ug/l	SW846 6010C
MC39667-4	**G6M-02-04X-062615H**					
Trichloroethene		0.55 J	1.0	0.50	ug/l	SW846 8260C
MC39667-4F	**G6M-02-04X-062615H**					
Arsenic		189	10	5.0	ug/l	SW846 6020A
Calcium		25100	15000	7500	ug/l	SW846 6010C
Iron		9400	100	50	ug/l	SW846 6010C
Manganese		1090	15	7.5	ug/l	SW846 6010C
Potassium		8110	5000	2500	ug/l	SW846 6010C
Sodium		26000	15000	7500	ug/l	SW846 6010C
MC39667-5	**G6M-02-11X-062615**					
Methane		8180	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		312	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.17	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.17	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		2.0 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		5.8	1.0	0.70	mg/l	SM21 5310 B
MC39667-5F	**G6M-02-11X-062615**					
Arsenic		576	20	10	ug/l	SW846 6020A
Barium		29.0 J	50	25	ug/l	SW846 6010C
Calcium		114000	50000	25000	ug/l	SW846 6010C
Iron		51100	1000	500	ug/l	SW846 6010C
Magnesium		8970	5000	2500	ug/l	SW846 6010C
Manganese		10800	15	7.5	ug/l	SW846 6010C
Potassium		3520 J	5000	2500	ug/l	SW846 6010C
Sodium		62800	50000	25000	ug/l	SW846 6010C

Summary of Hits

Job Number: MC39667
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC39667-6	**G6M-02-11X-062615H**					
cis-1,2-Dichloroethene		8.1	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		8.8	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		24.5	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		3.3	1.0	0.50	ug/l	SW846 8260C
Methane		404	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		159	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [a]		0.88	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.89	0.10	0.054	mg/l	EPA 353.2
Nitrogen, Nitrite		0.010	0.010	0.0033	mg/l	SM 21 4500 NO2 B
Sulfate [b]		37.8	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		7.0	1.0	0.70	mg/l	SM21 5310 B
MC39667-6F	**G6M-02-11X-062615H**					
Arsenic		22.4	4.0	2.0	ug/l	SW846 6020A
Calcium		38700	25000	13000	ug/l	SW846 6010C
Iron		81.1 J	100	50	ug/l	SW846 6010C
Magnesium		3220 J	5000	2500	ug/l	SW846 6010C
Manganese		1790	15	7.5	ug/l	SW846 6010C
Potassium		4370 J	5000	2500	ug/l	SW846 6010C
Sodium		114000	50000	25000	ug/l	SW846 6010C
Zinc		22.3	20	10	ug/l	SW846 6010C

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

New England
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Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-02X-062615		
Lab Sample ID:	MC39667-1	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H73156.D	1	07/09/15	KD	n/a	n/a	MSH2428
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	35.8	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	38.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

4.1

4

Report of Analysis

Client Sample ID:	G6M-13-02X-062615			
Lab Sample ID:	MC39667-1		**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water		**Date Received:**	06/26/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	105	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	49.6	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	1.1	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-02X-062615		
Lab Sample ID:	MC39667-1	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		85-114%
460-00-4	4-Bromofluorobenzene	97%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-02X-062615		
Lab Sample ID:	MC39667-1F	**Date Sampled:**	06/26/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/26/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	2.1 J	4.0	2.0	ug/l	2	06/30/15	07/07/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	43.1 J	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	48900	25000	13000	ug/l	5	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	50 U	100	50	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	6870	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	9.4 J	15	7.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/29/15	06/30/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	4230 J	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	141000	50000	25000	ug/l	10	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10.2 J	20	10	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18253
(2) Instrument QC Batch: MA18260
(3) Instrument QC Batch: MA18265
(4) Instrument QC Batch: MA18270
(5) Prep QC Batch: MP24791
(6) Prep QC Batch: MP24800
(7) Prep QC Batch: MP24800A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-02X-062615H		
Lab Sample ID:	MC39667-2	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H73151.D	1	07/09/15	KD	n/a	n/a	MSH2428
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	17.8	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-02X-062615H		
Lab Sample ID:	MC39667-2	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	64.8	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	24.8	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.90	1.0	0.50	ug/l	J
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-02X-062615H		
Lab Sample ID:	MC39667-2	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		85-114%
460-00-4	4-Bromofluorobenzene	93%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-02X-062615H			
Lab Sample ID:	MC39667-2F		**Date Sampled:**	06/26/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	06/26/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	2.7 J	4.0	2.0	ug/l	2	06/30/15	07/07/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	36.7 J	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	52600	25000	13000	ug/l	5	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	125	100	50	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	6220	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	49.6	15	7.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/29/15	06/30/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	9400	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	110000	50000	25000	ug/l	10	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18253
(2) Instrument QC Batch: MA18260
(3) Instrument QC Batch: MA18265
(4) Instrument QC Batch: MA18270
(5) Prep QC Batch: MP24791
(6) Prep QC Batch: MP24800
(7) Prep QC Batch: MP24800A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-04X-062615		
Lab Sample ID:	MC39667-3	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H73152.D	1	07/09/15	KD	n/a	n/a	MSH2428
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.91	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X-062615		
Lab Sample ID:	MC39667-3	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.60	1.0	0.50	ug/l	J
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.52	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X-062615		
Lab Sample ID:	MC39667-3	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	98%		85-114%
460-00-4	4-Bromofluorobenzene	94%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X-062615			
Lab Sample ID:	MC39667-3F		**Date Sampled:**	06/26/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	06/26/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	157	10	5.0	ug/l	5	06/30/15	07/07/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	54.1	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	67000	25000	13000	ug/l	5	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	10400	100	50	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	7730	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	1060	15	7.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/29/15	06/30/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	4980 J	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	152000	50000	25000	ug/l	10	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18253
(2) Instrument QC Batch: MA18260
(3) Instrument QC Batch: MA18265
(4) Instrument QC Batch: MA18270
(5) Prep QC Batch: MP24791
(6) Prep QC Batch: MP24800
(7) Prep QC Batch: MP24800A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-04X-062615H			
Lab Sample ID:	MC39667-4		**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water		**Date Received:**	06/26/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H73153.D	1	07/09/15	KD	n/a	n/a	MSH2428
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X-062615H			
Lab Sample ID:	MC39667-4		**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water		**Date Received:**	06/26/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.55	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X-062615H		
Lab Sample ID:	MC39667-4	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	104%		85-114%
460-00-4	4-Bromofluorobenzene	95%		70-134%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-04X-062615H			
Lab Sample ID:	MC39667-4F		**Date Sampled:**	06/26/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	06/26/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	189	10	5.0	ug/l	5	06/30/15	07/07/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	25 U	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	25100	15000	7500	ug/l	3	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	9400	100	50	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	2500 U	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	1090	15	7.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/30/15	07/01/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	8110	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	26000	15000	7500	ug/l	3	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18257
(2) Instrument QC Batch: MA18260
(3) Instrument QC Batch: MA18265
(4) Instrument QC Batch: MA18270
(5) Prep QC Batch: MP24797
(6) Prep QC Batch: MP24800
(7) Prep QC Batch: MP24800A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-11X-062615			
Lab Sample ID:	MC39667-5		**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water		**Date Received:**	06/26/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H73154.D	1	07/09/15	KD	n/a	n/a	MSH2428
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X-062615		
Lab Sample ID:	MC39667-5	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X-062615		
Lab Sample ID:	MC39667-5	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		85-114%
460-00-4	4-Bromofluorobenzene	95%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-11X-062615		
Lab Sample ID:	MC39667-5	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22150.D	1	07/02/15	AF	n/a	n/a	GBA1506
Run #2	BA22151.D	1	07/02/15	AF	n/a	n/a	GBA1506

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	8180 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-11X-062615		
Lab Sample ID:	MC39667-5	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	312	5.0	3.9	mg/l	1	06/29/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.17	0.11	0.057	mg/l	1	07/04/15 10:16	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.17	0.10	0.054	mg/l	1	07/04/15 10:16	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	06/26/15 17:12	MA	SM 21 4500 NO2 B
Sulfate [b]	2.0 J	10	0.50	mg/l	1	07/03/15 23:33	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	07/01/15	BF	SM21 4500 S F
Total Organic Carbon	5.8	1.0	0.70	mg/l	1	07/02/15 17:07	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-11X-062615		
Lab Sample ID:	MC39667-5F	**Date Sampled:**	06/26/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/26/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	576	20	10	ug/l	10	06/30/15	07/07/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	29.0 J	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	114000	50000	25000	ug/l	10	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	51100	1000	500	ug/l	10	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	8970	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	10800	15	7.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/29/15	06/30/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	3520 J	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	62800	50000	25000	ug/l	10	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18253
(2) Instrument QC Batch: MA18260
(3) Instrument QC Batch: MA18265
(4) Instrument QC Batch: MA18270
(5) Prep QC Batch: MP24791
(6) Prep QC Batch: MP24800
(7) Prep QC Batch: MP24800A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-11X-062615H		
Lab Sample ID:	MC39667-6	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H73155.D	1	07/09/15	KD	n/a	n/a	MSH2428
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	5.0	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	8.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X-062615H		
Lab Sample ID:	MC39667-6	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	5.0	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	8.8	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	24.5	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	3.3	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		72-133%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X-062615H		
Lab Sample ID:	MC39667-6	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%		85-114%
460-00-4	4-Bromofluorobenzene	96%		70-134%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X-062615H		
Lab Sample ID:	MC39667-6	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22152.D	1	07/02/15	AF	n/a	n/a	GBA1506
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	404	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X-062615H		
Lab Sample ID:	MC39667-6	**Date Sampled:**	06/26/15
Matrix:	AQ - Ground Water	**Date Received:**	06/26/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	159	5.0	3.9	mg/l	1	06/29/15	BF	SM21 2320B
Nitrogen, Nitrate [a]	0.88	0.11	0.057	mg/l	1	07/04/15 10:18	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.89	0.10	0.054	mg/l	1	07/04/15 10:18	MC	EPA 353.2
Nitrogen, Nitrite	0.010	0.010	0.0033	mg/l	1	06/26/15 17:12	MA	SM 21 4500 NO2 B
Sulfate [b]	37.8	10	0.50	mg/l	1	07/03/15 23:57	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	07/01/15	BF	SM21 4500 S F
Total Organic Carbon	7.0	1.0	0.70	mg/l	1	07/02/15 17:42	MA	SM21 5310 B

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-11X-062615H		
Lab Sample ID:	MC39667-6F	**Date Sampled:**	06/26/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/26/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	22.4	4.0	2.0	ug/l	2	06/30/15	07/07/15	VY	SW846 6020A [4]	SW846 3010A [7]
Barium	25 U	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.0 U	4.0	2.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	38700	25000	13000	ug/l	5	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	81.1 J	100	50	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	3220 J	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	1790	15	7.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	06/29/15	06/30/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	4370 J	5000	2500	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	114000	50000	25000	ug/l	10	06/30/15	07/02/15	EAL	SW846 6010C [3]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	22.3	20	10	ug/l	1	06/30/15	07/01/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18253
(2) Instrument QC Batch: MA18260
(3) Instrument QC Batch: MA18265
(4) Instrument QC Batch: MA18270
(5) Prep QC Batch: MP24791
(6) Prep QC Batch: MP24800
(7) Prep QC Batch: MP24800A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England
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5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #	Bottle Order Control #
Accutest Quote # FD-10-2014-229	Accutest Job # MC39667

Client / Reporting Information	Project Information	
Company Name: H&S Environmental	Project Name: Ft. Devens AOC 50	
Street Address: 160 E. Main Street	Street:	Billing Information (If different from Report to)
City: Westborough State: MA Zip	City:	Company Name
Project Contact: E. Anderson E-mail	Project#	Street Address
Phone #: 5083667442 Fax #	Client PO#	City State Zip
Sampler(s) Name(s) Phone #	Project Manager	Attention: PO#

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL - Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB- Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	~~ENCORE~~ Phos.	Bisulfate	VOC	Dis Metals Field filtered	Dis Metals lab filtered	Nitrate, sulfate, Alk	Sulfide	Methane, ethane, ethene	TOC	LAB USE ONLY
-1 F	G6M-13-02X-062615		6/26/15	1415			3	2		1							X	X						
-2 F	G6M-13-02X-062615H			1310			3	2				1					X		X					
-3 F	G6M-02-04X-062615			1330			3	2		1							X	X						
4 F	G6M-02-04X-062615H			1230			3	2				1					X		X					
-5 F	G6M-02-11X-062615			1120			11	4	1	1	1	1			3		X	X		X	X	X	X	
6 F	G6M-02-11X-062615H		6/26/15	0915			11	4	1		1	2			3		X		X	X	X	X	X	

LAB USE ONLY: 11E, 6E, 1A3

Turnaround Time (Business days)	Approved By (Accutest PM): / Date:	Data Deliverable Information		Comments / Special Instructions
☒ Std. 10 Business Days		☐ Commercial "A" (Level 1)	☐ NYASP Category A	
☐ Std. 5 Business Days (By Contract only)		☐ Commercial "B" (Level 2)	☐ NYASP Category B	
☐ 5 Day *RUSH*		☐ FULLT1 (Level 3+4)	☐ State Forms	
☐ 3 Day *EMERGENCY*		☐ CT RCP	☐ EDD Format ______	
☐ 2 Day *EMERGENCY*		☐ MA MCP	☐ Other ______	
☐ 1 Day *EMERGENCY*		Commercial "A" = Results Only		
		Commercial "B" = Results + QC Summary		

Emergency & Rush T/A data available VIA Lablink

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	6/26/15 1545	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 0.7C

MC39667: Chain of Custody
Page 1 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39667 **Client:** H&S **Immediate Client Services Action Required:** Yes

Date / Time Received: 6/26/2015 3:45:00 PM **Delivery Method:**

Project: FT DEVENS AOC50 **No. Coolers:** 1 **Airbill #'s:**

Cooler Security

	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	Glass Thermometer	
3. Cooler media:	Ice (Bag)	

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	
2. Trip Blank listed on COC:	☐	☑	
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample rec'd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume rec'd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☑	☐	☐

Comments

-5, -6 No NAOH + ZN ACE. Bottles recd. For Sufide analysis.

ACCUTEST LABORATORIES

Sample Receipt Summary - Problem Resolution

Accutest Job Number: MC39667

CSR: Frank D'Agostino **Response Date:** 6/30/2015

Response: Aliquot for sulfide

QC Evaluation: DOD QSM5 Limits

Job Number: MC39667
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSH2428	SW846 8260C						
MSH2428-BS	67-64-1	Acetone	BSP	REC	106	%	39-160
MSH2428-BS	71-43-2	Benzene	BSP	REC	101	%	79-120
MSH2428-BS	108-86-1	Bromobenzene	BSP	REC	104	%	80-120
MSH2428-BS	74-97-5	Bromochloromethane	BSP	REC	105	%	78-123
MSH2428-BS	75-27-4	Bromodichloromethane	BSP	REC	107	%	79-125
MSH2428-BS	75-25-2	Bromoform	BSP	REC	103	%	66-130
MSH2428-BS	74-83-9	Bromomethane	BSP	REC	105	%	53-141
MSH2428-BS	78-93-3	2-Butanone (MEK)	BSP	REC	112	%	56-143
MSH2428-BS	104-51-8	n-Butylbenzene	BSP	REC	111	%	75-128
MSH2428-BS	135-98-8	sec-Butylbenzene	BSP	REC	108	%	77-126
MSH2428-BS	98-06-6	tert-Butylbenzene	BSP	REC	107	%	78-124
MSH2428-BS	75-15-0	Carbon disulfide	BSP	REC	97	%	64-133
MSH2428-BS	56-23-5	Carbon tetrachloride	BSP	REC	107	%	72-136
MSH2428-BS	108-90-7	Chlorobenzene	BSP	REC	100	%	82-118
MSH2428-BS	75-00-3	Chloroethane	BSP	REC	112	%	60-138
MSH2428-BS	67-66-3	Chloroform	BSP	REC	103	%	79-124
MSH2428-BS	74-87-3	Chloromethane	BSP	REC	127	%	50-139
MSH2428-BS	95-49-8	o-Chlorotoluene	BSP	REC	104	%	79-122
MSH2428-BS	106-43-4	p-Chlorotoluene	BSP	REC	105	%	78-122
MSH2428-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	124	%	62-128
MSH2428-BS	124-48-1	Dibromochloromethane	BSP	REC	98	%	74-126
MSH2428-BS	106-93-4	1,2-Dibromoethane	BSP	REC	105	%	77-121
MSH2428-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	108	%	80-119
MSH2428-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	106	%	80-119
MSH2428-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	105	%	79-118
MSH2428-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	97	%	32-152
MSH2428-BS	75-34-3	1,1-Dichloroethane	BSP	REC	97	%	77-125
MSH2428-BS	107-06-2	1,2-Dichloroethane	BSP	REC	100	%	73-128
MSH2428-BS	75-35-4	1,1-Dichloroethene	BSP	REC	94	%	71-131
MSH2428-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	106	%	78-123
MSH2428-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	90	%	75-124
MSH2428-BS	78-87-5	1,2-Dichloropropane	BSP	REC	103	%	78-122
MSH2428-BS	142-28-9	1,3-Dichloropropane	BSP	REC	110	%	80-119
MSH2428-BS	594-20-7	2,2-Dichloropropane	BSP	REC	111	%	60-139
MSH2428-BS	563-58-6	1,1-Dichloropropene	BSP	REC	93	%	79-125
MSH2428-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	118	%	75-124
MSH2428-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	104	%	73-127
MSH2428-BS	100-41-4	Ethylbenzene	BSP	REC	104	%	79-121
MSH2428-BS	87-68-3	Hexachlorobutadiene	BSP	REC	115	%	66-134
MSH2428-BS	591-78-6	2-Hexanone	BSP	REC	103	%	57-139
MSH2428-BS	74-88-4	Iodomethane	BSP	REC	110	%	69-131
MSH2428-BS	98-82-8	Isopropylbenzene	BSP	REC	103	%	72-131

* Sample used for QC is not from job MC39667

QC Evaluation: DOD QSM5 Limits

Job Number: MC39667
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSH2428-BS	99-87-6	p-Isopropyltoluene	BSP	REC	110	%	77-127
MSH2428-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	107	%	71-124
MSH2428-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	111	%	67-130
MSH2428-BS	74-95-3	Methylene bromide	BSP	REC	106	%	79-123
MSH2428-BS	75-09-2	Methylene chloride	BSP	REC	101	%	74-124
MSH2428-BS	91-20-3	Naphthalene	BSP	REC	109	%	61-128
MSH2428-BS	103-65-1	n-Propylbenzene	BSP	REC	102	%	76-126
MSH2428-BS	100-42-5	Styrene	BSP	REC	105	%	78-123
MSH2428-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	110	%	78-124
MSH2428-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	108	%	71-121
MSH2428-BS	127-18-4	Tetrachloroethene	BSP	REC	101	%	74-129
MSH2428-BS	108-88-3	Toluene	BSP	REC	106	%	80-121
MSH2428-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	110	%	69-129
MSH2428-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	110	%	69-130
MSH2428-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	103	%	74-131
MSH2428-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	106	%	80-119
MSH2428-BS	79-01-6	Trichloroethene	BSP	REC	102	%	79-123
MSH2428-BS	75-69-4	Trichlorofluoromethane	BSP	REC	102	%	65-141
MSH2428-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	110	%	73-122
MSH2428-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	105	%	76-124
MSH2428-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	108	%	75-124
MSH2428-BS	108-05-4	Vinyl Acetate	BSP	REC	146	%	54-146
MSH2428-BS	75-01-4	Vinyl chloride	BSP	REC	104	%	58-137
MSH2428-BS		m,p-Xylene	BSP	REC	107	%	80-121
MSH2428-BS	95-47-6	o-Xylene	BSP	REC	104	%	78-122
MSH2428-BS	1330-20-7	Xylene (total)	BSP	REC	105	%	79-121
MSH2428-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	100	%	80-119
MSH2428-BS	2037-26-5	Toluene-D8	BSP	SURR	100	%	89-112
MSH2428-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	97	%	85-114
MSH2428-BSD	67-64-1	Acetone	BSD	REC	93	%	39-160
MSH2428-BSD	71-43-2	Benzene	BSD	REC	95	%	79-120
MSH2428-BSD	108-86-1	Bromobenzene	BSD	REC	99	%	80-120
MSH2428-BSD	74-97-5	Bromochloromethane	BSD	REC	98	%	78-123
MSH2428-BSD	75-27-4	Bromodichloromethane	BSD	REC	102	%	79-125
MSH2428-BSD	75-25-2	Bromoform	BSD	REC	96	%	66-130
MSH2428-BSD	74-83-9	Bromomethane	BSD	REC	100	%	53-141
MSH2428-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	101	%	56-143
MSH2428-BSD	104-51-8	n-Butylbenzene	BSD	REC	106	%	75-128
MSH2428-BSD	135-98-8	sec-Butylbenzene	BSD	REC	104	%	77-126
MSH2428-BSD	98-06-6	tert-Butylbenzene	BSD	REC	103	%	78-124
MSH2428-BSD	75-15-0	Carbon disulfide	BSD	REC	93	%	64-133
MSH2428-BSD	56-23-5	Carbon tetrachloride	BSD	REC	102	%	72-136
MSH2428-BSD	108-90-7	Chlorobenzene	BSD	REC	95	%	82-118
MSH2428-BSD	75-00-3	Chloroethane	BSD	REC	107	%	60-138
MSH2428-BSD	67-66-3	Chloroform	BSD	REC	97	%	79-124

* Sample used for QC is not from job MC39667

QC Evaluation: DOD QSM5 Limits

Job Number: MC39667
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSH2428-BSD	74-87-3	Chloromethane	BSD	REC	112	%	50-139
MSH2428-BSD	95-49-8	o-Chlorotoluene	BSD	REC	99	%	79-122
MSH2428-BSD	106-43-4	p-Chlorotoluene	BSD	REC	101	%	78-122
MSH2428-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	111	%	62-128
MSH2428-BSD	124-48-1	Dibromochloromethane	BSD	REC	93	%	74-126
MSH2428-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	96	%	77-121
MSH2428-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	102	%	80-119
MSH2428-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	101	%	80-119
MSH2428-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	100	%	79-118
MSH2428-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	94	%	32-152
MSH2428-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	92	%	77-125
MSH2428-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	93	%	73-128
MSH2428-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	88	%	71-131
MSH2428-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	101	%	78-123
MSH2428-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	87	%	75-124
MSH2428-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	98	%	78-122
MSH2428-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	101	%	80-119
MSH2428-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	104	%	60-139
MSH2428-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	89	%	79-125
MSH2428-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	113	%	75-124
MSH2428-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	97	%	73-127
MSH2428-BSD	100-41-4	Ethylbenzene	BSD	REC	100	%	79-121
MSH2428-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	111	%	66-134
MSH2428-BSD	591-78-6	2-Hexanone	BSD	REC	92	%	57-139
MSH2428-BSD	74-88-4	Iodomethane	BSD	REC	106	%	69-131
MSH2428-BSD	98-82-8	Isopropylbenzene	BSD	REC	99	%	72-131
MSH2428-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	105	%	77-127
MSH2428-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	98	%	71-124
MSH2428-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	99	%	67-130
MSH2428-BSD	74-95-3	Methylene bromide	BSD	REC	99	%	79-123
MSH2428-BSD	75-09-2	Methylene chloride	BSD	REC	96	%	74-124
MSH2428-BSD	91-20-3	Naphthalene	BSD	REC	98	%	61-128
MSH2428-BSD	103-65-1	n-Propylbenzene	BSD	REC	98	%	76-126
MSH2428-BSD	100-42-5	Styrene	BSD	REC	101	%	78-123
MSH2428-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	105	%	78-124
MSH2428-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	97	%	71-121
MSH2428-BSD	127-18-4	Tetrachloroethene	BSD	REC	98	%	74-129
MSH2428-BSD	108-88-3	Toluene	BSD	REC	100	%	80-121
MSH2428-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	104	%	69-129
MSH2428-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	104	%	69-130
MSH2428-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	98	%	74-131
MSH2428-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	98	%	80-119
MSH2428-BSD	79-01-6	Trichloroethene	BSD	REC	97	%	79-123
MSH2428-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	97	%	65-141
MSH2428-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	99	%	73-122

* Sample used for QC is not from job MC39667

QC Evaluation: DOD QSM5 Limits

Job Number: MC39667
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSH2428-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	101	%	76-124
MSH2428-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	104	%	75-124
MSH2428-BSD	108-05-4	Vinyl Acetate	BSD	REC	132	%	54-146
MSH2428-BSD	75-01-4	Vinyl chloride	BSD	REC	101	%	58-137
MSH2428-BSD		m,p-Xylene	BSD	REC	102	%	80-121
MSH2428-BSD	95-47-6	o-Xylene	BSD	REC	99	%	78-122
MSH2428-BSD	1330-20-7	Xylene (total)	BSD	REC	101	%	79-121
MSH2428-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	99	%	80-119
MSH2428-BSD	2037-26-5	Toluene-D8	BSD	SURR	99	%	89-112
MSH2428-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	97	%	85-114
MSH2428-MB	1868-53-7	Dibromofluoromethane	MB	SURR	98	%	80-119
MSH2428-MB	2037-26-5	Toluene-D8	MB	SURR	100	%	89-112
MSH2428-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	96	%	85-114
MC39667-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC39667-1	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC39667-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC39667-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	101	%	80-119
MC39667-2	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
MC39667-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	93	%	85-114
MC39667-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	100	%	80-119
MC39667-3	2037-26-5	Toluene-D8	SAMP	SURR	98	%	89-112
MC39667-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
MC39667-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC39667-4	2037-26-5	Toluene-D8	SAMP	SURR	104	%	89-112
MC39667-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC39667-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC39667-5	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
MC39667-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC39667-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC39667-6	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC39667-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MP24791	SW846 7470A						
MP24791-B1	7439-97-6	Mercury	BSP	REC	100	%	82-119
MP24791-S1	7439-97-6	Mercury	MS	REC	103.3	%	82-119
MP24791-S2	7439-97-6	Mercury	MSD	REC	106.7	%	82-119
MP24791-S2	7439-97-6	Mercury	MSD	RPD	3.2	%	20
MP24797	SW846 7470A						
MP24797-B1	7439-97-6	Mercury	BSP	REC	103.3	%	82-119
MP24797-S1*	7439-97-6	Mercury	MS	REC	103.3	%	82-119
MP24797-S2*	7439-97-6	Mercury	MSD	REC	106.7	%	82-119
MP24797-S2*	7439-97-6	Mercury	MSD	RPD	2	%	20

* Sample used for QC is not from job MC39667

QC Evaluation: DOD QSM5 Limits

Job Number: MC39667
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24800	SW846 6010C						
MP24800-B1	7429-90-5	Aluminum	BSP	REC	101	%	86-115
MP24800-B1	7440-36-0	Antimony	BSP	REC	103	%	88-113
MP24800-B1	7440-39-3	Barium	BSP	REC	101	%	88-113
MP24800-B1	7440-41-7	Beryllium	BSP	REC	100.6	%	89-112
MP24800-B1	7440-43-9	Cadmium	BSP	REC	102.8	%	88-113
MP24800-B1	7440-70-2	Calcium	BSP	REC	106	%	87-113
MP24800-B1	7440-47-3	Chromium	BSP	REC	102.2	%	90-113
MP24800-B1	7440-48-4	Cobalt	BSP	REC	102.8	%	89-114
MP24800-B1	7440-50-8	Copper	BSP	REC	98	%	86-114
MP24800-B1	7439-89-6	Iron	BSP	REC	103	%	87-115
MP24800-B1	7439-92-1	Lead	BSP	REC	102	%	86-113
MP24800-B1	7439-95-4	Magnesium	BSP	REC	106.4	%	85-113
MP24800-B1	7439-96-5	Manganese	BSP	REC	105	%	90-114
MP24800-B1	7440-02-0	Nickel	BSP	REC	103.8	%	88-113
MP24800-B1	7440-09-7	Potassium	BSP	REC	103.2	%	86-114
MP24800-B1	7782-49-2	Selenium	BSP	REC	103	%	83-114
MP24800-B1	7440-22-4	Silver	BSP	REC	96	%	84-115
MP24800-B1	7440-23-5	Sodium	BSP	REC	106.4	%	87-115
MP24800-B1	7440-28-0	Thallium	BSP	REC	103.2	%	85-114
MP24800-B1	7440-62-2	Vanadium	BSP	REC	101.6	%	90-111
MP24800-B1	7440-66-6	Zinc	BSP	REC	101.2	%	87-115
MP24800-S1*	7429-90-5	Aluminum	MS	REC	100.3	%	86-115
MP24800-S1*	7440-36-0	Antimony	MS	REC	104	%	88-113
MP24800-S1*	7440-39-3	Barium	MS	REC	100.8	%	88-113
MP24800-S1*	7440-41-7	Beryllium	MS	REC	100	%	89-112
MP24800-S1*	7440-43-9	Cadmium	MS	REC	103	%	88-113
MP24800-S1*	7440-70-2	Calcium	MS	REC	108	%	87-113
MP24800-S1*	7440-47-3	Chromium	MS	REC	101	%	90-113
MP24800-S1*	7440-48-4	Cobalt	MS	REC	103.2	%	89-114
MP24800-S1*	7440-50-8	Copper	MS	REC	98.4	%	86-114
MP24800-S1*	7439-89-6	Iron	MS	REC	101.9	%	87-115
MP24800-S1*	7439-92-1	Lead	MS	REC	102	%	86-113
MP24800-S1*	7439-95-4	Magnesium	MS	REC	105.4	%	85-113
MP24800-S1*	7439-96-5	Manganese	MS	REC	105.2	%	90-114
MP24800-S1*	7440-02-0	Nickel	MS	REC	103.9	%	88-113
MP24800-S1*	7440-09-7	Potassium	MS	REC	101.2	%	86-114
MP24800-S1*	7782-49-2	Selenium	MS	REC	104	%	83-114
MP24800-S1*	7440-22-4	Silver	MS	REC	97	%	84-115
MP24800-S1*	7440-23-5	Sodium	MS	REC	104	%	87-115
MP24800-S1*	7440-28-0	Thallium	MS	REC	101.6	%	85-114
MP24800-S1*	7440-62-2	Vanadium	MS	REC	101	%	90-111
MP24800-S1*	7440-66-6	Zinc	MS	REC	99.4	%	87-115

* Sample used for QC is not from job MC39667

QC Evaluation: DOD QSM5 Limits

Job Number: MC39667
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24800-S2*	7429-90-5	Aluminum	MSD	REC	100.3	%	86-115
MP24800-S2*	7429-90-5	Aluminum	MSD	RPD	0	%	20
MP24800-S2*	7440-36-0	Antimony	MSD	REC	103.8	%	88-113
MP24800-S2*	7440-36-0	Antimony	MSD	RPD	.2	%	20
MP24800-S2*	7440-39-3	Barium	MSD	REC	101.3	%	88-113
MP24800-S2*	7440-39-3	Barium	MSD	RPD	.5	%	20
MP24800-S2*	7440-41-7	Beryllium	MSD	REC	100.6	%	89-112
MP24800-S2*	7440-41-7	Beryllium	MSD	RPD	.6	%	20
MP24800-S2*	7440-43-9	Cadmium	MSD	REC	103	%	88-113
MP24800-S2*	7440-43-9	Cadmium	MSD	RPD	0	%	20
MP24800-S2*	7440-70-2	Calcium	MSD	REC	112	%	87-113
MP24800-S2*	7440-70-2	Calcium	MSD	RPD	.7	%	20
MP24800-S2*	7440-47-3	Chromium	MSD	REC	101.2	%	90-113
MP24800-S2*	7440-47-3	Chromium	MSD	RPD	.2	%	20
MP24800-S2*	7440-48-4	Cobalt	MSD	REC	103.4	%	89-114
MP24800-S2*	7440-48-4	Cobalt	MSD	RPD	.2	%	20
MP24800-S2*	7440-50-8	Copper	MSD	REC	98.4	%	86-114
MP24800-S2*	7440-50-8	Copper	MSD	RPD	0	%	20
MP24800-S2*	7439-89-6	Iron	MSD	REC	102.9	%	87-115
MP24800-S2*	7439-89-6	Iron	MSD	RPD	1	%	20
MP24800-S2*	7439-92-1	Lead	MSD	REC	102	%	86-113
MP24800-S2*	7439-92-1	Lead	MSD	RPD	0	%	20
MP24800-S2*	7439-95-4	Magnesium	MSD	REC	106.2	%	85-113
MP24800-S2*	7439-95-4	Magnesium	MSD	RPD	.6	%	20
MP24800-S2*	7439-96-5	Manganese	MSD	REC	104.8	%	90-114
MP24800-S2*	7439-96-5	Manganese	MSD	RPD	.3	%	20
MP24800-S2*	7440-02-0	Nickel	MSD	REC	103.9	%	88-113
MP24800-S2*	7440-02-0	Nickel	MSD	RPD	0	%	20
MP24800-S2*	7440-09-7	Potassium	MSD	REC	103.2	%	86-114
MP24800-S2*	7440-09-7	Potassium	MSD	RPD	1.8	%	20
MP24800-S2*	7782-49-2	Selenium	MSD	REC	104	%	83-114
MP24800-S2*	7782-49-2	Selenium	MSD	RPD	0	%	20
MP24800-S2*	7440-22-4	Silver	MSD	REC	97	%	84-115
MP24800-S2*	7440-22-4	Silver	MSD	RPD	0	%	20
MP24800-S2*	7440-23-5	Sodium	MSD	REC	106	%	87-115
MP24800-S2*	7440-23-5	Sodium	MSD	RPD	.9	%	20
MP24800-S2*	7440-28-0	Thallium	MSD	REC	101.6	%	85-114
MP24800-S2*	7440-28-0	Thallium	MSD	RPD	0	%	20
MP24800-S2*	7440-62-2	Vanadium	MSD	REC	101.2	%	90-111
MP24800-S2*	7440-62-2	Vanadium	MSD	RPD	.2	%	20
MP24800-S2*	7440-66-6	Zinc	MSD	REC	99.2	%	87-115
MP24800-S2*	7440-66-6	Zinc	MSD	RPD	.2	%	20
MP24800A	SW846 6020A						

* Sample used for QC is not from job MC39667

QC Evaluation: DOD QSM5 Limits

Job Number: MC39667
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP24800A-B1	7440-38-2	Arsenic	BSP	REC	108.2	%	84-116
MP24800A-S1*	7440-38-2	Arsenic	MS	REC	109.1	%	84-116
MP24800A-S2*	7440-38-2	Arsenic	MSD	REC	106.5	%	84-116
MP24800A-S2*	7440-38-2	Arsenic	MSD	RPD	2.4	%	20

* Sample used for QC is not from job MC39667

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC39667
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2428-MB	H73143.D	1	07/09/15	KD	n/a	n/a	MSH2428

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39667-1, MC39667-2, MC39667-3, MC39667-4, MC39667-5, MC39667-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC39667
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2428-MB	H73143.D	1	07/09/15	KD	n/a	n/a	MSH2428

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39667-1, MC39667-2, MC39667-3, MC39667-4, MC39667-5, MC39667-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC39667
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2428-MB	H73143.D	1	07/09/15	KD	n/a	n/a	MSH2428

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39667-1, MC39667-2, MC39667-3, MC39667-4, MC39667-5, MC39667-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	72-133%
2037-26-5	Toluene-D8	100%	85-114%
460-00-4	4-Bromofluorobenzene	96%	70-134%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39667
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2428-BS	H73140.D	1	07/09/15	KD	n/a	n/a	MSH2428
MSH2428-BSD	H73141.D	1	07/09/15	KD	n/a	n/a	MSH2428

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39667-1, MC39667-2, MC39667-3, MC39667-4, MC39667-5, MC39667-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	53.2	106	46.6	93	13	14-172/25
71-43-2	Benzene	50	50.7	101	47.7	95	6	68-127/25
108-86-1	Bromobenzene	50	52.0	104	49.4	99	5	74-124/25
74-97-5	Bromochloromethane	50	52.5	105	48.9	98	7	68-135/25
75-27-4	Bromodichloromethane	50	53.6	107	50.8	102	5	72-144/25
75-25-2	Bromoform	50	51.3	103	48.0	96	7	59-147/25
74-83-9	Bromomethane	50	52.7	105	50.2	100	5	34-175/25
78-93-3	2-Butanone (MEK)	50	56.0	112	50.3	101	11	43-147/25
104-51-8	n-Butylbenzene	50	55.6	111	53.2	106	4	77-136/25
135-98-8	sec-Butylbenzene	50	54.1	108	51.9	104	4	75-134/25
98-06-6	tert-Butylbenzene	50	53.5	107	51.7	103	3	74-132/25
75-15-0	Carbon disulfide	50	48.3	97	46.4	93	4	34-171/25
56-23-5	Carbon tetrachloride	50	53.6	107	50.8	102	5	55-153/25
108-90-7	Chlorobenzene	50	49.9	100	47.6	95	5	71-123/25
75-00-3	Chloroethane	50	55.8	112	53.6	107	4	58-175/25
67-66-3	Chloroform	50	51.4	103	48.7	97	5	67-136/25
74-87-3	Chloromethane	50	63.3	127	55.9	112	12	25-182/25
95-49-8	o-Chlorotoluene	50	51.8	104	49.5	99	5	72-130/25
106-43-4	p-Chlorotoluene	50	52.3	105	50.3	101	4	73-127/25
96-12-8	1,2-Dibromo-3-chloropropane	50	61.8	124	55.5	111	11	50-159/25
124-48-1	Dibromochloromethane	50	49.2	98	46.6	93	5	73-139/25
106-93-4	1,2-Dibromoethane	50	52.5	105	48.2	96	9	69-132/25
95-50-1	1,2-Dichlorobenzene	50	53.9	108	51.0	102	6	77-125/25
541-73-1	1,3-Dichlorobenzene	50	53.0	106	50.3	101	5	77-124/25
106-46-7	1,4-Dichlorobenzene	50	52.7	105	49.8	100	6	73-128/25
75-71-8	Dichlorodifluoromethane	50	48.3	97	46.8	94	3	23-157/25
75-34-3	1,1-Dichloroethane	50	48.3	97	46.0	92	5	63-145/25
107-06-2	1,2-Dichloroethane	50	49.9	100	46.6	93	7	58-145/25
75-35-4	1,1-Dichloroethene	50	46.8	94	44.1	88	6	56-158/25
156-59-2	cis-1,2-Dichloroethene	50	53.0	106	50.4	101	5	67-133/25
156-60-5	trans-1,2-Dichloroethene	50	45.2	90	43.5	87	4	66-136/25
78-87-5	1,2-Dichloropropane	50	51.4	103	49.2	98	4	75-133/25
142-28-9	1,3-Dichloropropane	50	54.8	110	50.7	101	8	70-127/25
594-20-7	2,2-Dichloropropane	50	55.6	111	52.1	104	6	52-163/25
563-58-6	1,1-Dichloropropene	50	46.6	93	44.7	89	4	77-140/25
10061-01-5	cis-1,3-Dichloropropene	50	58.8	118	56.3	113	4	74-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39667
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2428-BS	H73140.D	1	07/09/15	KD	n/a	n/a	MSH2428
MSH2428-BSD	H73141.D	1	07/09/15	KD	n/a	n/a	MSH2428

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39667-1, MC39667-2, MC39667-3, MC39667-4, MC39667-5, MC39667-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	51.9	104	48.5	97	7	77-143/25
100-41-4	Ethylbenzene	50	52.0	104	49.9	100	4	71-129/25
87-68-3	Hexachlorobutadiene	50	57.3	115	55.3	111	4	64-146/25
591-78-6	2-Hexanone	50	51.4	103	45.8	92	12	22-163/25
74-88-4	Iodomethane	50	55.2	110	53.0	106	4	30-166/25
98-82-8	Isopropylbenzene	50	51.7	103	49.6	99	4	72-133/25
99-87-6	p-Isopropyltoluene	50	55.1	110	52.7	105	4	77-134/25
1634-04-4	Methyl Tert Butyl Ether	50	53.5	107	48.8	98	9	46-151/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	55.5	111	49.5	99	11	47-145/25
74-95-3	Methylene bromide	50	53.1	106	49.6	99	7	70-132/25
75-09-2	Methylene chloride	50	50.7	101	48.1	96	5	55-146/25
91-20-3	Naphthalene	50	54.7	109	49.1	98	11	39-176/25
103-65-1	n-Propylbenzene	50	51.0	102	49.2	98	4	74-134/25
100-42-5	Styrene	50	52.5	105	50.4	101	4	71-134/25
630-20-6	1,1,1,2-Tetrachloroethane	50	55.0	110	52.5	105	5	70-137/25
79-34-5	1,1,2,2-Tetrachloroethane	50	54.2	108	48.7	97	11	58-145/25
127-18-4	Tetrachloroethene	50	50.7	101	49.1	98	3	63-137/25
108-88-3	Toluene	50	52.9	106	50.1	100	5	75-126/25
87-61-6	1,2,3-Trichlorobenzene	50	55.2	110	51.9	104	6	27-181/25
120-82-1	1,2,4-Trichlorobenzene	50	55.2	110	51.9	104	6	40-176/25
71-55-6	1,1,1-Trichloroethane	50	51.4	103	48.9	98	5	68-144/25
79-00-5	1,1,2-Trichloroethane	50	53.1	106	48.8	98	8	72-133/25
79-01-6	Trichloroethene	50	50.9	102	48.4	97	5	73-126/25
75-69-4	Trichlorofluoromethane	50	51.2	102	48.6	97	5	43-152/25
96-18-4	1,2,3-Trichloropropane	50	54.9	110	49.5	99	10	58-141/25
95-63-6	1,2,4-Trimethylbenzene	50	52.4	105	50.3	101	4	76-129/25
108-67-8	1,3,5-Trimethylbenzene	50	54.0	108	51.9	104	4	71-127/25
108-05-4	Vinyl Acetate	50	72.8	146	66.1	132	10	10-170/25
75-01-4	Vinyl chloride	50	52.2	104	50.4	101	4	36-167/25
	m,p-Xylene	100	107	107	102	102	5	68-130/25
95-47-6	o-Xylene	50	51.8	104	49.6	99	4	69-126/25
1330-20-7	Xylene (total)	150	158	105	152	101	4	67-129/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC39667
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2428-BS	H73140.D	1	07/09/15	KD	n/a	n/a	MSH2428
MSH2428-BSD	H73141.D	1	07/09/15	KD	n/a	n/a	MSH2428

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC39667-1, MC39667-2, MC39667-3, MC39667-4, MC39667-5, MC39667-6

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	100%	99%	72-133%
2037-26-5	Toluene-D8	100%	99%	85-114%
460-00-4	4-Bromofluorobenzene	97%	97%	70-134%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC39667
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC39667-1	H73156.D	102	102	97
MC39667-2	H73151.D	101	99	93
MC39667-3	H73152.D	100	98	94
MC39667-4	H73153.D	102	104	95
MC39667-5	H73154.D	102	99	95
MC39667-6	H73155.D	102	101	96
MSH2428-BS	H73140.D	100	100	97
MSH2428-BSD	H73141.D	99	99	97
MSH2428-MB	H73143.D	98	100	96

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	72-133%
S2 = Toluene-D8	85-114%
S3 = 4-Bromofluorobenzene	70-134%

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC39667
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1506-MB	BA22148.D	1	07/02/15	AF	n/a	n/a	GBA1506

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39667-5, MC39667-6

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC39667
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1506-BSP	BA22149.D	1	07/02/15	AF	n/a	n/a	GBA1506

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39667-5, MC39667-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	91.3	103	50-150
74-84-0	Ethane	166	174	105	50-150
74-85-1	Ethene	155	180	116	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC39667
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC39699-1DUP	BA22154.D	1	07/02/15	AF	n/a	n/a	GBA1506
MC39699-1	BA22153.D	1	07/02/15	AF	n/a	n/a	GBA1506

The QC reported here applies to the following samples: **Method:** VRSK 175

MC39667-5, MC39667-6

CAS No.	Compound	MC39699-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	4.4		4.2		5	30
74-84-0	Ethane	ND		ND		nc	30
74-85-1	Ethene	ND		ND		nc	30

* = Outside of Control Limits.

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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24791
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:					06/29/15		06/29/15		06/29/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Mercury	0.20	.038	.096	-0.0081	<0.20	-0.033	<0.20	-0.040	<0.20

Associated samples MP24791: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24791
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/29/15

Metal	MC39667-1F Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.1	3	103.3	75-125

Associated samples MP24791: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24791
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/29/15

Metal	MC39667-1F Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.2	3	106.7	3.2	20

Associated samples MP24791: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24791
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/29/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits
Mercury	3.0	3	100.0	80-120

Associated samples MP24791: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24797
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:					06/30/15		06/30/15
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Mercury	0.20	.038	.096	0.016	<0.20	0.021	<0.20

Associated samples MP24797: MC39667-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24797
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5 Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	1.9	5.0	3	103.3	75-125

Associated samples MP24797: MC39667-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24797
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5 Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	1.9	5.1	3	106.7	2.0	20

Associated samples MP24797: MC39667-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.2.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24797
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/30/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits
Mercury	3.1	3	103.3	80-120

Associated samples MP24797: MC39667-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/30/15 06/30/15

Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Aluminum	200	14	28	12.1	<200	-5.3	<200
Antimony	6.0	1.1	2	-0.30	<6.0	0.40	<6.0
Arsenic	4.0	1.6	1.7				
Barium	50	.35	1	0.10	<50	-0.10	<50
Beryllium	4.0	.15	.25	0.10	<4.0	0.0	<4.0
Bismuth	50	1.3	2.1				
Boron	100	.9	1.1				
Cadmium	4.0	.16	.43	0.10	<4.0	0.0	<4.0
Calcium	5000	6.9	15	8.1	<5000	29.3	<5000
Chromium	10	.36	.48	0.0	<10	0.0	<10
Cobalt	50	.15	.28	0.0	<50	-0.10	<50
Copper	25	.59	2.4	-0.10	<25	0.20	<25
Gold	50	1.1	1.5				
Iron	100	3.3	17	2.2	<100	12.6	<100
Lead	5.0	.78	1.7	0.40	<5.0	0.10	<5.0
Lithium	500	2.3	2.5				
Magnesium	5000	23	54	-11	<5000	-2.9	<5000
Manganese	15	.056	1.4	0.10	<15	0.50	<15
Molybdenum	100	1.7	3.6				
Nickel	40	.21	.5	0.0	<40	0.0	<40
Palladium	50	.92	2.6				
Platinum	50	4.6	5.4				
Potassium	5000	41	49	10.1	<5000	10.8	<5000
Selenium	10	1.5	2	1.0	<10	0.20	<10
Silicon	100	1.1	30				
Silver	5.0	.56	1	0.10	<5.0	-0.10	<5.0
Sodium	5000	17	77	55.1	<5000	114	<5000
Sulfur	50	2.3	4.6				
Strontium	10	.2	.22				
Thallium	5.0	.54	1.7	-1.3	<5.0	-0.90	<5.0
Tin	100	.39	.81				
Titanium	50	.34	.51				
Tungsten	100	3.1	22				

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Prep Date:					06/30/15		06/30/15
Vanadium	10	.61	.51	0.20	<10	0.10	<10
Zinc	20	.53	1	0.50	<20	0.90	<20
Zirconium	50	.19	1.2				

Associated samples MP24800: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-4F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	68.1	10100	10000	100.3	75-125
Antimony	0.0	520	500	104.0	75-125
Arsenic					
Barium	14.8	2030	2000	100.8	75-125
Beryllium	0.0	500	500	100.0	75-125
Bismuth					
Boron					
Cadmium	0.0	515	500	103.0	75-125
Calcium	112000	139000	25000	108.0	75-125
Chromium	0.0	505	500	101.0	75-125
Cobalt	0.0	516	500	103.2	75-125
Copper	0.0	492	500	98.4	75-125
Gold					
Iron	6.6	10200	10000	101.9	75-125
Lead	0.0	1020	1000	102.0	75-125
Lithium					
Magnesium	7250	33600	25000	105.4	75-125
Manganese	112	638	500	105.2	75-125
Molybdenum					
Nickel	1.5	521	500	103.9	75-125
Palladium					
Platinum					
Potassium	2590	27900	25000	101.2	75-125
Selenium	0.0	520	500	104.0	75-125
Silicon					
Silver	0.0	194	200	97.0	75-125
Sodium	29400	55400	25000	104.0	75-125
Sulfur					
Strontium					
Thallium	0.0	508	500	101.6	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	0.0	505	500	101.0	75-125
Zinc	2.9	500	500	99.4	75-125
Zirconium					

Associated samples MP24800: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-4F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	68.1	10100	10000	100.3	0.0	20
Antimony	0.0	519	500	103.8	0.2	20
Arsenic						
Barium	14.8	2040	2000	101.3	0.5	20
Beryllium	0.0	503	500	100.6	0.6	20
Bismuth						
Boron						
Cadmium	0.0	515	500	103.0	0.0	20
Calcium	112000	140000	25000	112.0	0.7	20
Chromium	0.0	506	500	101.2	0.2	20
Cobalt	0.0	517	500	103.4	0.2	20
Copper	0.0	492	500	98.4	0.0	20
Gold						
Iron	6.6	10300	10000	102.9	1.0	20
Lead	0.0	1020	1000	102.0	0.0	20
Lithium						
Magnesium	7250	33800	25000	106.2	0.6	20
Manganese	112	636	500	104.8	0.3	20
Molybdenum						
Nickel	1.5	521	500	103.9	0.0	20
Palladium						
Platinum						
Potassium	2590	28400	25000	103.2	1.8	20
Selenium	0.0	520	500	104.0	0.0	20
Silicon						
Silver	0.0	194	200	97.0	0.0	20
Sodium	29400	55900	25000	106.0	0.9	20
Sulfur						
Strontium						
Thallium	0.0	508	500	101.6	0.0	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	0.0	506	500	101.2	0.2	20
Zinc	2.9	499	500	99.2	0.2	20
Zirconium						

Associated samples MP24800: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-4F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/30/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	10100	10000	101.0	80-120
Antimony	515	500	103.0	80-120
Arsenic				
Barium	2020	2000	101.0	80-120
Beryllium	503	500	100.6	80-120
Bismuth				
Boron				
Cadmium	514	500	102.8	80-120
Calcium	26500	25000	106.0	80-120
Chromium	511	500	102.2	80-120
Cobalt	514	500	102.8	80-120
Copper	490	500	98.0	80-120
Gold				
Iron	10300	10000	103.0	80-120
Lead	1020	1000	102.0	80-120
Lithium				
Magnesium	26600	25000	106.4	80-120
Manganese	525	500	105.0	80-120
Molybdenum				
Nickel	519	500	103.8	80-120
Palladium				
Platinum				
Potassium	25800	25000	103.2	80-120
Selenium	515	500	103.0	80-120
Silicon				
Silver	192	200	96.0	80-120
Sodium	26600	25000	106.4	80-120
Sulfur				
Strontium				
Thallium	516	500	103.2	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/30/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	508	500	101.6	80-120
Zinc	506	500	101.2	80-120
Zirconium				

Associated samples MP24800: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-4F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5F Original	SDL 1:5	%DIF	QC Limits
Aluminum	68.1	108	57.9 (a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	14.8	14.8	0.0	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	112000	115000	2.2	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	0.00	0.00	NC	0-10
Gold				
Iron	6.60	0.00	100.0(a)	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	7250	7410	2.3	0-10
Manganese	112	116	3.5	0-10
Molybdenum				
Nickel	1.50	1.80	20.0 (a)	0-10
Palladium				
Platinum				
Potassium	2590	2620	1.3	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	29400	30200	2.7	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5F Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.00	0.00	NC	0-10
Zinc	2.90	7.30	151.7(a)	0-10
Zirconium				

Associated samples MP24800: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-4F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.3.4

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/30/15 06/30/15

Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Aluminum	50	1.3	4.4				
Antimony	4.0	.022	.058				
Arsenic	4.0	.046	.42	0.74	<4.0	0.77	<4.0
Barium	2.0	.016	.076				
Beryllium	1.0	.015	.042				
Boron	10	.24	.34				
Cadmium	2.0	.012	.026				
Calcium	500	4.2	30				
Chromium	8.0	.032	.42				
Cobalt	1.0	.0064	.028				
Copper	8.0	.017	1				
Iron	50	.72	3.4				
Lead	2.0	.013	.036				
Magnesium	500	1.4	2				
Manganese	4.0	.0096	1.2				
Molybdenum	2.0	.028	.24				
Nickel	4.0	.015	.14				
Potassium	500	3.4	5.2				
Selenium	2.0	.15	.3				
Silver	2.0	.0088	.022				
Sodium	500	2	8.8				
Strontium	20	.01	.026				
Thallium	2.0	.042	.068				
Tin	10	.015	.048				
Titanium	2.0	.2	.26				
Vanadium	20	.2	1.4				
Zinc	10	.066	2				

Associated samples MP24800A: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-4F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	3.7	549	500	109.1	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP24800A: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-4F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.4.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	3.7	536	500	106.5	2.4	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP24800A: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-4F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/30/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	541	500	108.2	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24800A: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-4F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP24800A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 06/30/15

Metal	MC39713-5F Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	3.71	3.20	13.7 (a)	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP24800A: MC39667-1F, MC39667-2F, MC39667-3F, MC39667-4F, MC39667-5F, MC39667-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

New England
ACCUTEST
LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN51055	5.0	0.0	mg/l	250	254	101.6	80-120%
Nitrogen, Nitrate + Nitrite	GP19320/GN51110	0.10	0.026	mg/l	2	2.04	102.0	90-110%
Nitrogen, Nitrite	GP19296/GN51046	0.010	0.0	mg/l	.02	0.019	95.0	80-120%
Sulfide	GN51095	2.0	0.0	mg/l	13.4	12.4	92.5	80-120%
Total Organic Carbon	GP19317/GN51117	1.0	0.0	mg/l	10	10.0	100.0	80-120%

Associated Samples:
Batch GN51055: MC39667-5, MC39667-6
Batch GN51095: MC39667-5, MC39667-6
Batch GP19296: MC39667-5, MC39667-6
Batch GP19317: MC39667-5, MC39667-6
Batch GP19320: MC39667-5, MC39667-6
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN51055	MC39548-1	mg/l	252	253	0.4	0-20%
Nitrogen, Nitrate + Nitrite	GP19320/GN51110	MC39533-3	mg/l	0.065	0.059	9.7	0-20%
Nitrogen, Nitrite	GP19296/GN51046	MC39667-6	mg/l	0.010	0.010	0.0	0-20%
Sulfide	GN51095	MC39667-5	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN51055: MC39667-5, MC39667-6
Batch GN51095: MC39667-5, MC39667-6
Batch GP19296: MC39667-5, MC39667-6
Batch GP19320: MC39667-5, MC39667-6
(*) Outside of QC limits

9.2

9

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN51055	MC39548-1	mg/l	252	250	501	99.6	75-125%
Nitrogen, Nitrate + Nitrite	GP19320/GN51110	MC39533-3	mg/l	0.065	2	2.1	101.8	90-110%
Nitrogen, Nitrite	GP19296/GN51046	MC39667-6	mg/l	0.010	.02	0.030	100.0	75-125%
Sulfide	GN51095	MC39667-5	mg/l	0.34 U	13.4	11.6	86.6	75-125%
Total Organic Carbon	GP19317/GN51117	MC39533-3	mg/l	3.2	10	13.6	104.0	75-125%

Associated Samples:
Batch GN51055: MC39667-5, MC39667-6
Batch GN51095: MC39667-5, MC39667-6
Batch GP19296: MC39667-5, MC39667-6
Batch GP19317: MC39667-5, MC39667-6
Batch GP19320: MC39667-5, MC39667-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39667
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19317/GN51117	MC39533-3	mg/l	3.2	10	13.2	3.0	

Associated Samples:
Batch GP19317: MC39667-5, MC39667-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

GW

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC39667
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information	Subcontract Laboratory Information
Name: Accutest New England	Name: Accutest - New Jersey
Address: 50 D'Angelo Drive	Address: 2235 Route 130
City: Marlborough State: MA Zip: 01752	City: Dayton State: NJ Zip: 08810
Send Report to: FrankD@accutest.com	Contact: Sample Management
Any questions contact: Frank D'Agostino	
Phone/Fax #: (508)481-6200 / (508)481-7753	Phone: (732) 329-0200

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300						Comments
MC39667 -5	6/26/15	11:20 AM		GW	1					x	X						
MC39667 -6	6/26/15	9:15 AM		GW	1					x	X						MA

Turnaround:
[x] STD — 7/11/15
[ ] Other ______ (Days) — *Please notify Accutest if surcharges are applied.

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information
[ ] Commercial "A" [ ] PDF
[ ] Commercial "B" [ ] Compact Disk Deliverable
[X] Commercial "BN" [ ] Electronic Delivery:
[ ] Reduced Tier 1 [ ] State Forms
[ ] Full Tier 1 [ ] Other (Specify)

Comments / Remarks
All DW samples are subject to MCL compliance reporting

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1 NW	6/29/15	1 FED EX	1
2 FedEx	6/30/15 10:15	2 DL	2 6/30/15 1015
3		3	3

Seal #: ——
Headspace: Yes | No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C 2.2°C IP — On Ice [x]

Trk# 6406 1312 4772

INITIAL ASESSMENT CIL2A

sm022-01 (10/30/14)

LABEL VERIFICATION MA

10.1 10

MC39667: Chain of Custody
Page 1 of 2
Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC39667 **Client:** **Project:**

Date / Time Received: 6/30/2015 10:15:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (2.2);

Cooler Temps (Corrected) °C: Cooler 1: (1.9);

Cooler Security

	Y	N
1. Custody Seals Present:	✔	☐
2. Custody Seals Intact:	✔	☐
3. COC Present:	✔	☐
4. Smpl Dates/Time OK	✔	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	✔	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	✔	☐
2. Trip Blank listed on COC:	☐	✔	☐
3. Samples preserved properly:	✔	☐	
4. VOCs headspace free:	☐	☐	✔

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	✔	☐
2. Container labeling complete:	✔	☐
3. Sample container label / COC agree:	✔	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	✔	☐
2. All containers accounted for:	✔	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	✔	☐	
2. Bottles received for unspecified tests	☐	✔	
3. Sufficient volume recvd for analysis:	✔	☐	
4. Compositing instructions clear:	☐	☐	✔
5. Filtering instructions clear:	☐	☐	✔

Comments

10.1

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MC39667: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC39667
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 06/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC39667

New England
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LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39667
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP90330/GN28336	2.0	0.92	mg/l	80	82.6	103.3	90-110%
Sulfate	GP90330/GN28336	10	1.5	mg/l	80	78.8	98.5	90-110%

Associated Samples:
Batch GP90330: MC39667-5, MC39667-6
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39667
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP90330/GN28336	JB98233-11	mg/l	224	225	0.0	0-20%
Sulfate	GP90330/GN28361	JB98233-11	mg/l	1720	1710	17.1	0-20%

Associated Samples:
Batch GP90330: MC39667-5, MC39667-6
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC39667
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP90330/GN28336	JB98233-11	mg/l	224	80	303	97.5	80-120%
Sulfate	GP90330/GN28361	JB98233-11	mg/l	1720	1600	3460	108.8	80-120%

Associated Samples:
Batch GP90330: MC39667-5, MC39667-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

09/23/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

1024-011

Accutest Job Number: MC41332

Sampling Date: 09/09/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
eanderson@hsenv.com

ATTN: Elizabeth Anderson

Total number of pages in report: **96**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.

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Accutest Laboratories

Sample Summary

H&S Environmental

Job No: MC41332

Fort Devens, AOC50, Devens, MA
Project No: 1024-011

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC41332-1	09/09/15	15:05 EA	09/09/15	AQ	Ground Water	G6M-04-10X
MC41332-1F	09/09/15	15:05 EA	09/09/15	AQ	Groundwater Filtered	G6M-04-10X
MC41332-2	09/09/15	12:15 EA	09/09/15	AQ	Ground Water	G6M-02-08X
MC41332-2F	09/09/15	12:15 EA	09/09/15	AQ	Groundwater Filtered	G6M-02-08X
MC41332-3	09/09/15	14:10 EA	09/09/15	AQ	Ground Water	G6M-13-06X
MC41332-3F	09/09/15	14:10 EA	09/09/15	AQ	Groundwater Filtered	G6M-13-06X
MC41332-4	09/09/15	11:40 EA	09/09/15	AQ	Ground Water	G6M-93-13X
MC41332-4F	09/09/15	11:40 EA	09/09/15	AQ	Groundwater Filtered	G6M-93-13X

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	H&S Environmental	**Job No**	MC41332
Site:	Fort Devens, AOC50, Devens, MA	**Report Date**	9/23/2015 7:38:58 AM

4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 09/09/2015 and were received at Accutest on 09/09/2015 properly preserved, at 0.8 Deg. C and intact. These Samples received an Accutest job number of MC41332. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSG5458

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC41330-2MS, MC41330-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MC41330-2MS Recovery(s) for Styrene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC41332-2, 3: Elevated RL due to dilution required for matrix interference.
- MC41330-2MS/MSD Recovery(s) for 1,3,5-Trimethylbenzene and MC41330-2MSD Recovery(s) for Styrene are outside DoD control limits, but within in-house control limits.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1525

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC41332-1DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25142

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41432-2FMS, MC41432-2FMSD, MC41432-2FSDL were used as the QC samples for metals.
- MS/MSD Recovery(s) for Manganese are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Copper, Nickel, Silver, Vanadium, Zinc are outside control limits for sample MP25142-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MS/MSD for Sodium, Iron: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

Metals By Method SW846 6020A

Matrix: AQ	**Batch ID:** MP25142A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41432-2FMS, MC41432-2FMSD, MC41432-2FSDL were used as the QC samples for metals.

Metals By Method SW846 7470A

Matrix: AQ	**Batch ID:** MP25123

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41301-3MS, MC41301-3MSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	**Batch ID:** N:GP92019

- MC41332-1, 2, 3, 4 for Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	**Batch ID:** GP19562

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-1DUP, MC41374-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate + Nitrite are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

Matrix: AQ	**Batch ID:** R37211

- MC41332-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37212

- MC41332-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37213

- MC41332-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37214

- MC41332-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	**Batch ID:** GP19545

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41332-1DUP, MC41332-1MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ	**Batch ID:** GN51767

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41332-1DUP, MC41332-1MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SW846 9060

Matrix: AQ	**Batch ID:** GP19577

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41332-1MS, MC41332-1MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC41332).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Accutest Labs of New England, Inc.	**Job No**	MC41332
Site:	HSMAW: Fort Devens, AOC50, Devens, MA	**Report Date**	9/16/2015 12:50:09 P

On 09/12/2015, 4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3.8 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC41332 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP92019

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41332-1MS, MC41332-1DUP were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC41332-1	**G6M-04-10X**					
Tetrachloroethene		2.8	1.0	0.50	ug/l	SW846 8260C
Nitrogen, Nitrate [a]		0.92	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.92	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		34.7	10	0.50	mg/l	EPA 300/SW846 9056A
MC41332-1F	**G6M-04-10X**					
Aluminum		164 J	200	100	ug/l	SW846 6010C
Barium		244	50	25	ug/l	SW846 6010C
Calcium		32800	25000	13000	ug/l	SW846 6010C
Chromium		8.0 J	10	5.0	ug/l	SW846 6010C
Iron		114	100	50	ug/l	SW846 6010C
Magnesium		2810 J	5000	2500	ug/l	SW846 6010C
Manganese		383	15	7.5	ug/l	SW846 6010C
Potassium		6510	5000	2500	ug/l	SW846 6010C
Sodium		623000	250000	130000	ug/l	SW846 6010C
Zinc		26.6	20	10	ug/l	SW846 6010C
MC41332-2	**G6M-02-08X**					
Acetone [c]		239	200	100	ug/l	SW846 8260C
2-Butanone (MEK) [c]		670	200	100	ug/l	SW846 8260C
cis-1,2-Dichloroethene [c]		83.8	20	10	ug/l	SW846 8260C
Toluene [c]		166	20	10	ug/l	SW846 8260C
Methane		10600	200	100	ug/l	VRSK 175
Nitrogen, Nitrate [a]		0.078 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.078 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		15.8	10	0.50	mg/l	EPA 300/SW846 9056A
Sulfide		4.8	2.0	1.0	mg/l	SM21 4500 S F
Total Organic Carbon		976	50	41	mg/l	SW846 9060
MC41332-2F	**G6M-02-08X**					
Aluminum		527	200	100	ug/l	SW846 6010C
Antimony		3.6 J	6.0	3.0	ug/l	SW846 6010C
Arsenic		340	20	10	ug/l	SW846 6020A
Barium		345	50	25	ug/l	SW846 6010C
Calcium		38000	25000	13000	ug/l	SW846 6010C
Chromium		6.8 J	10	5.0	ug/l	SW846 6010C
Iron		428000	2500	1300	ug/l	SW846 6010C
Lead		2.9 J	5.0	2.5	ug/l	SW846 6010C
Magnesium		5040	5000	2500	ug/l	SW846 6010C
Manganese		8780	75	38	ug/l	SW846 6010C

Summary of Hits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

Lab Sample ID Client Sample ID Analyte	Result/ Qual	LOQ	LOD	Units	Method
Nickel	22.2 J	40	20	ug/l	SW846 6010C
Potassium	97900	25000	13000	ug/l	SW846 6010C
Sodium	77500	25000	13000	ug/l	SW846 6010C
Vanadium	14.0	10	5.0	ug/l	SW846 6010C
Zinc	34.5	20	10	ug/l	SW846 6010C
MC41332-3 G6M-13-06X					
Acetone [c]	123	50	25	ug/l	SW846 8260C
2-Butanone (MEK) [c]	193	50	25	ug/l	SW846 8260C
Toluene [c]	2.5 J	5.0	2.5	ug/l	SW846 8260C
Vinyl chloride [c]	4.0 J	5.0	2.5	ug/l	SW846 8260C
Methane	18200	200	100	ug/l	VRSK 175
Ethene	36.6	10	5.0	ug/l	VRSK 175
Nitrogen, Nitrate [a]	0.11	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.11	0.10	0.054	mg/l	EPA 353.2
Sulfide	6.5	2.0	1.0	mg/l	SM21 4500 S F
Total Organic Carbon	82.2	10	8.1	mg/l	SW846 9060
MC41332-3F G6M-13-06X					
Arsenic	511	20	10	ug/l	SW846 6020A
Barium	240	50	25	ug/l	SW846 6010C
Calcium	90700	50000	25000	ug/l	SW846 6010C
Cobalt	39.7 J	50	25	ug/l	SW846 6010C
Iron	269000	2000	1000	ug/l	SW846 6010C
Magnesium	23200	15000	7500	ug/l	SW846 6010C
Manganese	22500	150	75	ug/l	SW846 6010C
Potassium	41000	15000	7500	ug/l	SW846 6010C
Sodium	165000	50000	25000	ug/l	SW846 6010C
Vanadium	5.3 J	10	5.0	ug/l	SW846 6010C
MC41332-4 G6M-93-13X					
Sulfate [b]	49.6	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	1.7	1.0	0.81	mg/l	SW846 9060
MC41332-4F G6M-93-13X					
Barium	120	50	25	ug/l	SW846 6010C
Calcium	91900	50000	25000	ug/l	SW846 6010C
Chromium	5.3 J	10	5.0	ug/l	SW846 6010C
Magnesium	5380	5000	2500	ug/l	SW846 6010C
Manganese	207	15	7.5	ug/l	SW846 6010C
Nickel	44.1	40	20	ug/l	SW846 6010C

Summary of Hits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Potassium		17200	5000	2500	ug/l	SW846 6010C
Sodium		123000	50000	25000	ug/l	SW846 6010C

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.
(c) Elevated RL due to dilution required for matrix interference.

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Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-10X		
Lab Sample ID:	MC41332-1	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G145758.D	1	09/21/15	AD	n/a	n/a	MSG5458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: G6M-04-10X
Lab Sample ID: MC41332-1 **Date Sampled:** 09/09/15
Matrix: AQ - Ground Water **Date Received:** 09/09/15
Method: SW846 8260C **Percent Solids:** n/a
Project: Fort Devens, AOC50, Devens, MA

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	2.8	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-10X		
Lab Sample ID:	MC41332-1	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		80-116%
460-00-4	4-Bromofluorobenzene	107%		77-124%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10X		
Lab Sample ID:	MC41332-1	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22356.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5.0 U	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-10X			
Lab Sample ID:	MC41332-1		**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water		**Date Received:**	09/09/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.92	0.11	0.057	mg/l	1	09/15/15 14:07	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.92	0.10	0.054	mg/l	1	09/15/15 14:07	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/10/15 18:08	CF	SM 21 4500 NO2 B
Sulfate [b]	34.7	10	0.50	mg/l	1	09/15/15 21:53	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	0.81 U	1.0	0.81	mg/l	1	09/21/15 14:10	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-10X		
Lab Sample ID:	MC41332-1F	**Date Sampled:**	09/09/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	09/09/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	164 J	200	100	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Arsenic	2.0 U	4.0	2.0	ug/l	2	09/15/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	244	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Calcium	32800	25000	13000	ug/l	5	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Chromium	8.0 J	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Iron	114	100	50	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Magnesium	2810 J	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Manganese	383	15	7.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/10/15	09/11/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	20 U	40	20	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Potassium	6510	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Sodium	623000	250000	130000	ug/l	50	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Zinc	26.6	20	10	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18453
(2) Instrument QC Batch: MA18468
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25123
(5) Prep QC Batch: MP25142
(6) Prep QC Batch: MP25142A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-08X			
Lab Sample ID:	MC41332-2		**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water		**Date Received:**	09/09/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G145759.D	20	09/21/15	AD	n/a	n/a	MSG5458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	239	200	100	ug/l	
71-43-2	Benzene	10 U	10	10	ug/l	
108-86-1	Bromobenzene	20 U	100	20	ug/l	
74-97-5	Bromochloromethane	10 U	100	10	ug/l	
75-27-4	Bromodichloromethane	10 U	20	10	ug/l	
75-25-2	Bromoform	10 U	20	10	ug/l	
74-83-9	Bromomethane	20 U	40	20	ug/l	
78-93-3	2-Butanone (MEK)	670	200	100	ug/l	
104-51-8	n-Butylbenzene	20 U	100	20	ug/l	
135-98-8	sec-Butylbenzene	20 U	100	20	ug/l	
98-06-6	tert-Butylbenzene	20 U	100	20	ug/l	
75-15-0	Carbon disulfide	10 U	100	10	ug/l	
56-23-5	Carbon tetrachloride	10 U	20	10	ug/l	
108-90-7	Chlorobenzene	10 U	20	10	ug/l	
75-00-3	Chloroethane	10 U	40	10	ug/l	
67-66-3	Chloroform	10 U	20	10	ug/l	
74-87-3	Chloromethane	20 U	40	20	ug/l	
95-49-8	o-Chlorotoluene	20 U	100	20	ug/l	
106-43-4	p-Chlorotoluene	20 U	100	20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	20 U	100	20	ug/l	
124-48-1	Dibromochloromethane	10 U	20	10	ug/l	
106-93-4	1,2-Dibromoethane	20 U	20	20	ug/l	
95-50-1	1,2-Dichlorobenzene	10 U	20	10	ug/l	
541-73-1	1,3-Dichlorobenzene	10 U	20	10	ug/l	
106-46-7	1,4-Dichlorobenzene	10 U	20	10	ug/l	
75-71-8	Dichlorodifluoromethane	20 U	40	20	ug/l	
75-34-3	1,1-Dichloroethane	10 U	20	10	ug/l	
107-06-2	1,2-Dichloroethane	10 U	20	10	ug/l	
75-35-4	1,1-Dichloroethene	10 U	20	10	ug/l	
156-59-2	cis-1,2-Dichloroethene	83.8	20	10	ug/l	
156-60-5	trans-1,2-Dichloroethene	10 U	20	10	ug/l	
78-87-5	1,2-Dichloropropane	10 U	40	10	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-08X			
Lab Sample ID:	MC41332-2		**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water		**Date Received:**	09/09/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	20 U	100	20	ug/l	
594-20-7	2,2-Dichloropropane	40 U	100	40	ug/l	
563-58-6	1,1-Dichloropropene	10 U	100	10	ug/l	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	10	ug/l	
10061-02-6	trans-1,3-Dichloropropene	10 U	10	10	ug/l	
100-41-4	Ethylbenzene	10 U	20	10	ug/l	
87-68-3	Hexachlorobutadiene	20 U	100	20	ug/l	
591-78-6	2-Hexanone	100 U	200	100	ug/l	
74-88-4	Iodomethane	20 U	100	20	ug/l	
98-82-8	Isopropylbenzene	20 U	100	20	ug/l	
99-87-6	p-Isopropyltoluene	20 U	100	20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	10 U	20	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	40 U	100	40	ug/l	
74-95-3	Methylene bromide	20 U	100	20	ug/l	
75-09-2	Methylene chloride	20 U	40	20	ug/l	
91-20-3	Naphthalene	40 U	100	40	ug/l	
103-65-1	n-Propylbenzene	20 U	100	20	ug/l	
100-42-5	Styrene	10 U	100	10	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	10 U	20	10	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	10	ug/l	
127-18-4	Tetrachloroethene	10 U	20	10	ug/l	
108-88-3	Toluene	166	20	10	ug/l	
87-61-6	1,2,3-Trichlorobenzene	40 U	100	40	ug/l	
120-82-1	1,2,4-Trichlorobenzene	20 U	100	20	ug/l	
71-55-6	1,1,1-Trichloroethane	10 U	20	10	ug/l	
79-00-5	1,1,2-Trichloroethane	10 U	20	10	ug/l	
79-01-6	Trichloroethene	10 U	20	10	ug/l	
75-69-4	Trichlorofluoromethane	20 U	20	20	ug/l	
96-18-4	1,2,3-Trichloropropane	20 U	100	20	ug/l	
95-63-6	1,2,4-Trimethylbenzene	10 U	100	10	ug/l	
108-67-8	1,3,5-Trimethylbenzene	10 U	100	10	ug/l	
108-05-4	Vinyl Acetate	40 U	100	40	ug/l	
75-01-4	Vinyl chloride	10 U	20	10	ug/l	
	m,p-Xylene	20 U	20	20	ug/l	
95-47-6	o-Xylene	10 U	20	10	ug/l	
1330-20-7	Xylene (total)	10 U	20	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X		
Lab Sample ID:	MC41332-2	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		80-116%
460-00-4	4-Bromofluorobenzene	102%		77-124%

(a) Elevated RL due to dilution required for matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X		
Lab Sample ID:	MC41332-2	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22358.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2	BA22359.D	1	09/14/15	AF	n/a	n/a	GBA1525

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	10600 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X		
Lab Sample ID:	MC41332-2	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.078 J	0.11	0.057	mg/l	1	09/15/15 14:08	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.078 J	0.10	0.054	mg/l	1	09/15/15 14:08	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/10/15 18:08	CF	SM 21 4500 NO2 B
Sulfate [b]	15.8	10	0.50	mg/l	1	09/15/15 22:17	ANJ	EPA 300/SW846 9056A
Sulfide	4.8	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	976	50	41	mg/l	50	09/21/15 14:29	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-08X		
Lab Sample ID:	MC41332-2F	**Date Sampled:**	09/09/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	09/09/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	527	200	100	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.6 J	6.0	3.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Arsenic	340	20	10	ug/l	10	09/15/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	345	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Calcium	38000	25000	13000	ug/l	5	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Chromium	6.8 J	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Iron	428000	2500	1300	ug/l	25	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Lead	2.9 J	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Magnesium	5040	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Manganese	8780	75	38	ug/l	5	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/10/15	09/11/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	22.2 J	40	20	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Potassium	97900	25000	13000	ug/l	5	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Sodium	77500	25000	13000	ug/l	5	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Vanadium	14.0	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Zinc	34.5	20	10	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18453
(2) Instrument QC Batch: MA18468
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25123
(5) Prep QC Batch: MP25142
(6) Prep QC Batch: MP25142A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-06X		
Lab Sample ID:	MC41332-3	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G145760.D	5	09/21/15	AD	n/a	n/a	MSG5458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	123	50	25	ug/l	
71-43-2	Benzene	2.5 U	2.5	2.5	ug/l	
108-86-1	Bromobenzene	5.0 U	25	5.0	ug/l	
74-97-5	Bromochloromethane	2.5 U	25	2.5	ug/l	
75-27-4	Bromodichloromethane	2.5 U	5.0	2.5	ug/l	
75-25-2	Bromoform	2.5 U	5.0	2.5	ug/l	
74-83-9	Bromomethane	5.0 U	10	5.0	ug/l	
78-93-3	2-Butanone (MEK)	193	50	25	ug/l	
104-51-8	n-Butylbenzene	5.0 U	25	5.0	ug/l	
135-98-8	sec-Butylbenzene	5.0 U	25	5.0	ug/l	
98-06-6	tert-Butylbenzene	5.0 U	25	5.0	ug/l	
75-15-0	Carbon disulfide	2.5 U	25	2.5	ug/l	
56-23-5	Carbon tetrachloride	2.5 U	5.0	2.5	ug/l	
108-90-7	Chlorobenzene	2.5 U	5.0	2.5	ug/l	
75-00-3	Chloroethane	2.5 U	10	2.5	ug/l	
67-66-3	Chloroform	2.5 U	5.0	2.5	ug/l	
74-87-3	Chloromethane	5.0 U	10	5.0	ug/l	
95-49-8	o-Chlorotoluene	5.0 U	25	5.0	ug/l	
106-43-4	p-Chlorotoluene	5.0 U	25	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	25	5.0	ug/l	
124-48-1	Dibromochloromethane	2.5 U	5.0	2.5	ug/l	
106-93-4	1,2-Dibromoethane	5.0 U	5.0	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	2.5 U	5.0	2.5	ug/l	
541-73-1	1,3-Dichlorobenzene	2.5 U	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	2.5 U	5.0	2.5	ug/l	
75-71-8	Dichlorodifluoromethane	5.0 U	10	5.0	ug/l	
75-34-3	1,1-Dichloroethane	2.5 U	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	2.5 U	5.0	2.5	ug/l	
75-35-4	1,1-Dichloroethene	2.5 U	5.0	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethene	2.5 U	5.0	2.5	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.5 U	5.0	2.5	ug/l	
78-87-5	1,2-Dichloropropane	2.5 U	10	2.5	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-06X		
Lab Sample ID:	MC41332-3	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	5.0 U	25	5.0	ug/l	
594-20-7	2,2-Dichloropropane	10 U	25	10	ug/l	
563-58-6	1,1-Dichloropropene	2.5 U	25	2.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	2.5 U	2.5	2.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	2.5 U	2.5	2.5	ug/l	
100-41-4	Ethylbenzene	2.5 U	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	5.0 U	25	5.0	ug/l	
591-78-6	2-Hexanone	25 U	50	25	ug/l	
74-88-4	Iodomethane	5.0 U	25	5.0	ug/l	
98-82-8	Isopropylbenzene	5.0 U	25	5.0	ug/l	
99-87-6	p-Isopropyltoluene	5.0 U	25	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.5 U	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	10 U	25	10	ug/l	
74-95-3	Methylene bromide	5.0 U	25	5.0	ug/l	
75-09-2	Methylene chloride	5.0 U	10	5.0	ug/l	
91-20-3	Naphthalene	10 U	25	10	ug/l	
103-65-1	n-Propylbenzene	5.0 U	25	5.0	ug/l	
100-42-5	Styrene	2.5 U	25	2.5	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	2.5 U	5.0	2.5	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	2.5 U	2.5	2.5	ug/l	
127-18-4	Tetrachloroethene	2.5 U	5.0	2.5	ug/l	
108-88-3	Toluene	2.5	5.0	2.5	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	10 U	25	10	ug/l	
120-82-1	1,2,4-Trichlorobenzene	5.0 U	25	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	2.5 U	5.0	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	2.5 U	5.0	2.5	ug/l	
79-01-6	Trichloroethene	2.5 U	5.0	2.5	ug/l	
75-69-4	Trichlorofluoromethane	5.0 U	5.0	5.0	ug/l	
96-18-4	1,2,3-Trichloropropane	5.0 U	25	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	2.5 U	25	2.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	2.5 U	25	2.5	ug/l	
108-05-4	Vinyl Acetate	10 U	25	10	ug/l	
75-01-4	Vinyl chloride	4.0	5.0	2.5	ug/l	J
	m,p-Xylene	5.0 U	5.0	5.0	ug/l	
95-47-6	o-Xylene	2.5 U	5.0	2.5	ug/l	
1330-20-7	Xylene (total)	2.5 U	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		79-127%

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-06X			
Lab Sample ID:	MC41332-3		**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water		**Date Received:**	09/09/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		80-116%
460-00-4	4-Bromofluorobenzene	104%		77-124%

(a) Elevated RL due to dilution required for matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-06X		
Lab Sample ID:	MC41332-3	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22360.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2	BA22361.D	1	09/14/15	AF	n/a	n/a	GBA1525

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	18200 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	36.6	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-06X		
Lab Sample ID:	MC41332-3	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.11	0.11	0.057	mg/l	1	09/15/15 14:09	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.11	0.10	0.054	mg/l	1	09/15/15 14:09	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/10/15 18:08	CF	SM 21 4500 NO2 B
Sulfate [b]	0.50 U	10	0.50	mg/l	1	09/15/15 22:41	ANJ	EPA 300/SW846 9056A
Sulfide	6.5	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	82.2	10	8.1	mg/l	10	09/21/15 14:44	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-06X		
Lab Sample ID:	MC41332-3F	**Date Sampled:**	09/09/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	09/09/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Antimony	3.0 U	6.0	3.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Arsenic	511	20	10	ug/l	10	09/15/15	09/19/15	EAL	SW846 6020A 3	SW846 3010A 6
Barium	240	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Calcium	90700	50000	25000	ug/l	10	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Chromium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Cobalt	39.7 J	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Copper	13 U	25	13	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Iron	269000	2000	1000	ug/l	20	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Lead	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Magnesium	23200	15000	7500	ug/l	3	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Manganese	22500	150	75	ug/l	10	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Mercury	0.15 U	0.20	0.15	ug/l	1	09/10/15	09/11/15	EC	SW846 7470A 1	SW846 7470A 4
Nickel	20 U	40	20	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Potassium	41000	15000	7500	ug/l	3	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Selenium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Silver	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Sodium	165000	50000	25000	ug/l	10	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Thallium	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Vanadium	5.3 J	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5
Zinc	10 U	20	10	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C 2	SW846 3010A 5

(1) Instrument QC Batch: MA18453
(2) Instrument QC Batch: MA18468
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25123
(5) Prep QC Batch: MP25142
(6) Prep QC Batch: MP25142A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-93-13X		
Lab Sample ID:	MC41332-4	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G145761.D	1	09/21/15	AD	n/a	n/a	MSG5458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-93-13X			
Lab Sample ID:	MC41332-4		**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water		**Date Received:**	09/09/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-93-13X		
Lab Sample ID:	MC41332-4	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		80-116%
460-00-4	4-Bromofluorobenzene	105%		77-124%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-93-13X		
Lab Sample ID:	MC41332-4	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22362.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5.0 U	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-93-13X		
Lab Sample ID:	MC41332-4	**Date Sampled:**	09/09/15
Matrix:	AQ - Ground Water	**Date Received:**	09/09/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	09/15/15 14:11	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	09/15/15 14:11	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/10/15 18:08	CF	SM 21 4500 NO2 B
Sulfate [b]	49.6	10	0.50	mg/l	1	09/15/15 23:53	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	1.7	1.0	0.81	mg/l	1	09/21/15 15:00	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-93-13X			
Lab Sample ID:	MC41332-4F		**Date Sampled:**	09/09/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	09/09/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Arsenic	2.0 U	4.0	2.0	ug/l	2	09/15/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	120	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Calcium	91900	50000	25000	ug/l	10	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.3 J	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Magnesium	5380	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Manganese	207	15	7.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/10/15	09/11/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	44.1	40	20	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Potassium	17200	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Sodium	123000	50000	25000	ug/l	10	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18453
(2) Instrument QC Batch: MA18468
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25123
(5) Prep QC Batch: MP25142
(6) Prep QC Batch: MP25142A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

CHAIN OF CUSTODY

ACCUTEST Laboratories

50 D'Angelo Drive, 495 Technology Center West, Bldg 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # MC41332

Client / Reporting Information

Company Name	H&S Environmental, Inc.
Street Address	160 East Main St, Suite, 2F
City / State / Zip	Westborough MA 01581
Project Contact	Elizabeth Anderson
E-mail	eanderson@hsenv.com
Phone #	508-366-7442
Fax #	508-366-7445
Sampler(s) Name(s)	E Anderson/J Fitzgerald
Phone #	508-366-7442

Project Information

Project Name:	USACE Devens AOC 50
Street	Fitchburg Road
City / State	Devens MA
Project #	1024-011
Client Purchase Order #	1024-11
Project Manager	Elizabeth Anderson

Billing Information (if different from Report to)

Company Name	
Street Address	
City / State / Zip	
Attention:	

Requested Analysis (see TEST CODE sheet)

Matrix Codes
DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	VOC 8260B	Dissolved metals + Arsenic	Methane/Ethane/Ethene	Nitrogen, Nitrite	Nitrogen, Nitrate	Sulfide	Sulfate	TOC	LAB USE ONLY
-1F	G6M-04-10X		9/9/15	3:05	EA	GW	11	X	X		X					X	X	X	X	X	X	X	X	
-2F	G6M 02 08X		↓	12:15	EA	GW	↓	↓	↓		↓					↓	↓	↓	↓	↓	↓	↓	↓	
-3F	G6M 13 06X		↓	14:10	↓	GW	↓	↓	↓		↓					↓	↓	↓	↓	↓	↓	↓	↓	
-4F	G6M 93 13X		↓	1140	↓	GW	↓	↓	↓		↓					↓	↓	↓	↓	↓	↓	↓	↓	
						GW																		
						GW																		
						GW																		
						GW																		
						GW																		
						GW																		15B 5C,
						GW																		IN3

Turnaround Time (Business days)

- [ ] Std. 15 Business Days
- [x] Std. 10 Business Days (by Contract only)
- [ ] 10 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] EDD Format SEDD
- [ ] Other ________

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Note project requires ADR.net checking and SEDD format

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	9/9/15	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ / On Ice ☐ / Cooler Temp. 0.8 C

MC41332: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC41332 **Client:** H&S **Project:** USACE DEVENS AOC 50

Date / Time Received: 9/9/2015 4:45:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (0.8/0.8);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	✔	☐	3. COC Present:	✔	☐
2. Custody Seals Intact:	✔	☐	4. Smpl Dates/Time OK	✔	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	✔	☐
2. Thermometer ID:	G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	✔	☐
2. Trip Blank listed on COC:	☐	✔	☐
3. Samples preserved properly:	✔	☐	
4. VOCs headspace free:	✔	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	✔	☐
2. Container labeling complete:	✔	☐
3. Sample container label / COC agree:	✔	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	✔	☐
2. All containers accounted for:	✔	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	✔	☐	
2. Bottles received for unspecified tests	☐	✔	
3. Sufficient volume recvd for analysis:	✔	☐	
4. Compositing instructions clear:	☐	☐	✔
5. Filtering instructions clear:	☐	☐	✔

Comments

5.1
5

MC41332: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSG5458	SW846 8260C						
MSG5458-BS	67-64-1	Acetone	BSP	REC	119	%	39-160
MSG5458-BS	71-43-2	Benzene	BSP	REC	94	%	79-120
MSG5458-BS	108-86-1	Bromobenzene	BSP	REC	93	%	80-120
MSG5458-BS	74-97-5	Bromochloromethane	BSP	REC	100	%	78-123
MSG5458-BS	75-27-4	Bromodichloromethane	BSP	REC	97	%	79-125
MSG5458-BS	75-25-2	Bromoform	BSP	REC	99	%	66-130
MSG5458-BS	74-83-9	Bromomethane	BSP	REC	103	%	53-141
MSG5458-BS	78-93-3	2-Butanone (MEK)	BSP	REC	116	%	56-143
MSG5458-BS	104-51-8	n-Butylbenzene	BSP	REC	97	%	75-128
MSG5458-BS	135-98-8	sec-Butylbenzene	BSP	REC	94	%	77-126
MSG5458-BS	98-06-6	tert-Butylbenzene	BSP	REC	94	%	78-124
MSG5458-BS	75-15-0	Carbon disulfide	BSP	REC	103	%	64-133
MSG5458-BS	56-23-5	Carbon tetrachloride	BSP	REC	103	%	72-136
MSG5458-BS	108-90-7	Chlorobenzene	BSP	REC	94	%	82-118
MSG5458-BS	75-00-3	Chloroethane	BSP	REC	106	%	60-138
MSG5458-BS	67-66-3	Chloroform	BSP	REC	94	%	79-124
MSG5458-BS	74-87-3	Chloromethane	BSP	REC	107	%	50-139
MSG5458-BS	95-49-8	o-Chlorotoluene	BSP	REC	92	%	79-122
MSG5458-BS	106-43-4	p-Chlorotoluene	BSP	REC	89	%	78-122
MSG5458-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	88	%	62-128
MSG5458-BS	124-48-1	Dibromochloromethane	BSP	REC	98	%	74-126
MSG5458-BS	106-93-4	1,2-Dibromoethane	BSP	REC	98	%	77-121
MSG5458-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	92	%	80-119
MSG5458-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	88	%	80-119
MSG5458-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	89	%	79-118
MSG5458-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	99	%	32-152
MSG5458-BS	75-34-3	1,1-Dichloroethane	BSP	REC	91	%	77-125
MSG5458-BS	107-06-2	1,2-Dichloroethane	BSP	REC	95	%	73-128
MSG5458-BS	75-35-4	1,1-Dichloroethene	BSP	REC	106	%	71-131
MSG5458-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	100	%	78-123
MSG5458-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	101	%	75-124
MSG5458-BS	78-87-5	1,2-Dichloropropane	BSP	REC	99	%	78-122
MSG5458-BS	142-28-9	1,3-Dichloropropane	BSP	REC	101	%	80-119
MSG5458-BS	594-20-7	2,2-Dichloropropane	BSP	REC	100	%	60-139
MSG5458-BS	563-58-6	1,1-Dichloropropene	BSP	REC	100	%	79-125
MSG5458-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	98	%	75-124
MSG5458-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	91	%	73-127
MSG5458-BS	100-41-4	Ethylbenzene	BSP	REC	97	%	79-121
MSG5458-BS	87-68-3	Hexachlorobutadiene	BSP	REC	100	%	66-134
MSG5458-BS	591-78-6	2-Hexanone	BSP	REC	114	%	57-139
MSG5458-BS	74-88-4	Iodomethane	BSP	REC	111	%	69-131
MSG5458-BS	98-82-8	Isopropylbenzene	BSP	REC	92	%	72-131

* Sample used for QC is not from job MC41332

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSG5458-BS	99-87-6	p-Isopropyltoluene	BSP	REC	95	%	77-127
MSG5458-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	94	%	71-124
MSG5458-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	96	%	67-130
MSG5458-BS	74-95-3	Methylene bromide	BSP	REC	100	%	79-123
MSG5458-BS	75-09-2	Methylene chloride	BSP	REC	102	%	74-124
MSG5458-BS	91-20-3	Naphthalene	BSP	REC	74	%	61-128
MSG5458-BS	103-65-1	n-Propylbenzene	BSP	REC	91	%	76-126
MSG5458-BS	100-42-5	Styrene	BSP	REC	99	%	78-123
MSG5458-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	100	%	78-124
MSG5458-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	85	%	71-121
MSG5458-BS	127-18-4	Tetrachloroethene	BSP	REC	101	%	74-129
MSG5458-BS	108-88-3	Toluene	BSP	REC	97	%	80-121
MSG5458-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	87	%	69-129
MSG5458-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	86	%	69-130
MSG5458-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	104	%	74-131
MSG5458-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	95	%	80-119
MSG5458-BS	79-01-6	Trichloroethene	BSP	REC	96	%	79-123
MSG5458-BS	75-69-4	Trichlorofluoromethane	BSP	REC	104	%	65-141
MSG5458-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	89	%	73-122
MSG5458-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	93	%	76-124
MSG5458-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	94	%	75-124
MSG5458-BS	108-05-4	Vinyl Acetate	BSP	REC	88	%	54-146
MSG5458-BS	75-01-4	Vinyl chloride	BSP	REC	99	%	58-137
MSG5458-BS		m,p-Xylene	BSP	REC	98	%	80-121
MSG5458-BS	95-47-6	o-Xylene	BSP	REC	97	%	78-122
MSG5458-BS	1330-20-7	Xylene (total)	BSP	REC	97	%	79-121
MSG5458-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	103	%	80-119
MSG5458-BS	2037-26-5	Toluene-D8	BSP	SURR	104	%	89-112
MSG5458-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	94	%	85-114
MC41330-2MS*	67-64-1	Acetone	MS	REC	68	%	39-160
MC41330-2MS*	71-43-2	Benzene	MS	REC	92	%	79-120
MC41330-2MS*	108-86-1	Bromobenzene	MS	REC	93	%	80-120
MC41330-2MS*	74-97-5	Bromochloromethane	MS	REC	96	%	78-123
MC41330-2MS*	75-27-4	Bromodichloromethane	MS	REC	96	%	79-125
MC41330-2MS*	75-25-2	Bromoform	MS	REC	90	%	66-130
MC41330-2MS*	74-83-9	Bromomethane	MS	REC	97	%	53-141
MC41330-2MS*	78-93-3	2-Butanone (MEK)	MS	REC	72	%	56-143
MC41330-2MS*	104-51-8	n-Butylbenzene	MS	REC	90	%	75-128
MC41330-2MS*	135-98-8	sec-Butylbenzene	MS	REC	90	%	77-126
MC41330-2MS*	98-06-6	tert-Butylbenzene	MS	REC	89	%	78-124
MC41330-2MS*	75-15-0	Carbon disulfide	MS	REC	93	%	64-133
MC41330-2MS*	56-23-5	Carbon tetrachloride	MS	REC	105	%	72-136
MC41330-2MS*	108-90-7	Chlorobenzene	MS	REC	91	%	82-118
MC41330-2MS*	75-00-3	Chloroethane	MS	REC	102	%	60-138
MC41330-2MS*	67-66-3	Chloroform	MS	REC	91	%	79-124

* Sample used for QC is not from job MC41332

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC41330-2MS*	74-87-3	Chloromethane	MS	REC	100	%	50-139
MC41330-2MS*	95-49-8	o-Chlorotoluene	MS	REC	88	%	79-122
MC41330-2MS*	106-43-4	p-Chlorotoluene	MS	REC	90	%	78-122
MC41330-2MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	87	%	62-128
MC41330-2MS*	124-48-1	Dibromochloromethane	MS	REC	92	%	74-126
MC41330-2MS*	106-93-4	1,2-Dibromoethane	MS	REC	95	%	77-121
MC41330-2MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	89	%	80-119
MC41330-2MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	88	%	80-119
MC41330-2MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	87	%	79-118
MC41330-2MS*	75-71-8	Dichlorodifluoromethane	MS	REC	91	%	32-152
MC41330-2MS*	75-34-3	1,1-Dichloroethane	MS	REC	87	%	77-125
MC41330-2MS*	107-06-2	1,2-Dichloroethane	MS	REC	99	%	73-128
MC41330-2MS*	75-35-4	1,1-Dichloroethene	MS	REC	96	%	71-131
MC41330-2MS*	156-59-2	cis-1,2-Dichloroethene	MS	REC	94	%	78-123
MC41330-2MS*	156-60-5	trans-1,2-Dichloroethene	MS	REC	92	%	75-124
MC41330-2MS*	78-87-5	1,2-Dichloropropane	MS	REC	96	%	78-122
MC41330-2MS*	142-28-9	1,3-Dichloropropane	MS	REC	98	%	80-119
MC41330-2MS*	594-20-7	2,2-Dichloropropane	MS	REC	96	%	60-139
MC41330-2MS*	563-58-6	1,1-Dichloropropene	MS	REC	97	%	79-125
MC41330-2MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	95	%	75-124
MC41330-2MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	91	%	73-127
MC41330-2MS*	100-41-4	Ethylbenzene	MS	REC	92	%	79-121
MC41330-2MS*	87-68-3	Hexachlorobutadiene	MS	REC	91	%	66-134
MC41330-2MS*	591-78-6	2-Hexanone	MS	REC	86	%	57-139
MC41330-2MS*	74-88-4	Iodomethane	MS	REC	103	%	69-131
MC41330-2MS*	98-82-8	Isopropylbenzene	MS	REC	89	%	72-131
MC41330-2MS*	99-87-6	p-Isopropyltoluene	MS	REC	87	%	77-127
MC41330-2MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	87	%	71-124
MC41330-2MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	74	%	67-130
MC41330-2MS*	74-95-3	Methylene bromide	MS	REC	100	%	79-123
MC41330-2MS*	75-09-2	Methylene chloride	MS	REC	93	%	74-124
MC41330-2MS*	91-20-3	Naphthalene	MS	REC	71	%	61-128
MC41330-2MS*	103-65-1	n-Propylbenzene	MS	REC	87	%	76-126
MC41330-2MS*	100-42-5	Styrene	MS	REC	60 [a]	%	78-123
MC41330-2MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	98	%	78-124
MC41330-2MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	85	%	71-121
MC41330-2MS*	127-18-4	Tetrachloroethene	MS	REC	98	%	74-129
MC41330-2MS*	108-88-3	Toluene	MS	REC	93	%	80-121
MC41330-2MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	82	%	69-129
MC41330-2MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	83	%	69-130
MC41330-2MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	103	%	74-131
MC41330-2MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	96	%	80-119
MC41330-2MS*	79-01-6	Trichloroethene	MS	REC	95	%	79-123
MC41330-2MS*	75-69-4	Trichlorofluoromethane	MS	REC	103	%	65-141
MC41330-2MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	87	%	73-122

* Sample used for QC is not from job MC41332

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC41330-2MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	79	%	76-124
MC41330-2MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	74	%	75-124
MC41330-2MS*	108-05-4	Vinyl Acetate	MS	REC	78	%	54-146
MC41330-2MS*	75-01-4	Vinyl chloride	MS	REC	91	%	58-137
MC41330-2MS*		m,p-Xylene	MS	REC	87	%	80-121
MC41330-2MS*	95-47-6	o-Xylene	MS	REC	84	%	78-122
MC41330-2MS*	1330-20-7	Xylene (total)	MS	REC	86	%	79-121
MC41330-2MS*	1868-53-7	Dibromofluoromethane	MS	SURR	101	%	80-119
MC41330-2MS*	2037-26-5	Toluene-D8	MS	SURR	103	%	89-112
MC41330-2MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	95	%	85-114
MC41330-2MSD*	67-64-1	Acetone	MSD	REC	70	%	39-160
MC41330-2MSD*	67-64-1	Acetone	MSD	RPD	3	%	20
MC41330-2MSD*	71-43-2	Benzene	MSD	REC	91	%	79-120
MC41330-2MSD*	71-43-2	Benzene	MSD	RPD	1	%	20
MC41330-2MSD*	108-86-1	Bromobenzene	MSD	REC	93	%	80-120
MC41330-2MSD*	108-86-1	Bromobenzene	MSD	RPD	1	%	20
MC41330-2MSD*	74-97-5	Bromochloromethane	MSD	REC	97	%	78-123
MC41330-2MSD*	74-97-5	Bromochloromethane	MSD	RPD	1	%	20
MC41330-2MSD*	75-27-4	Bromodichloromethane	MSD	REC	94	%	79-125
MC41330-2MSD*	75-27-4	Bromodichloromethane	MSD	RPD	1	%	20
MC41330-2MSD*	75-25-2	Bromoform	MSD	REC	92	%	66-130
MC41330-2MSD*	75-25-2	Bromoform	MSD	RPD	1	%	20
MC41330-2MSD*	74-83-9	Bromomethane	MSD	REC	100	%	53-141
MC41330-2MSD*	74-83-9	Bromomethane	MSD	RPD	3	%	20
MC41330-2MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	79	%	56-143
MC41330-2MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	8	%	20
MC41330-2MSD*	104-51-8	n-Butylbenzene	MSD	REC	92	%	75-128
MC41330-2MSD*	104-51-8	n-Butylbenzene	MSD	RPD	1	%	20
MC41330-2MSD*	135-98-8	sec-Butylbenzene	MSD	REC	90	%	77-126
MC41330-2MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	1	%	20
MC41330-2MSD*	98-06-6	tert-Butylbenzene	MSD	REC	92	%	78-124
MC41330-2MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	3	%	20
MC41330-2MSD*	75-15-0	Carbon disulfide	MSD	REC	94	%	64-133
MC41330-2MSD*	75-15-0	Carbon disulfide	MSD	RPD	1	%	20
MC41330-2MSD*	56-23-5	Carbon tetrachloride	MSD	REC	105	%	72-136
MC41330-2MSD*	56-23-5	Carbon tetrachloride	MSD	RPD	0	%	20
MC41330-2MSD*	108-90-7	Chlorobenzene	MSD	REC	92	%	82-118
MC41330-2MSD*	108-90-7	Chlorobenzene	MSD	RPD	0	%	20
MC41330-2MSD*	75-00-3	Chloroethane	MSD	REC	105	%	60-138
MC41330-2MSD*	75-00-3	Chloroethane	MSD	RPD	3	%	20
MC41330-2MSD*	67-66-3	Chloroform	MSD	REC	91	%	79-124
MC41330-2MSD*	67-66-3	Chloroform	MSD	RPD	0	%	20
MC41330-2MSD*	74-87-3	Chloromethane	MSD	REC	106	%	50-139
MC41330-2MSD*	74-87-3	Chloromethane	MSD	RPD	5	%	20
MC41330-2MSD*	95-49-8	o-Chlorotoluene	MSD	REC	90	%	79-122

* Sample used for QC is not from job MC41332

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC41330-2MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	2	%	20
MC41330-2MSD*	106-43-4	p-Chlorotoluene	MSD	REC	89	%	78-122
MC41330-2MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	1	%	20
MC41330-2MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	92	%	62-128
MC41330-2MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	5	%	20
MC41330-2MSD*	124-48-1	Dibromochloromethane	MSD	REC	93	%	74-126
MC41330-2MSD*	124-48-1	Dibromochloromethane	MSD	RPD	2	%	20
MC41330-2MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	94	%	77-121
MC41330-2MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	0	%	20
MC41330-2MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	90	%	80-119
MC41330-2MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	1	%	20
MC41330-2MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	88	%	80-119
MC41330-2MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	1	%	20
MC41330-2MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	88	%	79-118
MC41330-2MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	0	%	20
MC41330-2MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	91	%	32-152
MC41330-2MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	1	%	20
MC41330-2MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	86	%	77-125
MC41330-2MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	0	%	20
MC41330-2MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	98	%	73-128
MC41330-2MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	1	%	20
MC41330-2MSD*	75-35-4	1,1-Dichloroethene	MSD	REC	96	%	71-131
MC41330-2MSD*	75-35-4	1,1-Dichloroethene	MSD	RPD	0	%	20
MC41330-2MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	REC	95	%	78-123
MC41330-2MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	RPD	2	%	20
MC41330-2MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	REC	92	%	75-124
MC41330-2MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	RPD	0	%	20
MC41330-2MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	96	%	78-122
MC41330-2MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	0	%	20
MC41330-2MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	99	%	80-119
MC41330-2MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	1	%	20
MC41330-2MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	95	%	60-139
MC41330-2MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	2	%	20
MC41330-2MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	96	%	79-125
MC41330-2MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	1	%	20
MC41330-2MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	94	%	75-124
MC41330-2MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	1	%	20
MC41330-2MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	89	%	73-127
MC41330-2MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	2	%	20
MC41330-2MSD*	100-41-4	Ethylbenzene	MSD	REC	91	%	79-121
MC41330-2MSD*	100-41-4	Ethylbenzene	MSD	RPD	1	%	20
MC41330-2MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	95	%	66-134
MC41330-2MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	4	%	20
MC41330-2MSD*	591-78-6	2-Hexanone	MSD	REC	88	%	57-139
MC41330-2MSD*	591-78-6	2-Hexanone	MSD	RPD	2	%	20

* Sample used for QC is not from job MC41332

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC41330-2MSD*	74-88-4	Iodomethane	MSD	REC	105	%	69-131
MC41330-2MSD*	74-88-4	Iodomethane	MSD	RPD	1	%	20
MC41330-2MSD*	98-82-8	Isopropylbenzene	MSD	REC	90	%	72-131
MC41330-2MSD*	98-82-8	Isopropylbenzene	MSD	RPD	1	%	20
MC41330-2MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	88	%	77-127
MC41330-2MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	1	%	20
MC41330-2MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	88	%	71-124
MC41330-2MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	1	%	20
MC41330-2MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	73	%	67-130
MC41330-2MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	2	%	20
MC41330-2MSD*	74-95-3	Methylene bromide	MSD	REC	98	%	79-123
MC41330-2MSD*	74-95-3	Methylene bromide	MSD	RPD	1	%	20
MC41330-2MSD*	75-09-2	Methylene chloride	MSD	REC	93	%	74-124
MC41330-2MSD*	75-09-2	Methylene chloride	MSD	RPD	0	%	20
MC41330-2MSD*	91-20-3	Naphthalene	MSD	REC	73	%	61-128
MC41330-2MSD*	91-20-3	Naphthalene	MSD	RPD	3	%	20
MC41330-2MSD*	103-65-1	n-Propylbenzene	MSD	REC	87	%	76-126
MC41330-2MSD*	103-65-1	n-Propylbenzene	MSD	RPD	1	%	20
MC41330-2MSD*	100-42-5	Styrene	MSD	REC	61	%	78-123
MC41330-2MSD*	100-42-5	Styrene	MSD	RPD	1	%	20
MC41330-2MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	99	%	78-124
MC41330-2MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	1	%	20
MC41330-2MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	87	%	71-121
MC41330-2MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	3	%	20
MC41330-2MSD*	127-18-4	Tetrachloroethene	MSD	REC	98	%	74-129
MC41330-2MSD*	127-18-4	Tetrachloroethene	MSD	RPD	0	%	20
MC41330-2MSD*	108-88-3	Toluene	MSD	REC	92	%	80-121
MC41330-2MSD*	108-88-3	Toluene	MSD	RPD	2	%	20
MC41330-2MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	85	%	69-129
MC41330-2MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	3	%	20
MC41330-2MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	86	%	69-130
MC41330-2MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	4	%	20
MC41330-2MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	103	%	74-131
MC41330-2MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	0	%	20
MC41330-2MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	93	%	80-119
MC41330-2MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	3	%	20
MC41330-2MSD*	79-01-6	Trichloroethene	MSD	REC	95	%	79-123
MC41330-2MSD*	79-01-6	Trichloroethene	MSD	RPD	0	%	20
MC41330-2MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	104	%	65-141
MC41330-2MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	1	%	20
MC41330-2MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	89	%	73-122
MC41330-2MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	2	%	20
MC41330-2MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	80	%	76-124
MC41330-2MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	1	%	20
MC41330-2MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	74	%	75-124

* Sample used for QC is not from job MC41332

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC41330-2MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	0	%	20
MC41330-2MSD*	108-05-4	Vinyl Acetate	MSD	REC	77	%	54-146
MC41330-2MSD*	108-05-4	Vinyl Acetate	MSD	RPD	1	%	20
MC41330-2MSD*	75-01-4	Vinyl chloride	MSD	REC	95	%	58-137
MC41330-2MSD*	75-01-4	Vinyl chloride	MSD	RPD	4	%	20
MC41330-2MSD*		m,p-Xylene	MSD	REC	87	%	80-121
MC41330-2MSD*		m,p-Xylene	MSD	RPD	0	%	20
MC41330-2MSD*	95-47-6	o-Xylene	MSD	REC	85	%	78-122
MC41330-2MSD*	95-47-6	o-Xylene	MSD	RPD	1	%	20
MC41330-2MSD*	1330-20-7	Xylene (total)	MSD	REC	86	%	79-121
MC41330-2MSD*	1330-20-7	Xylene (total)	MSD	RPD	0	%	20
MC41330-2MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	101	%	80-119
MC41330-2MSD*	2037-26-5	Toluene-D8	MSD	SURR	101	%	89-112
MC41330-2MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	96	%	85-114
MSG5458-MB	1868-53-7	Dibromofluoromethane	MB	SURR	105	%	80-119
MSG5458-MB	2037-26-5	Toluene-D8	MB	SURR	102	%	89-112
MSG5458-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	105	%	85-114
MC41332-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC41332-1	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC41332-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	107	%	85-114
MC41332-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC41332-2	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC41332-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114
MC41332-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	101	%	80-119
MC41332-3	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC41332-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	104	%	85-114
MC41332-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC41332-4	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC41332-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	105	%	85-114
MP25123	SW846 7470A						
MP25123-B1	7439-97-6	Mercury	BSP	REC	106.7	%	82-119
MP25123-B2	7439-97-6	Mercury	BSD	REC	103.3	%	82-119
MP25123-S1*	7439-97-6	Mercury	MS	REC	107.1	%	82-119
MP25123-S2*	7439-97-6	Mercury	MSD	REC	110.5	%	82-119
MP25123-S2*	7439-97-6	Mercury	MSD	RPD	3	%	20
MP25142	SW846 6010C						
MP25142-B1	7429-90-5	Aluminum	BSP	REC	101	%	86-115
MP25142-B1	7440-36-0	Antimony	BSP	REC	102.6	%	88-113
MP25142-B1	7440-39-3	Barium	BSP	REC	100	%	88-113
MP25142-B1	7440-41-7	Beryllium	BSP	REC	99.8	%	89-112
MP25142-B1	7440-43-9	Cadmium	BSP	REC	101	%	88-113

* Sample used for QC is not from job MC41332

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25142-B1	7440-70-2	Calcium	BSP	REC	104.8	%	87-113
MP25142-B1	7440-47-3	Chromium	BSP	REC	99.6	%	90-113
MP25142-B1	7440-48-4	Cobalt	BSP	REC	100.6	%	89-114
MP25142-B1	7440-50-8	Copper	BSP	REC	97.4	%	86-114
MP25142-B1	7439-89-6	Iron	BSP	REC	102	%	87-115
MP25142-B1	7439-92-1	Lead	BSP	REC	101	%	86-113
MP25142-B1	7439-95-4	Magnesium	BSP	REC	105.6	%	85-113
MP25142-B1	7439-96-5	Manganese	BSP	REC	104	%	90-114
MP25142-B1	7440-02-0	Nickel	BSP	REC	100	%	88-113
MP25142-B1	7440-09-7	Potassium	BSP	REC	102.4	%	86-114
MP25142-B1	7782-49-2	Selenium	BSP	REC	102.2	%	83-114
MP25142-B1	7440-22-4	Silver	BSP	REC	93.5	%	84-115
MP25142-B1	7440-23-5	Sodium	BSP	REC	105.2	%	87-115
MP25142-B1	7440-28-0	Thallium	BSP	REC	101.8	%	85-114
MP25142-B1	7440-62-2	Vanadium	BSP	REC	101.2	%	90-111
MP25142-B1	7440-66-6	Zinc	BSP	REC	99	%	87-115
MP25142-S1*	7429-90-5	Aluminum	MS	REC	99.6	%	86-115
MP25142-S1*	7440-36-0	Antimony	MS	REC	102.4	%	88-113
MP25142-S1*	7440-39-3	Barium	MS	REC	99.5	%	88-113
MP25142-S1*	7440-41-7	Beryllium	MS	REC	98.6	%	89-112
MP25142-S1*	7440-43-9	Cadmium	MS	REC	102	%	88-113
MP25142-S1*	7440-70-2	Calcium	MS	REC	96	%	87-113
MP25142-S1*	7440-47-3	Chromium	MS	REC	98.8	%	90-113
MP25142-S1*	7440-48-4	Cobalt	MS	REC	99.8	%	89-114
MP25142-S1*	7440-50-8	Copper	MS	REC	97.6	%	86-114
MP25142-S1*	7439-89-6	Iron	MS	REC	80 [b]	%	87-115
MP25142-S1*	7439-92-1	Lead	MS	REC	98.6	%	86-113
MP25142-S1*	7439-95-4	Magnesium	MS	REC	101.9	%	85-113
MP25142-S1*	7439-96-5	Manganese	MS	REC	20 [c]	%	90-114
MP25142-S1*	7440-02-0	Nickel	MS	REC	99.2	%	88-113
MP25142-S1*	7440-09-7	Potassium	MS	REC	100.1	%	86-114
MP25142-S1*	7782-49-2	Selenium	MS	REC	103.2	%	83-114
MP25142-S1*	7440-22-4	Silver	MS	REC	96.2	%	84-115
MP25142-S1*	7440-23-5	Sodium	MS	REC	80 [b]	%	87-115
MP25142-S1*	7440-28-0	Thallium	MS	REC	96.2	%	85-114
MP25142-S1*	7440-62-2	Vanadium	MS	REC	101.6	%	90-111
MP25142-S1*	7440-66-6	Zinc	MS	REC	98.1	%	87-115
MP25142-S2*	7429-90-5	Aluminum	MSD	REC	99.5	%	86-115
MP25142-S2*	7429-90-5	Aluminum	MSD	RPD	.1	%	20
MP25142-S2*	7440-36-0	Antimony	MSD	REC	103.2	%	88-113
MP25142-S2*	7440-36-0	Antimony	MSD	RPD	.8	%	20
MP25142-S2*	7440-39-3	Barium	MSD	REC	99	%	88-113
MP25142-S2*	7440-39-3	Barium	MSD	RPD	.5	%	20
MP25142-S2*	7440-41-7	Beryllium	MSD	REC	98.2	%	89-112
MP25142-S2*	7440-41-7	Beryllium	MSD	RPD	.4	%	20

* Sample used for QC is not from job MC41332

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25142-S2*	7440-43-9	Cadmium	MSD	REC	102.6	%	88-113
MP25142-S2*	7440-43-9	Cadmium	MSD	RPD	.6	%	20
MP25142-S2*	7440-70-2	Calcium	MSD	REC	96	%	87-113
MP25142-S2*	7440-70-2	Calcium	MSD	RPD	0	%	20
MP25142-S2*	7440-47-3	Chromium	MSD	REC	98.6	%	90-113
MP25142-S2*	7440-47-3	Chromium	MSD	RPD	.2	%	20
MP25142-S2*	7440-48-4	Cobalt	MSD	REC	100.4	%	89-114
MP25142-S2*	7440-48-4	Cobalt	MSD	RPD	.6	%	20
MP25142-S2*	7440-50-8	Copper	MSD	REC	97.4	%	86-114
MP25142-S2*	7440-50-8	Copper	MSD	RPD	.2	%	20
MP25142-S2*	7439-89-6	Iron	MSD	REC	80 [d]	%	87-115
MP25142-S2*	7439-89-6	Iron	MSD	RPD	0	%	20
MP25142-S2*	7439-92-1	Lead	MSD	REC	99.1	%	86-113
MP25142-S2*	7439-92-1	Lead	MSD	RPD	.5	%	20
MP25142-S2*	7439-95-4	Magnesium	MSD	REC	101.1	%	85-113
MP25142-S2*	7439-95-4	Magnesium	MSD	RPD	.6	%	20
MP25142-S2*	7439-96-5	Manganese	MSD	REC	40 [c]	%	90-114
MP25142-S2*	7439-96-5	Manganese	MSD	RPD	.9	%	20
MP25142-S2*	7440-02-0	Nickel	MSD	REC	99.8	%	88-113
MP25142-S2*	7440-02-0	Nickel	MSD	RPD	.6	%	20
MP25142-S2*	7440-09-7	Potassium	MSD	REC	100.1	%	86-114
MP25142-S2*	7440-09-7	Potassium	MSD	RPD	0	%	20
MP25142-S2*	7782-49-2	Selenium	MSD	REC	103.8	%	83-114
MP25142-S2*	7782-49-2	Selenium	MSD	RPD	.6	%	20
MP25142-S2*	7440-22-4	Silver	MSD	REC	96.2	%	84-115
MP25142-S2*	7440-22-4	Silver	MSD	RPD	0	%	20
MP25142-S2*	7440-23-5	Sodium	MSD	REC	80 [d]	%	87-115
MP25142-S2*	7440-23-5	Sodium	MSD	RPD	0	%	20
MP25142-S2*	7440-28-0	Thallium	MSD	REC	96.6	%	85-114
MP25142-S2*	7440-28-0	Thallium	MSD	RPD	.4	%	20
MP25142-S2*	7440-62-2	Vanadium	MSD	REC	100.8	%	90-111
MP25142-S2*	7440-62-2	Vanadium	MSD	RPD	.8	%	20
MP25142-S2*	7440-66-6	Zinc	MSD	REC	98.7	%	87-115
MP25142-S2*	7440-66-6	Zinc	MSD	RPD	.6	%	20
MP25142A	SW846 6020A						
MP25142A-B1	7440-38-2	Arsenic	BSP	REC	100.8	%	84-116
MP25142A-S1*	7440-38-2	Arsenic	MS	REC	99	%	84-116
MP25142A-S2*	7440-38-2	Arsenic	MSD	REC	101	%	84-116
MP25142A-S2*	7440-38-2	Arsenic	MSD	RPD	1	%	20

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(c) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery

* Sample used for QC is not from job MC41332

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

information.
(d) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

* Sample used for QC is not from job MC41332

New England ACCUTEST LABORATORIES

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GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5458-MB	G145748.D	1	09/21/15	AD	n/a	n/a	MSG5458

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5458-MB	G145748.D	1	09/21/15	AD	n/a	n/a	MSG5458

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	0.50	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	10	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5458-MB	G145748.D	1	09/21/15	AD	n/a	n/a	MSG5458

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	79-127%
2037-26-5	Toluene-D8	102%	80-116%
460-00-4	4-Bromofluorobenzene	105%	77-124%

Blank Spike Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5458-BS	G145745.D	1	09/21/15	AD	n/a	n/a	MSG5458

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	59.7	119	10-200
71-43-2	Benzene	50	47.2	94	74-124
108-86-1	Bromobenzene	50	46.3	93	80-117
74-97-5	Bromochloromethane	50	50.1	100	73-130
75-27-4	Bromodichloromethane	50	48.3	97	76-136
75-25-2	Bromoform	50	49.4	99	63-139
74-83-9	Bromomethane	50	51.3	103	49-161
78-93-3	2-Butanone (MEK)	50	58.1	116	44-191
104-51-8	n-Butylbenzene	50	48.3	97	84-134
135-98-8	sec-Butylbenzene	50	47.0	94	76-125
98-06-6	tert-Butylbenzene	50	46.8	94	74-123
75-15-0	Carbon disulfide	50	51.5	103	45-138
56-23-5	Carbon tetrachloride	50	51.5	103	64-149
108-90-7	Chlorobenzene	50	46.9	94	73-114
75-00-3	Chloroethane	50	53.2	106	43-165
67-66-3	Chloroform	50	46.9	94	72-132
74-87-3	Chloromethane	50	53.5	107	30-173
95-49-8	o-Chlorotoluene	50	46.0	92	75-116
106-43-4	p-Chlorotoluene	50	44.6	89	78-116
96-12-8	1,2-Dibromo-3-chloropropane	50	44.0	88	50-157
124-48-1	Dibromochloromethane	50	48.8	98	75-133
106-93-4	1,2-Dibromoethane	50	48.8	98	72-133
95-50-1	1,2-Dichlorobenzene	50	46.1	92	73-122
541-73-1	1,3-Dichlorobenzene	50	44.1	88	76-117
106-46-7	1,4-Dichlorobenzene	50	44.5	89	74-120
75-71-8	Dichlorodifluoromethane	50	49.6	99	30-180
75-34-3	1,1-Dichloroethane	50	45.4	91	62-130
107-06-2	1,2-Dichloroethane	50	47.4	95	65-140
75-35-4	1,1-Dichloroethene	50	53.0	106	57-132
156-59-2	cis-1,2-Dichloroethene	50	49.8	100	72-131
156-60-5	trans-1,2-Dichloroethene	50	50.7	101	69-127
78-87-5	1,2-Dichloropropane	50	49.4	99	74-130
142-28-9	1,3-Dichloropropane	50	50.3	101	80-129
594-20-7	2,2-Dichloropropane	50	49.9	100	54-162
563-58-6	1,1-Dichloropropene	50	49.9	100	75-116
10061-01-5	cis-1,3-Dichloropropene	50	49.1	98	86-141

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5458-BS	G145745.D	1	09/21/15	AD	n/a	n/a	MSG5458

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	45.7	91	80-134
100-41-4	Ethylbenzene	50	48.4	97	76-125
87-68-3	Hexachlorobutadiene	50	50.0	100	64-154
591-78-6	2-Hexanone	50	57.0	114	35-200
74-88-4	Iodomethane	50	55.3	111	50-154
98-82-8	Isopropylbenzene	50	45.8	92	74-121
99-87-6	p-Isopropyltoluene	50	47.7	95	84-128
1634-04-4	Methyl Tert Butyl Ether	50	46.9	94	67-145
108-10-1	4-Methyl-2-pentanone (MIBK)	50	47.9	96	61-155
74-95-3	Methylene bromide	50	50.0	100	75-124
75-09-2	Methylene chloride	50	51.2	102	62-137
91-20-3	Naphthalene	50	36.8	74	24-164
103-65-1	n-Propylbenzene	50	45.3	91	76-120
100-42-5	Styrene	50	49.7	99	74-132
630-20-6	1,1,1,2-Tetrachloroethane	50	49.8	100	71-136
79-34-5	1,1,2,2-Tetrachloroethane	50	42.6	85	65-145
127-18-4	Tetrachloroethene	50	50.6	101	73-122
108-88-3	Toluene	50	48.6	97	80-122
87-61-6	1,2,3-Trichlorobenzene	50	43.4	87	33-170
120-82-1	1,2,4-Trichlorobenzene	50	42.9	86	43-159
71-55-6	1,1,1-Trichloroethane	50	52.1	104	68-137
79-00-5	1,1,2-Trichloroethane	50	47.7	95	76-134
79-01-6	Trichloroethene	50	48.1	96	80-125
75-69-4	Trichlorofluoromethane	50	51.9	104	56-166
96-18-4	1,2,3-Trichloropropane	50	44.5	89	65-147
95-63-6	1,2,4-Trimethylbenzene	50	46.6	93	79-124
108-67-8	1,3,5-Trimethylbenzene	50	47.2	94	80-130
108-05-4	Vinyl Acetate	50	44.0	88	72-200
75-01-4	Vinyl chloride	50	49.4	99	39-176
	m,p-Xylene	100	97.7	98	75-121
95-47-6	o-Xylene	50	48.5	97	71-123
1330-20-7	Xylene (total)	150	146	97	74-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5458-BS	G145745.D	1	09/21/15	AD	n/a	n/a	MSG5458

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	79-127%
2037-26-5	Toluene-D8	104%	80-116%
460-00-4	4-Bromofluorobenzene	94%	77-124%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC41330-2MS	G145768.D	1	09/21/15	AD	n/a	n/a	MSG5458
MC41330-2MSD	G145769.D	1	09/21/15	AD	n/a	n/a	MSG5458
MC41330-2	G145754.D	1	09/21/15	AD	n/a	n/a	MSG5458

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Compound	MC41330-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10 U		50	34.1	68	50	35.0	70	3	10-156/30
71-43-2	Benzene	0.50 U		50	46.1	92	50	45.6	91	1	63-135/30
108-86-1	Bromobenzene	5.0 U		50	46.3	93	50	46.6	93	1	75-116/30
74-97-5	Bromochloromethane	5.0 U		50	48.0	96	50	48.7	97	1	67-136/30
75-27-4	Bromodichloromethane	1.0 U		50	47.9	96	50	47.2	94	1	69-140/30
75-25-2	Bromoform	1.0 U		50	45.2	90	50	45.8	92	1	57-138/30
74-83-9	Bromomethane	2.0 U		50	48.7	97	50	50.0	100	3	25-169/30
78-93-3	2-Butanone (MEK)	10 U		50	36.2	72	50	39.3	79	8	23-159/30
104-51-8	n-Butylbenzene	5.0 U		50	45.2	90	50	45.8	92	1	75-135/30
135-98-8	sec-Butylbenzene	5.0 U		50	44.8	90	50	45.2	90	1	70-125/30
98-06-6	tert-Butylbenzene	5.0 U		50	44.7	89	50	45.9	92	3	64-128/30
75-15-0	Carbon disulfide	5.0 U		50	46.7	93	50	47.0	94	1	40-139/30
56-23-5	Carbon tetrachloride	1.0 U		50	52.5	105	50	52.4	105	0	60-149/30
108-90-7	Chlorobenzene	1.0 U		50	45.7	91	50	45.9	92	0	70-115/30
75-00-3	Chloroethane	2.0 U		50	51.1	102	50	52.5	105	3	37-175/30
67-66-3	Chloroform	1.0 U		50	45.4	91	50	45.4	91	0	64-141/30
74-87-3	Chloromethane	2.0 U		50	50.2	100	50	53.0	106	5	21-178/30
95-49-8	o-Chlorotoluene	5.0 U		50	44.1	88	50	45.0	90	2	60-130/30
106-43-4	p-Chlorotoluene	5.0 U		50	45.0	90	50	44.5	89	1	70-120/30
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		50	43.7	87	50	45.9	92	5	51-156/30
124-48-1	Dibromochloromethane	1.0 U		50	45.8	92	50	46.7	93	2	70-131/30
106-93-4	1,2-Dibromoethane	1.0 U		50	47.3	95	50	47.2	94	0	72-131/30
95-50-1	1,2-Dichlorobenzene	1.0 U		50	44.6	89	50	45.2	90	1	68-122/30
541-73-1	1,3-Dichlorobenzene	1.0 U		50	43.8	88	50	44.2	88	1	71-117/30
106-46-7	1,4-Dichlorobenzene	1.0 U		50	43.7	87	50	43.9	88	0	69-120/30
75-71-8	Dichlorodifluoromethane	2.0 U		50	45.3	91	50	45.6	91	1	28-181/30
75-34-3	1,1-Dichloroethane	1.0 U		50	43.3	87	50	43.1	86	0	56-138/30
107-06-2	1,2-Dichloroethane	1.0 U		50	49.4	99	50	49.0	98	1	60-146/30
75-35-4	1,1-Dichloroethene	1.0 U		50	48.0	96	50	48.2	96	0	52-137/30
156-59-2	cis-1,2-Dichloroethene	1.0 U		50	46.8	94	50	47.6	95	2	64-139/30
156-60-5	trans-1,2-Dichloroethene	1.0 U		50	46.1	92	50	46.0	92	0	63-132/30
78-87-5	1,2-Dichloropropane	2.0 U		50	48.1	96	50	47.9	96	0	67-137/30
142-28-9	1,3-Dichloropropane	5.0 U		50	49.2	98	50	49.5	99	1	78-130/30
594-20-7	2,2-Dichloropropane	5.0 U		50	48.2	96	50	47.4	95	2	36-166/30
563-58-6	1,1-Dichloropropene	5.0 U		50	48.4	97	50	48.1	96	1	68-123/30
10061-01-5	cis-1,3-Dichloropropene	0.50 U		50	47.5	95	50	47.1	94	1	77-142/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC41330-2MS	G145768.D	1	09/21/15	AD	n/a	n/a	MSG5458
MC41330-2MSD	G145769.D	1	09/21/15	AD	n/a	n/a	MSG5458
MC41330-2	G145754.D	1	09/21/15	AD	n/a	n/a	MSG5458

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Compound	MC41330-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	0.50 U		50	45.4	91	50	44.5	89	2	73-136/30
100-41-4	Ethylbenzene	0.50 U		50	45.9	92	50	45.4	91	1	60-136/30
87-68-3	Hexachlorobutadiene	5.0 U		50	45.7	91	50	47.6	95	4	63-143/30
591-78-6	2-Hexanone	10 U		50	43.0	86	50	43.9	88	2	29-151/30
74-88-4	Iodomethane	5.0 U		50	51.7	103	50	52.3	105	1	37-158/30
98-82-8	Isopropylbenzene	5.0 U		50	44.3	89	50	44.9	90	1	67-123/30
99-87-6	p-Isopropyltoluene	5.0 U		50	43.7	87	50	44.2	88	1	78-126/30
1634-04-4	Methyl Tert Butyl Ether	0.94	J	50	44.3	87	50	44.7	88	1	60-156/30
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		50	37.2	74	50	36.5	73	2	47-167/30
74-95-3	Methylene bromide	5.0 U		50	49.8	100	50	49.2	98	1	70-130/30
75-09-2	Methylene chloride	2.0 U		50	46.7	93	50	46.6	93	0	55-144/30
91-20-3	Naphthalene	5.0 U		50	35.4	71	50	36.4	73	3	23-167/30
103-65-1	n-Propylbenzene	5.0 U		50	43.4	87	50	43.7	87	1	66-124/30
100-42-5	Styrene	5.0 U		50	29.9	60* [a]	50	30.3	61	1	61-137/30
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U		50	49.1	98	50	49.5	99	1	71-132/30
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U		50	42.4	85	50	43.5	87	3	62-149/30
127-18-4	Tetrachloroethene	1.0 U		50	49.1	98	50	49.2	98	0	65-124/30
108-88-3	Toluene	1.0 U		50	46.7	93	50	45.8	92	2	69-134/30
87-61-6	1,2,3-Trichlorobenzene	5.0 U		50	41.0	82	50	42.4	85	3	41-157/30
120-82-1	1,2,4-Trichlorobenzene	5.0 U		50	41.3	83	50	42.9	86	4	46-147/30
71-55-6	1,1,1-Trichloroethane	1.0 U		50	51.3	103	50	51.4	103	0	61-144/30
79-00-5	1,1,2-Trichloroethane	1.0 U		50	48.0	96	50	46.6	93	3	69-142/30
79-01-6	Trichloroethene	1.0 U		50	47.6	95	50	47.4	95	0	69-133/30
75-69-4	Trichlorofluoromethane	1.0 U		50	51.5	103	50	51.8	104	1	60-163/30
96-18-4	1,2,3-Trichloropropane	5.0 U		50	43.7	87	50	44.4	89	2	57-150/30
95-63-6	1,2,4-Trimethylbenzene	5.0 U		50	39.6	79	50	39.9	80	1	67-130/30
108-67-8	1,3,5-Trimethylbenzene	5.0 U		50	36.8	74	50	36.9	74	0	66-137/30
108-05-4	Vinyl Acetate	5.0 U		50	39.0	78	50	38.7	77	1	48-200/30
75-01-4	Vinyl chloride	1.0 U		50	45.7	91	50	47.5	95	4	39-176/30
	m,p-Xylene	1.0 U		100	86.6	87	100	86.7	87	0	64-128/30
95-47-6	o-Xylene	1.0 U		50	42.1	84	50	42.5	85	1	64-126/30
1330-20-7	Xylene (total)	1.0 U		150	129	86	150	129	86	0	65-127/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC41330-2MS	G145768.D	1	09/21/15	AD	n/a	n/a	MSG5458
MC41330-2MSD	G145769.D	1	09/21/15	AD	n/a	n/a	MSG5458
MC41330-2	G145754.D	1	09/21/15	AD	n/a	n/a	MSG5458

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Surrogate Recoveries	MS	MSD	MC41330-2	Limits
1868-53-7	Dibromofluoromethane	101%	101%	103%	79-127%
2037-26-5	Toluene-D8	103%	101%	98%	80-116%
460-00-4	4-Bromofluorobenzene	95%	96%	105%	77-124%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC41332-1	G145758.D	102	102	107
MC41332-2	G145759.D	102	102	102
MC41332-3	G145760.D	101	102	104
MC41332-4	G145761.D	104	100	105
MC41330-2MS	G145768.D	101	103	95
MC41330-2MSD	G145769.D	101	101	96
MSG5458-BS	G145745.D	103	104	94
MSG5458-MB	G145748.D	105	102	105

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-127%
S2 = Toluene-D8	80-116%
S3 = 4-Bromofluorobenzene	77-124%

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1525-MB	BA22354.D	1	09/14/15	AF	n/a	n/a	GBA1525

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1525-BSP	BA22355.D	1	09/14/15	AF	n/a	n/a	GBA1525

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	75.5	85	50-150
74-84-0	Ethane	166	147	89	50-150
74-85-1	Ethene	155	154	99	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC41332
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC41332-1DUP	BA22357.D	1	09/14/15	AF	n/a	n/a	GBA1525
MC41332-1	BA22356.D	1	09/14/15	AF	n/a	n/a	GBA1525

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41332-1, MC41332-2, MC41332-3, MC41332-4

CAS No.	Compound	MC41332-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	10 U		ND		nc	30
74-84-0	Ethane	10 U		ND		nc	30
74-85-1	Ethene	10 U		ND		nc	30

* = Outside of Control Limits.

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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25123
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/10/15

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.038	.096	-0.0036	<0.20

Associated samples MP25123: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25123
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/10/15

Metal	MC41301-3 Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.086	3.3	3	107.1	75-125

Associated samples MP25123: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25123
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/10/15

Metal	MC41301-3 Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.086	3.4	3	110.5	3.0	20

Associated samples MP25123: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25123
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/10/15 09/10/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits	BSD Result	Spikelot HGRWS1	% Rec	BSD RPD	QC Limit
Mercury	3.2	3	106.7	80-120	3.1	3	103.3	3.2	20

Associated samples MP25123: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28	4.2	<200
Antimony	6.0	.76	2	0.10	<6.0
Arsenic	4.0	1.3	1.7		
Barium	50	.24	1	0.10	<50
Beryllium	4.0	.18	.25	-0.10	<4.0
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43	-0.10	<4.0
Calcium	5000	5.3	15	9.3	<5000
Chromium	10	.37	.48	0.0	<10
Cobalt	50	.14	.28	0.0	<50
Copper	25	.48	2.4	0.0	<25
Gold	50	.95	1.5		
Iron	100	3.2	17	14.1	<100
Lead	5.0	.56	1.7	0.0	<5.0
Lithium	500	2	2.5		
Magnesium	5000	22	54	7.7	<5000
Manganese	15	.04	1.4	0.40	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5	-0.10	<40
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49	43.9	<5000
Selenium	10	1	2	1.1	<10
Silicon	100	13	30		
Silver	5.0	.6	1	0.30	<5.0
Sodium	5000	10	77	0.70	<5000
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7	-0.30	<5.0
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51	-0.20	<10
Zinc	20	.096	1	1.4	<20
Zirconium	50	.29	1.2		

Associated samples MP25142: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	0.0	9960	10000	99.6	75-125
Antimony	0.0	512	500	102.4	75-125
Arsenic					
Barium	131	2120	2000	99.5	75-125
Beryllium	0.0	493	500	98.6	75-125
Bismuth					
Boron					
Cadmium	0.0	510	500	102.0	75-125
Calcium	59200	83200	25000	96.0	75-125
Chromium	0.0	494	500	98.8	75-125
Cobalt	7.8	507	500	99.8	75-125
Copper	1.0	489	500	97.6	75-125
Gold					
Iron	119000	127000	10000	80.0 (a)	75-125
Lead	0.0	986	1000	98.6	75-125
Lithium					
Magnesium	7120	32600	25000	101.9	75-125
Manganese	10700	10800	500	20.0 (b)	75-125
Molybdenum					
Nickel	2.0	498	500	99.2	75-125
Palladium					
Platinum					
Potassium	9170	34200	25000	100.1	75-125
Selenium	0.0	516	500	103.2	75-125
Silicon					
Silver	0.60	193	200	96.2	75-125
Sodium	215000	235000	25000	80.0 (a)	75-125
Sulfur					
Strontium					
Thallium	0.0	481	500	96.2	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	0.80	509	500	101.6	75-125
Zinc	4.6	495	500	98.1	75-125
Zirconium					

Associated samples MP25142: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	0.0	9950	10000	99.5	0.1	20
Antimony	0.0	516	500	103.2	0.8	20
Arsenic						
Barium	131	2110	2000	99.0	0.5	20
Beryllium	0.0	491	500	98.2	0.4	20
Bismuth						
Boron						
Cadmium	0.0	513	500	102.6	0.6	20
Calcium	59200	83200	25000	96.0	0.0	20
Chromium	0.0	493	500	98.6	0.2	20
Cobalt	7.8	510	500	100.4	0.6	20
Copper	1.0	488	500	97.4	0.2	20
Gold						
Iron	119000	127000	10000	80.0 (a)	0.0	20
Lead	0.0	991	1000	99.1	0.5	20
Lithium						
Magnesium	7120	32400	25000	101.1	0.6	20
Manganese	10700	10900	500	40.0 (b)	0.9	20
Molybdenum						
Nickel	2.0	501	500	99.8	0.6	20
Palladium						
Platinum						
Potassium	9170	34200	25000	100.1	0.0	20
Selenium	0.0	519	500	103.8	0.6	20
Silicon						
Silver	0.60	193	200	96.2	0.0	20
Sodium	215000	235000	25000	80.0 (a)	0.0	20
Sulfur						
Strontium						
Thallium	0.0	483	500	96.6	0.4	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	0.80	505	500	100.8	0.8	20
Zinc	4.6	498	500	98.7	0.6	20
Zirconium						

Associated samples MP25142: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	10100	10000	101.0	80-120
Antimony	513	500	102.6	80-120
Arsenic				
Barium	2000	2000	100.0	80-120
Beryllium	499	500	99.8	80-120
Bismuth				
Boron				
Cadmium	505	500	101.0	80-120
Calcium	26200	25000	104.8	80-120
Chromium	498	500	99.6	80-120
Cobalt	503	500	100.6	80-120
Copper	487	500	97.4	80-120
Gold				
Iron	10200	10000	102.0	80-120
Lead	1010	1000	101.0	80-120
Lithium				
Magnesium	26400	25000	105.6	80-120
Manganese	520	500	104.0	80-120
Molybdenum				
Nickel	500	500	100.0	80-120
Palladium				
Platinum				
Potassium	25600	25000	102.4	80-120
Selenium	511	500	102.2	80-120
Silicon				
Silver	187	200	93.5	80-120
Sodium	26300	25000	105.2	80-120
Sulfur				
Strontium				
Thallium	509	500	101.8	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	506	500	101.2	80-120
Zinc	495	500	99.0	80-120
Zirconium				

Associated samples MP25142: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	SDL 1:5	%DIF	QC Limits
Aluminum	0.00	0.00	NC	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	131	129	1.4	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	59200	60300	1.7	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	7.80	7.70	1.3	0-10
Copper	1.00	0.00	100.0(a)	0-10
Gold				
Iron	119000	121000	1.4	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	7120	7250	1.8	0-10
Manganese	10700	10800	1.4	0-10
Molybdenum				
Nickel	2.00	3.10	55.0 (a)	0-10
Palladium				
Platinum				
Potassium	9170	9130	0.5	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.600	0.00	100.0(a)	0-10
Sodium	215000	216000	0.7	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.800	0.00	100.0(a)	0-10
Zinc	4.60	9.30	102.2(a)	0-10
Zirconium				

Associated samples MP25142: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.2.4

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/15/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	2.2	4.4		
Antimony	4.0	.012	.058		
Arsenic	4.0	.1	.42	0.34	<4.0
Barium	2.0	.022	.076		
Beryllium	1.0	.0036	.042		
Boron	10	.072	.34		
Cadmium	2.0	.0056	.026		
Calcium	500	18	30		
Chromium	8.0	.096	.42		
Cobalt	1.0	.0017	.028		
Copper	8.0	.096	1		
Iron	50	2.2	3.4		
Lead	2.0	.0058	.036		
Magnesium	500	1.8	2		
Manganese	4.0	.052	1.2		
Molybdenum	2.0	.028	.24		
Nickel	4.0	.022	.14		
Potassium	500	7	5.2		
Selenium	2.0	.38	.3		
Silver	2.0	.0044	.022		
Sodium	500	4.2	8.8		
Strontium	20	.011	.026		
Thallium	2.0	.028	.068		
Tin	10	.018	.048		
Titanium	2.0	.074	.26		
Vanadium	20	.46	1.4		
Zinc	10	.26	2		

Associated samples MP25142A: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	486	981	500	99.0	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP25142A: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	486	991	500	101.0	1.0	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP25142A: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/15/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	504	500	100.8	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25142A: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	SDL 10:50	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	486	500	2.8	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25142A: MC41332-1F, MC41332-2F, MC41332-3F, MC41332-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Nitrate + Nitrite	GP19562/GN51774	0.10	0.0	mg/l	2	2.05	102.5	90-110%
Nitrogen, Nitrite	GP19545/GN51734	0.010	0.0	mg/l	0.02	0.020	100.0	80-120%
Sulfide	GN51767	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Total Organic Carbon	GP19577/GN51819	1.0	0.0	mg/l	10	9.53	95.3	80-120%

Associated Samples:
Batch GN51767: MC41332-1, MC41332-2, MC41332-3, MC41332-4
Batch GP19545: MC41332-1, MC41332-2, MC41332-3, MC41332-4
Batch GP19562: MC41332-1, MC41332-2, MC41332-3, MC41332-4
Batch GP19577: MC41332-1, MC41332-2, MC41332-3, MC41332-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate + Nitrite	GP19562/GN51774	MC41374-1	mg/l	0.079	0.071	10.7	0-20%
Nitrogen, Nitrite	GP19545/GN51734	MC41332-1	mg/l	0.0011 U	0.0	0.0	0-20%
Sulfide	GN51767	MC41332-1	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN51767: MC41332-1, MC41332-2, MC41332-3, MC41332-4
Batch GP19545: MC41332-1, MC41332-2, MC41332-3, MC41332-4
Batch GP19562: MC41332-1, MC41332-2, MC41332-3, MC41332-4
(*) Outside of QC limits

9.2
9

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate + Nitrite	GP19562/GN51774	MC41374-1	mg/l	0.079	2	1.8	86.1N(a)	90-110%
Nitrogen, Nitrite	GP19545/GN51734	MC41332-1	mg/l	0.0011 U	0.02	0.017	85.0	75-125%
Sulfide	GN51767	MC41332-1	mg/l	0.34 U	13.4	13.0	97.0	75-125%
Total Organic Carbon	GP19577/GN51819	MC41332-1	mg/l	0.27 U	10	10.5	100.0	75-125%

Associated Samples:
Batch GN51767: MC41332-1, MC41332-2, MC41332-3, MC41332-4
Batch GP19545: MC41332-1, MC41332-2, MC41332-3, MC41332-4
Batch GP19562: MC41332-1, MC41332-2, MC41332-3, MC41332-4
Batch GP19577: MC41332-1, MC41332-2, MC41332-3, MC41332-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

9.3

9

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41332
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19577/GN51819	MC41332-1	mg/l	0.27 U	10	10.1	3.9	20%

Associated Samples:
Batch GP19577: MC41332-1, MC41332-2, MC41332-3, MC41332-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

9.4

9

New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

GW

CHAIN OF CUSTODY

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC41332
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information	Subcontract Laboratory Information
Name: Accutest New England	Name: Accutest - New Jersey
Address: 50 D'Angelo Drive	Address: 2235 Route 130
City: Marlborough State: MA Zip: 01752	City: Dayton State: NJ Zip: 08810
Send Report to: FrankD@accutest.com	Contact: Sample Management
Any questions contact: Frank D'Agostino	
Phone/Fax #: (508)481-6200 / (508)481-7753	Phone: (732) 329-0200

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300						Comments
MC41332 -1	9/9/15	3:05 PM		GW	1					x	X						
MC41332 -2	9/9/15	12:15 PM		GW	1					x	X						
MC41332 -3	9/9/15	2:10 PM		GW	1					x	X						MA
MC41332 -4	9/9/15	11:40 AM		GW	1					x	X						

Data Deliverable Information

[x] STD 9/21/15
[ ] Other _______ (Days) *Please notify Accutest if surcharges are applied.

FX# 6484 9124 9003

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

[ ] Commercial "A" [ ] PDF
[ ] Commercial "B" [ ] Compact Disk Deliverable
[X] Commercial "BN" [ ] Electronic Delivery:
[ ] Reduced Tier 1 [ ] State Forms
[ ] Full Tier 1 [ ] Other (Specify)

Comments / Remarks
All DW samples are subject to MCL compliance reporting.

INITIAL ASESSMENT 2A Dam
LABEL VERIFICATION DB

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:	
1 WM		1 FEDX	1 9-11-15	Seal #: Headspace: Yes No [ ] NA [ ]
2 FX	9/12/15 9:40	2 [signature]	2	Preserved where applicable: [ ]
3		3	3	Temperature °C 3.6°c-p On Ice [x]

sm022-01 (10/30/14)

10.1
10

MC41332: Chain of Custody
Page 1 of 2
Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC41332 **Client:** **Project:**

Date / Time Received: 9/12/2015 9:40:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.8);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	✓		3. COC Present:	✓	
2. Custody Seals Intact:	✓		4. Smpl Dates/Time OK	✓	

Cooler Temperature	Y	N
1. Temp criteria achieved:	✓	
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:		✓	
2. Trip Blank listed on COC:		✓	
3. Samples preserved properly:	✓		
4. VOCs headspace free:			✓

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	✓	
2. Container labeling complete:	✓	
3. Sample container label / COC agree:	✓	

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	✓	
2. All containers accounted for:	✓	
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	✓		
2. Bottles received for unspecified tests		✓	
3. Sufficient volume recvd for analysis:	✓		
4. Compositing instructions clear:			✓
5. Filtering instructions clear:			✓

Comments

MC41332: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC41332
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 09/09/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC41332

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41332
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP92019/GN32453	2.0	0.0	mg/l	80	81.6	102.0	90-110%
Sulfate	GP92019/GN32453	10	0.0	mg/l	80	81.4	101.8	90-110%

Associated Samples:
Batch GP92019: MC41332-1, MC41332-2, MC41332-3, MC41332-4
(*) Outside of QC limits

11.1
11

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41332
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP92019/GN32562	MC41332-1	mg/l	966	898	7.3	0-20%
Sulfate	GP92019/GN32453	MC41332-1	mg/l	34.7	35.0	0.9	0-20%

Associated Samples:
Batch GP92019: MC41332-1, MC41332-2, MC41332-3, MC41332-4
(*) Outside of QC limits

11.2
11

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41332
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP92019/GN32562	MC41332-1	mg/l	966	800	1810	105.5	80-120%
Sulfate	GP92019/GN32453	MC41332-1	mg/l	34.7	80	115	100.4	80-120%

Associated Samples:
Batch GP92019: MC41332-1, MC41332-2, MC41332-3, MC41332-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

11.3

11

e-Hardcopy 2.0
Automated Report

New England
ACCUTEST
LABORATORIES

10/05/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

1024-011

Accutest Job Number: MC41374

Sampling Date: 09/10/15

Report to:

H&S Environmental

lekes@hsenv.com

ATTN: Laurie Ekes

Total number of pages in report: **112**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8 9 10 11

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Accutest LabLink@161482 10:32 05-Oct-2015

Sample Summary

H&S Environmental

Job No: MC41374

Fort Devens, AOC50, Devens, MA
Project No: 1024-011

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC41374-1	09/10/15	11:05 EA	09/10/15	AQ	Ground Water	G6M-03-01X
MC41374-1F	09/10/15	11:05 EA	09/10/15	AQ	Groundwater Filtered	G6M-03-01X
MC41374-2	09/10/15	00:00 EA	09/10/15	AQ	Ground Water	DUP-01
MC41374-2F	09/10/15	00:00 EA	09/10/15	AQ	Groundwater Filtered	DUP-01
MC41374-3	09/10/15	13:30 EA	09/10/15	AQ	Ground Water	G6M-02-11X
MC41374-3F	09/10/15	13:30 EA	09/10/15	AQ	Groundwater Filtered	G6M-02-11X
MC41374-4	09/10/15	14:30 EA	09/10/15	AQ	Ground Water	G6M-04-05X
MC41374-4F	09/10/15	14:30 EA	09/10/15	AQ	Groundwater Filtered	G6M-04-05X
MC41374-5	09/10/15	15:50 EA	09/10/15	AQ	Ground Water	G6M-03-10X
MC41374-5F	09/10/15	15:50 EA	09/10/15	AQ	Groundwater Filtered	G6M-03-10X
MC41374-6	09/10/15	13:10 EA	09/10/15	AQ	Ground Water	G6M-02-01
MC41374-6F	09/10/15	13:10 EA	09/10/15	AQ	Groundwater Filtered	G6M-02-01
MC41374-7	09/10/15	15:30 EA	09/10/15	AQ	Ground Water	G6M-04-01X

Sample Summary
(continued)

H&S Environmental

Job No: MC41374

Fort Devens, AOC50, Devens, MA
Project No: 1024-011

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC41374-7F	09/10/15	15:30	EA	09/10/15	AQ	Groundwater Filtered	G6M-04-01X

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SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC41374

Site: Fort Devens, AOC50, Devens, MA **Report Date** 9/24/2015 1:18:19 PM

7 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 09/10/2015 and were received at Accutest on 09/10/2015 properly preserved, at 3 Deg. C and intact. These Samples received an Accutest job number of MC41374. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSU1322

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MSU1322-BSD, RPD(s) for MSU1322-BSD for Vinyl Acetate: Outside control limits. Associated samples are non-detect for this compound.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1525

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC41332-1DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25153

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-2FMS, MC41374-2FMSD, MC41374-2FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Copper, Nickel, Vanadium are outside control limits for sample MP25153-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MC41374-2F for Manganese, Sodium: Matrix spike duplicate recovery outside of the control limit. J-flag applied.
- MP25153-S1 for Iron: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- MP25153-SD1 for Zinc: Serial Dilution RPD acceptable due to low duplicate and sample concentrations.
- MC41374-2F for Iron: Matrix spike recovery outside of the control limit. J-flag applied.
- MP25153-S2 for Manganese, Sodium: Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Metals By Method SW846 6020A

Matrix: AQ	**Batch ID:** MP25153A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-2FMS, MC41374-2FMSD, MC41374-2FSDL were used as the QC samples for metals.

Metals By Method SW846 7470A

Matrix: AQ	**Batch ID:** MP25144

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-1FMS, MC41374-1FMSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	**Batch ID:** N:GP92019

- Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	**Batch ID:** GP19562

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-1DUP, MC41374-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate + Nitrite are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

Matrix: AQ	**Batch ID:** GP19563

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41414-8DUP, MC41414-8MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	**Batch ID:** R37220

- MC41374-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37221

- MC41374-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37222

- MC41374-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37223

- MC41374-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37224

- MC41374-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37225

- MC41374-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37232

- MC41374-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	**Batch ID:** GP19548

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-1DUP, MC41374-1MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ	Batch ID: GN51767

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41332-1DUP, MC41332-1MS were used as the QC samples for Sulfide.

Matrix: AQ	Batch ID: GN51768

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41432-6DUP, MC41432-6MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SW846 9060

Matrix: AQ	Batch ID: GP19577

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41332-1MS, MC41332-1MSD were used as the QC samples for Total Organic Carbon.

Matrix: AQ	Batch ID: GP19578

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-4MS, MC41374-4MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC41374).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Accutest Labs of New England, Inc.	**Job No**	MC41374
Site:	HSMAW: Fort Devens, AOC50, Devens, MA	**Report Date**	9/18/2015 12:15:07 P

On 09/12/2015, 7 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3.8 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC41374 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	**Batch ID:** GP92019

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41332-1MS, MC41332-1DUP were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC41374-1	**G6M-03-01X**					
1,1-Dichloroethene		1.4	1.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene		64.9	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene		2.4	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		103	1.0	0.50	ug/l	SW846 8260C
Toluene		0.53 J	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		66.9	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		62.8	1.0	0.50	ug/l	SW846 8260C
Methane		8640	100	50	ug/l	VRSK 175
Ethene		68.9	10	5.0	ug/l	VRSK 175
Nitrogen, Nitrate [a]		0.076 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.079 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		10.3	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		5.3	1.0	0.81	mg/l	SW846 9060
MC41374-1F	**G6M-03-01X**					
Arsenic		46.0	4.0	2.0	ug/l	SW846 6020A
Barium		411	50	25	ug/l	SW846 6010C
Calcium		43900	25000	13000	ug/l	SW846 6010C
Iron		41800	500	250	ug/l	SW846 6010C
Magnesium		3500 J	5000	2500	ug/l	SW846 6010C
Manganese		7080	30	15	ug/l	SW846 6010C
Potassium		10500	5000	2500	ug/l	SW846 6010C
Sodium		355000	250000	130000	ug/l	SW846 6010C
MC41374-2	**DUP-01**					
Carbon disulfide		1.3 J	5.0	0.50	ug/l	SW846 8260C
1,1-Dichloroethene		1.5	1.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene		71.5	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene		2.9	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		111	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		70.8	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		66.5	1.0	0.50	ug/l	SW846 8260C
Methane		5930	100	50	ug/l	VRSK 175
Ethene		66.8	10	5.0	ug/l	VRSK 175
Nitrogen, Nitrate [a]		0.082 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.084 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		10.1	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		5.3	1.0	0.81	mg/l	SW846 9060

Summary of Hits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC41374-2F	**DUP-01**					
Arsenic		46.8	4.0	2.0	ug/l	SW846 6020A
Barium		413	50	25	ug/l	SW846 6010C
Calcium		45500	25000	13000	ug/l	SW846 6010C
Iron [c]		44100 J	500	250	ug/l	SW846 6010C
Magnesium		3510 J	5000	2500	ug/l	SW846 6010C
Manganese [d]		7720 J	75	38	ug/l	SW846 6010C
Potassium		10500	5000	2500	ug/l	SW846 6010C
Sodium [d]		362000 J	100000	50000	ug/l	SW846 6010C
MC41374-3	**G6M-02-11X**					
Carbon disulfide		0.77 J	5.0	0.50	ug/l	SW846 8260C
Methane		11500	200	100	ug/l	VRSK 175
Ethane		5.5 J	10	5.0	ug/l	VRSK 175
Nitrogen, Nitrate [a]		0.084 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.087 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		0.78 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		5.3	1.0	0.81	mg/l	SW846 9060
MC41374-3F	**G6M-02-11X**					
Arsenic		546	20	10	ug/l	SW846 6020A
Barium		29.3 J	50	25	ug/l	SW846 6010C
Calcium		89900	25000	13000	ug/l	SW846 6010C
Iron		44400	500	250	ug/l	SW846 6010C
Magnesium		7040	5000	2500	ug/l	SW846 6010C
Manganese		9920	75	38	ug/l	SW846 6010C
Potassium		3500 J	5000	2500	ug/l	SW846 6010C
Sodium		74100	25000	13000	ug/l	SW846 6010C
MC41374-4	**G6M-04-05X**					
Chloroform		1.1	1.0	0.50	ug/l	SW846 8260C
Nitrogen, Nitrate [a]		0.21	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.21	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		25.4	10	0.50	mg/l	EPA 300/SW846 9056A
MC41374-4F	**G6M-04-05X**					
Calcium		28400	10000	5000	ug/l	SW846 6010C
Magnesium		3660 J	5000	2500	ug/l	SW846 6010C
Manganese		7.5 J	15	7.5	ug/l	SW846 6010C
Potassium		3330 J	5000	2500	ug/l	SW846 6010C

Summary of Hits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

Lab Sample ID Client Sample ID Analyte	Result/ Qual	LOQ	LOD	Units	Method
Sodium	21600	10000	5000	ug/l	SW846 6010C
Zinc	12.5 J	20	10	ug/l	SW846 6010C
MC41374-5 G6M-03-10X					
Methane	8910	100	50	ug/l	VRSK 175
Nitrogen, Nitrate [a]	0.080 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.082 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]	10.8	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	1.5	1.0	0.81	mg/l	SW846 9060
MC41374-5F G6M-03-10X					
Arsenic	453	20	10	ug/l	SW846 6020A
Barium	45.3 J	50	25	ug/l	SW846 6010C
Calcium	45100	25000	13000	ug/l	SW846 6010C
Iron	68100	500	250	ug/l	SW846 6010C
Magnesium	7780	5000	2500	ug/l	SW846 6010C
Manganese	2020	15	7.5	ug/l	SW846 6010C
Potassium	5970	5000	2500	ug/l	SW846 6010C
Sodium	147000	50000	25000	ug/l	SW846 6010C
Zinc	11.0 J	20	10	ug/l	SW846 6010C
MC41374-6 G6M-02-01					
Toluene	1.1	1.0	0.50	ug/l	SW846 8260C
Trichloroethene	0.50 J	1.0	0.50	ug/l	SW846 8260C
Methane	8550	200	100	ug/l	VRSK 175
Ethene	5.3 J	10	5.0	ug/l	VRSK 175
Nitrogen, Nitrate [a]	0.061 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.061 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]	0.96 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	2.1	1.0	0.81	mg/l	SW846 9060
MC41374-6F G6M-02-01					
Arsenic	374	20	10	ug/l	SW846 6020A
Barium	44.9 J	50	25	ug/l	SW846 6010C
Calcium	36800	25000	13000	ug/l	SW846 6010C
Iron	60900	500	250	ug/l	SW846 6010C
Magnesium	3740 J	5000	2500	ug/l	SW846 6010C
Manganese	1750	15	7.5	ug/l	SW846 6010C
Potassium	7400	5000	2500	ug/l	SW846 6010C
Sodium	105000	50000	25000	ug/l	SW846 6010C

Summary of Hits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC41374-7	**G6M-04-01X**					
Chloroethane		0.58 J	2.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene		0.93 J	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		0.75 J	1.0	0.50	ug/l	SW846 8260C
Xylene (total)		0.57 J	1.0	0.50	ug/l	SW846 8260C
Methane		6240	100	50	ug/l	VRSK 175
Nitrogen, Nitrate [a]		0.12	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.14	0.10	0.054	mg/l	EPA 353.2
Nitrogen, Nitrite		0.019	0.010	0.0033	mg/l	SM 21 4500 NO2 B
Sulfate [b]		3.6 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		18.9	1.0	0.81	mg/l	SW846 9060
MC41374-7F	**G6M-04-01X**					
Aluminum		101 J	200	100	ug/l	SW846 6010C
Arsenic		162	10	5.0	ug/l	SW846 6020A
Barium		121	50	25	ug/l	SW846 6010C
Calcium		115000	50000	25000	ug/l	SW846 6010C
Iron		31700	1000	500	ug/l	SW846 6010C
Magnesium		7860	5000	2500	ug/l	SW846 6010C
Manganese		9040	150	75	ug/l	SW846 6010C
Potassium		92500	50000	25000	ug/l	SW846 6010C
Sodium		357000	100000	50000	ug/l	SW846 6010C
Zinc		12.7 J	20	10	ug/l	SW846 6010C

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.
(c) Matrix spike recovery outside of the control limit. J-flag applied.
(d) Matrix spike duplicate recovery outside of the control limit. J-flag applied.

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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	G6M-03-01X		
Lab Sample ID:	MC41374-1	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32152.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	1.4	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	64.9	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.4	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-01X		
Lab Sample ID:	MC41374-1	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	103	1.0	0.50	ug/l	
108-88-3	Toluene	0.53	1.0	0.50	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	66.9	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	62.8	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-01X		
Lab Sample ID:	MC41374-1	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	108%		80-116%
460-00-4	4-Bromofluorobenzene	105%		77-124%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-01X		
Lab Sample ID:	MC41374-1	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22373.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2	BA22374.D	1	09/14/15	AF	n/a	n/a	GBA1525

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	8640 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	68.9	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected　LOD = Limit of Detection　J = Indicates an estimated value
LOQ = Limit of Quantitation　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-01X		
Lab Sample ID:	MC41374-1	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.076 J	0.11	0.057	mg/l	1	09/15/15 13:57	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.079 J	0.10	0.054	mg/l	1	09/15/15 13:57	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/12/15 09:29	MC	SM 21 4500 NO2 B
Sulfate [b]	10.3	10	0.50	mg/l	1	09/17/15 16:59	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	5.3	1.0	0.81	mg/l	1	09/22/15 00:02	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-03-01X
Lab Sample ID: MC41374-1F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/10/15
Date Received: 09/10/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Arsenic	46.0	4.0	2.0	ug/l	2	09/16/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [7]
Barium	411	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Calcium	43900	25000	13000	ug/l	5	09/16/15	09/21/15	EAL	SW846 6010C [4]	SW846 3010A [6]
Chromium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Cobalt	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Copper	13 U	25	13	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Iron	41800	500	250	ug/l	5	09/16/15	09/21/15	EAL	SW846 6010C [4]	SW846 3010A [6]
Lead	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Magnesium	3500 J	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Manganese	7080	30	15	ug/l	2	09/16/15	09/21/15	EAL	SW846 6010C [4]	SW846 3010A [6]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [5]
Nickel	20 U	40	20	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Potassium	10500	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Selenium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Silver	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Sodium	355000	250000	130000	ug/l	50	09/16/15	09/21/15	EAL	SW846 6010C [4]	SW846 3010A [6]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Vanadium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]
Zinc	10 U	20	10	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [6]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18472
(3) Instrument QC Batch: MA18476
(4) Instrument QC Batch: MA18479
(5) Prep QC Batch: MP25144
(6) Prep QC Batch: MP25153
(7) Prep QC Batch: MP25153A

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	DUP-01		
Lab Sample ID:	MC41374-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32153.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.3	5.0	0.50	ug/l	J
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	1.5	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	71.5	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.9	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01		
Lab Sample ID:	MC41374-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	111	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	70.8	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	66.5	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		79-127%

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01		
Lab Sample ID:	MC41374-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%		80-116%
460-00-4	4-Bromofluorobenzene	95%		77-124%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01		
Lab Sample ID:	MC41374-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22375.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2	BA22376.D	1	09/14/15	AF	n/a	n/a	GBA1525

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5930 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	66.8	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01		
Lab Sample ID:	MC41374-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.082 J	0.11	0.057	mg/l	1	09/15/15 13:58	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.084 J	0.10	0.054	mg/l	1	09/15/15 13:58	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/12/15 09:29	MC	SM 21 4500 NO2 B
Sulfate [b]	10.1	10	0.50	mg/l	1	09/17/15 17:22	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	5.3	1.0	0.81	mg/l	1	09/21/15 17:04	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: DUP-01
Lab Sample ID: MC41374-2F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/10/15
Date Received: 09/10/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	46.8	4.0	2.0	ug/l	2	09/16/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	413	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	45500	25000	13000	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron [a]	44100 J	500	250	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	3510 J	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese [b]	7720 J	75	38	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	20 U	40	20	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	10500	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium [b]	362000 J	100000	50000	ug/l	20	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18472
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25144
(5) Prep QC Batch: MP25153
(6) Prep QC Batch: MP25153A

(a) Matrix spike recovery outside of the control limit. J-flag applied.
(b) Matrix spike duplicate recovery outside of the control limit. J-flag applied.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-11X		
Lab Sample ID:	MC41374-3	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32154.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.77	5.0	0.50	ug/l	J
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X		
Lab Sample ID:	MC41374-3	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X		
Lab Sample ID:	MC41374-3	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	103%		80-116%
460-00-4	4-Bromofluorobenzene	101%		77-124%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X		
Lab Sample ID:	MC41374-3	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22377.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2	BA22378.D	1	09/14/15	AF	n/a	n/a	GBA1525

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	11500 [a]	200	100	ug/l	
74-84-0	Ethane	5.5	10	5.0	ug/l	J
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X		
Lab Sample ID:	MC41374-3	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.084 J	0.11	0.057	mg/l	1	09/15/15 13:59	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.087 J	0.10	0.054	mg/l	1	09/15/15 13:59	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/12/15 09:29	MC	SM 21 4500 NO2 B
Sulfate [b]	0.78 J	10	0.50	mg/l	1	09/17/15 17:46	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	5.3	1.0	0.81	mg/l	1	09/21/15 17:21	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-11X			
Lab Sample ID:	MC41374-3F		**Date Sampled:**	09/10/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	09/10/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	546	20	10	ug/l	10	09/16/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	29.3 J	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	89900	25000	13000	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	44400	500	250	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	7040	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	9920	75	38	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	20 U	40	20	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	3500 J	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	74100	25000	13000	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18472
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25144
(5) Prep QC Batch: MP25153
(6) Prep QC Batch: MP25153A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-05X		
Lab Sample ID:	MC41374-4	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32155.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	1.1	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-05X			
Lab Sample ID:	MC41374-4		**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water		**Date Received:**	09/10/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		79-127%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-05X		
Lab Sample ID:	MC41374-4	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		80-116%
460-00-4	4-Bromofluorobenzene	93%		77-124%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-05X		
Lab Sample ID:	MC41374-4	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22379.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5.0 U	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-05X		
Lab Sample ID:	MC41374-4	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.21	0.11	0.057	mg/l	1	09/15/15 14:01	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.21	0.10	0.054	mg/l	1	09/15/15 14:01	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/12/15 09:29	MC	SM 21 4500 NO2 B
Sulfate [b]	25.4	10	0.50	mg/l	1	09/17/15 18:10	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	0.81 U	1.0	0.81	mg/l	1	09/21/15 21:00	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-05X			
Lab Sample ID:	MC41374-4F		**Date Sampled:**	09/10/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	09/10/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	2.0 U	4.0	2.0	ug/l	2	09/16/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	28400	10000	5000	ug/l	2	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	50 U	100	50	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	3660 J	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	7.5 J	15	7.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	20 U	40	20	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	3330 J	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	21600	10000	5000	ug/l	2	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	12.5 J	20	10	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18472
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25144
(5) Prep QC Batch: MP25153
(6) Prep QC Batch: MP25153A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-10X		
Lab Sample ID:	MC41374-5	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32156.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-10X		
Lab Sample ID:	MC41374-5	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-10X		
Lab Sample ID:	MC41374-5	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		80-116%
460-00-4	4-Bromofluorobenzene	94%		77-124%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-10X		
Lab Sample ID:	MC41374-5	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22380.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2	BA22381.D	1	09/14/15	AF	n/a	n/a	GBA1525

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	8910 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-10X		
Lab Sample ID:	MC41374-5	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.080 J	0.11	0.057	mg/l	1	09/15/15 14:02	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.082 J	0.10	0.054	mg/l	1	09/15/15 14:02	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/12/15 09:29	MC	SM 21 4500 NO2 B
Sulfate [b]	10.8	10	0.50	mg/l	1	09/17/15 18:34	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	1.5	1.0	0.81	mg/l	1	09/21/15 21:15	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-03-10X
Lab Sample ID: MC41374-5F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/10/15
Date Received: 09/10/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	453	20	10	ug/l	10	09/16/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	45.3 J	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	45100	25000	13000	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	68100	500	250	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	7780	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	2020	15	7.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	20 U	40	20	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	5970	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	147000	50000	25000	ug/l	10	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	11.0 J	20	10	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18472
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25144
(5) Prep QC Batch: MP25153
(6) Prep QC Batch: MP25153A

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-01		
Lab Sample ID:	MC41374-6	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32157.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01		
Lab Sample ID:	MC41374-6	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	1.1	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		79-127%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01		
Lab Sample ID:	MC41374-6	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		80-116%
460-00-4	4-Bromofluorobenzene	93%		77-124%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01		
Lab Sample ID:	MC41374-6	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22382.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2	BA22383.D	1	09/14/15	AF	n/a	n/a	GBA1525

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	8550 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.3	10	5.0	ug/l	J

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01		
Lab Sample ID:	MC41374-6	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.061 J	0.11	0.057	mg/l	1	09/15/15 14:06	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.061 J	0.10	0.054	mg/l	1	09/15/15 14:06	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/12/15 09:29	MC	SM 21 4500 NO2 B
Sulfate [b]	0.96 J	10	0.50	mg/l	1	09/17/15 18:58	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	2.1	1.0	0.81	mg/l	1	09/21/15 21:30	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-01		
Lab Sample ID:	MC41374-6F	**Date Sampled:**	09/10/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	374	20	10	ug/l	10	09/16/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	44.9 J	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	36800	25000	13000	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	60900	500	250	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	3740 J	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	1750	15	7.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	20 U	40	20	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	7400	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	105000	50000	25000	ug/l	10	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18472
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25144
(5) Prep QC Batch: MP25153
(6) Prep QC Batch: MP25153A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-04-01X
Lab Sample ID: MC41374-7 **Date Sampled:** 09/10/15
Matrix: AQ - Ground Water **Date Received:** 09/10/15
Method: SW846 8260C **Percent Solids:** n/a
Project: Fort Devens, AOC50, Devens, MA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32158.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.58	2.0	0.50	ug/l	J
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.93	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-01X		
Lab Sample ID:	MC41374-7	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.75	1.0	0.50	ug/l	J
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.57	1.0	0.50	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-01X		
Lab Sample ID:	MC41374-7	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		80-116%
460-00-4	4-Bromofluorobenzene	92%		77-124%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-01X		
Lab Sample ID:	MC41374-7	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22385.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2	BA22386.D	1	09/14/15	AF	n/a	n/a	GBA1525

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	6240 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-01X		
Lab Sample ID:	MC41374-7	**Date Sampled:**	09/10/15
Matrix:	AQ - Ground Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.12	0.11	0.057	mg/l	1	09/15/15 14:35	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.14	0.10	0.054	mg/l	1	09/15/15 14:35	MC	EPA 353.2
Nitrogen, Nitrite	0.019	0.010	0.0033	mg/l	1	09/12/15 09:31	MC	SM 21 4500 NO2 B
Sulfate [b]	3.6 J	10	0.50	mg/l	1	09/17/15 19:22	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	18.9	1.0	0.81	mg/l	1	09/21/15 21:45	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-04-01X
Lab Sample ID: MC41374-7F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/10/15
Date Received: 09/10/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	101 J	200	100	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	162	10	5.0	ug/l	5	09/16/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	121	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	115000	50000	25000	ug/l	10	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	31700	1000	500	ug/l	10	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	7860	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	9040	150	75	ug/l	10	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	20 U	40	20	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	92500	50000	25000	ug/l	10	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	357000	100000	50000	ug/l	20	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	12.7 J	20	10	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18472
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25144
(5) Prep QC Batch: MP25153
(6) Prep QC Batch: MP25153A

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

CHAIN OF CUSTODY

PAGE 1 OF 1

ACCUTEST Laboratories

50 D'Angelo Drive, 495 Technology Center West, Bldg 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # MC41374

Client / Reporting Information		Project Information	
Company Name: H&S Environmental, Inc.		Project Name: USACE Devens AOC 50	
Street Address: 160 East Main St, Suite, 2F		Street: Fitchburg Road	Billing Information (if different from Report to)
City: Westborough State: MA	Zip: 01581	City: Devens State: MA	Company Name
Project Contact: Elizabeth Anderson	E-mail: eanderson@hsenv.com	Project #: 1024-011	Street Address
Phone #: 508-366-7442	Fax #: 508-366-7445	Client Purchase Order #: 1024-11	City State Zip
Sampler(s) Name(s): E Anderson/J Fitzgerald	Phone #: 508-366-7442	Project Manager: Elizabeth Anderson	Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Zn Ac/NaOH	VOC 8260B	Dissolved metals	Methane/Ethane/Ethene	Nitrogen, Nitrite	Nitrogen, Nitrate	Sulfide	Sulfate	TOC	LAB USE ONLY
-1F	GW-03-01X		9/10/15	1105	JA	GW	11	X	X	X	X					X	X	X	X	X	X	X	X	X	
-2F	DUP-01					GW																			
-3F	GW 02-11X			1330		GW																			
-4F	GW 04-05X			1430		GW																			
-5F	GW 03-10X			1550		GW																			
-6F	GW 02-01			1310		GW																			
-7F	GW 04-01X			1530		GW																			
						GW																			
						GW																			
						GW																			15C, 5C,
						GW																			2B1

Turnaround Time (Business days)

- [ ] Std. 15 Business Days
- [x] Std. 10 Business Days (by Contract only)
- [ ] 10 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [x] EDD Format SEDD
- [ ] Other ________

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Note project requires ADR.net checking and SEDD format

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	9/11/15 1755	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 3.0°C

MC41374: Chain of Custody
Page 1 of 2

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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC41374 **Client:** H&S **Project:** USACE DEVENS

Date / Time Received: 9/10/2015 5:50:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3/3);

Cooler Security

	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

5.1

5

MC41374: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1322	SW846 8260C						
MSU1322-BS	67-64-1	Acetone	BSP	REC	74	%	39-160
MSU1322-BS	71-43-2	Benzene	BSP	REC	95	%	79-120
MSU1322-BS	108-86-1	Bromobenzene	BSP	REC	97	%	80-120
MSU1322-BS	74-97-5	Bromochloromethane	BSP	REC	97	%	78-123
MSU1322-BS	75-27-4	Bromodichloromethane	BSP	REC	97	%	79-125
MSU1322-BS	75-25-2	Bromoform	BSP	REC	89	%	66-130
MSU1322-BS	74-83-9	Bromomethane	BSP	REC	106	%	53-141
MSU1322-BS	78-93-3	2-Butanone (MEK)	BSP	REC	79	%	56-143
MSU1322-BS	104-51-8	n-Butylbenzene	BSP	REC	103	%	75-128
MSU1322-BS	135-98-8	sec-Butylbenzene	BSP	REC	106	%	77-126
MSU1322-BS	98-06-6	tert-Butylbenzene	BSP	REC	109	%	78-124
MSU1322-BS	75-15-0	Carbon disulfide	BSP	REC	82	%	64-133
MSU1322-BS	56-23-5	Carbon tetrachloride	BSP	REC	100	%	72-136
MSU1322-BS	108-90-7	Chlorobenzene	BSP	REC	96	%	82-118
MSU1322-BS	75-00-3	Chloroethane	BSP	REC	104	%	60-138
MSU1322-BS	67-66-3	Chloroform	BSP	REC	98	%	79-124
MSU1322-BS	74-87-3	Chloromethane	BSP	REC	84	%	50-139
MSU1322-BS	95-49-8	o-Chlorotoluene	BSP	REC	100	%	79-122
MSU1322-BS	106-43-4	p-Chlorotoluene	BSP	REC	97	%	78-122
MSU1322-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	97	%	62-128
MSU1322-BS	124-48-1	Dibromochloromethane	BSP	REC	98	%	74-126
MSU1322-BS	106-93-4	1,2-Dibromoethane	BSP	REC	99	%	77-121
MSU1322-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	111	%	80-119
MSU1322-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	98	%	80-119
MSU1322-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	99	%	79-118
MSU1322-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	101	%	32-152
MSU1322-BS	75-34-3	1,1-Dichloroethane	BSP	REC	88	%	77-125
MSU1322-BS	107-06-2	1,2-Dichloroethane	BSP	REC	98	%	73-128
MSU1322-BS	75-35-4	1,1-Dichloroethene	BSP	REC	90	%	71-131
MSU1322-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	101	%	78-123
MSU1322-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	97	%	75-124
MSU1322-BS	78-87-5	1,2-Dichloropropane	BSP	REC	97	%	78-122
MSU1322-BS	142-28-9	1,3-Dichloropropane	BSP	REC	98	%	80-119
MSU1322-BS	594-20-7	2,2-Dichloropropane	BSP	REC	103	%	60-139
MSU1322-BS	563-58-6	1,1-Dichloropropene	BSP	REC	92	%	79-125
MSU1322-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	95	%	75-124
MSU1322-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	90	%	73-127
MSU1322-BS	100-41-4	Ethylbenzene	BSP	REC	100	%	79-121
MSU1322-BS	87-68-3	Hexachlorobutadiene	BSP	REC	120	%	66-134
MSU1322-BS	591-78-6	2-Hexanone	BSP	REC	76	%	57-139
MSU1322-BS	74-88-4	Iodomethane	BSP	REC	95	%	69-131
MSU1322-BS	98-82-8	Isopropylbenzene	BSP	REC	98	%	72-131

* Sample used for QC is not from job MC41374

QC Evaluation: DOD QSM5 Limits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1322-BS	99-87-6	p-Isopropyltoluene	BSP	REC	105	%	77-127
MSU1322-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	100	%	71-124
MSU1322-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	91	%	67-130
MSU1322-BS	74-95-3	Methylene bromide	BSP	REC	101	%	79-123
MSU1322-BS	75-09-2	Methylene chloride	BSP	REC	96	%	74-124
MSU1322-BS	91-20-3	Naphthalene	BSP	REC	99	%	61-128
MSU1322-BS	103-65-1	n-Propylbenzene	BSP	REC	95	%	76-126
MSU1322-BS	100-42-5	Styrene	BSP	REC	95	%	78-123
MSU1322-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	105	%	78-124
MSU1322-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	108	%	71-121
MSU1322-BS	127-18-4	Tetrachloroethene	BSP	REC	103	%	74-129
MSU1322-BS	108-88-3	Toluene	BSP	REC	95	%	80-121
MSU1322-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	112	%	69-129
MSU1322-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	112	%	69-130
MSU1322-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	100	%	74-131
MSU1322-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	95	%	80-119
MSU1322-BS	79-01-6	Trichloroethene	BSP	REC	94	%	79-123
MSU1322-BS	75-69-4	Trichlorofluoromethane	BSP	REC	95	%	65-141
MSU1322-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	93	%	73-122
MSU1322-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	101	%	76-124
MSU1322-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	107	%	75-124
MSU1322-BS	108-05-4	Vinyl Acetate	BSP	REC	123	%	54-146
MSU1322-BS	75-01-4	Vinyl chloride	BSP	REC	97	%	58-137
MSU1322-BS		m,p-Xylene	BSP	REC	99	%	80-121
MSU1322-BS	95-47-6	o-Xylene	BSP	REC	98	%	78-122
MSU1322-BS	1330-20-7	Xylene (total)	BSP	REC	99	%	79-121
MSU1322-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	103	%	80-119
MSU1322-BS	2037-26-5	Toluene-D8	BSP	SURR	100	%	89-112
MSU1322-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	97	%	85-114
MSU1322-BSD	67-64-1	Acetone	BSD	REC	78	%	39-160
MSU1322-BSD	71-43-2	Benzene	BSD	REC	99	%	79-120
MSU1322-BSD	108-86-1	Bromobenzene	BSD	REC	98	%	80-120
MSU1322-BSD	74-97-5	Bromochloromethane	BSD	REC	102	%	78-123
MSU1322-BSD	75-27-4	Bromodichloromethane	BSD	REC	99	%	79-125
MSU1322-BSD	75-25-2	Bromoform	BSD	REC	91	%	66-130
MSU1322-BSD	74-83-9	Bromomethane	BSD	REC	116	%	53-141
MSU1322-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	85	%	56-143
MSU1322-BSD	104-51-8	n-Butylbenzene	BSD	REC	105	%	75-128
MSU1322-BSD	135-98-8	sec-Butylbenzene	BSD	REC	108	%	77-126
MSU1322-BSD	98-06-6	tert-Butylbenzene	BSD	REC	111	%	78-124
MSU1322-BSD	75-15-0	Carbon disulfide	BSD	REC	85	%	64-133
MSU1322-BSD	56-23-5	Carbon tetrachloride	BSD	REC	103	%	72-136
MSU1322-BSD	108-90-7	Chlorobenzene	BSD	REC	98	%	82-118
MSU1322-BSD	75-00-3	Chloroethane	BSD	REC	100	%	60-138
MSU1322-BSD	67-66-3	Chloroform	BSD	REC	101	%	79-124

* Sample used for QC is not from job MC41374

QC Evaluation: DOD QSM5 Limits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1322-BSD	74-87-3	Chloromethane	BSD	REC	88	%	50-139
MSU1322-BSD	95-49-8	o-Chlorotoluene	BSD	REC	102	%	79-122
MSU1322-BSD	106-43-4	p-Chlorotoluene	BSD	REC	98	%	78-122
MSU1322-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	101	%	62-128
MSU1322-BSD	124-48-1	Dibromochloromethane	BSD	REC	99	%	74-126
MSU1322-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	99	%	77-121
MSU1322-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	114	%	80-119
MSU1322-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	100	%	80-119
MSU1322-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	100	%	79-118
MSU1322-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	108	%	32-152
MSU1322-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	92	%	77-125
MSU1322-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	101	%	73-128
MSU1322-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	97	%	71-131
MSU1322-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	106	%	78-123
MSU1322-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	101	%	75-124
MSU1322-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	99	%	78-122
MSU1322-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	98	%	80-119
MSU1322-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	106	%	60-139
MSU1322-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	95	%	79-125
MSU1322-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	94	%	75-124
MSU1322-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	87	%	73-127
MSU1322-BSD	100-41-4	Ethylbenzene	BSD	REC	104	%	79-121
MSU1322-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	126	%	66-134
MSU1322-BSD	591-78-6	2-Hexanone	BSD	REC	79	%	57-139
MSU1322-BSD	74-88-4	Iodomethane	BSD	REC	102	%	69-131
MSU1322-BSD	98-82-8	Isopropylbenzene	BSD	REC	102	%	72-131
MSU1322-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	108	%	77-127
MSU1322-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	106	%	71-124
MSU1322-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	94	%	67-130
MSU1322-BSD	74-95-3	Methylene bromide	BSD	REC	104	%	79-123
MSU1322-BSD	75-09-2	Methylene chloride	BSD	REC	102	%	74-124
MSU1322-BSD	91-20-3	Naphthalene	BSD	REC	104	%	61-128
MSU1322-BSD	103-65-1	n-Propylbenzene	BSD	REC	97	%	76-126
MSU1322-BSD	100-42-5	Styrene	BSD	REC	98	%	78-123
MSU1322-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	113	%	78-124
MSU1322-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	110	%	71-121
MSU1322-BSD	127-18-4	Tetrachloroethene	BSD	REC	107	%	74-129
MSU1322-BSD	108-88-3	Toluene	BSD	REC	97	%	80-121
MSU1322-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	119	%	69-129
MSU1322-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	117	%	69-130
MSU1322-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	104	%	74-131
MSU1322-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	95	%	80-119
MSU1322-BSD	79-01-6	Trichloroethene	BSD	REC	96	%	79-123
MSU1322-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	99	%	65-141
MSU1322-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	95	%	73-122

* Sample used for QC is not from job MC41374

QC Evaluation: DOD QSM5 Limits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1322-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	104	%	76-124
MSU1322-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	111	%	75-124
MSU1322-BSD	108-05-4	Vinyl Acetate	BSD	REC	258 [a]	%	54-146
MSU1322-BSD	75-01-4	Vinyl chloride	BSD	REC	105	%	58-137
MSU1322-BSD		m,p-Xylene	BSD	REC	103	%	80-121
MSU1322-BSD	95-47-6	o-Xylene	BSD	REC	103	%	78-122
MSU1322-BSD	1330-20-7	Xylene (total)	BSD	REC	103	%	79-121
MSU1322-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	105	%	80-119
MSU1322-BSD	2037-26-5	Toluene-D8	BSD	SURR	99	%	89-112
MSU1322-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	95	%	85-114
MSU1322-MB	1868-53-7	Dibromofluoromethane	MB	SURR	103	%	80-119
MSU1322-MB	2037-26-5	Toluene-D8	MB	SURR	91	%	89-112
MSU1322-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	95	%	85-114
MC41374-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC41374-1	2037-26-5	Toluene-D8	SAMP	SURR	108	%	89-112
MC41374-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	105	%	85-114
MC41374-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	113	%	80-119
MC41374-2	2037-26-5	Toluene-D8	SAMP	SURR	96	%	89-112
MC41374-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC41374-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	103	%	80-119
MC41374-3	2037-26-5	Toluene-D8	SAMP	SURR	103	%	89-112
MC41374-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114
MC41374-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC41374-4	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
MC41374-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	93	%	85-114
MC41374-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC41374-5	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC41374-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
MC41374-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC41374-6	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
MC41374-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	93	%	85-114
MC41374-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	114	%	80-119
MC41374-7	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC41374-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MP25144	SW846 7470A						
MP25144-B1	7439-97-6	Mercury	BSP	REC	100	%	82-119
MP25144-S1	7439-97-6	Mercury	MS	REC	106.7	%	82-119
MP25144-S2	7439-97-6	Mercury	MSD	REC	110	%	82-119
MP25144-S2	7439-97-6	Mercury	MSD	RPD	3.1	%	20
MP25153	SW846 6010C						
MP25153-B1	7429-90-5	Aluminum	BSP	REC	98.2	%	86-115

* Sample used for QC is not from job MC41374

QC Evaluation: DOD QSM5 Limits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25153-B1	7440-36-0	Antimony	BSP	REC	102.8	%	88-113
MP25153-B1	7440-39-3	Barium	BSP	REC	98	%	88-113
MP25153-B1	7440-41-7	Beryllium	BSP	REC	98.2	%	89-112
MP25153-B1	7440-43-9	Cadmium	BSP	REC	99.4	%	88-113
MP25153-B1	7440-70-2	Calcium	BSP	REC	101.6	%	87-113
MP25153-B1	7440-47-3	Chromium	BSP	REC	96.8	%	90-113
MP25153-B1	7440-48-4	Cobalt	BSP	REC	100.8	%	89-114
MP25153-B1	7440-50-8	Copper	BSP	REC	95.8	%	86-114
MP25153-B1	7439-89-6	Iron	BSP	REC	102	%	87-115
MP25153-B1	7439-92-1	Lead	BSP	REC	100	%	86-113
MP25153-B1	7439-95-4	Magnesium	BSP	REC	100.8	%	85-113
MP25153-B1	7439-96-5	Manganese	BSP	REC	104.2	%	90-114
MP25153-B1	7440-02-0	Nickel	BSP	REC	99.4	%	88-113
MP25153-B1	7440-09-7	Potassium	BSP	REC	101.2	%	86-114
MP25153-B1	7782-49-2	Selenium	BSP	REC	103.2	%	83-114
MP25153-B1	7440-22-4	Silver	BSP	REC	92	%	84-115
MP25153-B1	7440-23-5	Sodium	BSP	REC	102.4	%	87-115
MP25153-B1	7440-28-0	Thallium	BSP	REC	100.6	%	85-114
MP25153-B1	7440-62-2	Vanadium	BSP	REC	101.2	%	90-111
MP25153-B1	7440-66-6	Zinc	BSP	REC	97.4	%	87-115
MP25153-S1	7429-90-5	Aluminum	MS	REC	98.4	%	86-115
MP25153-S1	7440-36-0	Antimony	MS	REC	103.8	%	88-113
MP25153-S1	7440-39-3	Barium	MS	REC	98.4	%	88-113
MP25153-S1	7440-41-7	Beryllium	MS	REC	98.2	%	89-112
MP25153-S1	7440-43-9	Cadmium	MS	REC	101	%	88-113
MP25153-S1	7440-70-2	Calcium	MS	REC	96.4	%	87-113
MP25153-S1	7440-47-3	Chromium	MS	REC	97	%	90-113
MP25153-S1	7440-48-4	Cobalt	MS	REC	103	%	89-114
MP25153-S1	7440-50-8	Copper	MS	REC	96.7	%	86-114
MP25153-S1	7439-89-6	Iron	MS	REC	85 [b]	%	87-115
MP25153-S1	7439-92-1	Lead	MS	REC	101	%	86-113
MP25153-S1	7439-95-4	Magnesium	MS	REC	98.8	%	85-113
MP25153-S1	7439-96-5	Manganese	MS	REC	110	%	90-114
MP25153-S1	7440-02-0	Nickel	MS	REC	101.5	%	88-113
MP25153-S1	7440-09-7	Potassium	MS	REC	100.4	%	86-114
MP25153-S1	7782-49-2	Selenium	MS	REC	105.6	%	83-114
MP25153-S1	7440-22-4	Silver	MS	REC	96	%	84-115
MP25153-S1	7440-23-5	Sodium	MS	REC	96	%	87-115
MP25153-S1	7440-28-0	Thallium	MS	REC	96.4	%	85-114
MP25153-S1	7440-62-2	Vanadium	MS	REC	102.5	%	90-111
MP25153-S1	7440-66-6	Zinc	MS	REC	98.2	%	87-115
MP25153-S2	7429-90-5	Aluminum	MSD	REC	98.2	%	86-115
MP25153-S2	7429-90-5	Aluminum	MSD	RPD	.2	%	20
MP25153-S2	7440-36-0	Antimony	MSD	REC	103.8	%	88-113
MP25153-S2	7440-36-0	Antimony	MSD	RPD	0	%	20

* Sample used for QC is not from job MC41374

QC Evaluation: DOD QSM5 Limits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25153-S2	7440-39-3	Barium	MSD	REC	97.9	%	88-113
MP25153-S2	7440-39-3	Barium	MSD	RPD	.4	%	20
MP25153-S2	7440-41-7	Beryllium	MSD	REC	98.2	%	89-112
MP25153-S2	7440-41-7	Beryllium	MSD	RPD	0	%	20
MP25153-S2	7440-43-9	Cadmium	MSD	REC	101	%	88-113
MP25153-S2	7440-43-9	Cadmium	MSD	RPD	0	%	20
MP25153-S2	7440-70-2	Calcium	MSD	REC	97.2	%	87-113
MP25153-S2	7440-70-2	Calcium	MSD	RPD	.3	%	20
MP25153-S2	7440-47-3	Chromium	MSD	REC	96.8	%	90-113
MP25153-S2	7440-47-3	Chromium	MSD	RPD	.2	%	20
MP25153-S2	7440-48-4	Cobalt	MSD	REC	102.8	%	89-114
MP25153-S2	7440-48-4	Cobalt	MSD	RPD	.2	%	20
MP25153-S2	7440-50-8	Copper	MSD	REC	95.9	%	86-114
MP25153-S2	7440-50-8	Copper	MSD	RPD	.8	%	20
MP25153-S2	7439-89-6	Iron	MSD	REC	90	%	87-115
MP25153-S2	7439-89-6	Iron	MSD	RPD	.9	%	20
MP25153-S2	7439-92-1	Lead	MSD	REC	101	%	86-113
MP25153-S2	7439-92-1	Lead	MSD	RPD	0	%	20
MP25153-S2	7439-95-4	Magnesium	MSD	REC	100.4	%	85-113
MP25153-S2	7439-95-4	Magnesium	MSD	RPD	1.4	%	20
MP25153-S2	7439-96-5	Manganese	MSD	REC	56 c	%	90-114
MP25153-S2	7439-96-5	Manganese	MSD	RPD	3.3	%	20
MP25153-S2	7440-02-0	Nickel	MSD	REC	101.3	%	88-113
MP25153-S2	7440-02-0	Nickel	MSD	RPD	.2	%	20
MP25153-S2	7440-09-7	Potassium	MSD	REC	100.4	%	86-114
MP25153-S2	7440-09-7	Potassium	MSD	RPD	0	%	20
MP25153-S2	7782-49-2	Selenium	MSD	REC	105.8	%	83-114
MP25153-S2	7782-49-2	Selenium	MSD	RPD	.2	%	20
MP25153-S2	7440-22-4	Silver	MSD	REC	95.5	%	84-115
MP25153-S2	7440-22-4	Silver	MSD	RPD	.5	%	20
MP25153-S2	7440-23-5	Sodium	MSD	REC	64 c	%	87-115
MP25153-S2	7440-23-5	Sodium	MSD	RPD	2.1	%	20
MP25153-S2	7440-28-0	Thallium	MSD	REC	96.2	%	85-114
MP25153-S2	7440-28-0	Thallium	MSD	RPD	.2	%	20
MP25153-S2	7440-62-2	Vanadium	MSD	REC	102.3	%	90-111
MP25153-S2	7440-62-2	Vanadium	MSD	RPD	.2	%	20
MP25153-S2	7440-66-6	Zinc	MSD	REC	98	%	87-115
MP25153-S2	7440-66-6	Zinc	MSD	RPD	.2	%	20
MP25153A	SW846 6020A						
MP25153A-B1	7440-38-2	Arsenic	BSP	REC	102	%	84-116
MP25153A-S1	7440-38-2	Arsenic	MS	REC	103.2	%	84-116
MP25153A-S2	7440-38-2	Arsenic	MSD	REC	102	%	84-116
MP25153A-S2	7440-38-2	Arsenic	MSD	RPD	1.1	%	20

* Sample used for QC is not from job MC41374

QC Evaluation: DOD QSM5 Limits

Job Number: MC41374
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

(a) Outside control limits. Associated samples are non-detect for this compound.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(c) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

* Sample used for QC is not from job MC41374

New England
ACCUTEST
LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC41374
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-MB	U32142.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC41374
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-MB	U32142.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	10	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	0.35	2.0	0.27	ug/l	J
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC41374
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-MB	U32142.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	79-127%
2037-26-5	Toluene-D8	91%	80-116%
460-00-4	4-Bromofluorobenzene	95%	77-124%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC41374
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-BS	U32138.D	1	09/22/15	AD	n/a	n/a	MSU1322
MSU1322-BSD	U32139.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	36.8	74	38.8	78	5	10-200/25
71-43-2	Benzene	50	47.5	95	49.4	99	4	74-124/25
108-86-1	Bromobenzene	50	48.3	97	49.0	98	1	80-117/25
74-97-5	Bromochloromethane	50	48.4	97	51.0	102	5	73-130/25
75-27-4	Bromodichloromethane	50	48.5	97	49.4	99	2	76-136/25
75-25-2	Bromoform	50	44.7	89	45.4	91	2	63-139/25
74-83-9	Bromomethane	50	53.1	106	57.8	116	8	49-161/25
78-93-3	2-Butanone (MEK)	50	39.5	79	42.4	85	7	44-191/25
104-51-8	n-Butylbenzene	50	51.5	103	52.7	105	2	84-134/25
135-98-8	sec-Butylbenzene	50	52.8	106	54.0	108	2	76-125/25
98-06-6	tert-Butylbenzene	50	54.4	109	55.5	111	2	74-123/25
75-15-0	Carbon disulfide	50	40.9	82	42.4	85	4	45-138/25
56-23-5	Carbon tetrachloride	50	49.9	100	51.7	103	4	64-149/25
108-90-7	Chlorobenzene	50	47.8	96	49.1	98	3	73-114/25
75-00-3	Chloroethane	50	51.8	104	50.0	100	4	43-165/25
67-66-3	Chloroform	50	48.9	98	50.4	101	3	72-132/25
74-87-3	Chloromethane	50	41.9	84	43.8	88	4	30-173/25
95-49-8	o-Chlorotoluene	50	50.1	100	51.2	102	2	75-116/25
106-43-4	p-Chlorotoluene	50	48.5	97	49.1	98	1	78-116/25
96-12-8	1,2-Dibromo-3-chloropropane	50	48.6	97	50.3	101	3	50-157/25
124-48-1	Dibromochloromethane	50	49.1	98	49.3	99	0	75-133/25
106-93-4	1,2-Dibromoethane	50	49.4	99	49.6	99	0	72-133/25
95-50-1	1,2-Dichlorobenzene	50	55.6	111	57.0	114	2	73-122/25
541-73-1	1,3-Dichlorobenzene	50	49.1	98	50.0	100	2	76-117/25
106-46-7	1,4-Dichlorobenzene	50	49.3	99	50.2	100	2	74-120/25
75-71-8	Dichlorodifluoromethane	50	50.6	101	54.0	108	7	30-180/25
75-34-3	1,1-Dichloroethane	50	44.0	88	45.8	92	4	62-130/25
107-06-2	1,2-Dichloroethane	50	49.1	98	50.5	101	3	65-140/25
75-35-4	1,1-Dichloroethene	50	45.0	90	48.6	97	8	57-132/25
156-59-2	cis-1,2-Dichloroethene	50	50.4	101	53.0	106	5	72-131/25
156-60-5	trans-1,2-Dichloroethene	50	48.3	97	50.5	101	4	69-127/25
78-87-5	1,2-Dichloropropane	50	48.4	97	49.3	99	2	74-130/25
142-28-9	1,3-Dichloropropane	50	49.1	98	49.1	98	0	80-129/25
594-20-7	2,2-Dichloropropane	50	51.6	103	53.1	106	3	54-162/25
563-58-6	1,1-Dichloropropene	50	46.0	92	47.3	95	3	75-116/25
10061-01-5	cis-1,3-Dichloropropene	50	47.7	95	47.1	94	1	86-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC41374
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-BS	U32138.D	1	09/22/15	AD	n/a	n/a	MSU1322
MSU1322-BSD	U32139.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	45.2	90	43.6	87	4	80-134/25
100-41-4	Ethylbenzene	50	49.9	100	51.9	104	4	76-125/25
87-68-3	Hexachlorobutadiene	50	59.8	120	62.8	126	5	64-154/25
591-78-6	2-Hexanone	50	38.0	76	39.3	79	3	35-200/25
74-88-4	Iodomethane	50	47.5	95	51.0	102	7	50-154/25
98-82-8	Isopropylbenzene	50	49.0	98	50.8	102	4	74-121/25
99-87-6	p-Isopropyltoluene	50	52.5	105	53.9	108	3	84-128/25
1634-04-4	Methyl Tert Butyl Ether	50	50.0	100	53.0	106	6	67-145/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	45.5	91	46.9	94	3	61-155/25
74-95-3	Methylene bromide	50	50.4	101	52.2	104	4	75-124/25
75-09-2	Methylene chloride	50	48.0	96	51.0	102	6	62-137/25
91-20-3	Naphthalene	50	49.7	99	52.2	104	5	24-164/25
103-65-1	n-Propylbenzene	50	47.7	95	48.4	97	1	76-120/25
100-42-5	Styrene	50	47.5	95	48.9	98	3	74-132/25
630-20-6	1,1,1,2-Tetrachloroethane	50	52.5	105	56.3	113	7	71-136/25
79-34-5	1,1,2,2-Tetrachloroethane	50	54.0	108	55.1	110	2	65-145/25
127-18-4	Tetrachloroethene	50	51.6	103	53.6	107	4	73-122/25
108-88-3	Toluene	50	47.7	95	48.7	97	2	80-122/25
87-61-6	1,2,3-Trichlorobenzene	50	56.1	112	59.3	119	6	33-170/25
120-82-1	1,2,4-Trichlorobenzene	50	55.8	112	58.3	117	4	43-159/25
71-55-6	1,1,1-Trichloroethane	50	49.9	100	51.8	104	4	68-137/25
79-00-5	1,1,2-Trichloroethane	50	47.3	95	47.4	95	0	76-134/25
79-01-6	Trichloroethene	50	46.8	94	48.1	96	3	80-125/25
75-69-4	Trichlorofluoromethane	50	47.5	95	49.4	99	4	56-166/25
96-18-4	1,2,3-Trichloropropane	50	46.7	93	47.4	95	1	65-147/25
95-63-6	1,2,4-Trimethylbenzene	50	50.7	101	52.0	104	3	79-124/25
108-67-8	1,3,5-Trimethylbenzene	50	53.6	107	55.5	111	3	80-130/25
108-05-4	Vinyl Acetate	50	61.7	123	129	258* [a]	71* [a]	72-200/25
75-01-4	Vinyl chloride	50	48.3	97	52.4	105	8	39-176/25
	m,p-Xylene	100	99.3	99	103	103	4	75-121/25
95-47-6	o-Xylene	50	48.8	98	51.6	103	6	71-123/25
1330-20-7	Xylene (total)	150	148	99	155	103	5	74-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC41374
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-BS	U32138.D	1	09/22/15	AD	n/a	n/a	MSU1322
MSU1322-BSD	U32139.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	103%	105%	79-127%
2037-26-5	Toluene-D8	100%	99%	80-116%
460-00-4	4-Bromofluorobenzene	97%	95%	77-124%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC41374
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC41374-1	U32152.D	102	108	105
MC41374-2	U32153.D	113	96	95
MC41374-3	U32154.D	103	103	101
MC41374-4	U32155.D	109	92	93
MC41374-5	U32156.D	109	93	94
MC41374-6	U32157.D	110	92	93
MC41374-7	U32158.D	114	93	92
MSU1322-BS	U32138.D	103	100	97
MSU1322-BSD	U32139.D	105	99	95
MSU1322-MB	U32142.D	103	91	95

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-127%
S2 = Toluene-D8	80-116%
S3 = 4-Bromofluorobenzene	77-124%

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC41374
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1525-MB	BA22354.D	1	09/14/15	AF	n/a	n/a	GBA1525

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC41374
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1525-BSP	BA22355.D	1	09/14/15	AF	n/a	n/a	GBA1525

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	75.5	85	50-150
74-84-0	Ethane	166	147	89	50-150
74-85-1	Ethene	155	154	99	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC41374
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC41332-1DUP	BA22357.D	1	09/14/15	AF	n/a	n/a	GBA1525
MC41332-1	BA22356.D	1	09/14/15	AF	n/a	n/a	GBA1525

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7

CAS No.	Compound	MC41332-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	10 U		ND		nc	30
74-84-0	Ethane	10 U		ND		nc	30
74-85-1	Ethene	10 U		ND		nc	30

* = Outside of Control Limits.

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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.038	.096	-0.00050	<0.20

Associated samples MP25144: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41374-1F Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.2	3	106.7	75-125

Associated samples MP25144: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41374-1F Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.3	3	110.0	3.1	20

Associated samples MP25144: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/15/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits
Mercury	3.0	3	100.0	80-120

Associated samples MP25144: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.3
8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28	-0.60	<200
Antimony	6.0	.76	2	-0.20	<6.0
Arsenic	4.0	1.3	1.7		
Barium	50	.24	1	-0.20	<50
Beryllium	4.0	.18	.25	0.0	<4.0
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43	-0.10	<4.0
Calcium	5000	5.3	15	2.4	<5000
Chromium	10	.37	.48	0.0	<10
Cobalt	50	.14	.28	-0.20	<50
Copper	25	.48	2.4	-0.20	<25
Gold	50	.95	1.5		
Iron	100	3.2	17	2.0	<100
Lead	5.0	.56	1.7	-0.60	<5.0
Lithium	500	2	2.5		
Magnesium	5000	22	54	1.3	<5000
Manganese	15	.04	1.4	0.10	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5	0.10	<40
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49	-8.8	<5000
Selenium	10	1	2	0.20	<10
Silicon	100	13	30		
Silver	5.0	.6	1	-0.70	<5.0
Sodium	5000	10	77	49.4	<5000
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7	-0.20	<5.0
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51	0.30	<10
Zinc	20	.096	1	0.20	<20
Zirconium	50	.29	1.2		

Associated samples MP25153: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	0.0	9840	10000	98.4	75-125
Antimony	0.0	519	500	103.8	75-125
Arsenic					
Barium	413	2380	2000	98.4	75-125
Beryllium	0.0	491	500	98.2	75-125
Bismuth					
Boron					
Cadmium	0.0	505	500	101.0	75-125
Calcium	45500	69600	25000	96.4	75-125
Chromium	0.0	485	500	97.0	75-125
Cobalt	0.0	515	500	103.0	75-125
Copper	0.70	484	500	96.7	75-125
Gold					
Iron	44100	52600	10000	85.0 (a)	75-125
Lead	0.0	1010	1000	101.0	75-125
Lithium					
Magnesium	3510	28200	25000	98.8	75-125
Manganese	7720	8270	500	110.0	75-125
Molybdenum					
Nickel	0.40	508	500	101.5	75-125
Palladium					
Platinum					
Potassium	10500	35600	25000	100.4	75-125
Selenium	0.0	528	500	105.6	75-125
Silicon					
Silver	0.0	192	200	96.0	75-125
Sodium	362000	386000	25000	96.0	75-125
Sulfur					
Strontium					
Thallium	0.0	482	500	96.4	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	0.40	513	500	102.5	75-125
Zinc	6.0	497	500	98.2	75-125
Zirconium					

Associated samples MP25153: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	0.0	9820	10000	98.2	0.2	20
Antimony	0.0	519	500	103.8	0.0	20
Arsenic						
Barium	413	2370	2000	97.9	0.4	20
Beryllium	0.0	491	500	98.2	0.0	20
Bismuth						
Boron						
Cadmium	0.0	505	500	101.0	0.0	20
Calcium	45500	69800	25000	97.2	0.3	20
Chromium	0.0	484	500	96.8	0.2	20
Cobalt	0.0	514	500	102.8	0.2	20
Copper	0.70	480	500	95.9	0.8	20
Gold						
Iron	44100	53100	10000	90.0	0.9	20
Lead	0.0	1010	1000	101.0	0.0	20
Lithium						
Magnesium	3510	28600	25000	100.4	1.4	20
Manganese	7720	8000	500	56.0 (a)	3.3	20
Molybdenum						
Nickel	0.40	507	500	101.3	0.2	20
Palladium						
Platinum						
Potassium	10500	35600	25000	100.4	0.0	20
Selenium	0.0	529	500	105.8	0.2	20
Silicon						
Silver	0.0	191	200	95.5	0.5	20
Sodium	362000	378000	25000	64.0 (a)	2.1	20
Sulfur						
Strontium						
Thallium	0.0	481	500	96.2	0.2	20
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	0.40	512	500	102.3	0.2	20
Zinc	6.0	496	500	98.0	0.2	20
Zirconium						

Associated samples MP25153: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	9820	10000	98.2	80-120
Antimony	514	500	102.8	80-120
Arsenic				
Barium	1960	2000	98.0	80-120
Beryllium	491	500	98.2	80-120
Bismuth				
Boron				
Cadmium	497	500	99.4	80-120
Calcium	25400	25000	101.6	80-120
Chromium	484	500	96.8	80-120
Cobalt	504	500	100.8	80-120
Copper	479	500	95.8	80-120
Gold				
Iron	10200	10000	102.0	80-120
Lead	1000	1000	100.0	80-120
Lithium				
Magnesium	25200	25000	100.8	80-120
Manganese	521	500	104.2	80-120
Molybdenum				
Nickel	497	500	99.4	80-120
Palladium				
Platinum				
Potassium	25300	25000	101.2	80-120
Selenium	516	500	103.2	80-120
Silicon				
Silver	184	200	92.0	80-120
Sodium	25600	25000	102.4	80-120
Sulfur				
Strontium				
Thallium	503	500	100.6	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	506	500	101.2	80-120
Zinc	487	500	97.4	80-120
Zirconium				

Associated samples MP25153: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	SDL 1:5	%DIF	QC Limits
Aluminum	0.00	0.00	NC	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	413	417	0.8	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	45500	46400	2.0	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	0.700	2.90	314.3(a)	0-10
Gold				
Iron	44100	44800	1.6	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	3510	3620	3.2	0-10
Manganese	7720	7850	1.6	0-10
Molybdenum				
Nickel	0.400	1.30	225.0(a)	0-10
Palladium				
Platinum				
Potassium	10500	10600	1.0	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	362000	370000	2.3	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

8.2.4
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.400	0.00	100.0(a)	0-10
Zinc	6.00	12.1	101.7(b)	0-10
Zirconium				

Associated samples MP25153: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

8.2.4

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/16/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	2.2	4.4		
Antimony	4.0	.012	.058		
Arsenic	4.0	.1	.42	0.43	<4.0
Barium	2.0	.022	.076		
Beryllium	1.0	.0036	.042		
Boron	10	.072	.34		
Cadmium	2.0	.0056	.026		
Calcium	500	18	30		
Chromium	8.0	.096	.42		
Cobalt	1.0	.0017	.028		
Copper	8.0	.096	1		
Iron	50	2.2	3.4		
Lead	2.0	.0058	.036		
Magnesium	500	1.8	2		
Manganese	4.0	.052	1.2		
Molybdenum	2.0	.028	.24		
Nickel	4.0	.022	.14		
Potassium	500	7	5.2		
Selenium	2.0	.38	.3		
Silver	2.0	.0044	.022		
Sodium	500	4.2	8.8		
Strontium	20	.011	.026		
Thallium	2.0	.028	.068		
Tin	10	.018	.048		
Titanium	2.0	.074	.26		
Vanadium	20	.46	1.4		
Zinc	10	.26	2		

Associated samples MP25153A: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	46.8	563	500	103.2	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP25153A: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	46.8	557	500	102.0	1.1	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP25153A: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/16/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	510	500	102.0	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25153A: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	46.8	47.8	2.1	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25153A: MC41374-1F, MC41374-2F, MC41374-3F, MC41374-4F, MC41374-5F, MC41374-6F, MC41374-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Nitrate + Nitrite	GP19562/GN51774	0.10	0.0	mg/l	2	2.05	102.5	90-110%
Nitrogen, Nitrate + Nitrite	GP19563/GN51774	0.10	0.0	mg/l	2	2.03	101.5	90-110%
Nitrogen, Nitrite	GP19548/GN51745	0.010	0.0	mg/l	0.02	0.020	100.0	80-120%
Sulfide	GN51767	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Sulfide	GN51768	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Total Organic Carbon	GP19577/GN51819	1.0	0.0	mg/l	10	9.53	95.3	80-120%
Total Organic Carbon	GP19578/GN51819	1.0	0.0	mg/l	10	9.61	96.1	80-120%

Associated Samples:
Batch GN51767: MC41374-1, MC41374-2, MC41374-3
Batch GN51768: MC41374-4, MC41374-5, MC41374-6, MC41374-7
Batch GP19548: MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7
Batch GP19562: MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6
Batch GP19563: MC41374-7
Batch GP19577: MC41374-2, MC41374-3
Batch GP19578: MC41374-1, MC41374-4, MC41374-5, MC41374-6, MC41374-7
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate + Nitrite	GP19562/GN51774	MC41374-1	mg/l	0.079	0.071	10.7	0-20%
Nitrogen, Nitrate + Nitrite	GP19563/GN51774	MC41414-8	mg/l	0.77	0.77	0.0	0-20%
Nitrogen, Nitrite	GP19548/GN51745	MC41374-1	mg/l	0.0011 U	0.0024	11.8	0-20%
Sulfide	GN51767	MC41332-1	mg/l	0.34 U	0.0	0.0	0-20%
Sulfide	GN51768	MC41432-6	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN51767: MC41374-1, MC41374-2, MC41374-3
Batch GN51768: MC41374-4, MC41374-5, MC41374-6, MC41374-7
Batch GP19548: MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7
Batch GP19562: MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6
Batch GP19563: MC41374-7
(*) Outside of QC limits

9.2
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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate + Nitrite	GP19562/GN51774	MC41374-1	mg/l	0.079	2	1.8	86.1N(a)	90-110%
Nitrogen, Nitrate + Nitrite	GP19563/GN51774	MC41414-8	mg/l	0.77	2	2.8	101.5	90-110%
Nitrogen, Nitrite	GP19548/GN51745	MC41374-1	mg/l	0.0011 U	0.02	0.023	101.5	75-125%
Sulfide	GN51767	MC41332-1	mg/l	0.34 U	13.4	13.0	97.0	75-125%
Sulfide	GN51768	MC41432-6	mg/l	0.34 U	13.4	12.0	89.6	75-125%
Total Organic Carbon	GP19577/GN51819	MC41332-1	mg/l	0.27 U	10	10.5	100.0	75-125%
Total Organic Carbon	GP19578/GN51819	MC41374-4	mg/l	0.27 U	10	10.3	97.9	75-125%

Associated Samples:
Batch GN51767: MC41374-1, MC41374-2, MC41374-3
Batch GN51768: MC41374-4, MC41374-5, MC41374-6, MC41374-7
Batch GP19548: MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7
Batch GP19562: MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6
Batch GP19563: MC41374-7
Batch GP19577: MC41374-2, MC41374-3
Batch GP19578: MC41374-1, MC41374-4, MC41374-5, MC41374-6, MC41374-7
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41374
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19577/GN51819	MC41332-1	mg/l	0.27 U	10	10.1	3.9	20%
Total Organic Carbon	GP19578/GN51819	MC41374-4	mg/l	0.27 U	10	10.3	0.0	20%

Associated Samples:
Batch GP19577: MC41374-2, MC41374-3
Batch GP19578: MC41374-1, MC41374-4, MC41374-5, MC41374-6, MC41374-7
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST

GW

CHAIN OF CUSTODY

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC41374
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information		Subcontract Laboratory Information	
Name	Accutest New England	Name	Accutest of New Jersey
Address	50 D'Angelo Drive	Address	2235 Route 130
City / State / Zip	Marlborough MA 01752	City / State / Zip	Dayton NJ 08810
Send Report to:	FrankD@accutest.com	Contact:	Sample Management
Any questions contact:	Frank D'Agostino		
Phone/Fax #:	(508)481-6200 / (508)481-7753	Phone:	(732)329-0200

Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300	Comments
MC41374-1	9/10/15	11:05 AM	GW	1					x	X	
MC41374-2	9/10/15	00:00	GW	1					x	X	
MC41374-3	9/10/15	1:30 PM	GW	1					x	X	
MC41374-4	9/10/15	2:30 PM	GW	1					x	X	MA
MC41374-5	9/10/15	3:50 PM	GW	1					x	X	
MC41374-6	9/10/15	1:10 PM	GW	1					x	X	
MC41374-7	9/10/15	3:30 PM	GW	1					x	X	

Turnaround: [X] STD; [ ] Other ______ (Days)

9/24/15

Please notify Accutest if surcharges are applied

FX # 6484 9124 9003

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

[ ] Commercial "A" [ ] PDF
[ ] Commercial "B" [ ] Compact Disk Deliverable
[X] Commercial "BN" [ ] Electronic Delivery:
[ ] Reduced Tier 1 [ ] State Forms
[ ] Full Tier 1 [ ] Other (Specify)

Comments / Remarks

All DW samples are subject to MCL compliance reporting

INITIAL ASESSMENT 2A Dom

LABEL VERIFICATION DB

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1 LW		1 FEDX	1 9-11-15
2 FY	9/12/15 9:40	2	2
3		3	3

Seal #:

Headspace: Yes No [ ] NA [ ]

Preserved where applicable: [ ]

Temperature °C 3.6c-R On Ice [ ]

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MC41374: Chain of Custody
Page 1 of 2
Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC41374 **Client:** **Project:**

Date / Time Received: 9/12/2015 9:40:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.8);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	✔	☐	3. COC Present:	✔	☐
2. Custody Seals Intact:	✔	☐	4. Smpl Dates/Time OK	✔	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	✔	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	✔	☐
2. Trip Blank listed on COC:	☐	✔	☐
3. Samples preserved properly:	✔	☐	
4. VOCs headspace free:	☐	☐	✔

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	✔	☐
2. Container labeling complete:	✔	☐
3. Sample container label / COC agree:	✔	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	✔	☐
2. All containers accounted for:	✔	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	✔	☐	
2. Bottles received for unspecified tests	☐	✔	
3. Sufficient volume recvd for analysis:	✔	☐	
4. Compositing instructions clear:	☐	☐	✔
5. Filtering instructions clear:	☐	☐	✔

Comments

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MC41374: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC41374
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 09/10/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC41374

New England
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LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41374
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Sulfate	GP92019/GN32608	10	0.0	mg/l	80	84.8	106.0	90-110%

Associated Samples:
Batch GP92019: MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41374
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP92019/GN32562	MC41332-1	mg/l	966	898	7.3	0-20%
Sulfate	GP92019/GN32453	MC41332-1	mg/l	34.7	35.0	0.9	0-20%

Associated Samples:
Batch GP92019: MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7
(*) Outside of QC limits

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41374
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP92019/GN32562	MC41332-1	mg/l	966	800	1810	105.5	80-120%
Sulfate	GP92019/GN32453	MC41332-1	mg/l	34.7	80	115	100.4	80-120%

Associated Samples:
Batch GP92019: MC41374-1, MC41374-2, MC41374-3, MC41374-4, MC41374-5, MC41374-6, MC41374-7
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

10/05/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

1024-011

Accutest Job Number: MC41403

Sampling Date: 09/11/15

Report to:

H&S Environmental

lekes@hsenv.com

ATTN: Laurie Ekes

Total number of pages in report: **85**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

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Sample Summary

H&S Environmental

Job No: MC41403

Fort Devens, AOC50, Devens, MA
Project No: 1024-011

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC41403-1	09/11/15	10:05 EAJF	09/11/15	AQ	Ground Water	G6M-04-03X
MC41403-1F	09/11/15	10:05 EAJF	09/11/15	AQ	Groundwater Filtered	G6M-04-03X
MC41403-2	09/11/15	13:25 EAJF	09/11/15	AQ	Ground Water	G6M-04-02X
MC41403-2F	09/11/15	13:25 EAJF	09/11/15	AQ	Groundwater Filtered	G6M-04-02X
MC41403-3	09/11/15	10:30 EAJF	09/11/15	AQ	Ground Water	G6M-02-13X
MC41403-3F	09/11/15	10:30 EAJF	09/11/15	AQ	Groundwater Filtered	G6M-02-13X
MC41403-4	09/11/15	14:15 EAJF	09/11/15	AQ	Trip Blank Water	TRIP BLANK TB-1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC41403

Site: Fort Devens, AOC50, Devens, MA **Report Date** 9/23/2015 4:26:22 PM

3 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 09/11/2015 and were received at Accutest on 09/11/2015 properly preserved, at 1.6 Deg. C and intact. These Samples received an Accutest job number of MC41403. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSU1322

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MSU1322-BSD, RPD(s) for MSU1322-BSD for Vinyl Acetate: Outside control limits. Associated samples are non-detect for this compound.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1525

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC41332-1DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25153

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-2FMS, MC41374-2FMSD, MC41374-2FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Copper, Nickel, Vanadium are outside control limits for sample MP25153-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP25153-SD1 for Zinc: Serial Dilution RPD acceptable due to low duplicate and sample concentrations.
- MP25153-S1 for Iron: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- MP25153-S2 for Manganese, Sodium: Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Metals By Method SW846 6020A

Matrix: AQ **Batch ID:** MP25153A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-2FMS, MC41374-2FMSD, MC41374-2FSDL were used as the QC samples for metals.

Metals By Method SW846 7470A

Matrix: AQ	**Batch ID:** MP25144

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-1FMS, MC41374-1FMSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	**Batch ID:** N:GP92069

- Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	**Batch ID:** GP19563

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41414-8DUP, MC41414-8MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	**Batch ID:** R37226

- MC41403-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37227

- MC41403-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37228

- MC41403-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	**Batch ID:** GP19548

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-1DUP, MC41374-1MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ	**Batch ID:** GN51767

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41332-1DUP, MC41332-1MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SW846 9060

Matrix: AQ	**Batch ID:** GP19577

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41332-1MS, MC41332-1MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC41403).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Accutest Labs of New England, Inc. **Job No** MC41403

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 9/17/2015 12:15:02 P

On 09/12/2015, 3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3.8 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC41403 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP92069

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC41403
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/11/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC41403-1	**G6M-04-03X**					
Chloroethane		1.3 J	2.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene		39.6	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		10.6	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		9.3	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		5.5	1.0	0.50	ug/l	SW846 8260C
Methane		3450	200	100	ug/l	VRSK 175
Nitrogen, Nitrate [a]		0.068 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.068 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		7.0 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		5.3	1.0	0.81	mg/l	SW846 9060
MC41403-1F	**G6M-04-03X**					
Arsenic		105	10	5.0	ug/l	SW846 6020A
Barium		58.7	50	25	ug/l	SW846 6010C
Calcium		33900	25000	13000	ug/l	SW846 6010C
Iron		22900	500	250	ug/l	SW846 6010C
Magnesium		3880 J	5000	2500	ug/l	SW846 6010C
Manganese		2720	15	7.5	ug/l	SW846 6010C
Potassium		144000	50000	25000	ug/l	SW846 6010C
Sodium		137000	50000	25000	ug/l	SW846 6010C
Zinc		20.2	20	10	ug/l	SW846 6010C
MC41403-2	**G6M-04-02X**					
cis-1,2-Dichloroethene		8.8	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		16.2	1.0	0.50	ug/l	SW846 8260C
Toluene		1.6	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		7.4	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		1.8	1.0	0.50	ug/l	SW846 8260C
Methane		7390	100	50	ug/l	VRSK 175
Nitrogen, Nitrate [a]		0.067 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.067 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		0.87 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		3.3	1.0	0.81	mg/l	SW846 9060
MC41403-2F	**G6M-04-02X**					
Arsenic		343	20	10	ug/l	SW846 6020A
Barium		32.0 J	50	25	ug/l	SW846 6010C
Calcium		34000	25000	13000	ug/l	SW846 6010C
Iron		91400	500	250	ug/l	SW846 6010C
Magnesium		4180 J	5000	2500	ug/l	SW846 6010C

Summary of Hits

Job Number: MC41403
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/11/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Manganese		6920	75	38	ug/l	SW846 6010C
Potassium		11000	5000	2500	ug/l	SW846 6010C
Sodium		47000	25000	13000	ug/l	SW846 6010C
MC41403-3	**G6M-02-13X**					
Chloroethane		0.89 J	2.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene		5.2	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		2.8	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		4.9	1.0	0.50	ug/l	SW846 8260C
Methane		832	10	5.0	ug/l	VRSK 175
Nitrogen, Nitrate [a]		0.067 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.067 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		0.52 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		2.3	1.0	0.81	mg/l	SW846 9060
MC41403-3F	**G6M-02-13X**					
Arsenic		142	10	5.0	ug/l	SW846 6020A
Calcium		80200	25000	13000	ug/l	SW846 6010C
Iron		10500	500	250	ug/l	SW846 6010C
Magnesium		8790	5000	2500	ug/l	SW846 6010C
Manganese		9980	75	38	ug/l	SW846 6010C
Potassium		3240 J	5000	2500	ug/l	SW846 6010C
Sodium		56300	25000	13000	ug/l	SW846 6010C
MC41403-4	**TRIP BLANK TB-1**					

No hits reported in this sample.

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

New England
ACCUTEST
LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	G6M-04-03X		
Lab Sample ID:	MC41403-1	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32159.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.3	2.0	0.50	ug/l	J
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	39.6	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-03X		
Lab Sample ID:	MC41403-1	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	10.6	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	9.3	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	5.5	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-03X			
Lab Sample ID:	MC41403-1		**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water		**Date Received:**	09/11/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		80-116%
460-00-4	4-Bromofluorobenzene	97%		77-124%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-03X		
Lab Sample ID:	MC41403-1	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22366.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2	BA22367.D	1	09/14/15	AF	n/a	n/a	GBA1525

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	3450 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: G6M-04-03X
Lab Sample ID: MC41403-1
Matrix: AQ - Ground Water
Date Sampled: 09/11/15
Date Received: 09/11/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.068 J	0.11	0.057	mg/l	1	09/15/15 14:37	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.068 J	0.10	0.054	mg/l	1	09/15/15 14:37	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/12/15 09:31	MC	SM 21 4500 NO2 B
Sulfate [b]	7.0 J	10	0.50	mg/l	1	09/16/15 14:46	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	5.3	1.0	0.81	mg/l	1	09/21/15 15:18	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-04-03X
Lab Sample ID: MC41403-1F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/11/15
Date Received: 09/11/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	105	10	5.0	ug/l	5	09/16/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	58.7	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	33900	25000	13000	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	22900	500	250	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	3880 J	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	2720	15	7.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	20 U	40	20	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	144000	50000	25000	ug/l	10	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	137000	50000	25000	ug/l	10	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	20.2	20	10	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18472
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25144
(5) Prep QC Batch: MP25153
(6) Prep QC Batch: MP25153A

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-04-02X
Lab Sample ID: MC41403-2
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Fort Devens, AOC50, Devens, MA

Date Sampled: 09/11/15
Date Received: 09/11/15
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32160.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	8.8	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X		
Lab Sample ID:	MC41403-2	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	16.2	1.0	0.50	ug/l	
108-88-3	Toluene	1.6	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	7.4	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	1.8	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		79-127%

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X		
Lab Sample ID:	MC41403-2	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		80-116%
460-00-4	4-Bromofluorobenzene	91%		77-124%

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X		
Lab Sample ID:	MC41403-2	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22370.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2	BA22371.D	1	09/14/15	AF	n/a	n/a	GBA1525

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	7390 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X		
Lab Sample ID:	MC41403-2	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.067 J	0.11	0.057	mg/l	1	09/15/15 14:38	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.067 J	0.10	0.054	mg/l	1	09/15/15 14:38	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/12/15 09:31	MC	SM 21 4500 NO2 B
Sulfate [b]	0.87 J	10	0.50	mg/l	1	09/16/15 15:09	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	3.3	1.0	0.81	mg/l	1	09/21/15 16:33	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-02X			
Lab Sample ID:	MC41403-2F		**Date Sampled:**	09/11/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	09/11/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	343	20	10	ug/l	10	09/16/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	32.0 J	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	34000	25000	13000	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	91400	500	250	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	4180 J	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	6920	75	38	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	20 U	40	20	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	11000	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	47000	25000	13000	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18472
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25144
(5) Prep QC Batch: MP25153
(6) Prep QC Batch: MP25153A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC41403-3	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32161.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.89	2.0	0.50	ug/l	J
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	5.2	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC41403-3	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	2.8	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	4.9	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC41403-3	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		80-116%
460-00-4	4-Bromofluorobenzene	93%		77-124%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC41403-3	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22372.D	1	09/14/15	AF	n/a	n/a	GBA1525
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	832	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC41403-3	**Date Sampled:**	09/11/15
Matrix:	AQ - Ground Water	**Date Received:**	09/11/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.067 J	0.11	0.057	mg/l	1	09/15/15 14:39	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.067 J	0.10	0.054	mg/l	1	09/15/15 14:39	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/12/15 09:31	MC	SM 21 4500 NO2 B
Sulfate [b]	0.52 J	10	0.50	mg/l	1	09/16/15 15:33	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	2.3	1.0	0.81	mg/l	1	09/21/15 16:49	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC41403-3F	**Date Sampled:**	09/11/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	09/11/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Arsenic	142	10	5.0	ug/l	5	09/16/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [6]
Barium	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Calcium	80200	25000	13000	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Chromium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Cobalt	25 U	50	25	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Copper	13 U	25	13	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Iron	10500	500	250	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Lead	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Magnesium	8790	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Manganese	9980	75	38	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [4]
Nickel	20 U	40	20	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Potassium	3240 J	5000	2500	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Selenium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Silver	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Sodium	56300	25000	13000	ug/l	5	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Vanadium	5.0 U	10	5.0	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]
Zinc	10 U	20	10	ug/l	1	09/16/15	09/17/15	EAL	SW846 6010C [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18472
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25144
(5) Prep QC Batch: MP25153
(6) Prep QC Batch: MP25153A

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	TRIP BLANK TB-1		
Lab Sample ID:	MC41403-4	**Date Sampled:**	09/11/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/11/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32143.D	1	09/22/15	AD	n/a	n/a	MSU1322
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK TB-1		
Lab Sample ID:	MC41403-4	**Date Sampled:**	09/11/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/11/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		79-127%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK TB-1		
Lab Sample ID:	MC41403-4	**Date Sampled:**	09/11/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/11/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%		80-116%
460-00-4	4-Bromofluorobenzene	95%		77-124%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST
LABORATORIES

CHAIN OF CUSTODY

50 D'Angelo Drive, 495 Technology Center West, Bldg 1, Marlborough, MA 01752
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # MC41403

Client / Reporting Information		Project Information	
Company Name: H&S Environmental, Inc.		Project Name: USACE Devens AOC 50	
Street Address: 160 East Main St, Suite, 2F		Street: Fitchburg Road	Billing Information (if different from Report to)
City: Westborough State: MA	Zip: 01581	City: Devens State: MA	Company Name
Project Contact: Elizabeth Anderson	E-mail: eanderson@hsenv.com	Project #: 1024-011	Street Address
Phone #: 508-366-7442	Fax #: 508-366-7445	Client Purchase Order #: 1024-11	City State Zip
Sampler(s) Name(s): E Anderson/J Fitzgerald	Phone #: 508-366-7442	Project Manager: Elizabeth Anderson	Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	ZnAcetate	VOC 8260B	Dissolved metals	Methane/Ethane/Ethene	Nitrogen, Nitrite	Nitrogen, Nitrate	Sulfide	Sulfate	TOC				LAB USE ONLY
-1F	G6M-04 03X		9/11/15	1005	EA	GW	11	X	X	X	X	X				X	✓	✓	✓	✓	✓	✓	✓	✓				
-2F	G6M 04 02X		↓	1325	↓	GW	↓	↓	↓	↓	↓	↓				↓	↓	↓	↓	↓	↓	↓	↓	↓				
-3F	G6M 02 13X		↓	1030	↓	GW	↓	↓	↓	↓	↓	↓				↓	↓	↓	↓	↓	↓	↓	↓	↓				
-4	Trip Blank TB-1		↓	1415	↓	GW	2										↓											
						GW																						
						GW																						
						GW																						
						GW																						
						GW																						
						GW																						15D, 5D,
						GW																						2C2

Turnaround Time (Business days)

- [ ] Std. 15 Business Days
- [X] Std. 10 Business Days (by Contract only)
- [ ] 10 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [X] EDD Format SEDD
- [ ] Other ________

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Note project requires ADR.net checking and SEDD format

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	9/11/15 16:00	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 1.6°C

5.1

5

MC41403: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC41403 **Client:** H&S ENVIRONMENTAL **Project:** USACE DEVENS AOC 50

Date / Time Received: 9/11/2015 4:00:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.6/1.6);

Cooler Security

	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	☐
2. Trip Blank listed on COC:	☑	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

MC41403: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC41403
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/11/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1322	SW846 8260C						
MSU1322-BS	67-64-1	Acetone	BSP	REC	74	%	39-160
MSU1322-BS	71-43-2	Benzene	BSP	REC	95	%	79-120
MSU1322-BS	108-86-1	Bromobenzene	BSP	REC	97	%	80-120
MSU1322-BS	74-97-5	Bromochloromethane	BSP	REC	97	%	78-123
MSU1322-BS	75-27-4	Bromodichloromethane	BSP	REC	97	%	79-125
MSU1322-BS	75-25-2	Bromoform	BSP	REC	89	%	66-130
MSU1322-BS	74-83-9	Bromomethane	BSP	REC	106	%	53-141
MSU1322-BS	78-93-3	2-Butanone (MEK)	BSP	REC	79	%	56-143
MSU1322-BS	104-51-8	n-Butylbenzene	BSP	REC	103	%	75-128
MSU1322-BS	135-98-8	sec-Butylbenzene	BSP	REC	106	%	77-126
MSU1322-BS	98-06-6	tert-Butylbenzene	BSP	REC	109	%	78-124
MSU1322-BS	75-15-0	Carbon disulfide	BSP	REC	82	%	64-133
MSU1322-BS	56-23-5	Carbon tetrachloride	BSP	REC	100	%	72-136
MSU1322-BS	108-90-7	Chlorobenzene	BSP	REC	96	%	82-118
MSU1322-BS	75-00-3	Chloroethane	BSP	REC	104	%	60-138
MSU1322-BS	67-66-3	Chloroform	BSP	REC	98	%	79-124
MSU1322-BS	74-87-3	Chloromethane	BSP	REC	84	%	50-139
MSU1322-BS	95-49-8	o-Chlorotoluene	BSP	REC	100	%	79-122
MSU1322-BS	106-43-4	p-Chlorotoluene	BSP	REC	97	%	78-122
MSU1322-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	97	%	62-128
MSU1322-BS	124-48-1	Dibromochloromethane	BSP	REC	98	%	74-126
MSU1322-BS	106-93-4	1,2-Dibromoethane	BSP	REC	99	%	77-121
MSU1322-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	111	%	80-119
MSU1322-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	98	%	80-119
MSU1322-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	99	%	79-118
MSU1322-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	101	%	32-152
MSU1322-BS	75-34-3	1,1-Dichloroethane	BSP	REC	88	%	77-125
MSU1322-BS	107-06-2	1,2-Dichloroethane	BSP	REC	98	%	73-128
MSU1322-BS	75-35-4	1,1-Dichloroethene	BSP	REC	90	%	71-131
MSU1322-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	101	%	78-123
MSU1322-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	97	%	75-124
MSU1322-BS	78-87-5	1,2-Dichloropropane	BSP	REC	97	%	78-122
MSU1322-BS	142-28-9	1,3-Dichloropropane	BSP	REC	98	%	80-119
MSU1322-BS	594-20-7	2,2-Dichloropropane	BSP	REC	103	%	60-139
MSU1322-BS	563-58-6	1,1-Dichloropropene	BSP	REC	92	%	79-125
MSU1322-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	95	%	75-124
MSU1322-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	90	%	73-127
MSU1322-BS	100-41-4	Ethylbenzene	BSP	REC	100	%	79-121
MSU1322-BS	87-68-3	Hexachlorobutadiene	BSP	REC	120	%	66-134
MSU1322-BS	591-78-6	2-Hexanone	BSP	REC	76	%	57-139
MSU1322-BS	74-88-4	Iodomethane	BSP	REC	95	%	69-131
MSU1322-BS	98-82-8	Isopropylbenzene	BSP	REC	98	%	72-131

* Sample used for QC is not from job MC41403

QC Evaluation: DOD QSM5 Limits

Job Number: MC41403
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/11/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1322-BS	99-87-6	p-Isopropyltoluene	BSP	REC	105	%	77-127
MSU1322-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	100	%	71-124
MSU1322-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	91	%	67-130
MSU1322-BS	74-95-3	Methylene bromide	BSP	REC	101	%	79-123
MSU1322-BS	75-09-2	Methylene chloride	BSP	REC	96	%	74-124
MSU1322-BS	91-20-3	Naphthalene	BSP	REC	99	%	61-128
MSU1322-BS	103-65-1	n-Propylbenzene	BSP	REC	95	%	76-126
MSU1322-BS	100-42-5	Styrene	BSP	REC	95	%	78-123
MSU1322-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	105	%	78-124
MSU1322-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	108	%	71-121
MSU1322-BS	127-18-4	Tetrachloroethene	BSP	REC	103	%	74-129
MSU1322-BS	108-88-3	Toluene	BSP	REC	95	%	80-121
MSU1322-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	112	%	69-129
MSU1322-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	112	%	69-130
MSU1322-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	100	%	74-131
MSU1322-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	95	%	80-119
MSU1322-BS	79-01-6	Trichloroethene	BSP	REC	94	%	79-123
MSU1322-BS	75-69-4	Trichlorofluoromethane	BSP	REC	95	%	65-141
MSU1322-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	93	%	73-122
MSU1322-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	101	%	76-124
MSU1322-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	107	%	75-124
MSU1322-BS	108-05-4	Vinyl Acetate	BSP	REC	123	%	54-146
MSU1322-BS	75-01-4	Vinyl chloride	BSP	REC	97	%	58-137
MSU1322-BS		m,p-Xylene	BSP	REC	99	%	80-121
MSU1322-BS	95-47-6	o-Xylene	BSP	REC	98	%	78-122
MSU1322-BS	1330-20-7	Xylene (total)	BSP	REC	99	%	79-121
MSU1322-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	103	%	80-119
MSU1322-BS	2037-26-5	Toluene-D8	BSP	SURR	100	%	89-112
MSU1322-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	97	%	85-114
MSU1322-BSD	67-64-1	Acetone	BSD	REC	78	%	39-160
MSU1322-BSD	71-43-2	Benzene	BSD	REC	99	%	79-120
MSU1322-BSD	108-86-1	Bromobenzene	BSD	REC	98	%	80-120
MSU1322-BSD	74-97-5	Bromochloromethane	BSD	REC	102	%	78-123
MSU1322-BSD	75-27-4	Bromodichloromethane	BSD	REC	99	%	79-125
MSU1322-BSD	75-25-2	Bromoform	BSD	REC	91	%	66-130
MSU1322-BSD	74-83-9	Bromomethane	BSD	REC	116	%	53-141
MSU1322-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	85	%	56-143
MSU1322-BSD	104-51-8	n-Butylbenzene	BSD	REC	105	%	75-128
MSU1322-BSD	135-98-8	sec-Butylbenzene	BSD	REC	108	%	77-126
MSU1322-BSD	98-06-6	tert-Butylbenzene	BSD	REC	111	%	78-124
MSU1322-BSD	75-15-0	Carbon disulfide	BSD	REC	85	%	64-133
MSU1322-BSD	56-23-5	Carbon tetrachloride	BSD	REC	103	%	72-136
MSU1322-BSD	108-90-7	Chlorobenzene	BSD	REC	98	%	82-118
MSU1322-BSD	75-00-3	Chloroethane	BSD	REC	100	%	60-138
MSU1322-BSD	67-66-3	Chloroform	BSD	REC	101	%	79-124

* Sample used for QC is not from job MC41403

QC Evaluation: DOD QSM5 Limits

Job Number: MC41403
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/11/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1322-BSD	74-87-3	Chloromethane	BSD	REC	88	%	50-139
MSU1322-BSD	95-49-8	o-Chlorotoluene	BSD	REC	102	%	79-122
MSU1322-BSD	106-43-4	p-Chlorotoluene	BSD	REC	98	%	78-122
MSU1322-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	101	%	62-128
MSU1322-BSD	124-48-1	Dibromochloromethane	BSD	REC	99	%	74-126
MSU1322-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	99	%	77-121
MSU1322-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	114	%	80-119
MSU1322-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	100	%	80-119
MSU1322-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	100	%	79-118
MSU1322-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	108	%	32-152
MSU1322-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	92	%	77-125
MSU1322-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	101	%	73-128
MSU1322-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	97	%	71-131
MSU1322-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	106	%	78-123
MSU1322-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	101	%	75-124
MSU1322-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	99	%	78-122
MSU1322-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	98	%	80-119
MSU1322-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	106	%	60-139
MSU1322-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	95	%	79-125
MSU1322-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	94	%	75-124
MSU1322-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	87	%	73-127
MSU1322-BSD	100-41-4	Ethylbenzene	BSD	REC	104	%	79-121
MSU1322-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	126	%	66-134
MSU1322-BSD	591-78-6	2-Hexanone	BSD	REC	79	%	57-139
MSU1322-BSD	74-88-4	Iodomethane	BSD	REC	102	%	69-131
MSU1322-BSD	98-82-8	Isopropylbenzene	BSD	REC	102	%	72-131
MSU1322-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	108	%	77-127
MSU1322-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	106	%	71-124
MSU1322-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	94	%	67-130
MSU1322-BSD	74-95-3	Methylene bromide	BSD	REC	104	%	79-123
MSU1322-BSD	75-09-2	Methylene chloride	BSD	REC	102	%	74-124
MSU1322-BSD	91-20-3	Naphthalene	BSD	REC	104	%	61-128
MSU1322-BSD	103-65-1	n-Propylbenzene	BSD	REC	97	%	76-126
MSU1322-BSD	100-42-5	Styrene	BSD	REC	98	%	78-123
MSU1322-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	113	%	78-124
MSU1322-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	110	%	71-121
MSU1322-BSD	127-18-4	Tetrachloroethene	BSD	REC	107	%	74-129
MSU1322-BSD	108-88-3	Toluene	BSD	REC	97	%	80-121
MSU1322-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	119	%	69-129
MSU1322-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	117	%	69-130
MSU1322-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	104	%	74-131
MSU1322-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	95	%	80-119
MSU1322-BSD	79-01-6	Trichloroethene	BSD	REC	96	%	79-123
MSU1322-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	99	%	65-141
MSU1322-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	95	%	73-122

* Sample used for QC is not from job MC41403

QC Evaluation: DOD QSM5 Limits

Job Number: MC41403
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/11/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1322-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	104	%	76-124
MSU1322-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	111	%	75-124
MSU1322-BSD	108-05-4	Vinyl Acetate	BSD	REC	258 [a]	%	54-146
MSU1322-BSD	75-01-4	Vinyl chloride	BSD	REC	105	%	58-137
MSU1322-BSD		m,p-Xylene	BSD	REC	103	%	80-121
MSU1322-BSD	95-47-6	o-Xylene	BSD	REC	103	%	78-122
MSU1322-BSD	1330-20-7	Xylene (total)	BSD	REC	103	%	79-121
MSU1322-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	105	%	80-119
MSU1322-BSD	2037-26-5	Toluene-D8	BSD	SURR	99	%	89-112
MSU1322-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	95	%	85-114
MSU1322-MB	1868-53-7	Dibromofluoromethane	MB	SURR	103	%	80-119
MSU1322-MB	2037-26-5	Toluene-D8	MB	SURR	91	%	89-112
MSU1322-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	95	%	85-114
MC41403-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	112	%	80-119
MC41403-1	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
MC41403-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC41403-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	114	%	80-119
MC41403-2	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC41403-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	91	%	85-114
MC41403-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	114	%	80-119
MC41403-3	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC41403-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	93	%	85-114
MC41403-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
MC41403-4	2037-26-5	Toluene-D8	SAMP	SURR	96	%	89-112
MC41403-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MP25144	SW846 7470A						
MP25144-B1	7439-97-6	Mercury	BSP	REC	100	%	82-119
MP25144-S1*	7439-97-6	Mercury	MS	REC	106.7	%	82-119
MP25144-S2*	7439-97-6	Mercury	MSD	REC	110	%	82-119
MP25144-S2*	7439-97-6	Mercury	MSD	RPD	3.1	%	20
MP25153	SW846 6010C						
MP25153-B1	7429-90-5	Aluminum	BSP	REC	98.2	%	86-115
MP25153-B1	7440-36-0	Antimony	BSP	REC	102.8	%	88-113
MP25153-B1	7440-39-3	Barium	BSP	REC	98	%	88-113
MP25153-B1	7440-41-7	Beryllium	BSP	REC	98.2	%	89-112
MP25153-B1	7440-43-9	Cadmium	BSP	REC	99.4	%	88-113
MP25153-B1	7440-70-2	Calcium	BSP	REC	101.6	%	87-113
MP25153-B1	7440-47-3	Chromium	BSP	REC	96.8	%	90-113
MP25153-B1	7440-48-4	Cobalt	BSP	REC	100.8	%	89-114
MP25153-B1	7440-50-8	Copper	BSP	REC	95.8	%	86-114
MP25153-B1	7439-89-6	Iron	BSP	REC	102	%	87-115

* Sample used for QC is not from job MC41403

QC Evaluation: DOD QSM5 Limits

Job Number: MC41403
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/11/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25153-B1	7439-92-1	Lead	BSP	REC	100	%	86-113
MP25153-B1	7439-95-4	Magnesium	BSP	REC	100.8	%	85-113
MP25153-B1	7439-96-5	Manganese	BSP	REC	104.2	%	90-114
MP25153-B1	7440-02-0	Nickel	BSP	REC	99.4	%	88-113
MP25153-B1	7440-09-7	Potassium	BSP	REC	101.2	%	86-114
MP25153-B1	7782-49-2	Selenium	BSP	REC	103.2	%	83-114
MP25153-B1	7440-22-4	Silver	BSP	REC	92	%	84-115
MP25153-B1	7440-23-5	Sodium	BSP	REC	102.4	%	87-115
MP25153-B1	7440-28-0	Thallium	BSP	REC	100.6	%	85-114
MP25153-B1	7440-62-2	Vanadium	BSP	REC	101.2	%	90-111
MP25153-B1	7440-66-6	Zinc	BSP	REC	97.4	%	87-115
MP25153-S1*	7429-90-5	Aluminum	MS	REC	98.4	%	86-115
MP25153-S1*	7440-36-0	Antimony	MS	REC	103.8	%	88-113
MP25153-S1*	7440-39-3	Barium	MS	REC	98.4	%	88-113
MP25153-S1*	7440-41-7	Beryllium	MS	REC	98.2	%	89-112
MP25153-S1*	7440-43-9	Cadmium	MS	REC	101	%	88-113
MP25153-S1*	7440-70-2	Calcium	MS	REC	96.4	%	87-113
MP25153-S1*	7440-47-3	Chromium	MS	REC	97	%	90-113
MP25153-S1*	7440-48-4	Cobalt	MS	REC	103	%	89-114
MP25153-S1*	7440-50-8	Copper	MS	REC	96.7	%	86-114
MP25153-S1*	7439-89-6	Iron	MS	REC	85 [b]	%	87-115
MP25153-S1*	7439-92-1	Lead	MS	REC	101	%	86-113
MP25153-S1*	7439-95-4	Magnesium	MS	REC	98.8	%	85-113
MP25153-S1*	7439-96-5	Manganese	MS	REC	110	%	90-114
MP25153-S1*	7440-02-0	Nickel	MS	REC	101.5	%	88-113
MP25153-S1*	7440-09-7	Potassium	MS	REC	100.4	%	86-114
MP25153-S1*	7782-49-2	Selenium	MS	REC	105.6	%	83-114
MP25153-S1*	7440-22-4	Silver	MS	REC	96	%	84-115
MP25153-S1*	7440-23-5	Sodium	MS	REC	96	%	87-115
MP25153-S1*	7440-28-0	Thallium	MS	REC	96.4	%	85-114
MP25153-S1*	7440-62-2	Vanadium	MS	REC	102.5	%	90-111
MP25153-S1*	7440-66-6	Zinc	MS	REC	98.2	%	87-115
MP25153-S2*	7429-90-5	Aluminum	MSD	REC	98.2	%	86-115
MP25153-S2*	7429-90-5	Aluminum	MSD	RPD	.2	%	20
MP25153-S2*	7440-36-0	Antimony	MSD	REC	103.8	%	88-113
MP25153-S2*	7440-36-0	Antimony	MSD	RPD	0	%	20
MP25153-S2*	7440-39-3	Barium	MSD	REC	97.9	%	88-113
MP25153-S2*	7440-39-3	Barium	MSD	RPD	.4	%	20
MP25153-S2*	7440-41-7	Beryllium	MSD	REC	98.2	%	89-112
MP25153-S2*	7440-41-7	Beryllium	MSD	RPD	0	%	20
MP25153-S2*	7440-43-9	Cadmium	MSD	REC	101	%	88-113
MP25153-S2*	7440-43-9	Cadmium	MSD	RPD	0	%	20
MP25153-S2*	7440-70-2	Calcium	MSD	REC	97.2	%	87-113
MP25153-S2*	7440-70-2	Calcium	MSD	RPD	.3	%	20
MP25153-S2*	7440-47-3	Chromium	MSD	REC	96.8	%	90-113

* Sample used for QC is not from job MC41403

QC Evaluation: DOD QSM5 Limits

Job Number: MC41403
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/11/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25153-S2*	7440-47-3	Chromium	MSD	RPD	.2	%	20
MP25153-S2*	7440-48-4	Cobalt	MSD	REC	102.8	%	89-114
MP25153-S2*	7440-48-4	Cobalt	MSD	RPD	.2	%	20
MP25153-S2*	7440-50-8	Copper	MSD	REC	95.9	%	86-114
MP25153-S2*	7440-50-8	Copper	MSD	RPD	.8	%	20
MP25153-S2*	7439-89-6	Iron	MSD	REC	90	%	87-115
MP25153-S2*	7439-89-6	Iron	MSD	RPD	.9	%	20
MP25153-S2*	7439-92-1	Lead	MSD	REC	101	%	86-113
MP25153-S2*	7439-92-1	Lead	MSD	RPD	0	%	20
MP25153-S2*	7439-95-4	Magnesium	MSD	REC	100.4	%	85-113
MP25153-S2*	7439-95-4	Magnesium	MSD	RPD	1.4	%	20
MP25153-S2*	7439-96-5	Manganese	MSD	REC	56 [c]	%	90-114
MP25153-S2*	7439-96-5	Manganese	MSD	RPD	3.3	%	20
MP25153-S2*	7440-02-0	Nickel	MSD	REC	101.3	%	88-113
MP25153-S2*	7440-02-0	Nickel	MSD	RPD	.2	%	20
MP25153-S2*	7440-09-7	Potassium	MSD	REC	100.4	%	86-114
MP25153-S2*	7440-09-7	Potassium	MSD	RPD	0	%	20
MP25153-S2*	7782-49-2	Selenium	MSD	REC	105.8	%	83-114
MP25153-S2*	7782-49-2	Selenium	MSD	RPD	.2	%	20
MP25153-S2*	7440-22-4	Silver	MSD	REC	95.5	%	84-115
MP25153-S2*	7440-22-4	Silver	MSD	RPD	.5	%	20
MP25153-S2*	7440-23-5	Sodium	MSD	REC	64 [c]	%	87-115
MP25153-S2*	7440-23-5	Sodium	MSD	RPD	2.1	%	20
MP25153-S2*	7440-28-0	Thallium	MSD	REC	96.2	%	85-114
MP25153-S2*	7440-28-0	Thallium	MSD	RPD	.2	%	20
MP25153-S2*	7440-62-2	Vanadium	MSD	REC	102.3	%	90-111
MP25153-S2*	7440-62-2	Vanadium	MSD	RPD	.2	%	20
MP25153-S2*	7440-66-6	Zinc	MSD	REC	98	%	87-115
MP25153-S2*	7440-66-6	Zinc	MSD	RPD	.2	%	20
MP25153A	SW846 6020A						
MP25153A-B1	7440-38-2	Arsenic	BSP	REC	102	%	84-116
MP25153A-S1*	7440-38-2	Arsenic	MS	REC	103.2	%	84-116
MP25153A-S2*	7440-38-2	Arsenic	MSD	REC	102	%	84-116
MP25153A-S2*	7440-38-2	Arsenic	MSD	RPD	1.1	%	20

(a) Outside control limits. Associated samples are non-detect for this compound.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(c) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

* Sample used for QC is not from job MC41403

New England ACCUTEST LABORATORIES

GC/MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC41403
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-MB	U32142.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41403-1, MC41403-2, MC41403-3, MC41403-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC41403
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-MB	U32142.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41403-1, MC41403-2, MC41403-3, MC41403-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	10	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	0.35	2.0	0.27	ug/l	J
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC41403
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-MB	U32142.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41403-1, MC41403-2, MC41403-3, MC41403-4

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	79-127%
2037-26-5	Toluene-D8	91%	80-116%
460-00-4	4-Bromofluorobenzene	95%	77-124%

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC41403
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-BS	U32138.D	1	09/22/15	AD	n/a	n/a	MSU1322
MSU1322-BSD	U32139.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41403-1, MC41403-2, MC41403-3, MC41403-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	36.8	74	38.8	78	5	10-200/25
71-43-2	Benzene	50	47.5	95	49.4	99	4	74-124/25
108-86-1	Bromobenzene	50	48.3	97	49.0	98	1	80-117/25
74-97-5	Bromochloromethane	50	48.4	97	51.0	102	5	73-130/25
75-27-4	Bromodichloromethane	50	48.5	97	49.4	99	2	76-136/25
75-25-2	Bromoform	50	44.7	89	45.4	91	2	63-139/25
74-83-9	Bromomethane	50	53.1	106	57.8	116	8	49-161/25
78-93-3	2-Butanone (MEK)	50	39.5	79	42.4	85	7	44-191/25
104-51-8	n-Butylbenzene	50	51.5	103	52.7	105	2	84-134/25
135-98-8	sec-Butylbenzene	50	52.8	106	54.0	108	2	76-125/25
98-06-6	tert-Butylbenzene	50	54.4	109	55.5	111	2	74-123/25
75-15-0	Carbon disulfide	50	40.9	82	42.4	85	4	45-138/25
56-23-5	Carbon tetrachloride	50	49.9	100	51.7	103	4	64-149/25
108-90-7	Chlorobenzene	50	47.8	96	49.1	98	3	73-114/25
75-00-3	Chloroethane	50	51.8	104	50.0	100	4	43-165/25
67-66-3	Chloroform	50	48.9	98	50.4	101	3	72-132/25
74-87-3	Chloromethane	50	41.9	84	43.8	88	4	30-173/25
95-49-8	o-Chlorotoluene	50	50.1	100	51.2	102	2	75-116/25
106-43-4	p-Chlorotoluene	50	48.5	97	49.1	98	1	78-116/25
96-12-8	1,2-Dibromo-3-chloropropane	50	48.6	97	50.3	101	3	50-157/25
124-48-1	Dibromochloromethane	50	49.1	98	49.3	99	0	75-133/25
106-93-4	1,2-Dibromoethane	50	49.4	99	49.6	99	0	72-133/25
95-50-1	1,2-Dichlorobenzene	50	55.6	111	57.0	114	2	73-122/25
541-73-1	1,3-Dichlorobenzene	50	49.1	98	50.0	100	2	76-117/25
106-46-7	1,4-Dichlorobenzene	50	49.3	99	50.2	100	2	74-120/25
75-71-8	Dichlorodifluoromethane	50	50.6	101	54.0	108	7	30-180/25
75-34-3	1,1-Dichloroethane	50	44.0	88	45.8	92	4	62-130/25
107-06-2	1,2-Dichloroethane	50	49.1	98	50.5	101	3	65-140/25
75-35-4	1,1-Dichloroethene	50	45.0	90	48.6	97	8	57-132/25
156-59-2	cis-1,2-Dichloroethene	50	50.4	101	53.0	106	5	72-131/25
156-60-5	trans-1,2-Dichloroethene	50	48.3	97	50.5	101	4	69-127/25
78-87-5	1,2-Dichloropropane	50	48.4	97	49.3	99	2	74-130/25
142-28-9	1,3-Dichloropropane	50	49.1	98	49.1	98	0	80-129/25
594-20-7	2,2-Dichloropropane	50	51.6	103	53.1	106	3	54-162/25
563-58-6	1,1-Dichloropropene	50	46.0	92	47.3	95	3	75-116/25
10061-01-5	cis-1,3-Dichloropropene	50	47.7	95	47.1	94	1	86-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC41403
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-BS	U32138.D	1	09/22/15	AD	n/a	n/a	MSU1322
MSU1322-BSD	U32139.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41403-1, MC41403-2, MC41403-3, MC41403-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	45.2	90	43.6	87	4	80-134/25
100-41-4	Ethylbenzene	50	49.9	100	51.9	104	4	76-125/25
87-68-3	Hexachlorobutadiene	50	59.8	120	62.8	126	5	64-154/25
591-78-6	2-Hexanone	50	38.0	76	39.3	79	3	35-200/25
74-88-4	Iodomethane	50	47.5	95	51.0	102	7	50-154/25
98-82-8	Isopropylbenzene	50	49.0	98	50.8	102	4	74-121/25
99-87-6	p-Isopropyltoluene	50	52.5	105	53.9	108	3	84-128/25
1634-04-4	Methyl Tert Butyl Ether	50	50.0	100	53.0	106	6	67-145/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	45.5	91	46.9	94	3	61-155/25
74-95-3	Methylene bromide	50	50.4	101	52.2	104	4	75-124/25
75-09-2	Methylene chloride	50	48.0	96	51.0	102	6	62-137/25
91-20-3	Naphthalene	50	49.7	99	52.2	104	5	24-164/25
103-65-1	n-Propylbenzene	50	47.7	95	48.4	97	1	76-120/25
100-42-5	Styrene	50	47.5	95	48.9	98	3	74-132/25
630-20-6	1,1,1,2-Tetrachloroethane	50	52.5	105	56.3	113	7	71-136/25
79-34-5	1,1,2,2-Tetrachloroethane	50	54.0	108	55.1	110	2	65-145/25
127-18-4	Tetrachloroethene	50	51.6	103	53.6	107	4	73-122/25
108-88-3	Toluene	50	47.7	95	48.7	97	2	80-122/25
87-61-6	1,2,3-Trichlorobenzene	50	56.1	112	59.3	119	6	33-170/25
120-82-1	1,2,4-Trichlorobenzene	50	55.8	112	58.3	117	4	43-159/25
71-55-6	1,1,1-Trichloroethane	50	49.9	100	51.8	104	4	68-137/25
79-00-5	1,1,2-Trichloroethane	50	47.3	95	47.4	95	0	76-134/25
79-01-6	Trichloroethene	50	46.8	94	48.1	96	3	80-125/25
75-69-4	Trichlorofluoromethane	50	47.5	95	49.4	99	4	56-166/25
96-18-4	1,2,3-Trichloropropane	50	46.7	93	47.4	95	1	65-147/25
95-63-6	1,2,4-Trimethylbenzene	50	50.7	101	52.0	104	3	79-124/25
108-67-8	1,3,5-Trimethylbenzene	50	53.6	107	55.5	111	3	80-130/25
108-05-4	Vinyl Acetate	50	61.7	123	129	258* [a]	71* [a]	72-200/25
75-01-4	Vinyl chloride	50	48.3	97	52.4	105	8	39-176/25
	m,p-Xylene	100	99.3	99	103	103	4	75-121/25
95-47-6	o-Xylene	50	48.8	98	51.6	103	6	71-123/25
1330-20-7	Xylene (total)	150	148	99	155	103	5	74-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC41403
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1322-BS	U32138.D	1	09/22/15	AD	n/a	n/a	MSU1322
MSU1322-BSD	U32139.D	1	09/22/15	AD	n/a	n/a	MSU1322

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41403-1, MC41403-2, MC41403-3, MC41403-4

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	103%	105%	79-127%
2037-26-5	Toluene-D8	100%	99%	80-116%
460-00-4	4-Bromofluorobenzene	97%	95%	77-124%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC41403
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC41403-1	U32159.D	112	99	97
MC41403-2	U32160.D	114	94	91
MC41403-3	U32161.D	114	95	93
MC41403-4	U32143.D	99	96	95
MSU1322-BS	U32138.D	103	100	97
MSU1322-BSD	U32139.D	105	99	95
MSU1322-MB	U32142.D	103	91	95

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-127%
S2 = Toluene-D8	80-116%
S3 = 4-Bromofluorobenzene	77-124%

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC41403
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1525-MB	BA22354.D	1	09/14/15	AF	n/a	n/a	GBA1525

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41403-1, MC41403-2, MC41403-3

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC41403
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1525-BSP	BA22355.D	1	09/14/15	AF	n/a	n/a	GBA1525

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41403-1, MC41403-2, MC41403-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	75.5	85	50-150
74-84-0	Ethane	166	147	89	50-150
74-85-1	Ethene	155	154	99	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC41403
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC41332-1DUP	BA22357.D	1	09/14/15	AF	n/a	n/a	GBA1525
MC41332-1	BA22356.D	1	09/14/15	AF	n/a	n/a	GBA1525

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41403-1, MC41403-2, MC41403-3

CAS No.	Compound	MC41332-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	10 U		ND		nc	30
74-84-0	Ethane	10 U		ND		nc	30
74-85-1	Ethene	10 U		ND		nc	30

* = Outside of Control Limits.

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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.038	.096	-0.00050	<0.20

Associated samples MP25144: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41374-1F Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.2	3	106.7	75-125

Associated samples MP25144: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41374-1F Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.3	3	110.0	3.1	20

Associated samples MP25144: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits
Mercury	3.0	3	100.0	80-120

Associated samples MP25144: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.3

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28	-0.60	<200
Antimony	6.0	.76	2	-0.20	<6.0
Arsenic	4.0	1.3	1.7		
Barium	50	.24	1	-0.20	<50
Beryllium	4.0	.18	.25	0.0	<4.0
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43	-0.10	<4.0
Calcium	5000	5.3	15	2.4	<5000
Chromium	10	.37	.48	0.0	<10
Cobalt	50	.14	.28	-0.20	<50
Copper	25	.48	2.4	-0.20	<25
Gold	50	.95	1.5		
Iron	100	3.2	17	2.0	<100
Lead	5.0	.56	1.7	-0.60	<5.0
Lithium	500	2	2.5		
Magnesium	5000	22	54	1.3	<5000
Manganese	15	.04	1.4	0.10	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5	0.10	<40
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49	-8.8	<5000
Selenium	10	1	2	0.20	<10
Silicon	100	13	30		
Silver	5.0	.6	1	-0.70	<5.0
Sodium	5000	10	77	49.4	<5000
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7	-0.20	<5.0
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51	0.30	<10
Zinc	20	.096	1	0.20	<20
Zirconium	50	.29	1.2		

Associated samples MP25153: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	0.0	9840	10000	98.4	75-125
Antimony	0.0	519	500	103.8	75-125
Arsenic					
Barium	413	2380	2000	98.4	75-125
Beryllium	0.0	491	500	98.2	75-125
Bismuth					
Boron					
Cadmium	0.0	505	500	101.0	75-125
Calcium	45500	69600	25000	96.4	75-125
Chromium	0.0	485	500	97.0	75-125
Cobalt	0.0	515	500	103.0	75-125
Copper	0.70	484	500	96.7	75-125
Gold					
Iron	44100	52600	10000	85.0 (a)	75-125
Lead	0.0	1010	1000	101.0	75-125
Lithium					
Magnesium	3510	28200	25000	98.8	75-125
Manganese	7720	8270	500	110.0	75-125
Molybdenum					
Nickel	0.40	508	500	101.5	75-125
Palladium					
Platinum					
Potassium	10500	35600	25000	100.4	75-125
Selenium	0.0	528	500	105.6	75-125
Silicon					
Silver	0.0	192	200	96.0	75-125
Sodium	362000	386000	25000	96.0	75-125
Sulfur					
Strontium					
Thallium	0.0	482	500	96.4	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	0.40	513	500	102.5	75-125
Zinc	6.0	497	500	98.2	75-125
Zirconium					

Associated samples MP25153: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	0.0	9820	10000	98.2	0.2	20
Antimony	0.0	519	500	103.8	0.0	20
Arsenic						
Barium	413	2370	2000	97.9	0.4	20
Beryllium	0.0	491	500	98.2	0.0	20
Bismuth						
Boron						
Cadmium	0.0	505	500	101.0	0.0	20
Calcium	45500	69800	25000	97.2	0.3	20
Chromium	0.0	484	500	96.8	0.2	20
Cobalt	0.0	514	500	102.8	0.2	20
Copper	0.70	480	500	95.9	0.8	20
Gold						
Iron	44100	53100	10000	90.0	0.9	20
Lead	0.0	1010	1000	101.0	0.0	20
Lithium						
Magnesium	3510	28600	25000	100.4	1.4	20
Manganese	7720	8000	500	56.0 (a)	3.3	20
Molybdenum						
Nickel	0.40	507	500	101.3	0.2	20
Palladium						
Platinum						
Potassium	10500	35600	25000	100.4	0.0	20
Selenium	0.0	529	500	105.8	0.2	20
Silicon						
Silver	0.0	191	200	95.5	0.5	20
Sodium	362000	378000	25000	64.0 (a)	2.1	20
Sulfur						
Strontium						
Thallium	0.0	481	500	96.2	0.2	20
Tin						
Titanium						
Tungsten						

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	0.40	512	500	102.3	0.2	20
Zinc	6.0	496	500	98.0	0.2	20
Zirconium						

Associated samples MP25153: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	9820	10000	98.2	80-120
Antimony	514	500	102.8	80-120
Arsenic				
Barium	1960	2000	98.0	80-120
Beryllium	491	500	98.2	80-120
Bismuth				
Boron				
Cadmium	497	500	99.4	80-120
Calcium	25400	25000	101.6	80-120
Chromium	484	500	96.8	80-120
Cobalt	504	500	100.8	80-120
Copper	479	500	95.8	80-120
Gold				
Iron	10200	10000	102.0	80-120
Lead	1000	1000	100.0	80-120
Lithium				
Magnesium	25200	25000	100.8	80-120
Manganese	521	500	104.2	80-120
Molybdenum				
Nickel	497	500	99.4	80-120
Palladium				
Platinum				
Potassium	25300	25000	101.2	80-120
Selenium	516	500	103.2	80-120
Silicon				
Silver	184	200	92.0	80-120
Sodium	25600	25000	102.4	80-120
Sulfur				
Strontium				
Thallium	503	500	100.6	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	506	500	101.2	80-120
Zinc	487	500	97.4	80-120
Zirconium				

Associated samples MP25153: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	SDL 1:5	%DIF	QC Limits
Aluminum	0.00	0.00	NC	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	413	417	0.8	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	45500	46400	2.0	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	0.700	2.90	314.3(a)	0-10
Gold				
Iron	44100	44800	1.6	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	3510	3620	3.2	0-10
Manganese	7720	7850	1.6	0-10
Molybdenum				
Nickel	0.400	1.30	225.0(a)	0-10
Palladium				
Platinum				
Potassium	10500	10600	1.0	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	362000	370000	2.3	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.400	0.00	100.0(a)	0-10
Zinc	6.00	12.1	101.7(b)	0-10
Zirconium				

Associated samples MP25153: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/16/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	2.2	4.4		
Antimony	4.0	.012	.058		
Arsenic	4.0	.1	.42	0.43	<4.0
Barium	2.0	.022	.076		
Beryllium	1.0	.0036	.042		
Boron	10	.072	.34		
Cadmium	2.0	.0056	.026		
Calcium	500	18	30		
Chromium	8.0	.096	.42		
Cobalt	1.0	.0017	.028		
Copper	8.0	.096	1		
Iron	50	2.2	3.4		
Lead	2.0	.0058	.036		
Magnesium	500	1.8	2		
Manganese	4.0	.052	1.2		
Molybdenum	2.0	.028	.24		
Nickel	4.0	.022	.14		
Potassium	500	7	5.2		
Selenium	2.0	.38	.3		
Silver	2.0	.0044	.022		
Sodium	500	4.2	8.8		
Strontium	20	.011	.026		
Thallium	2.0	.028	.068		
Tin	10	.018	.048		
Titanium	2.0	.074	.26		
Vanadium	20	.46	1.4		
Zinc	10	.26	2		

Associated samples MP25153A: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	46.8	563	500	103.2	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP25153A: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	46.8	557	500	102.0	1.1	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP25153A: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/16/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	510	500	102.0	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25153A: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25153A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/16/15

Metal	MC41374-2F Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	46.8	47.8	2.1	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25153A: MC41403-1F, MC41403-2F, MC41403-3F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Nitrate + Nitrite	GP19563/GN51774	0.10	0.0	mg/l	2	2.03	101.5	90-110%
Nitrogen, Nitrite	GP19548/GN51745	0.010	0.0	mg/l	0.02	0.020	100.0	80-120%
Sulfide	GN51767	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Total Organic Carbon	GP19577/GN51819	1.0	0.0	mg/l	10	9.53	95.3	80-120%

Associated Samples:
Batch GN51767: MC41403-1, MC41403-2, MC41403-3
Batch GP19548: MC41403-1, MC41403-2, MC41403-3
Batch GP19563: MC41403-1, MC41403-2, MC41403-3
Batch GP19577: MC41403-1, MC41403-2, MC41403-3
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate + Nitrite	GP19563/GN51774	MC41414-8	mg/l	0.77	0.77	0.0	0-20%
Nitrogen, Nitrite	GP19548/GN51745	MC41374-1	mg/l	0.0011 U	0.0024	11.8	0-20%
Sulfide	GN51767	MC41332-1	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN51767: MC41403-1, MC41403-2, MC41403-3
Batch GP19548: MC41403-1, MC41403-2, MC41403-3
Batch GP19563: MC41403-1, MC41403-2, MC41403-3
(*) Outside of QC limits

9.2

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate + Nitrite	GP19563/GN51774	MC41414-8	mg/l	0.77	2	2.8	101.5	90-110%
Nitrogen, Nitrite	GP19548/GN51745	MC41374-1	mg/l	0.0011 U	0.02	0.023	101.5	75-125%
Sulfide	GN51767	MC41332-1	mg/l	0.34 U	13.4	13.0	97.0	75-125%
Total Organic Carbon	GP19577/GN51819	MC41332-1	mg/l	0.27 U	10	10.5	100.0	75-125%

Associated Samples:
Batch GN51767: MC41403-1, MC41403-2, MC41403-3
Batch GP19548: MC41403-1, MC41403-2, MC41403-3
Batch GP19563: MC41403-1, MC41403-2, MC41403-3
Batch GP19577: MC41403-1, MC41403-2, MC41403-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41403
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19577/GN51819	MC41332-1	mg/l	0.27 U	10	10.1	3.9	20%

Associated Samples:
Batch GP19577: MC41403-1, MC41403-2, MC41403-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

9.4

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New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

GW

CHAIN OF CUSTODY

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC41403
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information

Name: Accutest New England
Address: 50 D'Angelo Drive
City: Marlborough State: MA Zip: 01752
Send Report to: FrankD@accutest.com
Any questions contact: Frank D'Agostino
Phone/Fax #: (508)481-6200 / (508)481-7753

Subcontract Laboratory Information

Name: Accutest - New Jersey
Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Contact: Sample Management
Phone: (732) 329-0200

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300	Comments
MC41403 -1	9/11/15	10:05 AM		GW	1					x	X	
MC41403 -2	9/11/15	1:25 PM		GW	1					x	X	MA
MC41403 -3	9/11/15	10:30 AM		GW	1					x	X	

[x] STD 9/23/15
[ ] Other ______ (Days)
*Please notify Accutest if surcharges are applied.
FX# 6484 9124 9003
10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

[ ] Commercial "A" [ ] PDF
[ ] Commercial "B" [ ] Compact Disk Deliverable
[X] Commercial "BN" [ ] Electronic Delivery:
[ ] Reduced Tier 1 [ ] State Forms
[ ] Full Tier 1 [ ] Other (Specify)

Comments / Remarks

All DW samples are subject to MCL compliance reporting.

INITIAL ASESSMENT 2A Dom
LABEL VERIFICATION DO

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:	
1 wh		1 FEDX	1 9-11-15	Seal #: / Headspace: Yes No [ ] NA [ ]
2 FX	9/12/15 9:40	2 [signature]	2	Preserved where applicable: [ ]
3		3	3	Temperature °C 3.6 c-ip On Ice [X]

sm022-01 (10/30/14)

10.1
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MC41403: Chain of Custody
Page 1 of 2
Accutest New Jersey

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC41403 **Client:** **Project:**

Date / Time Received: 9/12/2015 9:40:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.8);

Cooler Security

	Y	N
1. Custody Seals Present:	✔	☐
2. Custody Seals Intact:	✔	☐
3. COC Present:	✔	☐
4. Smpl Dates/Time OK	✔	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	✔	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	✔	☐
2. Trip Blank listed on COC:	☐	✔	☐
3. Samples preserved properly:	✔	☐	
4. VOCs headspace free:	☐	☐	✔

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	✔	☐
2. Container labeling complete:	✔	☐
3. Sample container label / COC agree:	✔	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	✔	☐
2. All containers accounted for:	✔	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	✔	☐	
2. Bottles received for unspecified tests	☐	✔	
3. Sufficient volume recvd for analysis:	✔	☐	
4. Compositing instructions clear:	☐	☐	✔
5. Filtering instructions clear:	☐	☐	✔

Comments

10.1

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MC41403: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC41403
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 09/11/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC41403

New England
ACCUTEST
LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41403
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP92069/GN32562	2.0	0.0	mg/l	80	83.5	104.4	90-110%
Sulfate	GP92069/GN32562	10	0.0	mg/l	80	85.7	107.1	90-110%
Sulfate	GP92069/GN32563	10	0.0	mg/l	80	82.0	102.5	90-110%

Associated Samples:
Batch GP92069: MC41403-1, MC41403-2, MC41403-3
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41403
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP92069/GN32562	JC3429-1A	mg/l	8.2	8.2	0.0	0-20%
Sulfate	GP92069/GN32562	JC3429-1A	mg/l	0.79	0.87	9.6	0-20%

Associated Samples:
Batch GP92069: MC41403-1, MC41403-2, MC41403-3
(*) Outside of QC limits

11.2

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41403
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP92069/GN32562	JC3429-1A	mg/l	8.2	80	86.0	97.3	80-120%
Sulfate	GP92069/GN32562	JC3429-1A	mg/l	0.79	80	78.8	97.5	80-120%

Associated Samples:
Batch GP92069: MC41403-1, MC41403-2, MC41403-3
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

10/05/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

1024.011

Accutest Job Number: MC41432

Sampling Date: 09/14/15

Report to:

H&S Environmental

lekes@hsenv.com

ATTN: Laurie Ekes

Total number of pages in report: **106**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Sections: 1 2 3 4 5 6 7 8 9 10 11

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Sample Summary

H&S Environmental

Job No: MC41432

Fort Devens, AOC50, Devens, MA
Project No: 1024.011

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC41432-1	09/14/15	09:00	EAJF	09/14/15	AQ	Ground Water	G6M-03-07X
MC41432-1F	09/14/15	09:00	EAJF	09/14/15	AQ	Groundwater Filtered	G6M-03-07X
MC41432-2	09/14/15	10:50	EAJF	09/14/15	AQ	Ground Water	G6M-04-04X
MC41432-2F	09/14/15	10:50	EAJF	09/14/15	AQ	Groundwater Filtered	G6M-04-04X
MC41432-3	09/14/15	12:25	EAJF	09/14/15	AQ	Ground Water	G6M-02-04X
MC41432-3F	09/14/15	12:25	EAJF	09/14/15	AQ	Groundwater Filtered	G6M-02-04X
MC41432-4	09/14/15	10:00	EAJF	09/14/15	AQ	Trip Blank Water	TB-02
MC41432-5	09/14/15	10:30	EAJF	09/14/15	AQ	Ground Water	G6M-02-03X
MC41432-5F	09/14/15	10:30	EAJF	09/14/15	AQ	Groundwater Filtered	G6M-02-03X
MC41432-6	09/14/15	11:50	EAJF	09/14/15	AQ	Ground Water	G6M-97-28X
MC41432-6F	09/14/15	11:50	EAJF	09/14/15	AQ	Groundwater Filtered	G6M-97-28X

ACCUTEST LABORATORIES

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SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	H&S Environmental	**Job No**	MC41432
Site:	Fort Devens, AOC50, Devens, MA	**Report Date**	10/1/2015 10:22:22 AM

5 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 09/14/2015 and were received at Accutest on 09/14/2015 properly preserved, at 4.1 Deg. C and intact. These Samples received an Accutest job number of MC41432. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSU1329

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC41493-27MS, MC41493-27MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MC41493-27MS/MSD for Trichloroethene, cis-1,2-Dichloroethene are outside control limits due to high level in sample relative to spike amount.
- MC41432-1: Elevated RL due to dilution required for matrix interference.
- MC41432-1, -2, -3, -4, -5, -6 for Chloromethane: Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
- MC41493-27MS/MSD for Styrene are outside DOD criteria, but within in-house criteria.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1528

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41432-6DUP were used as the QC samples indicated.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25142

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41432-2FMS, MC41432-2FMSD, MC41432-2FSDL were used as the QC samples for metals.
- MP25142-S1, MP25142-S2 for Manganese are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- RPD(s) for Serial Dilution for Copper, Nickel, Silver, Vanadium, Zinc are outside control limits for sample MP25142-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MC41432-2F for Iron, Sodium, Manganese: Matrix spike and matrix spike duplicate recoveries outside of the control limits. J-flag applied.
- MP25142-S1 for Iron, Sodium: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
- MP25142-S2 for Sodium, Iron are outside control limits. Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

Metals By Method SW846 6020A

Matrix: AQ	Batch ID: MP25142A

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41432-2FMS, MC41432-2FMSD, MC41432-2FSDL were used as the QC samples for metals.

Metals By Method SW846 7470A

Matrix: AQ	Batch ID: MP25144

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-1FMS, MC41374-1FMSD were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	Batch ID: N:GP92319

- Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	Batch ID: GP19566

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41414-26DUP, MC41414-26MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	Batch ID: GP19609

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41432-6MS, MC41432-6DUP were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- RPD(s) for Duplicate for Nitrogen, Nitrate + Nitrite are outside control limits for sample GP19609-D1. RPD acceptable due to low duplicate and sample concentrations.

Matrix: AQ	Batch ID: R37251

- MC41432-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R37252

- MC41432-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R37253

- MC41432-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R37254

- MC41432-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R37333

- MC41432-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	**Batch ID:** GP19567

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41432-1DUP, MC41432-1MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ	**Batch ID:** GN51768

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41432-6DUP, MC41432-6MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SW846 9060

Matrix: AQ	**Batch ID:** GP19578

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41374-4MS, MC41374-4MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC41432).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Accutest Labs of New England, Inc. **Job No** MC41432

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 9/28/2015 11:21:58 A

On 09/16/2015, 5 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3.3 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC41432 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP92319

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC41432-3DUP, MC41432-3MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC41432-1	**G6M-03-07X**					
Methane		11900	200	100	ug/l	VRSK 175
Ethene		6.0 J	10	5.0	ug/l	VRSK 175
Nitrogen, Nitrate [a]		0.086 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.086 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		0.94 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		25.2	1.0	0.81	mg/l	SW846 9060
MC41432-1F	**G6M-03-07X**					
Arsenic		436	20	10	ug/l	SW846 6020A
Barium		86.3	50	25	ug/l	SW846 6010C
Calcium		28000	15000	7500	ug/l	SW846 6010C
Iron		103000	1000	500	ug/l	SW846 6010C
Magnesium		7690	5000	2500	ug/l	SW846 6010C
Manganese		1700	15	7.5	ug/l	SW846 6010C
Potassium		36000	15000	7500	ug/l	SW846 6010C
Sodium		39900	15000	7500	ug/l	SW846 6010C
Zinc		12.4 J	20	10	ug/l	SW846 6010C
MC41432-2	**G6M-04-04X**					
Carbon disulfide		0.96 J	5.0	0.50	ug/l	SW846 8260C
Chloroethane		0.53 J	2.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene		1.5	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		0.91 J	1.0	0.50	ug/l	SW846 8260C
Methane		9170	200	100	ug/l	VRSK 175
Ethene		32.6	10	5.0	ug/l	VRSK 175
Nitrogen, Nitrate [a]		0.068 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.068 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		3.4 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		7.5	1.0	0.81	mg/l	SW846 9060
MC41432-2F	**G6M-04-04X**					
Arsenic		486	20	10	ug/l	SW846 6020A
Barium		131	50	25	ug/l	SW846 6010C
Calcium		59200	25000	13000	ug/l	SW846 6010C
Iron [c]		119000 J	2000	1000	ug/l	SW846 6010C
Magnesium		7120	5000	2500	ug/l	SW846 6010C
Manganese [c]		10700 J	75	38	ug/l	SW846 6010C
Potassium		9170	5000	2500	ug/l	SW846 6010C
Sodium [d]		215000 J	100000	50000	ug/l	SW846 6010C

Summary of Hits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC41432-3	**G6M-02-04X**					
Methane		4350	100	50	ug/l	VRSK 175
Sulfate [b]		9.6 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1.6	1.0	0.81	mg/l	SW846 9060
MC41432-3F	**G6M-02-04X**					
Arsenic		408	20	10	ug/l	SW846 6020A
Calcium		34600	10000	5000	ug/l	SW846 6010C
Iron		20400	200	100	ug/l	SW846 6010C
Magnesium		4030 J	5000	2500	ug/l	SW846 6010C
Manganese		995	15	7.5	ug/l	SW846 6010C
Potassium		4160 J	5000	2500	ug/l	SW846 6010C
Sodium		68800	25000	13000	ug/l	SW846 6010C
MC41432-4	**TB-02**					
No hits reported in this sample.						
MC41432-5	**G6M-02-03X**					
Tetrachloroethene		0.82 J	1.0	0.50	ug/l	SW846 8260C
Methane		284	10	5.0	ug/l	VRSK 175
Nitrogen, Nitrate [a]		1.3	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		1.3	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]		9.7 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1.1	1.0	0.81	mg/l	SW846 9060
MC41432-5F	**G6M-02-03X**					
Barium		56.4	50	25	ug/l	SW846 6010C
Calcium		22700	15000	7500	ug/l	SW846 6010C
Manganese		78.6	15	7.5	ug/l	SW846 6010C
Potassium		3120 J	5000	2500	ug/l	SW846 6010C
Sodium		206000	100000	50000	ug/l	SW846 6010C
Zinc		17.9 J	20	10	ug/l	SW846 6010C
MC41432-6	**G6M-97-28X**					
cis-1,2-Dichloroethene		37.3	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene		1.6	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		0.57 J	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		62.8	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		22.3	1.0	0.50	ug/l	SW846 8260C

Summary of Hits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

Lab Sample ID Client Sample ID Analyte	Result/ Qual	LOQ	LOD	Units	Method
Methane	85.0	10	5.0	ug/l	VRSK 175
Sulfate [b]	12.1	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	1.1	1.0	0.81	mg/l	SW846 9060
MC41432-6F G6M-97-28X					
Calcium	11800	5000	2500	ug/l	SW846 6010C
Iron	237	100	50	ug/l	SW846 6010C
Manganese	2110	15	7.5	ug/l	SW846 6010C
Potassium	2510 J	5000	2500	ug/l	SW846 6010C
Sodium	46500	25000	13000	ug/l	SW846 6010C
Zinc	14.1 J	20	10	ug/l	SW846 6010C

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.
(c) Matrix spike and matrix spike duplicate recoveries outside of the control limits. J-flag applied.
(d) Matrix spike and matrix spike duplicate recoveries outside of the control limits.J-flag applied.

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	G6M-03-07X		
Lab Sample ID:	MC41432-1	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U32364.D	2	09/27/15	AD	n/a	n/a	MSU1329
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	10 U	20	10	ug/l	
71-43-2	Benzene	1.0 U	1.0	1.0	ug/l	
108-86-1	Bromobenzene	2.0 U	10	2.0	ug/l	
74-97-5	Bromochloromethane	1.0 U	10	1.0	ug/l	
75-27-4	Bromodichloromethane	1.0 U	2.0	1.0	ug/l	
75-25-2	Bromoform	1.0 U	2.0	1.0	ug/l	
74-83-9	Bromomethane	2.0 U	4.0	2.0	ug/l	
78-93-3	2-Butanone (MEK)	10 U	20	10	ug/l	
104-51-8	n-Butylbenzene	2.0 U	10	2.0	ug/l	
135-98-8	sec-Butylbenzene	2.0 U	10	2.0	ug/l	
98-06-6	tert-Butylbenzene	2.0 U	10	2.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	10	1.0	ug/l	
56-23-5	Carbon tetrachloride	1.0 U	2.0	1.0	ug/l	
108-90-7	Chlorobenzene	1.0 U	2.0	1.0	ug/l	
75-00-3	Chloroethane	1.0 U	4.0	1.0	ug/l	
67-66-3	Chloroform	1.0 U	2.0	1.0	ug/l	
74-87-3	Chloromethane [b]	2.0 U	4.0	2.0	ug/l	
95-49-8	o-Chlorotoluene	2.0 U	10	2.0	ug/l	
106-43-4	p-Chlorotoluene	2.0 U	10	2.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U	10	2.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	2.0 U	2.0	2.0	ug/l	
95-50-1	1,2-Dichlorobenzene	1.0 U	2.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	1.0 U	2.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	2.0 U	4.0	2.0	ug/l	
75-34-3	1,1-Dichloroethane	1.0 U	2.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	1.0 U	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethene	1.0 U	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	1.0 U	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	1.0 U	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	1.0 U	4.0	1.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X		
Lab Sample ID:	MC41432-1	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	2.0 U	10	2.0	ug/l	
594-20-7	2,2-Dichloropropane	4.0 U	10	4.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	10	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	1.0 U	1.0	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	1.0 U	1.0	1.0	ug/l	
100-41-4	Ethylbenzene	1.0 U	2.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	10	2.0	ug/l	
591-78-6	2-Hexanone	10 U	20	10	ug/l	
74-88-4	Iodomethane	2.0 U	10	2.0	ug/l	
98-82-8	Isopropylbenzene	2.0 U	10	2.0	ug/l	
99-87-6	p-Isopropyltoluene	2.0 U	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.0 U	2.0	1.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	4.0 U	10	4.0	ug/l	
74-95-3	Methylene bromide	2.0 U	10	2.0	ug/l	
75-09-2	Methylene chloride	2.0 U	4.0	2.0	ug/l	
91-20-3	Naphthalene	4.0 U	10	4.0	ug/l	
103-65-1	n-Propylbenzene	2.0 U	10	2.0	ug/l	
100-42-5	Styrene	1.0 U	10	1.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U	2.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U	1.0	1.0	ug/l	
127-18-4	Tetrachloroethene	1.0 U	2.0	1.0	ug/l	
108-88-3	Toluene	1.0 U	2.0	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	4.0 U	10	4.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	10	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	1.0 U	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	1.0 U	2.0	1.0	ug/l	
79-01-6	Trichloroethene	1.0 U	2.0	1.0	ug/l	
75-69-4	Trichlorofluoromethane	2.0 U	2.0	2.0	ug/l	
96-18-4	1,2,3-Trichloropropane	2.0 U	10	2.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	1.0 U	10	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	1.0 U	10	1.0	ug/l	
108-05-4	Vinyl Acetate	4.0 U	10	4.0	ug/l	
75-01-4	Vinyl chloride	1.0 U	2.0	1.0	ug/l	
	m,p-Xylene	2.0 U	2.0	2.0	ug/l	
95-47-6	o-Xylene	1.0 U	2.0	1.0	ug/l	
1330-20-7	Xylene (total)	1.0 U	2.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X		
Lab Sample ID:	MC41432-1	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		80-116%
460-00-4	4-Bromofluorobenzene	91%		77-124%

(a) Elevated RL due to dilution required for matrix interference.
(b) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X		
Lab Sample ID:	MC41432-1	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22432.D	1	09/22/15	AF	n/a	n/a	GBA1528
Run #2	BA22433.D	1	09/22/15	AF	n/a	n/a	GBA1528

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	11900 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	6.0	10	5.0	ug/l	J

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X		
Lab Sample ID:	MC41432-1	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.086 J	0.11	0.057	mg/l	1	09/15/15 18:57	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.086 J	0.10	0.054	mg/l	1	09/15/15 15:32	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/15/15 18:57	MC	SM 21 4500 NO2 B
Sulfate [b]	0.94 J	10	0.50	mg/l	1	09/26/15 01:11	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	25.2	1.0	0.81	mg/l	1	09/21/15 22:03	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-03-07X
Lab Sample ID: MC41432-1F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/14/15
Date Received: 09/14/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Arsenic	436	20	10	ug/l	10	09/15/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [5]
Barium	86.3	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Calcium	28000	15000	7500	ug/l	3	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Chromium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Cobalt	25 U	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Copper	13 U	25	13	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Iron	103000	1000	500	ug/l	10	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Lead	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Magnesium	7690	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Manganese	1700	15	7.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [6]
Nickel	20 U	40	20	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Potassium	36000	15000	7500	ug/l	3	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Selenium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Silver	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Sodium	39900	15000	7500	ug/l	3	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Vanadium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Zinc	12.4 J	20	10	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18468
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25142
(5) Prep QC Batch: MP25142A
(6) Prep QC Batch: MP25144

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-04X		
Lab Sample ID:	MC41432-2	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32355.D	1	09/27/15	AD	n/a	n/a	MSU1329
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.96	5.0	0.50	ug/l	J
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.53	2.0	0.50	ug/l	J
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane [a]	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	1.5	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-04X		
Lab Sample ID:	MC41432-2	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.91	1.0	0.50	ug/l	J
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-04X		
Lab Sample ID:	MC41432-2	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		80-116%
460-00-4	4-Bromofluorobenzene	91%		77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-04X		
Lab Sample ID:	MC41432-2	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22436.D	1	09/22/15	AF	n/a	n/a	GBA1528
Run #2	BA22437.D	1	09/22/15	AF	n/a	n/a	GBA1528

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	9170 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	32.6	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-04X		
Lab Sample ID:	MC41432-2	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.068 J	0.11	0.057	mg/l	1	09/15/15 18:57	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.068 J	0.10	0.054	mg/l	1	09/15/15 15:34	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/15/15 18:57	MC	SM 21 4500 NO2 B
Sulfate [b]	3.4 J	10	0.50	mg/l	1	09/26/15 01:35	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	7.5	1.0	0.81	mg/l	1	09/21/15 22:58	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-04-04X
Lab Sample ID: MC41432-2F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/14/15
Date Received: 09/14/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Arsenic	486	20	10	ug/l	10	09/15/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [5]
Barium	131	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Calcium	59200	25000	13000	ug/l	5	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Chromium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Cobalt	25 U	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Copper	13 U	25	13	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Iron [a]	119000 J	2000	1000	ug/l	20	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Lead	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Magnesium	7120	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Manganese [a]	10700 J	75	38	ug/l	5	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [6]
Nickel	20 U	40	20	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Potassium	9170	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Selenium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Silver	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Sodium [b]	215000 J	100000	50000	ug/l	20	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Vanadium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Zinc	10 U	20	10	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18468
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25142
(5) Prep QC Batch: MP25142A
(6) Prep QC Batch: MP25144

(a) Matrix spike and matrix spike duplicate recoveries outside of the control limits. J-flag applied.
(b) Matrix spike and matrix spike duplicate recoveries outside of the control limits.J-flag applied.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-04X		
Lab Sample ID:	MC41432-3	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32356.D	1	09/27/15	AD	n/a	n/a	MSU1329
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane [a]	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X		
Lab Sample ID:	MC41432-3	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X		
Lab Sample ID:	MC41432-3	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		80-116%
460-00-4	4-Bromofluorobenzene	93%		77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X		
Lab Sample ID:	MC41432-3	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22438.D	1	09/22/15	AF	n/a	n/a	GBA1528
Run #2	BA22439.D	1	09/22/15	AF	n/a	n/a	GBA1528

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	4350 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X		
Lab Sample ID:	MC41432-3	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	09/15/15 18:57	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	09/15/15 15:35	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/15/15 18:57	MC	SM 21 4500 NO2 B
Sulfate [b]	9.6 J	10	0.50	mg/l	1	09/26/15 02:46	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	1.6	1.0	0.81	mg/l	1	09/21/15 23:16	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-04X		
Lab Sample ID:	MC41432-3F	**Date Sampled:**	09/14/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	09/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Arsenic	408	20	10	ug/l	10	09/15/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [5]
Barium	25 U	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Calcium	34600	10000	5000	ug/l	2	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Chromium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Cobalt	25 U	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Copper	13 U	25	13	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Iron	20400	200	100	ug/l	2	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Lead	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Magnesium	4030 J	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Manganese	995	15	7.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [6]
Nickel	20 U	40	20	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Potassium	4160 J	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Selenium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Silver	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Sodium	68800	25000	13000	ug/l	5	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Vanadium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Zinc	10 U	20	10	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18468
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25142
(5) Prep QC Batch: MP25142A
(6) Prep QC Batch: MP25144

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	TB-02		
Lab Sample ID:	MC41432-4	**Date Sampled:**	09/14/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32349.D	1	09/27/15	AD	n/a	n/a	MSU1329
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane [a]	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-02		
Lab Sample ID:	MC41432-4	**Date Sampled:**	09/14/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		79-127%

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-02		
Lab Sample ID:	MC41432-4	**Date Sampled:**	09/14/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%		80-116%
460-00-4	4-Bromofluorobenzene	90%		77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-03X		
Lab Sample ID:	MC41432-5	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32357.D	1	09/27/15	AD	n/a	n/a	MSU1329
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane [a]	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-03X			
Lab Sample ID:	MC41432-5		**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water		**Date Received:**	09/14/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.82	1.0	0.50	ug/l	J
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-03X		
Lab Sample ID:	MC41432-5	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		80-116%
460-00-4	4-Bromofluorobenzene	92%		77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-03X		
Lab Sample ID:	MC41432-5	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22440.D	1	09/22/15	AF	n/a	n/a	GBA1528
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	284	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-03X		
Lab Sample ID:	MC41432-5	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	1.3	0.11	0.057	mg/l	1	09/15/15 18:57	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	1.3	0.10	0.054	mg/l	1	09/15/15 15:36	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/15/15 18:57	MC	SM 21 4500 NO2 B
Sulfate [b]	9.7 J	10	0.50	mg/l	1	09/26/15 03:10	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	1.1	1.0	0.81	mg/l	1	09/21/15 23:30	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-03X		
Lab Sample ID:	MC41432-5F	**Date Sampled:**	09/14/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	09/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Arsenic	2.0 U	4.0	2.0	ug/l	2	09/15/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [5]
Barium	56.4	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Calcium	22700	15000	7500	ug/l	3	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Chromium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Cobalt	25 U	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Copper	13 U	25	13	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Iron	50 U	100	50	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Lead	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Magnesium	2500 U	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Manganese	78.6	15	7.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [6]
Nickel	20 U	40	20	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Potassium	3120 J	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Selenium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Silver	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Sodium	206000	100000	50000	ug/l	20	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Vanadium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Zinc	17.9 J	20	10	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18468
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25142
(5) Prep QC Batch: MP25142A
(6) Prep QC Batch: MP25144

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-97-28X
Lab Sample ID: MC41432-6
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Fort Devens, AOC50, Devens, MA

Date Sampled: 09/14/15
Date Received: 09/14/15
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U32358.D	1	09/27/15	AD	n/a	n/a	MSU1329
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	0.50 U	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane [a]	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	5.0	1.0	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	37.3	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	1.6	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-28X		
Lab Sample ID:	MC41432-6	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	5.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	5.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	1.0 U	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.57	1.0	0.50	ug/l	J
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	1.0 U	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	62.8	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	2.0 U	5.0	2.0	ug/l	
75-01-4	Vinyl chloride	22.3	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-28X		
Lab Sample ID:	MC41432-6	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		80-116%
460-00-4	4-Bromofluorobenzene	90%		77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-28X		
Lab Sample ID:	MC41432-6	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22426.D	1	09/22/15	AF	n/a	n/a	GBA1528
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	85.0	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-28X		
Lab Sample ID:	MC41432-6	**Date Sampled:**	09/14/15
Matrix:	AQ - Ground Water	**Date Received:**	09/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	09/26/15 12:00	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	09/26/15 12:00	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	09/15/15 18:57	MC	SM 21 4500 NO2 B
Sulfate [b]	12.1	10	0.50	mg/l	1	09/26/15 04:22	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	09/15/15	BF	SM21 4500 S F
Total Organic Carbon	1.1	1.0	0.81	mg/l	1	09/21/15 23:48	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-97-28X
Lab Sample ID: MC41432-6F
Matrix: AQ - Groundwater Filtered
Date Sampled: 09/14/15
Date Received: 09/14/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	100 U	200	100	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Antimony	3.0 U	6.0	3.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Arsenic	2.0 U	4.0	2.0	ug/l	2	09/15/15	09/19/15	EAL	SW846 6020A [3]	SW846 3010A [5]
Barium	25 U	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Beryllium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Cadmium	2.0 U	4.0	2.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Calcium	11800	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Chromium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Cobalt	25 U	50	25	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Copper	13 U	25	13	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Iron	237	100	50	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Lead	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Magnesium	2500 U	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Manganese	2110	15	7.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Mercury	0.15 U	0.20	0.15	ug/l	1	09/15/15	09/15/15	EC	SW846 7470A [1]	SW846 7470A [6]
Nickel	20 U	40	20	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Potassium	2510 J	5000	2500	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Selenium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Silver	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Sodium	46500	25000	13000	ug/l	5	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Thallium	2.5 U	5.0	2.5	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Vanadium	5.0 U	10	5.0	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]
Zinc	14.1 J	20	10	ug/l	1	09/15/15	09/16/15	EC	SW846 6010C [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA18461
(2) Instrument QC Batch: MA18468
(3) Instrument QC Batch: MA18476
(4) Prep QC Batch: MP25142
(5) Prep QC Batch: MP25142A
(6) Prep QC Batch: MP25144

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

PAGE 1 OF 1

FED-EX Tracking #
Bottle Order Control #
Accutest Quote #
Accutest Job # MC41432

Client / Reporting Information

Company Name: H&S Environmental
Street Address: 160 E Main St. Suit 2F
City / State / Zip:
Project Contact: E Anderson
E-mail: eanderson@hsenvirom
Phone #: 508 3667442
Fax #:
Sampler(s) Name(s): E Anderson / J Fitzgerald
Phone #:

Project Information

Project Name: USACE Devens AOC 50
Street: Fitchburg Rd
City: Devens
Project#: 1024.011
Client PO#: 1024-11
Project Manager: Elizabeth Anderson

Billing Information (If different from Report to)
Company Name
Street Address
City / State / Zip
Attention: / PO#

Requested Analysis (see TEST CODE sheet): VOCs 8260B; Dissolved Metals + Arsenic; Methane/Ethane/Ethene; Nitrogen, Nitrite; Nitrogen, Nitrate; Sulfide; Sulfate; TOC

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED - Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB - Equipment Blank; RB - Rinse Blank; TB - Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	VOCs 8260B	Dissolved Metals + Arsenic	Methane/Ethane/Ethene	Nitrogen, Nitrite	Nitrogen, Nitrate	Sulfide	Sulfate	TOC	LAB USE ONLY
-1F	GGM-03-07X		9/14/15	900	EA	GW	11	X	X	X	X	X					X	X	X	X	X	X	X	X	
-2F	GGM-04-04X			1050			11		X	X	X	X					X	X	X	X	X	X	X	X	
-3F	GGM-02-04X			1225			11		X	X	X	X					X	X	X	X	X	X	X	X	
-4	TB-02			1000			2										X								1B5
-5F	GGM02-03X			1030			11		X	X	X	X					X	X	X	X	X	X	X	X	SD
-6F	GGM97-28X			1150			11		X	X	X	X					X	X	X	X	X	X	X	X	2D4

Turnaround Time (Business days)

- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Zinc Acetate
Field Filtered

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	9/14/15 1400	1 Brunell	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☐ Cooler Temp. 4.1°C

MC41432: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC41432 **Client:** H&S **Project:**

Date / Time Received: 9/14/2015 2:00:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (4.1/4.1);

Cooler Security

	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	☐
2. Trip Blank listed on COC:	☑	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

MC41432: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1329	SW846 8260C						
MSU1329-BS	67-64-1	Acetone	BSP	REC	74	%	39-160
MSU1329-BS	71-43-2	Benzene	BSP	REC	96	%	79-120
MSU1329-BS	108-86-1	Bromobenzene	BSP	REC	105	%	80-120
MSU1329-BS	74-97-5	Bromochloromethane	BSP	REC	99	%	78-123
MSU1329-BS	75-27-4	Bromodichloromethane	BSP	REC	108	%	79-125
MSU1329-BS	75-25-2	Bromoform	BSP	REC	112	%	66-130
MSU1329-BS	74-83-9	Bromomethane	BSP	REC	120	%	53-141
MSU1329-BS	78-93-3	2-Butanone (MEK)	BSP	REC	90	%	56-143
MSU1329-BS	104-51-8	n-Butylbenzene	BSP	REC	106	%	75-128
MSU1329-BS	135-98-8	sec-Butylbenzene	BSP	REC	109	%	77-126
MSU1329-BS	98-06-6	tert-Butylbenzene	BSP	REC	110	%	78-124
MSU1329-BS	75-15-0	Carbon disulfide	BSP	REC	81	%	64-133
MSU1329-BS	56-23-5	Carbon tetrachloride	BSP	REC	115	%	72-136
MSU1329-BS	108-90-7	Chlorobenzene	BSP	REC	104	%	82-118
MSU1329-BS	75-00-3	Chloroethane	BSP	REC	105	%	60-138
MSU1329-BS	67-66-3	Chloroform	BSP	REC	99	%	79-124
MSU1329-BS	74-87-3	Chloromethane	BSP	REC	56	%	50-139
MSU1329-BS	95-49-8	o-Chlorotoluene	BSP	REC	103	%	79-122
MSU1329-BS	106-43-4	p-Chlorotoluene	BSP	REC	102	%	78-122
MSU1329-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	108	%	62-128
MSU1329-BS	124-48-1	Dibromochloromethane	BSP	REC	115	%	74-126
MSU1329-BS	106-93-4	1,2-Dibromoethane	BSP	REC	113	%	77-121
MSU1329-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	116	%	80-119
MSU1329-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	104	%	80-119
MSU1329-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	105	%	79-118
MSU1329-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	132	%	32-152
MSU1329-BS	75-34-3	1,1-Dichloroethane	BSP	REC	86	%	77-125
MSU1329-BS	107-06-2	1,2-Dichloroethane	BSP	REC	107	%	73-128
MSU1329-BS	75-35-4	1,1-Dichloroethene	BSP	REC	90	%	71-131
MSU1329-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	100	%	78-123
MSU1329-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	96	%	75-124
MSU1329-BS	78-87-5	1,2-Dichloropropane	BSP	REC	100	%	78-122
MSU1329-BS	142-28-9	1,3-Dichloropropane	BSP	REC	110	%	80-119
MSU1329-BS	594-20-7	2,2-Dichloropropane	BSP	REC	101	%	60-139
MSU1329-BS	563-58-6	1,1-Dichloropropene	BSP	REC	96	%	79-125
MSU1329-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	106	%	75-124
MSU1329-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	110	%	73-127
MSU1329-BS	100-41-4	Ethylbenzene	BSP	REC	107	%	79-121
MSU1329-BS	87-68-3	Hexachlorobutadiene	BSP	REC	130	%	66-134
MSU1329-BS	591-78-6	2-Hexanone	BSP	REC	100	%	57-139
MSU1329-BS	74-88-4	Iodomethane	BSP	REC	91	%	69-131
MSU1329-BS	98-82-8	Isopropylbenzene	BSP	REC	102	%	72-131

* Sample used for QC is not from job MC41432

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1329-BS	99-87-6	p-Isopropyltoluene	BSP	REC	110	%	77-127
MSU1329-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	104	%	71-124
MSU1329-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	106	%	67-130
MSU1329-BS	74-95-3	Methylene bromide	BSP	REC	110	%	79-123
MSU1329-BS	75-09-2	Methylene chloride	BSP	REC	93	%	74-124
MSU1329-BS	91-20-3	Naphthalene	BSP	REC	103	%	61-128
MSU1329-BS	103-65-1	n-Propylbenzene	BSP	REC	99	%	76-126
MSU1329-BS	100-42-5	Styrene	BSP	REC	102	%	78-123
MSU1329-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	113	%	78-124
MSU1329-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	115	%	71-121
MSU1329-BS	127-18-4	Tetrachloroethene	BSP	REC	115	%	74-129
MSU1329-BS	108-88-3	Toluene	BSP	REC	105	%	80-121
MSU1329-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	118	%	69-129
MSU1329-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	115	%	69-130
MSU1329-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	106	%	74-131
MSU1329-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	111	%	80-119
MSU1329-BS	79-01-6	Trichloroethene	BSP	REC	99	%	79-123
MSU1329-BS	75-69-4	Trichlorofluoromethane	BSP	REC	110	%	65-141
MSU1329-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	102	%	73-122
MSU1329-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	104	%	76-124
MSU1329-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	111	%	75-124
MSU1329-BS	108-05-4	Vinyl Acetate	BSP	REC	121	%	54-146
MSU1329-BS	75-01-4	Vinyl chloride	BSP	REC	110	%	58-137
MSU1329-BS		m,p-Xylene	BSP	REC	106	%	80-121
MSU1329-BS	95-47-6	o-Xylene	BSP	REC	101	%	78-122
MSU1329-BS	1330-20-7	Xylene (total)	BSP	REC	105	%	79-121
MSU1329-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	98	%	80-119
MSU1329-BS	2037-26-5	Toluene-D8	BSP	SURR	103	%	89-112
MSU1329-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	96	%	85-114
MC41493-27MS*	67-64-1	Acetone	MS	REC	78	%	39-160
MC41493-27MS*	71-43-2	Benzene	MS	REC	97	%	79-120
MC41493-27MS*	108-86-1	Bromobenzene	MS	REC	102	%	80-120
MC41493-27MS*	74-97-5	Bromochloromethane	MS	REC	102	%	78-123
MC41493-27MS*	75-27-4	Bromodichloromethane	MS	REC	105	%	79-125
MC41493-27MS*	75-25-2	Bromoform	MS	REC	91	%	66-130
MC41493-27MS*	74-83-9	Bromomethane	MS	REC	132	%	53-141
MC41493-27MS*	78-93-3	2-Butanone (MEK)	MS	REC	68	%	56-143
MC41493-27MS*	104-51-8	n-Butylbenzene	MS	REC	102	%	75-128
MC41493-27MS*	135-98-8	sec-Butylbenzene	MS	REC	106	%	77-126
MC41493-27MS*	98-06-6	tert-Butylbenzene	MS	REC	111	%	78-124
MC41493-27MS*	75-15-0	Carbon disulfide	MS	REC	75	%	64-133
MC41493-27MS*	56-23-5	Carbon tetrachloride	MS	REC	118	%	72-136
MC41493-27MS*	108-90-7	Chlorobenzene	MS	REC	102	%	82-118
MC41493-27MS*	75-00-3	Chloroethane	MS	REC	116	%	60-138
MC41493-27MS*	67-66-3	Chloroform	MS	REC	105	%	79-124

* Sample used for QC is not from job MC41432

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC41493-27MS*	74-87-3	Chloromethane	MS	REC	83	%	50-139
MC41493-27MS*	95-49-8	o-Chlorotoluene	MS	REC	99	%	79-122
MC41493-27MS*	106-43-4	p-Chlorotoluene	MS	REC	99	%	78-122
MC41493-27MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	101	%	62-128
MC41493-27MS*	124-48-1	Dibromochloromethane	MS	REC	100	%	74-126
MC41493-27MS*	106-93-4	1,2-Dibromoethane	MS	REC	105	%	77-121
MC41493-27MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	115	%	80-119
MC41493-27MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	102	%	80-119
MC41493-27MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	102	%	79-118
MC41493-27MS*	75-71-8	Dichlorodifluoromethane	MS	REC	141	%	32-152
MC41493-27MS*	75-34-3	1,1-Dichloroethane	MS	REC	89	%	77-125
MC41493-27MS*	107-06-2	1,2-Dichloroethane	MS	REC	109	%	73-128
MC41493-27MS*	75-35-4	1,1-Dichloroethene	MS	REC	84	%	71-131
MC41493-27MS*	156-59-2	cis-1,2-Dichloroethene	MS	REC	-46 [a]	%	78-123
MC41493-27MS*	156-60-5	trans-1,2-Dichloroethene	MS	REC	95	%	75-124
MC41493-27MS*	78-87-5	1,2-Dichloropropane	MS	REC	98	%	78-122
MC41493-27MS*	142-28-9	1,3-Dichloropropane	MS	REC	100	%	80-119
MC41493-27MS*	594-20-7	2,2-Dichloropropane	MS	REC	103	%	60-139
MC41493-27MS*	563-58-6	1,1-Dichloropropene	MS	REC	95	%	79-125
MC41493-27MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	94	%	75-124
MC41493-27MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	94	%	73-127
MC41493-27MS*	100-41-4	Ethylbenzene	MS	REC	104	%	79-121
MC41493-27MS*	87-68-3	Hexachlorobutadiene	MS	REC	122	%	66-134
MC41493-27MS*	591-78-6	2-Hexanone	MS	REC	87	%	57-139
MC41493-27MS*	74-88-4	Iodomethane	MS	REC	93	%	69-131
MC41493-27MS*	98-82-8	Isopropylbenzene	MS	REC	97	%	72-131
MC41493-27MS*	99-87-6	p-Isopropyltoluene	MS	REC	104	%	77-127
MC41493-27MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	101	%	71-124
MC41493-27MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	103	%	67-130
MC41493-27MS*	74-95-3	Methylene bromide	MS	REC	108	%	79-123
MC41493-27MS*	75-09-2	Methylene chloride	MS	REC	93	%	74-124
MC41493-27MS*	91-20-3	Naphthalene	MS	REC	97	%	61-128
MC41493-27MS*	103-65-1	n-Propylbenzene	MS	REC	95	%	76-126
MC41493-27MS*	100-42-5	Styrene	MS	REC	70	%	78-123
MC41493-27MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	115	%	78-124
MC41493-27MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	114	%	71-121
MC41493-27MS*	127-18-4	Tetrachloroethene	MS	REC	109	%	74-129
MC41493-27MS*	108-88-3	Toluene	MS	REC	100	%	80-121
MC41493-27MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	112	%	69-129
MC41493-27MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	111	%	69-130
MC41493-27MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	113	%	74-131
MC41493-27MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	104	%	80-119
MC41493-27MS*	79-01-6	Trichloroethene	MS	REC	32 [a]	%	79-123
MC41493-27MS*	75-69-4	Trichlorofluoromethane	MS	REC	119	%	65-141
MC41493-27MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	96	%	73-122

* Sample used for QC is not from job MC41432

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC41493-27MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	88	%	76-124
MC41493-27MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	87	%	75-124
MC41493-27MS*	108-05-4	Vinyl Acetate	MS	REC	105	%	54-146
MC41493-27MS*	75-01-4	Vinyl chloride	MS	REC	102	%	58-137
MC41493-27MS*		m,p-Xylene	MS	REC	96	%	80-121
MC41493-27MS*	95-47-6	o-Xylene	MS	REC	95	%	78-122
MC41493-27MS*	1330-20-7	Xylene (total)	MS	REC	96	%	79-121
MC41493-27MS*	1868-53-7	Dibromofluoromethane	MS	SURR	109	%	80-119
MC41493-27MS*	2037-26-5	Toluene-D8	MS	SURR	101	%	89-112
MC41493-27MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	94	%	85-114
MC41493-27MSD*	67-64-1	Acetone	MSD	REC	86	%	39-160
MC41493-27MSD*	67-64-1	Acetone	MSD	RPD	9	%	20
MC41493-27MSD*	71-43-2	Benzene	MSD	REC	94	%	79-120
MC41493-27MSD*	71-43-2	Benzene	MSD	RPD	3	%	20
MC41493-27MSD*	108-86-1	Bromobenzene	MSD	REC	98	%	80-120
MC41493-27MSD*	108-86-1	Bromobenzene	MSD	RPD	4	%	20
MC41493-27MSD*	74-97-5	Bromochloromethane	MSD	REC	102	%	78-123
MC41493-27MSD*	74-97-5	Bromochloromethane	MSD	RPD	0	%	20
MC41493-27MSD*	75-27-4	Bromodichloromethane	MSD	REC	100	%	79-125
MC41493-27MSD*	75-27-4	Bromodichloromethane	MSD	RPD	4	%	20
MC41493-27MSD*	75-25-2	Bromoform	MSD	REC	90	%	66-130
MC41493-27MSD*	75-25-2	Bromoform	MSD	RPD	1	%	20
MC41493-27MSD*	74-83-9	Bromomethane	MSD	REC	133	%	53-141
MC41493-27MSD*	74-83-9	Bromomethane	MSD	RPD	1	%	20
MC41493-27MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	74	%	56-143
MC41493-27MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	8	%	20
MC41493-27MSD*	104-51-8	n-Butylbenzene	MSD	REC	100	%	75-128
MC41493-27MSD*	104-51-8	n-Butylbenzene	MSD	RPD	2	%	20
MC41493-27MSD*	135-98-8	sec-Butylbenzene	MSD	REC	104	%	77-126
MC41493-27MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	2	%	20
MC41493-27MSD*	98-06-6	tert-Butylbenzene	MSD	REC	108	%	78-124
MC41493-27MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	2	%	20
MC41493-27MSD*	75-15-0	Carbon disulfide	MSD	REC	73	%	64-133
MC41493-27MSD*	75-15-0	Carbon disulfide	MSD	RPD	2	%	20
MC41493-27MSD*	56-23-5	Carbon tetrachloride	MSD	REC	114	%	72-136
MC41493-27MSD*	56-23-5	Carbon tetrachloride	MSD	RPD	3	%	20
MC41493-27MSD*	108-90-7	Chlorobenzene	MSD	REC	99	%	82-118
MC41493-27MSD*	108-90-7	Chlorobenzene	MSD	RPD	3	%	20
MC41493-27MSD*	75-00-3	Chloroethane	MSD	REC	112	%	60-138
MC41493-27MSD*	75-00-3	Chloroethane	MSD	RPD	3	%	20
MC41493-27MSD*	67-66-3	Chloroform	MSD	REC	102	%	79-124
MC41493-27MSD*	67-66-3	Chloroform	MSD	RPD	3	%	20
MC41493-27MSD*	74-87-3	Chloromethane	MSD	REC	93	%	50-139
MC41493-27MSD*	74-87-3	Chloromethane	MSD	RPD	11	%	20
MC41493-27MSD*	95-49-8	o-Chlorotoluene	MSD	REC	97	%	79-122

* Sample used for QC is not from job MC41432

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC41493-27MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	3	%	20
MC41493-27MSD*	106-43-4	p-Chlorotoluene	MSD	REC	94	%	78-122
MC41493-27MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	4	%	20
MC41493-27MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	103	%	62-128
MC41493-27MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	2	%	20
MC41493-27MSD*	124-48-1	Dibromochloromethane	MSD	REC	97	%	74-126
MC41493-27MSD*	124-48-1	Dibromochloromethane	MSD	RPD	3	%	20
MC41493-27MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	101	%	77-121
MC41493-27MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	4	%	20
MC41493-27MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	114	%	80-119
MC41493-27MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	2	%	20
MC41493-27MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	99	%	80-119
MC41493-27MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	3	%	20
MC41493-27MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	99	%	79-118
MC41493-27MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	3	%	20
MC41493-27MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	144	%	32-152
MC41493-27MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	2	%	20
MC41493-27MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	87	%	77-125
MC41493-27MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	2	%	20
MC41493-27MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	105	%	73-128
MC41493-27MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	4	%	20
MC41493-27MSD*	75-35-4	1,1-Dichloroethene	MSD	REC	82	%	71-131
MC41493-27MSD*	75-35-4	1,1-Dichloroethene	MSD	RPD	2	%	20
MC41493-27MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	REC	-62 [a]	%	78-123
MC41493-27MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	RPD	1	%	20
MC41493-27MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	REC	93	%	75-124
MC41493-27MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	RPD	2	%	20
MC41493-27MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	95	%	78-122
MC41493-27MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	3	%	20
MC41493-27MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	97	%	80-119
MC41493-27MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	4	%	20
MC41493-27MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	98	%	60-139
MC41493-27MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	6	%	20
MC41493-27MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	93	%	79-125
MC41493-27MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	3	%	20
MC41493-27MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	88	%	75-124
MC41493-27MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	6	%	20
MC41493-27MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	85	%	73-127
MC41493-27MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	11	%	20
MC41493-27MSD*	100-41-4	Ethylbenzene	MSD	REC	103	%	79-121
MC41493-27MSD*	100-41-4	Ethylbenzene	MSD	RPD	2	%	20
MC41493-27MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	123	%	66-134
MC41493-27MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	1	%	20
MC41493-27MSD*	591-78-6	2-Hexanone	MSD	REC	91	%	57-139
MC41493-27MSD*	591-78-6	2-Hexanone	MSD	RPD	5	%	20

* Sample used for QC is not from job MC41432

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC41493-27MSD*	74-88-4	Iodomethane	MSD	REC	90	%	69-131
MC41493-27MSD*	74-88-4	Iodomethane	MSD	RPD	3	%	20
MC41493-27MSD*	98-82-8	Isopropylbenzene	MSD	REC	97	%	72-131
MC41493-27MSD*	98-82-8	Isopropylbenzene	MSD	RPD	0	%	20
MC41493-27MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	101	%	77-127
MC41493-27MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	2	%	20
MC41493-27MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	104	%	71-124
MC41493-27MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	3	%	20
MC41493-27MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	105	%	67-130
MC41493-27MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	2	%	20
MC41493-27MSD*	74-95-3	Methylene bromide	MSD	REC	106	%	79-123
MC41493-27MSD*	74-95-3	Methylene bromide	MSD	RPD	2	%	20
MC41493-27MSD*	75-09-2	Methylene chloride	MSD	REC	91	%	74-124
MC41493-27MSD*	75-09-2	Methylene chloride	MSD	RPD	2	%	20
MC41493-27MSD*	91-20-3	Naphthalene	MSD	REC	102	%	61-128
MC41493-27MSD*	91-20-3	Naphthalene	MSD	RPD	5	%	20
MC41493-27MSD*	103-65-1	n-Propylbenzene	MSD	REC	92	%	76-126
MC41493-27MSD*	103-65-1	n-Propylbenzene	MSD	RPD	3	%	20
MC41493-27MSD*	100-42-5	Styrene	MSD	REC	69	%	78-123
MC41493-27MSD*	100-42-5	Styrene	MSD	RPD	1	%	20
MC41493-27MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	117	%	78-124
MC41493-27MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	2	%	20
MC41493-27MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	114	%	71-121
MC41493-27MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	0	%	20
MC41493-27MSD*	127-18-4	Tetrachloroethene	MSD	REC	108	%	74-129
MC41493-27MSD*	127-18-4	Tetrachloroethene	MSD	RPD	1	%	20
MC41493-27MSD*	108-88-3	Toluene	MSD	REC	95	%	80-121
MC41493-27MSD*	108-88-3	Toluene	MSD	RPD	5	%	20
MC41493-27MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	116	%	69-129
MC41493-27MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	4	%	20
MC41493-27MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	113	%	69-130
MC41493-27MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	2	%	20
MC41493-27MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	109	%	74-131
MC41493-27MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	3	%	20
MC41493-27MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	97	%	80-119
MC41493-27MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	7	%	20
MC41493-27MSD*	79-01-6	Trichloroethene	MSD	REC	20 [a]	%	79-123
MC41493-27MSD*	79-01-6	Trichloroethene	MSD	RPD	3	%	20
MC41493-27MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	118	%	65-141
MC41493-27MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	2	%	20
MC41493-27MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	95	%	73-122
MC41493-27MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	1	%	20
MC41493-27MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	87	%	76-124
MC41493-27MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	1	%	20
MC41493-27MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	85	%	75-124

* Sample used for QC is not from job MC41432

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC41493-27MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	2	%	20
MC41493-27MSD*	108-05-4	Vinyl Acetate	MSD	REC	106	%	54-146
MC41493-27MSD*	108-05-4	Vinyl Acetate	MSD	RPD	2	%	20
MC41493-27MSD*	75-01-4	Vinyl chloride	MSD	REC	114	%	58-137
MC41493-27MSD*	75-01-4	Vinyl chloride	MSD	RPD	6	%	20
MC41493-27MSD*		m,p-Xylene	MSD	REC	96	%	80-121
MC41493-27MSD*		m,p-Xylene	MSD	RPD	1	%	20
MC41493-27MSD*	95-47-6	o-Xylene	MSD	REC	98	%	78-122
MC41493-27MSD*	95-47-6	o-Xylene	MSD	RPD	2	%	20
MC41493-27MSD*	1330-20-7	Xylene (total)	MSD	REC	96	%	79-121
MC41493-27MSD*	1330-20-7	Xylene (total)	MSD	RPD	0	%	20
MC41493-27MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	109	%	80-119
MC41493-27MSD*	2037-26-5	Toluene-D8	MSD	SURR	100	%	89-112
MC41493-27MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	92	%	85-114
MSU1329-MB	1868-53-7	Dibromofluoromethane	MB	SURR	105	%	80-119
MSU1329-MB	2037-26-5	Toluene-D8	MB	SURR	98	%	89-112
MSU1329-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	91	%	85-114
MC41432-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	113	%	80-119
MC41432-1	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC41432-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	91	%	85-114
MC41432-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC41432-2	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC41432-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	91	%	85-114
MC41432-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC41432-3	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC41432-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	93	%	85-114
MC41432-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC41432-4	2037-26-5	Toluene-D8	SAMP	SURR	96	%	89-112
MC41432-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	90	%	85-114
MC41432-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	113	%	80-119
MC41432-5	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC41432-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC41432-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC41432-6	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
MC41432-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	90	%	85-114
MP25142	SW846 6010C						
MP25142-B1	7429-90-5	Aluminum	BSP	REC	101	%	86-115
MP25142-B1	7440-36-0	Antimony	BSP	REC	102.6	%	88-113
MP25142-B1	7440-39-3	Barium	BSP	REC	100	%	88-113
MP25142-B1	7440-41-7	Beryllium	BSP	REC	99.8	%	89-112
MP25142-B1	7440-43-9	Cadmium	BSP	REC	101	%	88-113
MP25142-B1	7440-70-2	Calcium	BSP	REC	104.8	%	87-113
MP25142-B1	7440-47-3	Chromium	BSP	REC	99.6	%	90-113

* Sample used for QC is not from job MC41432

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25142-B1	7440-48-4	Cobalt	BSP	REC	100.6	%	89-114
MP25142-B1	7440-50-8	Copper	BSP	REC	97.4	%	86-114
MP25142-B1	7439-89-6	Iron	BSP	REC	102	%	87-115
MP25142-B1	7439-92-1	Lead	BSP	REC	101	%	86-113
MP25142-B1	7439-95-4	Magnesium	BSP	REC	105.6	%	85-113
MP25142-B1	7439-96-5	Manganese	BSP	REC	104	%	90-114
MP25142-B1	7440-02-0	Nickel	BSP	REC	100	%	88-113
MP25142-B1	7440-09-7	Potassium	BSP	REC	102.4	%	86-114
MP25142-B1	7782-49-2	Selenium	BSP	REC	102.2	%	83-114
MP25142-B1	7440-22-4	Silver	BSP	REC	93.5	%	84-115
MP25142-B1	7440-23-5	Sodium	BSP	REC	105.2	%	87-115
MP25142-B1	7440-28-0	Thallium	BSP	REC	101.8	%	85-114
MP25142-B1	7440-62-2	Vanadium	BSP	REC	101.2	%	90-111
MP25142-B1	7440-66-6	Zinc	BSP	REC	99	%	87-115
MP25142-S1	7429-90-5	Aluminum	MS	REC	99.6	%	86-115
MP25142-S1	7440-36-0	Antimony	MS	REC	102.4	%	88-113
MP25142-S1	7440-39-3	Barium	MS	REC	99.5	%	88-113
MP25142-S1	7440-41-7	Beryllium	MS	REC	98.6	%	89-112
MP25142-S1	7440-43-9	Cadmium	MS	REC	102	%	88-113
MP25142-S1	7440-70-2	Calcium	MS	REC	96	%	87-113
MP25142-S1	7440-47-3	Chromium	MS	REC	98.8	%	90-113
MP25142-S1	7440-48-4	Cobalt	MS	REC	99.8	%	89-114
MP25142-S1	7440-50-8	Copper	MS	REC	97.6	%	86-114
MP25142-S1	7439-89-6	Iron	MS	REC	80 [b]	%	87-115
MP25142-S1	7439-92-1	Lead	MS	REC	98.6	%	86-113
MP25142-S1	7439-95-4	Magnesium	MS	REC	101.9	%	85-113
MP25142-S1	7439-96-5	Manganese	MS	REC	20 [c]	%	90-114
MP25142-S1	7440-02-0	Nickel	MS	REC	99.2	%	88-113
MP25142-S1	7440-09-7	Potassium	MS	REC	100.1	%	86-114
MP25142-S1	7782-49-2	Selenium	MS	REC	103.2	%	83-114
MP25142-S1	7440-22-4	Silver	MS	REC	96.2	%	84-115
MP25142-S1	7440-23-5	Sodium	MS	REC	80 [b]	%	87-115
MP25142-S1	7440-28-0	Thallium	MS	REC	96.2	%	85-114
MP25142-S1	7440-62-2	Vanadium	MS	REC	101.6	%	90-111
MP25142-S1	7440-66-6	Zinc	MS	REC	98.1	%	87-115
MP25142-S2	7429-90-5	Aluminum	MSD	REC	99.5	%	86-115
MP25142-S2	7429-90-5	Aluminum	MSD	RPD	.1	%	20
MP25142-S2	7440-36-0	Antimony	MSD	REC	103.2	%	88-113
MP25142-S2	7440-36-0	Antimony	MSD	RPD	.8	%	20
MP25142-S2	7440-39-3	Barium	MSD	REC	99	%	88-113
MP25142-S2	7440-39-3	Barium	MSD	RPD	.5	%	20
MP25142-S2	7440-41-7	Beryllium	MSD	REC	98.2	%	89-112
MP25142-S2	7440-41-7	Beryllium	MSD	RPD	.4	%	20
MP25142-S2	7440-43-9	Cadmium	MSD	REC	102.6	%	88-113
MP25142-S2	7440-43-9	Cadmium	MSD	RPD	.6	%	20

* Sample used for QC is not from job MC41432

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25142-S2	7440-70-2	Calcium	MSD	REC	96	%	87-113
MP25142-S2	7440-70-2	Calcium	MSD	RPD	0	%	20
MP25142-S2	7440-47-3	Chromium	MSD	REC	98.6	%	90-113
MP25142-S2	7440-47-3	Chromium	MSD	RPD	.2	%	20
MP25142-S2	7440-48-4	Cobalt	MSD	REC	100.4	%	89-114
MP25142-S2	7440-48-4	Cobalt	MSD	RPD	.6	%	20
MP25142-S2	7440-50-8	Copper	MSD	REC	97.4	%	86-114
MP25142-S2	7440-50-8	Copper	MSD	RPD	.2	%	20
MP25142-S2	7439-89-6	Iron	MSD	REC	80 [d]	%	87-115
MP25142-S2	7439-89-6	Iron	MSD	RPD	0	%	20
MP25142-S2	7439-92-1	Lead	MSD	REC	99.1	%	86-113
MP25142-S2	7439-92-1	Lead	MSD	RPD	.5	%	20
MP25142-S2	7439-95-4	Magnesium	MSD	REC	101.1	%	85-113
MP25142-S2	7439-95-4	Magnesium	MSD	RPD	.6	%	20
MP25142-S2	7439-96-5	Manganese	MSD	REC	40 [c]	%	90-114
MP25142-S2	7439-96-5	Manganese	MSD	RPD	.9	%	20
MP25142-S2	7440-02-0	Nickel	MSD	REC	99.8	%	88-113
MP25142-S2	7440-02-0	Nickel	MSD	RPD	.6	%	20
MP25142-S2	7440-09-7	Potassium	MSD	REC	100.1	%	86-114
MP25142-S2	7440-09-7	Potassium	MSD	RPD	0	%	20
MP25142-S2	7782-49-2	Selenium	MSD	REC	103.8	%	83-114
MP25142-S2	7782-49-2	Selenium	MSD	RPD	.6	%	20
MP25142-S2	7440-22-4	Silver	MSD	REC	96.2	%	84-115
MP25142-S2	7440-22-4	Silver	MSD	RPD	0	%	20
MP25142-S2	7440-23-5	Sodium	MSD	REC	80 [d]	%	87-115
MP25142-S2	7440-23-5	Sodium	MSD	RPD	0	%	20
MP25142-S2	7440-28-0	Thallium	MSD	REC	96.6	%	85-114
MP25142-S2	7440-28-0	Thallium	MSD	RPD	.4	%	20
MP25142-S2	7440-62-2	Vanadium	MSD	REC	100.8	%	90-111
MP25142-S2	7440-62-2	Vanadium	MSD	RPD	.8	%	20
MP25142-S2	7440-66-6	Zinc	MSD	REC	98.7	%	87-115
MP25142-S2	7440-66-6	Zinc	MSD	RPD	.6	%	20
MP25142A	SW846 6020A						
MP25142A-B1	7440-38-2	Arsenic	BSP	REC	100.8	%	84-116
MP25142A-S1	7440-38-2	Arsenic	MS	REC	99	%	84-116
MP25142A-S2	7440-38-2	Arsenic	MSD	REC	101	%	84-116
MP25142A-S2	7440-38-2	Arsenic	MSD	RPD	1	%	20
MP25144	SW846 7470A						
MP25144-B1	7439-97-6	Mercury	BSP	REC	100	%	82-119
MP25144-S1*	7439-97-6	Mercury	MS	REC	106.7	%	82-119
MP25144-S2*	7439-97-6	Mercury	MSD	REC	110	%	82-119

* Sample used for QC is not from job MC41432

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25144-S2*	7439-97-6	Mercury	MSD	RPD	3.1	%	20

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(c) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(d) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.

* Sample used for QC is not from job MC41432

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1329-MB	U32348.D	1	09/27/15	AD	n/a	n/a	MSU1329

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41432-1, MC41432-2, MC41432-3, MC41432-4, MC41432-5, MC41432-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.19	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	0.83	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.29	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.23	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1329-MB	U32348.D	1	09/27/15	AD	n/a	n/a	MSU1329

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41432-1, MC41432-2, MC41432-3, MC41432-4, MC41432-5, MC41432-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.45	ug/l	
591-78-6	2-Hexanone	ND	10	2.7	ug/l	
74-88-4	Iodomethane	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.27	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	0.77	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	0.39	2.0	0.27	ug/l	J
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.29	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.74	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.20	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	1.4	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.47	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1329-MB	U32348.D	1	09/27/15	AD	n/a	n/a	MSU1329

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41432-1, MC41432-2, MC41432-3, MC41432-4, MC41432-5, MC41432-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	79-127%
2037-26-5	Toluene-D8	98%	80-116%
460-00-4	4-Bromofluorobenzene	91%	77-124%

Blank Spike Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1329-BS	U32344.D	1	09/27/15	AD	n/a	n/a	MSU1329

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41432-1, MC41432-2, MC41432-3, MC41432-4, MC41432-5, MC41432-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	37.2	74	10-200
71-43-2	Benzene	50	48.0	96	74-124
108-86-1	Bromobenzene	50	52.7	105	80-117
74-97-5	Bromochloromethane	50	49.3	99	73-130
75-27-4	Bromodichloromethane	50	53.8	108	76-136
75-25-2	Bromoform	50	55.8	112	63-139
74-83-9	Bromomethane	50	60.2	120	49-161
78-93-3	2-Butanone (MEK)	50	44.9	90	44-191
104-51-8	n-Butylbenzene	50	53.1	106	84-134
135-98-8	sec-Butylbenzene	50	54.6	109	76-125
98-06-6	tert-Butylbenzene	50	55.2	110	74-123
75-15-0	Carbon disulfide	50	40.3	81	45-138
56-23-5	Carbon tetrachloride	50	57.6	115	64-149
108-90-7	Chlorobenzene	50	51.8	104	73-114
75-00-3	Chloroethane	50	52.6	105	43-165
67-66-3	Chloroform	50	49.7	99	72-132
74-87-3	Chloromethane	50	28.2	56	30-173
95-49-8	o-Chlorotoluene	50	51.6	103	75-116
106-43-4	p-Chlorotoluene	50	51.2	102	78-116
96-12-8	1,2-Dibromo-3-chloropropane	50	54.1	108	50-157
124-48-1	Dibromochloromethane	50	57.5	115	75-133
106-93-4	1,2-Dibromoethane	50	56.5	113	72-133
95-50-1	1,2-Dichlorobenzene	50	58.1	116	73-122
541-73-1	1,3-Dichlorobenzene	50	51.9	104	76-117
106-46-7	1,4-Dichlorobenzene	50	52.4	105	74-120
75-71-8	Dichlorodifluoromethane	50	65.9	132	30-180
75-34-3	1,1-Dichloroethane	50	43.1	86	62-130
107-06-2	1,2-Dichloroethane	50	53.6	107	65-140
75-35-4	1,1-Dichloroethene	50	45.0	90	57-132
156-59-2	cis-1,2-Dichloroethene	50	50.0	100	72-131
156-60-5	trans-1,2-Dichloroethene	50	47.8	96	69-127
78-87-5	1,2-Dichloropropane	50	49.8	100	74-130
142-28-9	1,3-Dichloropropane	50	54.8	110	80-129
594-20-7	2,2-Dichloropropane	50	50.4	101	54-162
563-58-6	1,1-Dichloropropene	50	47.9	96	75-116
10061-01-5	cis-1,3-Dichloropropene	50	53.2	106	86-141

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1329-BS	U32344.D	1	09/27/15	AD	n/a	n/a	MSU1329

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41432-1, MC41432-2, MC41432-3, MC41432-4, MC41432-5, MC41432-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	55.0	110	80-134
100-41-4	Ethylbenzene	50	53.6	107	76-125
87-68-3	Hexachlorobutadiene	50	65.0	130	64-154
591-78-6	2-Hexanone	50	50.2	100	35-200
74-88-4	Iodomethane	50	45.7	91	50-154
98-82-8	Isopropylbenzene	50	51.0	102	74-121
99-87-6	p-Isopropyltoluene	50	54.9	110	84-128
1634-04-4	Methyl Tert Butyl Ether	50	52.2	104	67-145
108-10-1	4-Methyl-2-pentanone (MIBK)	50	52.9	106	61-155
74-95-3	Methylene bromide	50	54.8	110	75-124
75-09-2	Methylene chloride	50	46.4	93	62-137
91-20-3	Naphthalene	50	51.7	103	24-164
103-65-1	n-Propylbenzene	50	49.4	99	76-120
100-42-5	Styrene	50	51.2	102	74-132
630-20-6	1,1,1,2-Tetrachloroethane	50	56.7	113	71-136
79-34-5	1,1,2,2-Tetrachloroethane	50	57.5	115	65-145
127-18-4	Tetrachloroethene	50	57.4	115	73-122
108-88-3	Toluene	50	52.5	105	80-122
87-61-6	1,2,3-Trichlorobenzene	50	58.9	118	33-170
120-82-1	1,2,4-Trichlorobenzene	50	57.7	115	43-159
71-55-6	1,1,1-Trichloroethane	50	53.0	106	68-137
79-00-5	1,1,2-Trichloroethane	50	55.7	111	76-134
79-01-6	Trichloroethene	50	49.6	99	80-125
75-69-4	Trichlorofluoromethane	50	54.8	110	56-166
96-18-4	1,2,3-Trichloropropane	50	51.2	102	65-147
95-63-6	1,2,4-Trimethylbenzene	50	52.2	104	79-124
108-67-8	1,3,5-Trimethylbenzene	50	55.5	111	80-130
108-05-4	Vinyl Acetate	50	60.4	121	72-200
75-01-4	Vinyl chloride	50	55.0	110	39-176
	m,p-Xylene	100	106	106	75-121
95-47-6	o-Xylene	50	50.7	101	71-123
1330-20-7	Xylene (total)	150	157	105	74-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1329-BS	U32344.D	1	09/27/15	AD	n/a	n/a	MSU1329

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41432-1, MC41432-2, MC41432-3, MC41432-4, MC41432-5, MC41432-6

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	79-127%
2037-26-5	Toluene-D8	103%	80-116%
460-00-4	4-Bromofluorobenzene	96%	77-124%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC41493-27MS	U32365.D	1	09/27/15	AD	n/a	n/a	MSU1329
MC41493-27MSD	U32366.D	1	09/27/15	AD	n/a	n/a	MSU1329
MC41493-27	U32359.D	1	09/27/15	AD	n/a	n/a	MSU1329

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41432-1, MC41432-2, MC41432-3, MC41432-4, MC41432-5, MC41432-6

CAS No.	Compound	MC41493-27 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10 U		50	39.0	78	50	42.8	86	9	10-156/30
71-43-2	Benzene	0.50 U		50	48.3	97	50	47.0	94	3	63-135/30
108-86-1	Bromobenzene	5.0 U		50	50.9	102	50	48.9	98	4	75-116/30
74-97-5	Bromochloromethane	5.0 U		50	51.1	102	50	51.0	102	0	67-136/30
75-27-4	Bromodichloromethane	1.0 U		50	52.3	105	50	50.2	100	4	69-140/30
75-25-2	Bromoform	1.0 U		50	45.6	91	50	45.0	90	1	57-138/30
74-83-9	Bromomethane	2.0 U		50	65.9	132	50	66.4	133	1	25-169/30
78-93-3	2-Butanone (MEK)	10 U		50	34.2	68	50	37.1	74	8	23-159/30
104-51-8	n-Butylbenzene	5.0 U		50	51.0	102	50	50.0	100	2	75-135/30
135-98-8	sec-Butylbenzene	5.0 U		50	53.1	106	50	52.2	104	2	70-125/30
98-06-6	tert-Butylbenzene	5.0 U		50	55.3	111	50	54.1	108	2	64-128/30
75-15-0	Carbon disulfide	0.41		50	37.9	75	50	37.1	73	2	40-139/30
56-23-5	Carbon tetrachloride	1.0 U		50	58.8	118	50	57.1	114	3	60-149/30
108-90-7	Chlorobenzene	1.0 U		50	51.0	102	50	49.5	99	3	70-115/30
75-00-3	Chloroethane	2.0 U		50	57.9	116	50	56.0	112	3	37-175/30
67-66-3	Chloroform	1.0 U		50	52.6	105	50	50.8	102	3	64-141/30
74-87-3	Chloromethane	2.0 U		50	41.5	83	50	46.4	93	11	21-178/30
95-49-8	o-Chlorotoluene	5.0 U		50	49.7	99	50	48.4	97	3	60-130/30
106-43-4	p-Chlorotoluene	5.0 U		50	49.3	99	50	47.2	94	4	70-120/30
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		50	50.6	101	50	51.6	103	2	51-156/30
124-48-1	Dibromochloromethane	1.0 U		50	49.8	100	50	48.5	97	3	70-131/30
106-93-4	1,2-Dibromoethane	1.0 U		50	52.3	105	50	50.4	101	4	72-131/30
95-50-1	1,2-Dichlorobenzene	1.0 U		50	57.7	115	50	56.8	114	2	68-122/30
541-73-1	1,3-Dichlorobenzene	1.0 U		50	51.0	102	50	49.4	99	3	71-117/30
106-46-7	1,4-Dichlorobenzene	1.0 U		50	51.2	102	50	49.6	99	3	69-120/30
75-71-8	Dichlorodifluoromethane	2.0 U		50	70.7	141	50	71.9	144	2	28-181/30
75-34-3	1,1-Dichloroethane	1.0 U		50	44.3	89	50	43.4	87	2	56-138/30
107-06-2	1,2-Dichloroethane	1.0 U		50	54.3	109	50	52.4	105	4	60-146/30
75-35-4	1,1-Dichloroethene	2.9		50	45.0	84	50	43.9	82	2	52-137/30
156-59-2	cis-1,2-Dichloroethene	612	E	50	589	-46* [a]	50	581	-62* [a]	1	64-139/30
156-60-5	trans-1,2-Dichloroethene	5.7		50	53.2	95	50	52.4	93	2	63-132/30
78-87-5	1,2-Dichloropropane	2.0 U		50	48.8	98	50	47.5	95	3	67-137/30
142-28-9	1,3-Dichloropropane	5.0 U		50	50.2	100	50	48.3	97	4	78-130/30
594-20-7	2,2-Dichloropropane	5.0 U		50	51.7	103	50	48.8	98	6	36-166/30
563-58-6	1,1-Dichloropropene	5.0 U		50	47.6	95	50	46.4	93	3	68-123/30
10061-01-5	cis-1,3-Dichloropropene	0.50 U		50	47.1	94	50	44.2	88	6	77-142/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC41493-27MS	U32365.D	1	09/27/15	AD	n/a	n/a	MSU1329
MC41493-27MSD	U32366.D	1	09/27/15	AD	n/a	n/a	MSU1329
MC41493-27	U32359.D	1	09/27/15	AD	n/a	n/a	MSU1329

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41432-1, MC41432-2, MC41432-3, MC41432-4, MC41432-5, MC41432-6

CAS No.	Compound	MC41493-27 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	0.50	U	50	47.2	94	50	42.3	85	11	73-136/30
100-41-4	Ethylbenzene	1.0	U	50	52.1	104	50	51.3	103	2	60-136/30
87-68-3	Hexachlorobutadiene	5.0	U	50	60.9	122	50	61.3	123	1	63-143/30
591-78-6	2-Hexanone	10	U	50	43.3	87	50	45.3	91	5	29-151/30
74-88-4	Iodomethane	5.0	U	50	46.3	93	50	45.0	90	3	37-158/30
98-82-8	Isopropylbenzene	5.0	U	50	48.7	97	50	48.6	97	0	67-123/30
99-87-6	p-Isopropyltoluene	5.0	U	50	51.8	104	50	50.6	101	2	78-126/30
1634-04-4	Methyl Tert Butyl Ether	1.0	U	50	50.7	101	50	52.2	104	3	60-156/30
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0	U	50	51.5	103	50	52.6	105	2	47-167/30
74-95-3	Methylene bromide	5.0	U	50	53.9	108	50	53.0	106	2	70-130/30
75-09-2	Methylene chloride	2.0	U	50	46.4	93	50	45.3	91	2	55-144/30
91-20-3	Naphthalene	5.0	U	50	48.7	97	50	51.2	102	5	23-167/30
103-65-1	n-Propylbenzene	5.0	U	50	47.5	95	50	46.2	92	3	66-124/30
100-42-5	Styrene	5.0	U	50	34.9	70	50	34.4	69	1	61-137/30
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U	50	57.4	115	50	58.7	117	2	71-132/30
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	50	57.2	114	50	57.0	114	0	62-149/30
127-18-4	Tetrachloroethene	1.0	U	50	54.3	109	50	54.0	108	1	65-124/30
108-88-3	Toluene	1.0	U	50	49.8	100	50	47.4	95	5	69-134/30
87-61-6	1,2,3-Trichlorobenzene	5.0	U	50	56.1	112	50	58.1	116	4	41-157/30
120-82-1	1,2,4-Trichlorobenzene	5.0	U	50	55.6	111	50	56.5	113	2	46-147/30
71-55-6	1,1,1-Trichloroethane	1.0	U	50	56.3	113	50	54.6	109	3	61-144/30
79-00-5	1,1,2-Trichloroethane	1.0	U	50	51.8	104	50	48.5	97	7	69-142/30
79-01-6	Trichloroethene	172		50	188	32* [a]	50	182	20* [a]	3	69-133/30
75-69-4	Trichlorofluoromethane	1.0	U	50	59.7	119	50	58.8	118	2	60-163/30
96-18-4	1,2,3-Trichloropropane	5.0	U	50	48.0	96	50	47.5	95	1	57-150/30
95-63-6	1,2,4-Trimethylbenzene	5.0	U	50	44.0	88	50	43.4	87	1	67-130/30
108-67-8	1,3,5-Trimethylbenzene	5.0	U	50	43.7	87	50	42.7	85	2	66-137/30
108-05-4	Vinyl Acetate	5.0	U	50	52.4	105	50	53.2	106	2	48-200/30
75-01-4	Vinyl chloride	55.2		50	106	102	50	112	114	6	39-176/30
	m,p-Xylene	1.0	U	100	96.3	96	100	95.7	96	1	64-128/30
95-47-6	o-Xylene	1.0	U	50	47.7	95	50	48.8	98	2	64-126/30
1330-20-7	Xylene (total)	1.0	U	150	144	96	150	144	96	0	65-127/30

* = Outside of Control Limits.

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Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC41493-27MS	U32365.D	1	09/27/15	AD	n/a	n/a	MSU1329
MC41493-27MSD	U32366.D	1	09/27/15	AD	n/a	n/a	MSU1329
MC41493-27	U32359.D	1	09/27/15	AD	n/a	n/a	MSU1329

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC41432-1, MC41432-2, MC41432-3, MC41432-4, MC41432-5, MC41432-6

CAS No.	Surrogate Recoveries	MS	MSD	MC41493-27	Limits
1868-53-7	Dibromofluoromethane	109%	109%	108%	79-127%
2037-26-5	Toluene-D8	101%	100%	89%	80-116%
460-00-4	4-Bromofluorobenzene	94%	92%	91%	77-124%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC41432-1	U32364.D	113	95	91
MC41432-2	U32355.D	109	95	91
MC41432-3	U32356.D	109	95	93
MC41432-4	U32349.D	106	96	90
MC41432-5	U32357.D	113	100	92
MC41432-6	U32358.D	107	92	90
MC41493-27MS	U32365.D	109	101	94
MC41493-27MSD	U32366.D	109	100	92
MSU1329-BS	U32344.D	98	103	96
MSU1329-MB	U32348.D	105	98	91

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-127%
S2 = Toluene-D8	80-116%
S3 = 4-Bromofluorobenzene	77-124%

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GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1528-MB	BA22423.D	1	09/22/15	AF	n/a	n/a	GBA1528

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1528-BSP	BA22425.D	1	09/22/15	AF	n/a	n/a	GBA1528

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	86.4	97	50-150
74-84-0	Ethane	166	156	94	50-150
74-85-1	Ethene	155	166	107	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC41432
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC41432-6DUP	BA22427.D	1	09/22/15	AF	n/a	n/a	GBA1528
MC41432-6	BA22426.D	1	09/22/15	AF	n/a	n/a	GBA1528

The QC reported here applies to the following samples: **Method:** VRSK 175

MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6

CAS No.	Compound	MC41432-6 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	85.0		88.6		4	30
74-84-0	Ethane	10 U		ND		nc	30
74-85-1	Ethene	2.2		2.2		0	30

* = Outside of Control Limits.

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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/15/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28	4.2	<200
Antimony	6.0	.76	2	0.10	<6.0
Arsenic	4.0	1.3	1.7		
Barium	50	.24	1	0.10	<50
Beryllium	4.0	.18	.25	-0.10	<4.0
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43	-0.10	<4.0
Calcium	5000	5.3	15	9.3	<5000
Chromium	10	.37	.48	0.0	<10
Cobalt	50	.14	.28	0.0	<50
Copper	25	.48	2.4	0.0	<25
Gold	50	.95	1.5		
Iron	100	3.2	17	14.1	<100
Lead	5.0	.56	1.7	0.0	<5.0
Lithium	500	2	2.5		
Magnesium	5000	22	54	7.7	<5000
Manganese	15	.04	1.4	0.40	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5	-0.10	<40
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49	43.9	<5000
Selenium	10	1	2	1.1	<10
Silicon	100	13	30		
Silver	5.0	.6	1	0.30	<5.0
Sodium	5000	10	77	0.70	<5000
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7	-0.30	<5.0
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

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BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51	-0.20	<10
Zinc	20	.096	1	1.4	<20
Zirconium	50	.29	1.2		

Associated samples MP25142: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum	0.0	9960	10000	99.6	75-125
Antimony	0.0	512	500	102.4	75-125
Arsenic					
Barium	131	2120	2000	99.5	75-125
Beryllium	0.0	493	500	98.6	75-125
Bismuth					
Boron					
Cadmium	0.0	510	500	102.0	75-125
Calcium	59200	83200	25000	96.0	75-125
Chromium	0.0	494	500	98.8	75-125
Cobalt	7.8	507	500	99.8	75-125
Copper	1.0	489	500	97.6	75-125
Gold					
Iron	119000	127000	10000	80.0 (a)	75-125
Lead	0.0	986	1000	98.6	75-125
Lithium					
Magnesium	7120	32600	25000	101.9	75-125
Manganese	10700	10800	500	20.0 (b)	75-125
Molybdenum					
Nickel	2.0	498	500	99.2	75-125
Palladium					
Platinum					
Potassium	9170	34200	25000	100.1	75-125
Selenium	0.0	516	500	103.2	75-125
Silicon					
Silver	0.60	193	200	96.2	75-125
Sodium	215000	235000	25000	80.0 (a)	75-125
Sulfur					
Strontium					
Thallium	0.0	481	500	96.2	75-125
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium	0.80	509	500	101.6	75-125
Zinc	4.6	495	500	98.1	75-125
Zirconium					

Associated samples MP25142: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum	0.0	9950	10000	99.5	0.1	20
Antimony	0.0	516	500	103.2	0.8	20
Arsenic						
Barium	131	2110	2000	99.0	0.5	20
Beryllium	0.0	491	500	98.2	0.4	20
Bismuth						
Boron						
Cadmium	0.0	513	500	102.6	0.6	20
Calcium	59200	83200	25000	96.0	0.0	20
Chromium	0.0	493	500	98.6	0.2	20
Cobalt	7.8	510	500	100.4	0.6	20
Copper	1.0	488	500	97.4	0.2	20
Gold						
Iron	119000	127000	10000	80.0 (a)	0.0	20
Lead	0.0	991	1000	99.1	0.5	20
Lithium						
Magnesium	7120	32400	25000	101.1	0.6	20
Manganese	10700	10900	500	40.0 (b)	0.9	20
Molybdenum						
Nickel	2.0	501	500	99.8	0.6	20
Palladium						
Platinum						
Potassium	9170	34200	25000	100.1	0.0	20
Selenium	0.0	519	500	103.8	0.6	20
Silicon						
Silver	0.60	193	200	96.2	0.0	20
Sodium	215000	235000	25000	80.0 (a)	0.0	20
Sulfur						
Strontium						
Thallium	0.0	483	500	96.6	0.4	20
Tin						
Titanium						
Tungsten						

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium	0.80	505	500	100.8	0.8	20
Zinc	4.6	498	500	98.7	0.6	20
Zirconium						

Associated samples MP25142: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike duplicate recovery indicates possible matrix interference and/or sample nonhomogeneity.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum	10100	10000	101.0	80-120
Antimony	513	500	102.6	80-120
Arsenic				
Barium	2000	2000	100.0	80-120
Beryllium	499	500	99.8	80-120
Bismuth				
Boron				
Cadmium	505	500	101.0	80-120
Calcium	26200	25000	104.8	80-120
Chromium	498	500	99.6	80-120
Cobalt	503	500	100.6	80-120
Copper	487	500	97.4	80-120
Gold				
Iron	10200	10000	102.0	80-120
Lead	1010	1000	101.0	80-120
Lithium				
Magnesium	26400	25000	105.6	80-120
Manganese	520	500	104.0	80-120
Molybdenum				
Nickel	500	500	100.0	80-120
Palladium				
Platinum				
Potassium	25600	25000	102.4	80-120
Selenium	511	500	102.2	80-120
Silicon				
Silver	187	200	93.5	80-120
Sodium	26300	25000	105.2	80-120
Sulfur				
Strontium				
Thallium	509	500	101.8	80-120
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium	506	500	101.2	80-120
Zinc	495	500	99.0	80-120
Zirconium				

Associated samples MP25142: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	SDL 1:5	%DIF	QC Limits
Aluminum	0.00	0.00	NC	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic				
Barium	131	129	1.4	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	59200	60300	1.7	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	7.80	7.70	1.3	0-10
Copper	1.00	0.00	100.0(a)	0-10
Gold				
Iron	119000	121000	1.4	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	7120	7250	1.8	0-10
Manganese	10700	10800	1.4	0-10
Molybdenum				
Nickel	2.00	3.10	55.0 (a)	0-10
Palladium				
Platinum				
Potassium	9170	9130	0.5	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.600	0.00	100.0(a)	0-10
Sodium	215000	216000	0.7	0-10
Sulfur				
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	SDL 1:5	%DIF	QC Limits
Vanadium	0.800	0.00	100.0(a)	0-10
Zinc	4.60	9.30	102.2(a)	0-10
Zirconium				

Associated samples MP25142: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.1.4

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/15/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	2.2	4.4		
Antimony	4.0	.012	.058		
Arsenic	4.0	.1	.42	0.34	<4.0
Barium	2.0	.022	.076		
Beryllium	1.0	.0036	.042		
Boron	10	.072	.34		
Cadmium	2.0	.0056	.026		
Calcium	500	18	30		
Chromium	8.0	.096	.42		
Cobalt	1.0	.0017	.028		
Copper	8.0	.096	1		
Iron	50	2.2	3.4		
Lead	2.0	.0058	.036		
Magnesium	500	1.8	2		
Manganese	4.0	.052	1.2		
Molybdenum	2.0	.028	.24		
Nickel	4.0	.022	.14		
Potassium	500	7	5.2		
Selenium	2.0	.38	.3		
Silver	2.0	.0044	.022		
Sodium	500	4.2	8.8		
Strontium	20	.011	.026		
Thallium	2.0	.028	.068		
Tin	10	.018	.048		
Titanium	2.0	.074	.26		
Vanadium	20	.46	1.4		
Zinc	10	.26	2		

Associated samples MP25142A: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	486	981	500	99.0	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP25142A: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	486	991	500	101.0	1.0	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP25142A: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/15/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	504	500	100.8	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25142A: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25142A
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41432-2F Original	SDL 10:50	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	486	500	2.8	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25142A: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.20	.038	.096	-0.00050	<0.20

Associated samples MP25144: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41374-1F Original	MS	Spikelot HGRWS1	% Rec	QC Limits
Mercury	0.0	3.2	3	106.7	75-125

Associated samples MP25144: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	MC41374-1F Original	MSD	Spikelot HGRWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.3	3	110.0	3.1	20

Associated samples MP25144: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25144
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 09/15/15

Metal	BSP Result	Spikelot HGRWS1	% Rec	QC Limits
Mercury	3.0	3	100.0	80-120

Associated samples MP25144: MC41432-1F, MC41432-2F, MC41432-3F, MC41432-5F, MC41432-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.3

8

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Nitrate + Nitrite	GP19566/GN51775	0.10	0.0	mg/l	2	2.03	101.5	90-110%
Nitrogen, Nitrate + Nitrite	GP19609/GN51867	0.10	0.0	mg/l	2	1.96	98.0	90-110%
Nitrogen, Nitrite	GP19567/GN51777	0.010	0.0	mg/l	0.02	0.019	95.0	80-120%
Sulfide	GN51768	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Total Organic Carbon	GP19578/GN51819	1.0	0.0	mg/l	10	9.61	96.1	80-120%

Associated Samples:
Batch GN51768: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
Batch GP19566: MC41432-1, MC41432-2, MC41432-3, MC41432-5
Batch GP19567: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
Batch GP19578: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
Batch GP19609: MC41432-6
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate + Nitrite	GP19566/GN51775	MC41414-26	mg/l	0.70	0.70	0.0	0-20%
Nitrogen, Nitrate + Nitrite	GP19609/GN51867	MC41432-6	mg/l	0.018 U	0.0	200.0(a)	0-20%
Nitrogen, Nitrite	GP19567/GN51777	MC41432-1	mg/l	0.0011 U	0.0	0.0	0-20%
Sulfide	GN51768	MC41432-6	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN51768: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
Batch GP19566: MC41432-1, MC41432-2, MC41432-3, MC41432-5
Batch GP19567: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
Batch GP19609: MC41432-6
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate + Nitrite	GP19566/GN51775	MC41414-26	mg/l	0.70	2	2.7	100.0	90-110%
Nitrogen, Nitrate + Nitrite	GP19609/GN51867	MC41432-6	mg/l	0.018 U	2	2.0	98.4	90-110%
Nitrogen, Nitrite	GP19567/GN51777	MC41432-1	mg/l	0.0011 U	0.02	0.018	90.0	75-125%
Sulfide	GN51768	MC41432-6	mg/l	0.34 U	13.4	12.0	89.6	75-125%
Total Organic Carbon	GP19578/GN51819	MC41374-4	mg/l	0.27 U	10	10.3	97.9	75-125%

Associated Samples:
Batch GN51768: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
Batch GP19566: MC41432-1, MC41432-2, MC41432-3, MC41432-5
Batch GP19567: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
Batch GP19578: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
Batch GP19609: MC41432-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

9.3

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MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41432
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19578/GN51819	MC41374-4	mg/l	0.27 U	10	10.3	0.0	20%

Associated Samples:
Batch GP19578: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

9.4

9

New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

EW

495 Tech Center West, Bldg 1, Marlboro, MA 01752
TEL: (508)481-6200 FAX: (508)-481-7753

Accutest Job #:	MC41432
Accutest Quote #:	Page 1 of 1
AMS P.O. #:	
Project No.:	

Client Information

Name: Accutest New England
Address: 50 D'Angelo Drive
City: Marlborough State: MA Zip: 01752
Send Report to: FrankD@accutest.com
Any questions contact: Frank D'Agostino
Phone/Fax #: (508)481-6200 / (508)481-7753

Subcontract Laboratory Information

Name: Accutest - New Jersey
Address: 2235 Route 130
City: Dayton State: NJ Zip: 08810
Contact: Sample Management
Phone: (732) 329-0200

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	SO4 by 300						Comments
MC41432 -1	9/14/15	9:00 AM		GW	1					X	X						
MC41432 -2	9/14/15	10:50 AM		GW	1					X	X						MA
MC41432 -3	9/14/15	12:25 PM		GW	1					X	X						
MC41432 -5	9/14/15	10:30 AM		GW	1					X	X						
MC41432 -6	9/14/15	11:50 AM		GW	1					X	X						

Turnaround

[X] STD — 9/28/15
[ ] Other ______ (Days) *Please notify Accutest if surcharges are applied.

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [X] Commercial "BN"
- [ ] Reduced Tier 1
- [ ] Full Tier 1
- [ ] PDF
- [ ] Compact Disk Deliverable
- [ ] Electronic Delivery:
- [ ] State Forms
- [ ] Other (Specify)

Comments / Remarks

All DW samples are subject to MCL compliance reporting.

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by	Date & Time	Received By	Date & Time
1	[signature]	9/14/15	[signature]	
2	Fed Ex	9/16/15 9:30	[signature]	
3				

Seal #:
Headspace: Yes No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C: 3.1°C IR   On Ice [X]

Trk: 6484 9124 9047

INITIAL ASSESSMENT MIRIA
LABEL VERIFICATION [initials]

sm022-01 (10/30/14)

10.1
10

MC41432: Chain of Custody
Page 1 of 2
Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC41432 **Client:** **Project:**

Date / Time Received: 9/16/2015 9:30:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.1);

Cooler Temps (Corrected) °C: Cooler 1: (3.3);

Cooler Security

	Y	N
1. Custody Seals Present:	✔	☐
2. Custody Seals Intact:	✔	☐
3. COC Present:	✔	☐
4. Smpl Dates/Time OK	✔	☐

Cooler Temperature

	Y or N
1. Temp criteria achieved:	Y ✔
2. Cooler temp verification:	IR Gun
3. Cooler media:	Ice (Bag)
4. No. Coolers:	1

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	✔	☐
2. Trip Blank listed on COC:	☐	✔	☐
3. Samples preserved properly:	✔	☐	
4. VOCs headspace free:	☐	✔	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	✔	☐
2. Container labeling complete:	✔	☐
3. Sample container label / COC agree:	✔	☐

Sample Integrity - Condition

	Y or N
1. Sample recvd within HT:	Y ✔
2. All containers accounted for:	Y ✔
3. Condition of sample:	Intact

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	✔	☐	
2. Bottles received for unspecified tests	☐	✔	
3. Sufficient volume recvd for analysis:	✔	☐	
4. Compositing instructions clear:	☐	☐	✔
5. Filtering instructions clear:	☐	☐	✔

Comments

10.1

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MC41432: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC41432
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 09/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC41432

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41432
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP92319/GN33115	2.0	0.0	mg/l	80	82.3	102.9	90-110%
Fluoride	GP92319/GN33115	0.20	0.0	mg/l	2	2.02	101.0	90-110%
Sulfate	GP92319/GN33115	10	0.0	mg/l	80	82.1	102.6	90-110%

Associated Samples:
Batch GP92319: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
(*) Outside of QC limits

11.1
11

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41432
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP92319/GN33115	MC41432-3	mg/l	131	130	0.8	0-20%
Fluoride	GP92319/GN33115	MC41432-3	mg/l	0.11	0.10	9.5	0-20%
Sulfate	GP92319/GN33115	MC41432-3	mg/l	9.6	9.9	3.1	0-20%

Associated Samples:
Batch GP92319: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
(*) Outside of QC limits

11.2
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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC41432
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP92319/GN33115	MC41432-3	mg/l	131	80	203	90.0	80-120%
Fluoride	GP92319/GN33115	MC41432-3	mg/l	0.11	2	2.1	99.5	80-120%
Sulfate	GP92319/GN33115	MC41432-3	mg/l	9.6	80	87.8	97.8	80-120%

Associated Samples:
Batch GP92319: MC41432-1, MC41432-2, MC41432-3, MC41432-5, MC41432-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

11/06/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

VOC/Metals

Accutest Job Number: MC42160

Sampling Date: 10/13/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
lekes@hsenv.com

ATTN: Laurie Ekes

Total number of pages in report: **164**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Pand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

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Accutest Laboratories

Sample Summary

H&S Environmental

Job No: MC42160

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC42160-1	10/13/15	14:10	10/13/15	AQ	Ground Water	G6M-95-20X_FAL15
MC42160-1F	10/13/15	14:10	10/13/15	AQ	Groundwater Filtered	G6M-95-20X_FAL15
MC42160-2	10/13/15	12:00	10/13/15	AQ	Ground Water	G6M-13-05X_FAL15
MC42160-2F	10/13/15	12:00	10/13/15	AQ	Groundwater Filtered	G6M-13-05X_FAL15
MC42160-3	10/13/15	14:15	10/13/15	AQ	Ground Water	G6M-07-02X_FAL15
MC42160-3F	10/13/15	14:15	10/13/15	AQ	Groundwater Filtered	G6M-07-02X_FAL15
MC42160-4	10/13/15	14:30	10/13/15	AQ	Ground Water	G6M-DUP2
MC42160-4F	10/13/15	14:30	10/13/15	AQ	Groundwater Filtered	G6M-DUP2
MC42160-5	10/13/15	11:30	10/13/15	AQ	Ground Water	G6M-02-08X_FAL15
MC42160-5F	10/13/15	11:30	10/13/15	AQ	Groundwater Filtered	G6M-02-08X_FAL15
MC42160-6	10/13/15	10:36	10/13/15	AQ	Ground Water	G6M-04-10A_FAL15
MC42160-6F	10/13/15	10:36	10/13/15	AQ	Groundwater Filtered	G6M-04-10A_FAL15
MC42160-7	10/13/15	12:06	10/13/15	AQ	Ground Water	G6M-04-10X_FAL15

Accutest Laboratories

Sample Summary
(continued)

H&S Environmental

Job No: MC42160

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC42160-7F	10/13/15	12:06		10/13/15	AQ	Groundwater Filtered	G6M-04-10X_FAL15
MC42160-8	10/13/15	13:35		10/13/15	AQ	Ground Water	G6M-07-02X_FAL15-H
MC42160-9	10/13/15	10:25		10/13/15	AQ	Ground Water	G6M-03-02X_FAL15
MC42160-9F	10/13/15	10:25		10/13/15	AQ	Groundwater Filtered	G6M-03-02X_FAL15
MC42160-10	10/13/15	10:45		10/13/15	AQ	Ground Water	G6M-03-02X_FAL15-H
MC42160-11	10/13/15	12:10		10/13/15	AQ	Ground Water	G6M-13-05X_FAL15-H
MC42160-12	10/13/15	14:20		10/13/15	AQ	Ground Water	G6M-03-01X_FAL15
MC42160-12F	10/13/15	14:20		10/13/15	AQ	Groundwater Filtered	G6M-03-01X_FAL15
MC42160-13F	10/13/15	12:50		10/13/15	AQ	Groundwater Filtered	G6M-04-22X3_FAL15
MC42160-14F	10/13/15	16:16		10/13/15	AQ	Groundwater Filtered	G6M-04-31X3_FAL15
MC42160-15	10/13/15	00:00		10/13/15	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC42160

Site: Fort Devens, AOC50, Devens, MA **Report Date** 11/6/2015 4:41:19 PM

14 Sample(s) and 1 Trip Blank were collected on 10/13/2015 and were received at Accutest on 10/13/2015 properly preserved, at 0.9 Deg. C and intact. These Samples received an Accutest job number of MC42160. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. Trip Blank was not listed in the chain and analysis was performed per request.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSG5503

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- MC42160-5: Dilution required due to matrix interference.
- MC42160-12 for Dibromofluoromethane: Outside DoD control limits, but within in-house control limits.

Matrix: AQ **Batch ID:** MSH2529

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42171-1MS, MC42171-1MSD were used as the QC samples indicated.
- MC42160-5: Dilution required due to matrix interference.
- MC42160-6: The pH of the sample aliquot for VOA analysis was >2 at time of analysis.
- MC42160-1 through MC42160-12 for Carbon disulfide: Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
- MC42160-6,9 for Vinyl chloride: Continuing Calibration outside of DOD acceptance criteria. Result may be biased high.
- MC42171-1MS for 1,2-Dibromo-3-chloropropane, Vinyl chloride: Outside DoD control limits, but within in-house control limits.

Matrix: AQ **Batch ID:** MSU1361

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC42222-1MS, MC42222-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for MSD for Chloromethane are outside control limits for sample MC42222-1MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- MC42160-15 for Chloromethane: Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
- RPD of MC42222-1MSD for acetone, trans-1,3-Dichloropropene: Outside DoD control limits, but within in-house control limits.

Volatiles by GC By Method VRSK 175

Matrix: AQ	**Batch ID:** GBA1545

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11MS, MC42202-11MSD were used as the QC samples indicated.
- MC42202-11MS/MSD Recovery(s) for Methane are outside control limits. Outside control limits due to high level in sample relative to spike amount.

Metals By Method SW846 6010C

Matrix: AQ	**Batch ID:** MP25294

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42005-4FMS, MC42005-4FMSD, MC42005-4FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Iron are outside control limits for sample MP25294-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix: AQ	**Batch ID:** MP25318

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42178-3FMS, MC42178-3FMSD, MC42178-3FSDL were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	**Batch ID:** N:GP93055

- Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	**Batch ID:** GP19723

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42193-1DUP, MC42193-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	**Batch ID:** R37514

- MC42160-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37515

- MC42160-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37516

- MC42160-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37517

- MC42160-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37518

- MC42160-9 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37523

- MC42160-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ **Batch ID:** GP19693

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42173-1DUP, MC42173-1MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 2320B

Matrix: AQ **Batch ID:** GN52064

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42193-1DUP, MC42193-1MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ **Batch ID:** GN52066

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42263-1DUP, MC42263-1MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SW846 9060

Matrix: AQ **Batch ID:** GP19721

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42426-1MS, MC42426-1MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC42160).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Accutest Labs of New England, Inc. **Job No** MC42160

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 10/23/2015 4:17:22 P

On 10/15/2015, 7 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3.6 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC42160 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP93055

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC6766-10DUP, MC42160-7MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42160-1	**G6M-95-20X_FAL15**					
Tetrachloroethene		1.2	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		0.70 J	1.0	0.50	ug/l	SW846 8260C
MC42160-1F	**G6M-95-20X_FAL15**					
Arsenic		32.2	4.0	2.0	ug/l	SW846 6010C
Iron		11000	100	50	ug/l	SW846 6010C
Manganese		614	15	7.5	ug/l	SW846 6010C
MC42160-2	**G6M-13-05X_FAL15**					
cis-1,2-Dichloroethene		62.7	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		1120	50	25	ug/l	SW846 8260C
Trichloroethene		11.0	1.0	0.50	ug/l	SW846 8260C
MC42160-2F	**G6M-13-05X_FAL15**					
Arsenic		2.3 J	4.0	2.0	ug/l	SW846 6010C
Manganese		235	15	7.5	ug/l	SW846 6010C
MC42160-3	**G6M-07-02X_FAL15**					
cis-1,2-Dichloroethene		3.1	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		482	20	10	ug/l	SW846 8260C
Trichloroethene		13.0	1.0	0.50	ug/l	SW846 8260C
Methane		3200	200	100	ug/l	VRSK 175
Alkalinity, Total as CaCO3		10.3	5.0	3.9	mg/l	SM21 2320B
Sulfate [a]		10.2	10	0.50	mg/l	EPA 300/SW846 9056A
MC42160-3F	**G6M-07-02X_FAL15**					
Iron		303	100	50	ug/l	SW846 6010C
Manganese		32.8	15	7.5	ug/l	SW846 6010C
MC42160-4	**G6M-DUP2**					
cis-1,2-Dichloroethene		2.2	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		444	10	5.0	ug/l	SW846 8260C
Trichloroethene		10.8	1.0	0.50	ug/l	SW846 8260C
Methane		8520	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		11.3	5.0	3.9	mg/l	SM21 2320B
Sulfate [a]		5.7 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		0.93 J	1.0	0.81	mg/l	SW846 9060

Summary of Hits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42160-4F	**G6M-DUP2**					
Arsenic		2.0 J	4.0	2.0	ug/l	SW846 6010C
Iron		294	100	50	ug/l	SW846 6010C
Manganese		32.3	15	7.5	ug/l	SW846 6010C
MC42160-5	**G6M-02-08X_FAL15**					
2-Butanone (MEK) [b]		422	200	100	ug/l	SW846 8260C
cis-1,2-Dichloroethene [b]		83.5	20	10	ug/l	SW846 8260C
Toluene [b]		192	20	10	ug/l	SW846 8260C
Methane		18400	200	100	ug/l	VRSK 175
Alkalinity, Total as CaCO3		526	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate + Nitrite		0.062 J	0.10	0.054	mg/l	EPA 353.2
Nitrogen, Nitrite		0.0081 J	0.010	0.0033	mg/l	SM 21 4500 NO2 B
Sulfate [a]		7.1 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1280	22	18	mg/l	SW846 9060
MC42160-5F	**G6M-02-08X_FAL15**					
Arsenic		320	4.0	2.0	ug/l	SW846 6010C
Iron		483000	5000	2500	ug/l	SW846 6010C
Manganese		9410	750	380	ug/l	SW846 6010C
MC42160-6	**G6M-04-10A_FAL15**					
2-Butanone (MEK) [c]		6.2 J	10	5.0	ug/l	SW846 8260C
cis-1,2-Dichloroethene [c]		0.72 J	1.0	0.50	ug/l	SW846 8260C
Toluene [c]		1.8	1.0	0.50	ug/l	SW846 8260C
1,2,4-Trimethylbenzene [c]		0.75 J	5.0	0.50	ug/l	SW846 8260C
1,3,5-Trimethylbenzene [c]		0.52 J	5.0	0.50	ug/l	SW846 8260C
Vinyl chloride [d]		1.6	1.0	0.50	ug/l	SW846 8260C
Xylene (total) [c]		0.71 J	1.0	0.50	ug/l	SW846 8260C
Methane		15000	200	100	ug/l	VRSK 175
Alkalinity, Total as CaCO3		241	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [e]		0.099 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.10	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		8.6 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		26.7	1.0	0.81	mg/l	SW846 9060
MC42160-6F	**G6M-04-10A_FAL15**					
Arsenic		292	4.0	2.0	ug/l	SW846 6010C
Iron		205000	5000	2500	ug/l	SW846 6010C

Summary of Hits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Manganese		2360	15	7.5	ug/l	SW846 6010C
MC42160-7	**G6M-04-10X_FAL15**					
Tetrachloroethene		3.1	1.0	0.50	ug/l	SW846 8260C
Alkalinity, Total as CaCO3		7.2	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [e]		1.1	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		1.1	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		35.4	10	0.50	mg/l	EPA 300/SW846 9056A
MC42160-7F	**G6M-04-10X_FAL15**					
Manganese		344	15	7.5	ug/l	SW846 6010C
MC42160-8	**G6M-07-02X_FAL15-H**					
cis-1,2-Dichloroethene		2.8	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		858	25	13	ug/l	SW846 8260C
Trichloroethene		15.7	1.0	0.50	ug/l	SW846 8260C
MC42160-9	**G6M-03-02X_FAL15**					
2-Butanone (MEK)		7.8 J	10	5.0	ug/l	SW846 8260C
cis-1,2-Dichloroethene		6.0	1.0	0.50	ug/l	SW846 8260C
Toluene		52.6	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride [f]		5.3	1.0	0.50	ug/l	SW846 8260C
Methane		17600	200	100	ug/l	VRSK 175
Alkalinity, Total as CaCO3		156	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [e]		0.062 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.062 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		10.2	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		33.0	1.0	0.81	mg/l	SW846 9060
MC42160-9F	**G6M-03-02X_FAL15**					
Arsenic		168	4.0	2.0	ug/l	SW846 6010C
Iron		116000	1000	500	ug/l	SW846 6010C
Manganese		3540	15	7.5	ug/l	SW846 6010C
MC42160-10	**G6M-03-02X_FAL15-H**					
cis-1,2-Dichloroethene		3.0	1.0	0.50	ug/l	SW846 8260C
Toluene		9.1	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		2.7	1.0	0.50	ug/l	SW846 8260C

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Summary of Hits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42160-11	**G6M-13-05X_FAL15-H**					
cis-1,2-Dichloroethene		75.5	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		1290	50	25	ug/l	SW846 8260C
Trichloroethene		12.3	1.0	0.50	ug/l	SW846 8260C
MC42160-12	**G6M-03-01X_FAL15**					
1,1-Dichloroethene		1.5	1.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene		141	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene		5.2	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene		126	1.0	0.50	ug/l	SW846 8260C
Trichloroethene		190	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride		57.5	1.0	0.50	ug/l	SW846 8260C
Sulfate [a]		9.7 J	10	0.50	mg/l	EPA 300/SW846 9056A
MC42160-12F	**G6M-03-01X_FAL15**					
Arsenic		46.7	4.0	2.0	ug/l	SW846 6010C
Iron		42200	500	250	ug/l	SW846 6010C
Manganese		7270	75	38	ug/l	SW846 6010C
MC42160-13F	**G6M-04-22X3_FAL15**					
Arsenic		223	4.0	2.0	ug/l	SW846 6010C
MC42160-14F	**G6M-04-31X3_FAL15**					
Arsenic		420	4.0	2.0	ug/l	SW846 6010C
MC42160-15	**TRIP BLANK**					

No hits reported in this sample.

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.
(b) Dilution required due to matrix interference.
(c) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.
(d) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis. Continuing Calibration outside of DOD acceptance criteria. Result may be biased high.
(e) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(f) Continuing Calibration outside of DOD acceptance criteria. Result may be biased high.

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	G6M-95-20X_FAL15		
Lab Sample ID:	MC42160-1	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H75942.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [a]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-95-20X_FAL15		
Lab Sample ID:	MC42160-1	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	1.2	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.70	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-95-20X_FAL15		
Lab Sample ID:	MC42160-1	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	99%		80-116%
460-00-4	4-Bromofluorobenzene	96%		77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-95-20X_FAL15		
Lab Sample ID:	MC42160-1F	**Date Sampled:**	10/13/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	32.2	4.0	2.0	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	11000	100	50	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	614	15	7.5	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18567
(2) Prep QC Batch: MP25294

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-05X_FAL15		
Lab Sample ID:	MC42160-2	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H75943.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2	G146977.D	50	10/26/15	CB	n/a	n/a	MSG5503

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [a]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	62.7	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-05X_FAL15		
Lab Sample ID:	MC42160-2	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	1120 [b]	50	25	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	11.0	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	117%	79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-05X_FAL15		
Lab Sample ID:	MC42160-2	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%	102%	80-116%
460-00-4	4-Bromofluorobenzene	98%	100%	77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
(b) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID: G6M-13-05X_FAL15
Lab Sample ID: MC42160-2F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/13/15
Date Received: 10/13/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.3 J	4.0	2.0	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	235	15	7.5	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18567
(2) Prep QC Batch: MP25294

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-07-02X_FAL15		
Lab Sample ID:	MC42160-3	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H75944.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2	G146974.D	20	10/26/15	CB	n/a	n/a	MSG5503

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [a]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-07-02X_FAL15		
Lab Sample ID:	MC42160-3	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	482 [b]	20	10	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	13.0	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%	115%	79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-07-02X_FAL15			
Lab Sample ID:	MC42160-3		**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water		**Date Received:**	10/13/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%	102%	80-116%
460-00-4	4-Bromofluorobenzene	97%	100%	77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
(b) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-07-02X_FAL15		
Lab Sample ID:	MC42160-3	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22725.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2	BA22726.D	1	10/19/15	AF	n/a	n/a	GBA1545

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	3200 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-07-02X_FAL15		
Lab Sample ID:	MC42160-3	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	10.3	5.0	3.9	mg/l	1	10/17/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	10/24/15 08:05	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	10/24/15 08:05	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/14/15 17:38	CF	SM 21 4500 NO2 B
Sulfate [b]	10.2	10	0.50	mg/l	1	10/23/15 04:15	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	0.81 U	1.0	0.81	mg/l	1	10/23/15 23:40	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-07-02X_FAL15		
Lab Sample ID:	MC42160-3F	**Date Sampled:**	10/13/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	303	100	50	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	32.8	15	7.5	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18567
(2) Prep QC Batch: MP25294

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-DUP2		
Lab Sample ID:	MC42160-4	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H75945.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2	G146973.D	10	10/26/15	CB	n/a	n/a	MSG5503

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [a]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	2.2	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP2			
Lab Sample ID:	MC42160-4		**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water		**Date Received:**	10/13/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	444 [b]	10	5.0	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	10.8	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%	116%	79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP2		
Lab Sample ID:	MC42160-4	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%	103%	80-116%
460-00-4	4-Bromofluorobenzene	97%	100%	77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
(b) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP2		
Lab Sample ID:	MC42160-4	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22727.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2	BA22728.D	1	10/19/15	AF	n/a	n/a	GBA1545

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	8520 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP2		
Lab Sample ID:	MC42160-4	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	11.3	5.0	3.9	mg/l	1	10/17/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	10/24/15 08:06	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	10/24/15 08:06	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/14/15 17:38	CF	SM 21 4500 NO2 B
Sulfate [b]	5.7 J	10	0.50	mg/l	1	10/23/15 04:39	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	0.93 J	1.0	0.81	mg/l	1	10/23/15 23:55	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-DUP2		
Lab Sample ID:	MC42160-4F	**Date Sampled:**	10/13/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 J	4.0	2.0	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	294	100	50	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	32.3	15	7.5	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18567
(2) Prep QC Batch: MP25294

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-08X_FAL15			
Lab Sample ID:	MC42160-5		**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water		**Date Received:**	10/13/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	H75940.D	20	10/23/15	KP	n/a	n/a	MSH2529
Run #2 [a]	G146972.D	20	10/26/15	CB	n/a	n/a	MSG5503

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	100 U	200	100	ug/l	
71-43-2	Benzene	10 U	10	10	ug/l	
108-86-1	Bromobenzene	20 U	100	20	ug/l	
74-97-5	Bromochloromethane	10 U	100	10	ug/l	
75-27-4	Bromodichloromethane	10 U	20	10	ug/l	
75-25-2	Bromoform	10 U	20	10	ug/l	
74-83-9	Bromomethane	20 U	40	20	ug/l	
78-93-3	2-Butanone (MEK)	422	200	100	ug/l	
104-51-8	n-Butylbenzene	20 U	100	20	ug/l	
135-98-8	sec-Butylbenzene	20 U	100	20	ug/l	
98-06-6	tert-Butylbenzene	20 U	100	20	ug/l	
75-15-0	Carbon disulfide [b]	20 U	100	20	ug/l	
56-23-5	Carbon tetrachloride	10 U	20	10	ug/l	
108-90-7	Chlorobenzene	10 U	20	10	ug/l	
75-00-3	Chloroethane	10 U	40	10	ug/l	
67-66-3	Chloroform	10 U	20	10	ug/l	
74-87-3	Chloromethane	20 U	40	20	ug/l	
95-49-8	o-Chlorotoluene	20 U	100	20	ug/l	
106-43-4	p-Chlorotoluene	20 U	100	20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	100 U	100	100	ug/l	
124-48-1	Dibromochloromethane	20 U	20	20	ug/l	
106-93-4	1,2-Dibromoethane	20 U	20	20	ug/l	
95-50-1	1,2-Dichlorobenzene	10 U	20	10	ug/l	
541-73-1	1,3-Dichlorobenzene	10 U	20	10	ug/l	
106-46-7	1,4-Dichlorobenzene	10 U	20	10	ug/l	
75-71-8	Dichlorodifluoromethane	20 U	40	20	ug/l	
75-34-3	1,1-Dichloroethane	10 U	20	10	ug/l	
107-06-2	1,2-Dichloroethane	10 U	20	10	ug/l	
75-35-4	1,1-Dichloroethene	10 U	20	10	ug/l	
156-59-2	cis-1,2-Dichloroethene	83.5	20	10	ug/l	
156-60-5	trans-1,2-Dichloroethene	10 U	20	10	ug/l	
78-87-5	1,2-Dichloropropane	10 U	40	10	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID: G6M-02-08X_FAL15
Lab Sample ID: MC42160-5
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Fort Devens, AOC50, Devens, MA

Date Sampled: 10/13/15
Date Received: 10/13/15
Percent Solids: n/a

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	20 U	100	20	ug/l	
594-20-7	2,2-Dichloropropane	40 U	100	40	ug/l	
563-58-6	1,1-Dichloropropene	20 U	100	20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	10 U	10	10	ug/l	
10061-02-6	trans-1,3-Dichloropropene	10 U	10	10	ug/l	
100-41-4	Ethylbenzene	10 U	20	10	ug/l	
87-68-3	Hexachlorobutadiene	40 U	100	40	ug/l	
591-78-6	2-Hexanone	100 U	200	100	ug/l	
74-88-4	Iodomethane	40 U	100	40	ug/l	
98-82-8	Isopropylbenzene	20 U	100	20	ug/l	
99-87-6	p-Isopropyltoluene	20 U	100	20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	10 U	20	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	100 U	100	100	ug/l	
74-95-3	Methylene bromide	20 U	100	20	ug/l	
75-09-2	Methylene chloride	20 U	40	20	ug/l	
91-20-3	Naphthalene	40 U	100	40	ug/l	
103-65-1	n-Propylbenzene	20 U	100	20	ug/l	
100-42-5	Styrene	10 U	100	10	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	10 U	20	10	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	10 U	10	10	ug/l	
127-18-4	Tetrachloroethene	10 U	20	10	ug/l	
108-88-3	Toluene	192	20	10	ug/l	
87-61-6	1,2,3-Trichlorobenzene	40 U	100	40	ug/l	
120-82-1	1,2,4-Trichlorobenzene	40 U	100	40	ug/l	
71-55-6	1,1,1-Trichloroethane	10 U	20	10	ug/l	
79-00-5	1,1,2-Trichloroethane	10 U	20	10	ug/l	
79-01-6	Trichloroethene	10 U	20	10	ug/l	
75-69-4	Trichlorofluoromethane	20 U	20	20	ug/l	
96-18-4	1,2,3-Trichloropropane	20 U	100	20	ug/l	
95-63-6	1,2,4-Trimethylbenzene	10 U	100	10	ug/l	
108-67-8	1,3,5-Trimethylbenzene	10 U	100	10	ug/l	
108-05-4	Vinyl Acetate	100 U	100	100	ug/l	
75-01-4	Vinyl chloride	10 U [c]	20	10	ug/l	
	m,p-Xylene	20 U	20	20	ug/l	
95-47-6	o-Xylene	10 U	20	10	ug/l	
1330-20-7	Xylene (total)	10 U	20	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	113%	79-127%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X_FAL15		
Lab Sample ID:	MC42160-5	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	103%	102%	80-116%
460-00-4	4-Bromofluorobenzene	99%	100%	77-124%

(a) Dilution required due to matrix interference.
(b) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
(c) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-08X_FAL15		
Lab Sample ID:	MC42160-5	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22731.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2	BA22732.D	1	10/19/15	AF	n/a	n/a	GBA1545

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	18400 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID: G6M-02-08X_FAL15
Lab Sample ID: MC42160-5
Matrix: AQ - Ground Water
Date Sampled: 10/13/15
Date Received: 10/13/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	526	5.0	3.9	mg/l	1	10/17/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	10/24/15 08:10	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.062 J	0.10	0.054	mg/l	1	10/24/15 08:10	MC	EPA 353.2
Nitrogen, Nitrite	0.0081 J	0.010	0.0033	mg/l	1	10/14/15 17:38	CF	SM 21 4500 NO2 B
Sulfate [b]	7.1 J	10	0.50	mg/l	1	10/23/15 05:02	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	1280	22	18	mg/l	22	10/24/15 00:11	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-08X_FAL15		
Lab Sample ID:	MC42160-5F	**Date Sampled:**	10/13/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	320	4.0	2.0	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	483000	5000	2500	ug/l	50	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	9410	750	380	ug/l	50	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18567
(2) Prep QC Batch: MP25294

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-10A_FAL15		
Lab Sample ID:	MC42160-6	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	H75938.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	6.2	10	5.0	ug/l	J
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [b]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.72	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A_FAL15		
Lab Sample ID:	MC42160-6	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	1.8	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.75	5.0	0.50	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	0.52	5.0	0.50	ug/l	J
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride [c]	1.6	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.71	1.0	0.50	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		79-127%
2037-26-5	Toluene-D8	103%		80-116%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A_FAL15		
Lab Sample ID:	MC42160-6	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		77-124%

(a) The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.
(b) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
(c) Continuing Calibration outside of DOD acceptance criteria. Result may be biased high.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A_FAL15		
Lab Sample ID:	MC42160-6	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22733.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2	BA22734.D	1	10/19/15	AF	n/a	n/a	GBA1545

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	15000 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10A_FAL15			
Lab Sample ID:	MC42160-6		**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water		**Date Received:**	10/13/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	241	5.0	3.9	mg/l	1	10/17/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.099 J	0.11	0.057	mg/l	1	10/24/15 08:11	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.10	0.10	0.054	mg/l	1	10/24/15 08:11	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/14/15 17:38	CF	SM 21 4500 NO2 B
Sulfate [b]	8.6 J	10	0.50	mg/l	1	10/23/15 05:26	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	26.7	1.0	0.81	mg/l	1	10/24/15 00:37	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-04-10A_FAL15
Lab Sample ID: MC42160-6F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/13/15
Date Received: 10/13/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	292	4.0	2.0	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	205000	5000	2500	ug/l	50	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	2360	15	7.5	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18567
(2) Prep QC Batch: MP25294

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-10X_FAL15		
Lab Sample ID:	MC42160-7	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H75939.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [a]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10X_FAL15		
Lab Sample ID:	MC42160-7	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	3.1	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-10X_FAL15		
Lab Sample ID:	MC42160-7	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%		80-116%
460-00-4	4-Bromofluorobenzene	97%		77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10X_FAL15		
Lab Sample ID:	MC42160-7	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22735.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5.0 U	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-10X_FAL15		
Lab Sample ID:	MC42160-7	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	7.2	5.0	3.9	mg/l	1	10/17/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	1.1	0.11	0.057	mg/l	1	10/24/15 08:12	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	1.1	0.10	0.054	mg/l	1	10/24/15 08:12	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/14/15 17:38	CF	SM 21 4500 NO2 B
Sulfate [b]	35.4	10	0.50	mg/l	1	10/23/15 06:14	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	0.81 U	1.0	0.81	mg/l	1	10/24/15 01:26	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-10X_FAL15		
Lab Sample ID:	MC42160-7F	**Date Sampled:**	10/13/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	344	15	7.5	ug/l	1	10/14/15	10/16/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18567
(2) Prep QC Batch: MP25294

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-07-02X_FAL15-H			
Lab Sample ID:	MC42160-8		**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water		**Date Received:**	10/13/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H75946.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2	G146976.D	25	10/26/15	CB	n/a	n/a	MSG5503

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [a]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	2.8	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-07-02X_FAL15-H		
Lab Sample ID:	MC42160-8	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	858 [b]	25	13	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	15.7	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%	117%	79-127%

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-07-02X_FAL15-H		
Lab Sample ID:	MC42160-8	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%	102%	80-116%
460-00-4	4-Bromofluorobenzene	97%	101%	77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
(b) Result is from Run# 2

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-02X_FAL15		
Lab Sample ID:	MC42160-9	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H75947.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	7.8	10	5.0	ug/l	J
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [a]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	6.0	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-02X_FAL15		
Lab Sample ID:	MC42160-9	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	52.6	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride [b]	5.3	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		79-127%
2037-26-5	Toluene-D8	103%		80-116%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-02X_FAL15		
Lab Sample ID:	MC42160-9	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	97%		77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
(b) Continuing Calibration outside of DOD acceptance criteria. Result may be biased high.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-02X_FAL15		
Lab Sample ID:	MC42160-9	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22736.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2	BA22737.D	1	10/19/15	AF	n/a	n/a	GBA1545

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	17600 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-02X_FAL15			
Lab Sample ID:	MC42160-9		**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water		**Date Received:**	10/13/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	156	5.0	3.9	mg/l	1	10/17/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.062 J	0.11	0.057	mg/l	1	10/24/15 08:14	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.062 J	0.10	0.054	mg/l	1	10/24/15 08:14	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/14/15 17:40	CF	SM 21 4500 NO2 B
Sulfate [b]	10.2	10	0.50	mg/l	1	10/23/15 07:26	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	33.0	1.0	0.81	mg/l	1	10/24/15 01:43	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-02X_FAL15		
Lab Sample ID:	MC42160-9F	**Date Sampled:**	10/13/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	168	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	116000	1000	500	ug/l	10	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	3540	15	7.5	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-02X_FAL15-H		
Lab Sample ID:	MC42160-10	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H75948.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2	G146969.D	1	10/26/15	CB	n/a	n/a	MSG5503

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [a]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.0	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-02X_FAL15-H		
Lab Sample ID:	MC42160-10	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	9.1	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	2.7 [b]	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%	116%	79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-02X_FAL15-H		
Lab Sample ID:	MC42160-10	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%	100%	80-116%
460-00-4	4-Bromofluorobenzene	96%	102%	77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
(b) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-05X_FAL15-H		
Lab Sample ID:	MC42160-11	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H75949.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2	G146979.D	50	10/26/15	CB	n/a	n/a	MSG5503

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [a]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	75.5	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-05X_FAL15-H		
Lab Sample ID:	MC42160-11	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	1290 [b]	50	25	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	12.3	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%	119%	79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-05X_FAL15-H		
Lab Sample ID:	MC42160-11	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%	102%	80-116%
460-00-4	4-Bromofluorobenzene	97%	103%	77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
(b) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-01X_FAL15		
Lab Sample ID:	MC42160-12	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H75950.D	1	10/23/15	KP	n/a	n/a	MSH2529
Run #2	G146971.D	1	10/26/15	CB	n/a	n/a	MSG5503

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide [a]	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	1.5	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	141	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	5.2	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-01X_FAL15		
Lab Sample ID:	MC42160-12	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	126	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	190	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	57.5 [b]	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%	121%	79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-01X_FAL15		
Lab Sample ID:	MC42160-12	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%	101%	80-116%
460-00-4	4-Bromofluorobenzene	96%	104%	77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.
(b) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-01X_FAL15		
Lab Sample ID:	MC42160-12	**Date Sampled:**	10/13/15
Matrix:	AQ - Ground Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/14/15 17:40	CF	SM 21 4500 NO2 B
Sulfate [a]	9.7 J	10	0.50	mg/l	1	10/23/15 07:50	ANJ	EPA 300/SW846 9056A

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-01X_FAL15		
Lab Sample ID:	MC42160-12F	**Date Sampled:**	10/13/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	46.7	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	42200	500	250	ug/l	5	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	7270	75	38	ug/l	5	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-22X3_FAL15		
Lab Sample ID:	MC42160-13F	**Date Sampled:**	10/13/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	223	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-31X3_FAL15		
Lab Sample ID:	MC42160-14F	**Date Sampled:**	10/13/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	420	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42160-15	**Date Sampled:**	10/13/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U33297.D	1	10/27/15	AD	n/a	n/a	MSU1361
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane [a]	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42160-15	**Date Sampled:**	10/13/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42160-15	**Date Sampled:**	10/13/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/13/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		80-116%
460-00-4	4-Bromofluorobenzene	99%		77-124%

(a) Continuing Calibration outside of DOD acceptance criteria. Reporting Limit response verified by low-level standard.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

(1 of 2)

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West
Building One, Marlborough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #:	MC42160
Accutest Control #:	

Client Information	Facility Information
Name: H&S Environmental	Project Name: Devens
Address: 160 East Main Street, Suite 2F	Location: AOC50 VOC/Metals
City: Westborough	Project No.
State: MA Zip: 01581	
Send Report to: Laurie Ekes (lekes@hsenv.com)	
Phone #: (508)367-7190	FAX #:

Analytical Information

	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: voc	NaOH	HNO3	H2So4	None	VOCs (3/40ml VOA vials/HCl)	Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3	Dissolved Gases (3-40ml VOA/HCl) RSK175	Alkalinity, Sulfate (1-~~500~~ 250 ml P)	Nitrate/nitrite (1-250ml P/H2SO4) E353.2	Sulfide (1-250mlP/Znacetate/NaOH)	TOC (3-40ml VOA/HCl)	8260
-1F	G6M-95-20X-FALI5	10/13/15	1410		WG	11 ~~18~~	3	1	1	1	1	X	X	X	X	X	X	X	
-2F	G6M-13-05X-FALI5	10/13/15	1200		WG	4 ~~18~~	3	~~1~~	1	~~1~~	~~1~~	X	X						
-3F	G6M-07-~~02~~X-FALI5	10/13/15	1415		WG	11 ~~18~~	3	1	1	1	1	X	X	X	X	X	X	X	
-4F	G6M-DUP2	10/13/15	1430		WG	11 ~~18~~	3	1	1	1	1	X	X	X	X	X	X	X	
-5F	G6M-02-08X-FALI5	↓	1130		WG	11	7	1	1	1	1	X	X	X	X	X	X	X	
-6F	G6M-04-10A-FALI5	↓	1036		WG	11	7	1	1	1	1	X	X	X	X	X	X	X	
-7F	G6M-04-10X-FALI5	↓	1206		WG	11	7	1	1	1	1	X	X	X	X	X	X	X	
-8	G6M-07-~~02~~X-FALI5-H	10/13/15	1335		WG	3	3					~~X~~ VOA							X
-9F	G6M-03-02X-FALI5	10/13/15	1025		WG	4	3		1			X	X						
-10	G6M-03-02X-FALI5-H	10/13/15	1045		WG	3	3												X

Turnaround Information

- [X] 10 Day STD
- [ ] 5 Day STD (By Contract only)
- [ ] 5 Day Rush
- [ ] 3 Day Rush
- [ ] 2 Day Rush
- [ ] 1 Day Rush

Approved By:

Data Deliverable Information

- [ ] Comm A
- [ ] Comm B
- [ ] Full T1
- [ ] Other
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP CAT A
- [ ] NYASP CATB

EDD Format:

Comments / Remarks

lox 11C, 5C, SB3

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/13/15 1750	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved ☐	On Ice: ☑ 0.9° -0.4°

5.1

5

MC42160: Chain of Custody
Page 1 of 9

(P2of2)

ACCUTEST
LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West
Building One, Marlbourough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #: MC42160

Accutest Control #:

Client Information		Facility Information	
Name	H&S Environmental	Project Name	Devens
Address	160 East Main Street, Suite 2F	Location	AOC50 VOC/Metals
City	Westborough	Project No.	
State	MA Zip 01581		
Send Report to:	Laurie Ekes (lekes@hsenv.com)		
Phone #:	(508)367-7190	FAX #:	

Analytical Information

	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: voc	NaOH	HNO3	H2So4	None	VOCs (3/40ml VOA vials/HCl)	Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3 Field Filtered	Dissolved Gases (3-40ml VOA/HCl) RSK175	Alkalinity, Sulfate (1-500 ml P) 250	Nitrate/nitrite (1-250ml P/H2SO4) E353.2	Sulfide (1-250mlP/Znacetate/NaOH)	TOC (3-40ml VOA/HCl)	8260	Dissolved Mn. (Field Filtered)		
-11	66M-13-05X-Fa15-H	10/13/15	1210		WG	3 ~~13~~	~~10~~	~~1~~	~~1~~	~~1~~	~~1~~								X			
-12F	66M-02-01X-Fa11-15	10/13/15	1420		WG	11 ~~13~~	7 ~~9~~	1	1	1	1	X	X	X	X	X	X	X				
-13F	66M-04-22X3-Fa1115-H	10/13/15	1250		WG	1 ~~13~~	~~9~~	~~1~~	1	~~1~~	~~1~~									X		
-14F	66M-04-31X3-Fa1115	10/13/15	1616		WG	1 ~~12~~	~~9~~	~~1~~	1	~~1~~	~~1~~									X		

Turnaround Information

- [X] 10 Day STD
- [ ] 5 Day STD (By Contract only)
- [ ] 5 Day Rush
- [ ] 3 Day Rush
- [ ] 2 Day Rush
- [ ] 1 Day Rush

Approved By:

Data Deliverable Information

- [ ] Comm A
- [ ] Comm B
- [ ] Full T1
- [ ] Other
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP CAT A
- [ ] NYASP CATB

EDD Format:

Comments / Remarks

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1 [signature]	10/13/15 1750	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved ☐	On Ice: ☐ 0.9-0.4°C

MC42160: Chain of Custody
Page 2 of 9

Frank D'Agostino

From: Laurie Ekes <LEkes@hsenv.com>
Sent: Friday, October 16, 2015 11:09 AM
To: Frank D'Agostino
Subject: FW: AOC 50

There's another problem with the samples on this COC. Sample G6M-02-01X (10/13 @1420) Lab Sample ID: MC42160-12/12F has the incorrect field ID. It should be G6M-03-01X and analyzed for VOCs and dissolved metals only. Please cancel the remaining analyses if they haven't started yet (If they have started go ahead and report them). It was our error! Also Please check samples -13F and -14F. I just noticed that sample -13 had an "H" added to it. Please verify that it was a preserved poly for As only ad not VOA vials.

I hope we resolved the sampling issues. Thank You

Laurie Ekes

From: Laurie Ekes
Sent: Wednesday, October 14, 2015 10:34 AM
To: 'Frank D'Agostino'
Subject: RE: AOC 50

Sample ID, G6M-95-20X-FAL15 (MC42160-1) should be analyzed for VOC and dissolved metals (there should be 3-VOA vials and 1-HNO poly)
Sample ID, G6M-03-02X-FAL15 (MC42160-9) should be analyzed for the full suite (VOCs, dissolved metals (As, Fe, Mn), dissolved gasses, nitrate, sulfate, sulfide, alkalinity and TOC). I believe you said this one was missing the nitrate (H2SO4 preserved bottle for 365.2/? If it's missing..then we'll just go with out.
Add the trip blank to the COC for VOCs.
Samples -13 and -14 should be analyzed for dissolved arsenic NOT Manganese.

Thank you Laurie

From: Frank D'Agostino [mailto:frankd@accutest.com]
Sent: Wednesday, October 14, 2015 9:30 AM
To: Laurie Ekes
Subject: AOC 50
Importance: High

Hi Laurie,

We have some issues on this chain.

Sample ID, G6M-95-20X-FAL15 was only received with 3 vials with HNO3 but the coc indicates a list of analysis.

Sample ID, G6M-03-02X-FAL15 indicates only 8260 on the coc but we received 11 bottles for this.

We also received a Trip Blank that is not listed on the coc. Do you need this added?

Please advise ASAP.

1

Thanks

Frank D'Agostino
Project Manager
Accutest Laboratories of NE
Voice: 508.481.6200 Ext. 2104
Fax: 508.481.7753
frankd@accutest.com

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2

MC42160: Chain of Custody
Page 4 of 9

Frank D'Agostino MC42160

From: Laurie Ekes <LEkes@hsenv.com>
Sent: Wednesday, October 14, 2015 10:35 AM
To: Frank D'Agostino
Subject: RE: AOC 50

Sample ID, G6M-95-20X-FAL15 (MC42160-1) should be analyzed for VOC and dissolved metals (there should be 3-VOA vials and 1-HNO poly)
Sample ID, G6M-03-02X-FAL15 (MC42160-9) should be analyzed for the full suite (VOCs, dissolved metals (As, Fe, Mn), dissolved gasses, nitrate, sulfate, sulfide, alkalinity and TOC). I believe you said this one was missing the nitrate (H2SO4 preserved bottle for 365.2/? If it's missing..then we'll just go with out.
Add the trip blank to the COC for VOCs.
Samples -13 and -14 should be analyzed for dissolved arsenic NOT Manganese.

Thank you Laurie

From: Frank D'Agostino [mailto:frankd@accutest.com]
Sent: Wednesday, October 14, 2015 9:30 AM
To: Laurie Ekes
Subject: AOC 50
Importance: High

Hi Laurie,

We have some issues on this chain.

Sample ID, G6M-95-20X-FAL15 was only received with 3 vials with HNO3 but the coc indicates a list of analysis.

Sample ID, G6M-03-02X-FAL15 indicates only 8260 on the coc but we received 11 bottles for this.

We also received a Trip Blank that is not listed on the coc. Do you need this added?

Please advise ASAP.

Thanks

Frank D'Agostino
Project Manager
Accutest Laboratories of NE
Voice: 508.481.6200 Ext. 2104
Fax: 508.481.7753
frankd@accutest.com

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Frank D'Agostino

From:	Laurie Ekes <LEkes@hsenv.com>
Sent:	Wednesday, October 14, 2015 10:42 AM
To:	Frank D'Agostino
Subject:	RE: AOC 50

You do not need to run nitrate/nitrite (E352.3)for sample G6M-03-02X-FAL15 due to insufficient sample volume.

Laurie

From: Frank D'Agostino [mailto:frankd@accutest.com]
Sent: Wednesday, October 14, 2015 9:38 AM
To: Laurie Ekes
Subject: RE: AOC 50
Importance: High

In addition, we did not receive any sample volume for Nitrate / Nitrite for Sample ID, G6M-03-02X-FAL15.

Frank D'Agostino
Project Manager
Accutest Laboratories of NE
Voice: 508.481.6200 Ext. 2104
Fax: 508.481.7753
frankd@accutest.com

ACCUTEST LABORATORIES

"The National Testing Laboratory with Total Performance you can count on"

From: Frank D'Agostino
Sent: Wednesday, October 14, 2015 9:30 AM
To: 'Laurie Ekes'
Subject: AOC 50
Importance: High

Hi Laurie,

We have some issues on this chain.

Sample ID, G6M-95-20X-FAL15 was only received with 3 vials with HNO3 but the coc indicates a list of analysis.

Sample ID, G6M-03-02X-FAL15 indicates only 8260 on the coc but we received 11 bottles for this.

We also received a Trip Blank that is not listed on the coc. Do you need this added?

Please advise ASAP.

Thanks

Frank D'Agostino
Project Manager
Accutest Laboratories of NE
Voice: 508.481.6200 Ext. 2104
Fax: 508.481.7753
frankd@accutest.com

ACCUTEST LABORATORIES

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Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42160 **Client:** H&S **Immediate Client Services Action Required:** Yes

Date / Time Received: 10/13/2015 5:50:00 PM **Delivery Method:**

Project: DEVENS **No. Coolers:** 2 **Airbill #'s:**

Cooler Security

	Y	N
1. Custody Seals Present:	✔	☐
2. Custody Seals Intact:	✔	☐
3. COC Present:	✔	☐
4. Smpl Dates/Time OK	✔	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	✔	☐
2. Cooler temp verification:	Infared Gun	
3. Cooler media:	Ice (Bag)	

Quality Control_Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	✔	☐	
2. Trip Blank listed on COC:	☐	✔	
3. Samples preserved properly:	✔	☐	
4. VOCs headspace free:	✔	☐	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	✔	☐
2. Container labeling complete:	✔	☐
3. Sample container label / COC agree:	✔	☐

Sample Integrity - Condition

	Y	N
1. Sample rec'd within HT:	✔	☐
2. All containers accounted for:	☐	✔
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	✔	☐	
2. Bottles received for unspecified tests	✔	☐	
3. Sufficient volume rec'd for analysis:	✔	☐	
4. Compositing instructions clear:	☐	☐	✔
5. Filtering instructions clear:	☐	☐	✔

Comments

-1 Only 1-250ML (HNO3) , 3-40ML HCL vials received. Full suite of analyses requested.

-9 VOCs and Dissolved Metals requested. Received full suite of bottleware (11 containers)

-15 3-40ML (HCL) TB'S Recd. Not listed

Sample Receipt Summary - Problem Resolution

Accutest Job Number: MC42160

CSR: Frank D'Agostino **Response Date:** 10/14/2015

Response: See the email from the client.

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSG5503	SW846 8260C						
MSG5503-BS	127-18-4	Tetrachloroethene	BSP	REC	106	%	74-129
MSG5503-BS	75-01-4	Vinyl chloride	BSP	REC	107	%	58-137
MSG5503-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	117	%	80-119
MSG5503-BS	2037-26-5	Toluene-D8	BSP	SURR	106	%	89-112
MSG5503-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	95	%	85-114
MSG5503-BSD	127-18-4	Tetrachloroethene	BSD	REC	107	%	74-129
MSG5503-BSD	75-01-4	Vinyl chloride	BSD	REC	117	%	58-137
MSG5503-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	114	%	80-119
MSG5503-BSD	2037-26-5	Toluene-D8	BSD	SURR	103	%	89-112
MSG5503-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	96	%	85-114
MSG5503-MB	1868-53-7	Dibromofluoromethane	MB	SURR	117	%	80-119
MSG5503-MB	2037-26-5	Toluene-D8	MB	SURR	101	%	89-112
MSG5503-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	103	%	85-114
MC42160-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	117	%	80-119
MC42160-2	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42160-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	100	%	85-114
MC42160-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	115	%	80-119
MC42160-3	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42160-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	100	%	85-114
MC42160-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	116	%	80-119
MC42160-4	2037-26-5	Toluene-D8	SAMP	SURR	103	%	89-112
MC42160-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	100	%	85-114
MC42160-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	113	%	80-119
MC42160-5	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42160-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	100	%	85-114
MC42160-8	1868-53-7	Dibromofluoromethane	SAMP	SURR	117	%	80-119
MC42160-8	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42160-8	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114
MC42160-10	1868-53-7	Dibromofluoromethane	SAMP	SURR	116	%	80-119
MC42160-10	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42160-10	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114
MC42160-11	1868-53-7	Dibromofluoromethane	SAMP	SURR	119	%	80-119
MC42160-11	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42160-11	460-00-4	4-Bromofluorobenzene	SAMP	SURR	103	%	85-114
MC42160-12	1868-53-7	Dibromofluoromethane	SAMP	SURR	121	%	80-119
MC42160-12	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42160-12	460-00-4	4-Bromofluorobenzene	SAMP	SURR	104	%	85-114
MSH2529	SW846 8260C						
MSH2529-BS	67-64-1	Acetone	BSP	REC	107	%	39-160
MSH2529-BS	71-43-2	Benzene	BSP	REC	91	%	79-120

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSH2529-BS	108-86-1	Bromobenzene	BSP	REC	90	%	80-120
MSH2529-BS	74-97-5	Bromochloromethane	BSP	REC	87	%	78-123
MSH2529-BS	75-27-4	Bromodichloromethane	BSP	REC	94	%	79-125
MSH2529-BS	75-25-2	Bromoform	BSP	REC	101	%	66-130
MSH2529-BS	74-83-9	Bromomethane	BSP	REC	101	%	53-141
MSH2529-BS	78-93-3	2-Butanone (MEK)	BSP	REC	105	%	56-143
MSH2529-BS	104-51-8	n-Butylbenzene	BSP	REC	106	%	75-128
MSH2529-BS	135-98-8	sec-Butylbenzene	BSP	REC	99	%	77-126
MSH2529-BS	98-06-6	tert-Butylbenzene	BSP	REC	97	%	78-124
MSH2529-BS	75-15-0	Carbon disulfide	BSP	REC	80	%	64-133
MSH2529-BS	56-23-5	Carbon tetrachloride	BSP	REC	104	%	72-136
MSH2529-BS	108-90-7	Chlorobenzene	BSP	REC	88	%	82-118
MSH2529-BS	75-00-3	Chloroethane	BSP	REC	111	%	60-138
MSH2529-BS	67-66-3	Chloroform	BSP	REC	89	%	79-124
MSH2529-BS	74-87-3	Chloromethane	BSP	REC	110	%	50-139
MSH2529-BS	95-49-8	o-Chlorotoluene	BSP	REC	94	%	79-122
MSH2529-BS	106-43-4	p-Chlorotoluene	BSP	REC	94	%	78-122
MSH2529-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	110	%	62-128
MSH2529-BS	124-48-1	Dibromochloromethane	BSP	REC	87	%	74-126
MSH2529-BS	106-93-4	1,2-Dibromoethane	BSP	REC	91	%	77-121
MSH2529-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	97	%	80-119
MSH2529-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	94	%	80-119
MSH2529-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	93	%	79-118
MSH2529-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	92	%	32-152
MSH2529-BS	75-34-3	1,1-Dichloroethane	BSP	REC	86	%	77-125
MSH2529-BS	107-06-2	1,2-Dichloroethane	BSP	REC	90	%	73-128
MSH2529-BS	75-35-4	1,1-Dichloroethene	BSP	REC	90	%	71-131
MSH2529-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	90	%	78-123
MSH2529-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	88	%	75-124
MSH2529-BS	78-87-5	1,2-Dichloropropane	BSP	REC	91	%	78-122
MSH2529-BS	142-28-9	1,3-Dichloropropane	BSP	REC	94	%	80-119
MSH2529-BS	594-20-7	2,2-Dichloropropane	BSP	REC	98	%	60-139
MSH2529-BS	563-58-6	1,1-Dichloropropene	BSP	REC	91	%	79-125
MSH2529-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	96	%	75-124
MSH2529-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	86	%	73-127
MSH2529-BS	100-41-4	Ethylbenzene	BSP	REC	98	%	79-121
MSH2529-BS	87-68-3	Hexachlorobutadiene	BSP	REC	123	%	66-134
MSH2529-BS	591-78-6	2-Hexanone	BSP	REC	103	%	57-139
MSH2529-BS	74-88-4	Iodomethane	BSP	REC	84	%	69-131
MSH2529-BS	98-82-8	Isopropylbenzene	BSP	REC	94	%	72-131
MSH2529-BS	99-87-6	p-Isopropyltoluene	BSP	REC	102	%	77-127
MSH2529-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	88	%	71-124
MSH2529-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	92	%	67-130
MSH2529-BS	74-95-3	Methylene bromide	BSP	REC	93	%	79-123
MSH2529-BS	75-09-2	Methylene chloride	BSP	REC	88	%	74-124

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSH2529-BS	91-20-3	Naphthalene	BSP	REC	109	%	61-128
MSH2529-BS	103-65-1	n-Propylbenzene	BSP	REC	94	%	76-126
MSH2529-BS	100-42-5	Styrene	BSP	REC	90	%	78-123
MSH2529-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	100	%	78-124
MSH2529-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	104	%	71-121
MSH2529-BS	127-18-4	Tetrachloroethene	BSP	REC	95	%	74-129
MSH2529-BS	108-88-3	Toluene	BSP	REC	93	%	80-121
MSH2529-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	113	%	69-129
MSH2529-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	113	%	69-130
MSH2529-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	95	%	74-131
MSH2529-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	91	%	80-119
MSH2529-BS	79-01-6	Trichloroethene	BSP	REC	94	%	79-123
MSH2529-BS	75-69-4	Trichlorofluoromethane	BSP	REC	103	%	65-141
MSH2529-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	97	%	73-122
MSH2529-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	102	%	76-124
MSH2529-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	104	%	75-124
MSH2529-BS	108-05-4	Vinyl Acetate	BSP	REC	104	%	54-146
MSH2529-BS	75-01-4	Vinyl chloride	BSP	REC	122	%	58-137
MSH2529-BS		m,p-Xylene	BSP	REC	101	%	80-121
MSH2529-BS	95-47-6	o-Xylene	BSP	REC	95	%	78-122
MSH2529-BS	1330-20-7	Xylene (total)	BSP	REC	99	%	79-121
MSH2529-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	98	%	80-119
MSH2529-BS	2037-26-5	Toluene-D8	BSP	SURR	101	%	89-112
MSH2529-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	99	%	85-114
MSH2529-BSD	67-64-1	Acetone	BSD	REC	115	%	39-160
MSH2529-BSD	71-43-2	Benzene	BSD	REC	94	%	79-120
MSH2529-BSD	108-86-1	Bromobenzene	BSD	REC	95	%	80-120
MSH2529-BSD	74-97-5	Bromochloromethane	BSD	REC	90	%	78-123
MSH2529-BSD	75-27-4	Bromodichloromethane	BSD	REC	97	%	79-125
MSH2529-BSD	75-25-2	Bromoform	BSD	REC	102	%	66-130
MSH2529-BSD	74-83-9	Bromomethane	BSD	REC	108	%	53-141
MSH2529-BSD	78-93-3	2-Butanone (MEK)	BSD	REC	110	%	56-143
MSH2529-BSD	104-51-8	n-Butylbenzene	BSD	REC	110	%	75-128
MSH2529-BSD	135-98-8	sec-Butylbenzene	BSD	REC	104	%	77-126
MSH2529-BSD	98-06-6	tert-Butylbenzene	BSD	REC	102	%	78-124
MSH2529-BSD	75-15-0	Carbon disulfide	BSD	REC	83	%	64-133
MSH2529-BSD	56-23-5	Carbon tetrachloride	BSD	REC	108	%	72-136
MSH2529-BSD	108-90-7	Chlorobenzene	BSD	REC	91	%	82-118
MSH2529-BSD	75-00-3	Chloroethane	BSD	REC	116	%	60-138
MSH2529-BSD	67-66-3	Chloroform	BSD	REC	93	%	79-124
MSH2529-BSD	74-87-3	Chloromethane	BSD	REC	116	%	50-139
MSH2529-BSD	95-49-8	o-Chlorotoluene	BSD	REC	98	%	79-122
MSH2529-BSD	106-43-4	p-Chlorotoluene	BSD	REC	98	%	78-122
MSH2529-BSD	96-12-8	1,2-Dibromo-3-chloropropane	BSD	REC	120	%	62-128
MSH2529-BSD	124-48-1	Dibromochloromethane	BSD	REC	88	%	74-126

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSH2529-BSD	106-93-4	1,2-Dibromoethane	BSD	REC	93	%	77-121
MSH2529-BSD	95-50-1	1,2-Dichlorobenzene	BSD	REC	102	%	80-119
MSH2529-BSD	541-73-1	1,3-Dichlorobenzene	BSD	REC	98	%	80-119
MSH2529-BSD	106-46-7	1,4-Dichlorobenzene	BSD	REC	98	%	79-118
MSH2529-BSD	75-71-8	Dichlorodifluoromethane	BSD	REC	95	%	32-152
MSH2529-BSD	75-34-3	1,1-Dichloroethane	BSD	REC	90	%	77-125
MSH2529-BSD	107-06-2	1,2-Dichloroethane	BSD	REC	92	%	73-128
MSH2529-BSD	75-35-4	1,1-Dichloroethene	BSD	REC	95	%	71-131
MSH2529-BSD	156-59-2	cis-1,2-Dichloroethene	BSD	REC	93	%	78-123
MSH2529-BSD	156-60-5	trans-1,2-Dichloroethene	BSD	REC	91	%	75-124
MSH2529-BSD	78-87-5	1,2-Dichloropropane	BSD	REC	95	%	78-122
MSH2529-BSD	142-28-9	1,3-Dichloropropane	BSD	REC	96	%	80-119
MSH2529-BSD	594-20-7	2,2-Dichloropropane	BSD	REC	99	%	60-139
MSH2529-BSD	563-58-6	1,1-Dichloropropene	BSD	REC	96	%	79-125
MSH2529-BSD	10061-01-5	cis-1,3-Dichloropropene	BSD	REC	101	%	75-124
MSH2529-BSD	10061-02-6	trans-1,3-Dichloropropene	BSD	REC	89	%	73-127
MSH2529-BSD	100-41-4	Ethylbenzene	BSD	REC	99	%	79-121
MSH2529-BSD	87-68-3	Hexachlorobutadiene	BSD	REC	134	%	66-134
MSH2529-BSD	591-78-6	2-Hexanone	BSD	REC	105	%	57-139
MSH2529-BSD	74-88-4	Iodomethane	BSD	REC	89	%	69-131
MSH2529-BSD	98-82-8	Isopropylbenzene	BSD	REC	99	%	72-131
MSH2529-BSD	99-87-6	p-Isopropyltoluene	BSD	REC	107	%	77-127
MSH2529-BSD	1634-04-4	Methyl Tert Butyl Ether	BSD	REC	90	%	71-124
MSH2529-BSD	108-10-1	4-Methyl-2-pentanone (MIBK)	BSD	REC	94	%	67-130
MSH2529-BSD	74-95-3	Methylene bromide	BSD	REC	96	%	79-123
MSH2529-BSD	75-09-2	Methylene chloride	BSD	REC	91	%	74-124
MSH2529-BSD	91-20-3	Naphthalene	BSD	REC	119	%	61-128
MSH2529-BSD	103-65-1	n-Propylbenzene	BSD	REC	98	%	76-126
MSH2529-BSD	100-42-5	Styrene	BSD	REC	92	%	78-123
MSH2529-BSD	630-20-6	1,1,1,2-Tetrachloroethane	BSD	REC	101	%	78-124
MSH2529-BSD	79-34-5	1,1,2,2-Tetrachloroethane	BSD	REC	107	%	71-121
MSH2529-BSD	127-18-4	Tetrachloroethene	BSD	REC	98	%	74-129
MSH2529-BSD	108-88-3	Toluene	BSD	REC	99	%	80-121
MSH2529-BSD	87-61-6	1,2,3-Trichlorobenzene	BSD	REC	121	%	69-129
MSH2529-BSD	120-82-1	1,2,4-Trichlorobenzene	BSD	REC	121	%	69-130
MSH2529-BSD	71-55-6	1,1,1-Trichloroethane	BSD	REC	99	%	74-131
MSH2529-BSD	79-00-5	1,1,2-Trichloroethane	BSD	REC	95	%	80-119
MSH2529-BSD	79-01-6	Trichloroethene	BSD	REC	98	%	79-123
MSH2529-BSD	75-69-4	Trichlorofluoromethane	BSD	REC	108	%	65-141
MSH2529-BSD	96-18-4	1,2,3-Trichloropropane	BSD	REC	100	%	73-122
MSH2529-BSD	95-63-6	1,2,4-Trimethylbenzene	BSD	REC	105	%	76-124
MSH2529-BSD	108-67-8	1,3,5-Trimethylbenzene	BSD	REC	110	%	75-124
MSH2529-BSD	108-05-4	Vinyl Acetate	BSD	REC	105	%	54-146
MSH2529-BSD	75-01-4	Vinyl chloride	BSD	REC	128	%	58-137
MSH2529-BSD		m,p-Xylene	BSD	REC	104	%	80-121

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSH2529-BSD	95-47-6	o-Xylene	BSD	REC	98	%	78-122
MSH2529-BSD	1330-20-7	Xylene (total)	BSD	REC	102	%	79-121
MSH2529-BSD	1868-53-7	Dibromofluoromethane	BSD	SURR	98	%	80-119
MSH2529-BSD	2037-26-5	Toluene-D8	BSD	SURR	102	%	89-112
MSH2529-BSD	460-00-4	4-Bromofluorobenzene	BSD	SURR	99	%	85-114
MC42171-1MS*	67-64-1	Acetone	MS	REC	88	%	39-160
MC42171-1MS*	71-43-2	Benzene	MS	REC	103	%	79-120
MC42171-1MS*	108-86-1	Bromobenzene	MS	REC	95	%	80-120
MC42171-1MS*	74-97-5	Bromochloromethane	MS	REC	104	%	78-123
MC42171-1MS*	75-27-4	Bromodichloromethane	MS	REC	107	%	79-125
MC42171-1MS*	75-25-2	Bromoform	MS	REC	101	%	66-130
MC42171-1MS*	74-83-9	Bromomethane	MS	REC	105	%	53-141
MC42171-1MS*	78-93-3	2-Butanone (MEK)	MS	REC	103	%	56-143
MC42171-1MS*	104-51-8	n-Butylbenzene	MS	REC	111	%	75-128
MC42171-1MS*	135-98-8	sec-Butylbenzene	MS	REC	105	%	77-126
MC42171-1MS*	98-06-6	tert-Butylbenzene	MS	REC	104	%	78-124
MC42171-1MS*	75-15-0	Carbon disulfide	MS	REC	86	%	64-133
MC42171-1MS*	56-23-5	Carbon tetrachloride	MS	REC	120	%	72-136
MC42171-1MS*	108-90-7	Chlorobenzene	MS	REC	94	%	82-118
MC42171-1MS*	75-00-3	Chloroethane	MS	REC	129	%	60-138
MC42171-1MS*	67-66-3	Chloroform	MS	REC	109	%	79-124
MC42171-1MS*	74-87-3	Chloromethane	MS	REC	119	%	50-139
MC42171-1MS*	95-49-8	o-Chlorotoluene	MS	REC	101	%	79-122
MC42171-1MS*	106-43-4	p-Chlorotoluene	MS	REC	100	%	78-122
MC42171-1MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	137	%	62-128
MC42171-1MS*	124-48-1	Dibromochloromethane	MS	REC	92	%	74-126
MC42171-1MS*	106-93-4	1,2-Dibromoethane	MS	REC	97	%	77-121
MC42171-1MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	105	%	80-119
MC42171-1MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	102	%	80-119
MC42171-1MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	102	%	79-118
MC42171-1MS*	75-71-8	Dichlorodifluoromethane	MS	REC	96	%	32-152
MC42171-1MS*	75-34-3	1,1-Dichloroethane	MS	REC	103	%	77-125
MC42171-1MS*	107-06-2	1,2-Dichloroethane	MS	REC	108	%	73-128
MC42171-1MS*	75-35-4	1,1-Dichloroethene	MS	REC	106	%	71-131
MC42171-1MS*	156-59-2	cis-1,2-Dichloroethene	MS	REC	105	%	78-123
MC42171-1MS*	156-60-5	trans-1,2-Dichloroethene	MS	REC	100	%	75-124
MC42171-1MS*	78-87-5	1,2-Dichloropropane	MS	REC	103	%	78-122
MC42171-1MS*	142-28-9	1,3-Dichloropropane	MS	REC	106	%	80-119
MC42171-1MS*	594-20-7	2,2-Dichloropropane	MS	REC	106	%	60-139
MC42171-1MS*	563-58-6	1,1-Dichloropropene	MS	REC	100	%	79-125
MC42171-1MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	102	%	75-124
MC42171-1MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	89	%	73-127
MC42171-1MS*	100-41-4	Ethylbenzene	MS	REC	102	%	79-121
MC42171-1MS*	87-68-3	Hexachlorobutadiene	MS	REC	125	%	66-134
MC42171-1MS*	591-78-6	2-Hexanone	MS	REC	109	%	57-139

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42171-1MS*	74-88-4	Iodomethane	MS	REC	96	%	69-131
MC42171-1MS*	98-82-8	Isopropylbenzene	MS	REC	99	%	72-131
MC42171-1MS*	99-87-6	p-Isopropyltoluene	MS	REC	107	%	77-127
MC42171-1MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	101	%	71-124
MC42171-1MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	118	%	67-130
MC42171-1MS*	74-95-3	Methylene bromide	MS	REC	110	%	79-123
MC42171-1MS*	75-09-2	Methylene chloride	MS	REC	105	%	74-124
MC42171-1MS*	91-20-3	Naphthalene	MS	REC	115	%	61-128
MC42171-1MS*	103-65-1	n-Propylbenzene	MS	REC	97	%	76-126
MC42171-1MS*	100-42-5	Styrene	MS	REC	89	%	78-123
MC42171-1MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	108	%	78-124
MC42171-1MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	117	%	71-121
MC42171-1MS*	127-18-4	Tetrachloroethene	MS	REC	99	%	74-129
MC42171-1MS*	108-88-3	Toluene	MS	REC	104	%	80-121
MC42171-1MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	117	%	69-129
MC42171-1MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	117	%	69-130
MC42171-1MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	113	%	74-131
MC42171-1MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	104	%	80-119
MC42171-1MS*	79-01-6	Trichloroethene	MS	REC	105	%	79-123
MC42171-1MS*	75-69-4	Trichlorofluoromethane	MS	REC	119	%	65-141
MC42171-1MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	101	%	73-122
MC42171-1MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	106	%	76-124
MC42171-1MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	111	%	75-124
MC42171-1MS*	108-05-4	Vinyl Acetate	MS	REC	114	%	54-146
MC42171-1MS*	75-01-4	Vinyl chloride	MS	REC	141	%	58-137
MC42171-1MS*		m,p-Xylene	MS	REC	106	%	80-121
MC42171-1MS*	95-47-6	o-Xylene	MS	REC	101	%	78-122
MC42171-1MS*	1330-20-7	Xylene (total)	MS	REC	105	%	79-121
MC42171-1MS*	1868-53-7	Dibromofluoromethane	MS	SURR	106	%	80-119
MC42171-1MS*	2037-26-5	Toluene-D8	MS	SURR	101	%	89-112
MC42171-1MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	96	%	85-114
MC42171-1MSD*	67-64-1	Acetone	MSD	REC	83	%	39-160
MC42171-1MSD*	67-64-1	Acetone	MSD	RPD	7	%	20
MC42171-1MSD*	71-43-2	Benzene	MSD	REC	96	%	79-120
MC42171-1MSD*	71-43-2	Benzene	MSD	RPD	6	%	20
MC42171-1MSD*	108-86-1	Bromobenzene	MSD	REC	90	%	80-120
MC42171-1MSD*	108-86-1	Bromobenzene	MSD	RPD	6	%	20
MC42171-1MSD*	74-97-5	Bromochloromethane	MSD	REC	95	%	78-123
MC42171-1MSD*	74-97-5	Bromochloromethane	MSD	RPD	9	%	20
MC42171-1MSD*	75-27-4	Bromodichloromethane	MSD	REC	100	%	79-125
MC42171-1MSD*	75-27-4	Bromodichloromethane	MSD	RPD	7	%	20
MC42171-1MSD*	75-25-2	Bromoform	MSD	REC	95	%	66-130
MC42171-1MSD*	75-25-2	Bromoform	MSD	RPD	6	%	20
MC42171-1MSD*	74-83-9	Bromomethane	MSD	REC	102	%	53-141
MC42171-1MSD*	74-83-9	Bromomethane	MSD	RPD	3	%	20

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42171-1MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	95	%	56-143
MC42171-1MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	8	%	20
MC42171-1MSD*	104-51-8	n-Butylbenzene	MSD	REC	103	%	75-128
MC42171-1MSD*	104-51-8	n-Butylbenzene	MSD	RPD	7	%	20
MC42171-1MSD*	135-98-8	sec-Butylbenzene	MSD	REC	99	%	77-126
MC42171-1MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	6	%	20
MC42171-1MSD*	98-06-6	tert-Butylbenzene	MSD	REC	98	%	78-124
MC42171-1MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	6	%	20
MC42171-1MSD*	75-15-0	Carbon disulfide	MSD	REC	80	%	64-133
MC42171-1MSD*	75-15-0	Carbon disulfide	MSD	RPD	7	%	20
MC42171-1MSD*	56-23-5	Carbon tetrachloride	MSD	REC	112	%	72-136
MC42171-1MSD*	56-23-5	Carbon tetrachloride	MSD	RPD	7	%	20
MC42171-1MSD*	108-90-7	Chlorobenzene	MSD	REC	89	%	82-118
MC42171-1MSD*	108-90-7	Chlorobenzene	MSD	RPD	6	%	20
MC42171-1MSD*	75-00-3	Chloroethane	MSD	REC	121	%	60-138
MC42171-1MSD*	75-00-3	Chloroethane	MSD	RPD	6	%	20
MC42171-1MSD*	67-66-3	Chloroform	MSD	REC	100	%	79-124
MC42171-1MSD*	67-66-3	Chloroform	MSD	RPD	8	%	20
MC42171-1MSD*	74-87-3	Chloromethane	MSD	REC	115	%	50-139
MC42171-1MSD*	74-87-3	Chloromethane	MSD	RPD	3	%	20
MC42171-1MSD*	95-49-8	o-Chlorotoluene	MSD	REC	94	%	79-122
MC42171-1MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	7	%	20
MC42171-1MSD*	106-43-4	p-Chlorotoluene	MSD	REC	94	%	78-122
MC42171-1MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	6	%	20
MC42171-1MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	125	%	62-128
MC42171-1MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	9	%	20
MC42171-1MSD*	124-48-1	Dibromochloromethane	MSD	REC	86	%	74-126
MC42171-1MSD*	124-48-1	Dibromochloromethane	MSD	RPD	6	%	20
MC42171-1MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	91	%	77-121
MC42171-1MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	6	%	20
MC42171-1MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	99	%	80-119
MC42171-1MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	6	%	20
MC42171-1MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	95	%	80-119
MC42171-1MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	7	%	20
MC42171-1MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	95	%	79-118
MC42171-1MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	7	%	20
MC42171-1MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	90	%	32-152
MC42171-1MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	5	%	20
MC42171-1MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	96	%	77-125
MC42171-1MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	7	%	20
MC42171-1MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	99	%	73-128
MC42171-1MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	8	%	20
MC42171-1MSD*	75-35-4	1,1-Dichloroethene	MSD	REC	99	%	71-131
MC42171-1MSD*	75-35-4	1,1-Dichloroethene	MSD	RPD	7	%	20
MC42171-1MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	REC	100	%	78-123

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42171-1MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	RPD	5	%	20
MC42171-1MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	REC	97	%	75-124
MC42171-1MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	RPD	3	%	20
MC42171-1MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	97	%	78-122
MC42171-1MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	6	%	20
MC42171-1MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	98	%	80-119
MC42171-1MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	8	%	20
MC42171-1MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	99	%	60-139
MC42171-1MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	7	%	20
MC42171-1MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	94	%	79-125
MC42171-1MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	6	%	20
MC42171-1MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	95	%	75-124
MC42171-1MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	7	%	20
MC42171-1MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	84	%	73-127
MC42171-1MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	6	%	20
MC42171-1MSD*	100-41-4	Ethylbenzene	MSD	REC	96	%	79-121
MC42171-1MSD*	100-41-4	Ethylbenzene	MSD	RPD	6	%	20
MC42171-1MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	121	%	66-134
MC42171-1MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	3	%	20
MC42171-1MSD*	591-78-6	2-Hexanone	MSD	REC	103	%	57-139
MC42171-1MSD*	591-78-6	2-Hexanone	MSD	RPD	6	%	20
MC42171-1MSD*	74-88-4	Iodomethane	MSD	REC	92	%	69-131
MC42171-1MSD*	74-88-4	Iodomethane	MSD	RPD	4	%	20
MC42171-1MSD*	98-82-8	Isopropylbenzene	MSD	REC	93	%	72-131
MC42171-1MSD*	98-82-8	Isopropylbenzene	MSD	RPD	6	%	20
MC42171-1MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	101	%	77-127
MC42171-1MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	6	%	20
MC42171-1MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	96	%	71-124
MC42171-1MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	5	%	20
MC42171-1MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	111	%	67-130
MC42171-1MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	6	%	20
MC42171-1MSD*	74-95-3	Methylene bromide	MSD	REC	100	%	79-123
MC42171-1MSD*	74-95-3	Methylene bromide	MSD	RPD	9	%	20
MC42171-1MSD*	75-09-2	Methylene chloride	MSD	REC	98	%	74-124
MC42171-1MSD*	75-09-2	Methylene chloride	MSD	RPD	6	%	20
MC42171-1MSD*	91-20-3	Naphthalene	MSD	REC	116	%	61-128
MC42171-1MSD*	91-20-3	Naphthalene	MSD	RPD	1	%	20
MC42171-1MSD*	103-65-1	n-Propylbenzene	MSD	REC	91	%	76-126
MC42171-1MSD*	103-65-1	n-Propylbenzene	MSD	RPD	6	%	20
MC42171-1MSD*	100-42-5	Styrene	MSD	REC	83	%	78-123
MC42171-1MSD*	100-42-5	Styrene	MSD	RPD	6	%	20
MC42171-1MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	102	%	78-124
MC42171-1MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	6	%	20
MC42171-1MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	110	%	71-121
MC42171-1MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	7	%	20

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42171-1MSD*	127-18-4	Tetrachloroethene	MSD	REC	93	%	74-129
MC42171-1MSD*	127-18-4	Tetrachloroethene	MSD	RPD	7	%	20
MC42171-1MSD*	108-88-3	Toluene	MSD	REC	95	%	80-121
MC42171-1MSD*	108-88-3	Toluene	MSD	RPD	9	%	20
MC42171-1MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	112	%	69-129
MC42171-1MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	4	%	20
MC42171-1MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	112	%	69-130
MC42171-1MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	4	%	20
MC42171-1MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	106	%	74-131
MC42171-1MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	7	%	20
MC42171-1MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	96	%	80-119
MC42171-1MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	8	%	20
MC42171-1MSD*	79-01-6	Trichloroethene	MSD	REC	97	%	79-123
MC42171-1MSD*	79-01-6	Trichloroethene	MSD	RPD	8	%	20
MC42171-1MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	110	%	65-141
MC42171-1MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	8	%	20
MC42171-1MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	97	%	73-122
MC42171-1MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	4	%	20
MC42171-1MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	100	%	76-124
MC42171-1MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	6	%	20
MC42171-1MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	103	%	75-124
MC42171-1MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	7	%	20
MC42171-1MSD*	108-05-4	Vinyl Acetate	MSD	REC	109	%	54-146
MC42171-1MSD*	108-05-4	Vinyl Acetate	MSD	RPD	4	%	20
MC42171-1MSD*	75-01-4	Vinyl chloride	MSD	REC	136	%	58-137
MC42171-1MSD*	75-01-4	Vinyl chloride	MSD	RPD	4	%	20
MC42171-1MSD*		m,p-Xylene	MSD	REC	100	%	80-121
MC42171-1MSD*		m,p-Xylene	MSD	RPD	6	%	20
MC42171-1MSD*	95-47-6	o-Xylene	MSD	REC	95	%	78-122
MC42171-1MSD*	95-47-6	o-Xylene	MSD	RPD	6	%	20
MC42171-1MSD*	1330-20-7	Xylene (total)	MSD	REC	98	%	79-121
MC42171-1MSD*	1330-20-7	Xylene (total)	MSD	RPD	7	%	20
MC42171-1MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	105	%	80-119
MC42171-1MSD*	2037-26-5	Toluene-D8	MSD	SURR	99	%	89-112
MC42171-1MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	96	%	85-114
MSH2529-MB	1868-53-7	Dibromofluoromethane	MB	SURR	100	%	80-119
MSH2529-MB	2037-26-5	Toluene-D8	MB	SURR	101	%	89-112
MSH2529-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	97	%	85-114
MC42160-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC42160-1	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
MC42160-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC42160-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42160-2	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42160-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	98	%	85-114
MC42160-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	108	%	80-119

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42160-3	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42160-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42160-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC42160-4	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42160-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42160-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42160-5	2037-26-5	Toluene-D8	SAMP	SURR	103	%	89-112
MC42160-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
MC42160-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC42160-6	2037-26-5	Toluene-D8	SAMP	SURR	103	%	89-112
MC42160-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC42160-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	80-119
MC42160-7	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42160-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42160-8	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC42160-8	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42160-8	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42160-9	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC42160-9	2037-26-5	Toluene-D8	SAMP	SURR	103	%	89-112
MC42160-9	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42160-10	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC42160-10	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42160-10	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC42160-11	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC42160-11	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42160-11	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42160-12	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC42160-12	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42160-12	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MSU1361	SW846 8260C						
MSU1361-BS	67-64-1	Acetone	BSP	REC	72	%	39-160
MSU1361-BS	71-43-2	Benzene	BSP	REC	88	%	79-120
MSU1361-BS	108-86-1	Bromobenzene	BSP	REC	95	%	80-120
MSU1361-BS	74-97-5	Bromochloromethane	BSP	REC	106	%	78-123
MSU1361-BS	75-27-4	Bromodichloromethane	BSP	REC	93	%	79-125
MSU1361-BS	75-25-2	Bromoform	BSP	REC	92	%	66-130
MSU1361-BS	74-83-9	Bromomethane	BSP	REC	102	%	53-141
MSU1361-BS	78-93-3	2-Butanone (MEK)	BSP	REC	91	%	56-143
MSU1361-BS	104-51-8	n-Butylbenzene	BSP	REC	102	%	75-128
MSU1361-BS	135-98-8	sec-Butylbenzene	BSP	REC	108	%	77-126
MSU1361-BS	98-06-6	tert-Butylbenzene	BSP	REC	106	%	78-124
MSU1361-BS	75-15-0	Carbon disulfide	BSP	REC	87	%	64-133
MSU1361-BS	56-23-5	Carbon tetrachloride	BSP	REC	91	%	72-136

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1361-BS	108-90-7	Chlorobenzene	BSP	REC	93	%	82-118
MSU1361-BS	75-00-3	Chloroethane	BSP	REC	116	%	60-138
MSU1361-BS	67-66-3	Chloroform	BSP	REC	90	%	79-124
MSU1361-BS	74-87-3	Chloromethane	BSP	REC	93	%	50-139
MSU1361-BS	95-49-8	o-Chlorotoluene	BSP	REC	98	%	79-122
MSU1361-BS	106-43-4	p-Chlorotoluene	BSP	REC	93	%	78-122
MSU1361-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	99	%	62-128
MSU1361-BS	124-48-1	Dibromochloromethane	BSP	REC	100	%	74-126
MSU1361-BS	106-93-4	1,2-Dibromoethane	BSP	REC	96	%	77-121
MSU1361-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	97	%	80-119
MSU1361-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	94	%	80-119
MSU1361-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	93	%	79-118
MSU1361-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	96	%	32-152
MSU1361-BS	75-34-3	1,1-Dichloroethane	BSP	REC	85	%	77-125
MSU1361-BS	107-06-2	1,2-Dichloroethane	BSP	REC	90	%	73-128
MSU1361-BS	75-35-4	1,1-Dichloroethene	BSP	REC	91	%	71-131
MSU1361-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	94	%	78-123
MSU1361-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	82	%	75-124
MSU1361-BS	78-87-5	1,2-Dichloropropane	BSP	REC	94	%	78-122
MSU1361-BS	142-28-9	1,3-Dichloropropane	BSP	REC	97	%	80-119
MSU1361-BS	594-20-7	2,2-Dichloropropane	BSP	REC	91	%	60-139
MSU1361-BS	563-58-6	1,1-Dichloropropene	BSP	REC	87	%	79-125
MSU1361-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	97	%	75-124
MSU1361-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	94	%	73-127
MSU1361-BS	100-41-4	Ethylbenzene	BSP	REC	93	%	79-121
MSU1361-BS	87-68-3	Hexachlorobutadiene	BSP	REC	103	%	66-134
MSU1361-BS	591-78-6	2-Hexanone	BSP	REC	85	%	57-139
MSU1361-BS	74-88-4	Iodomethane	BSP	REC	95	%	69-131
MSU1361-BS	98-82-8	Isopropylbenzene	BSP	REC	102	%	72-131
MSU1361-BS	99-87-6	p-Isopropyltoluene	BSP	REC	106	%	77-127
MSU1361-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	98	%	71-124
MSU1361-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	93	%	67-130
MSU1361-BS	74-95-3	Methylene bromide	BSP	REC	94	%	79-123
MSU1361-BS	75-09-2	Methylene chloride	BSP	REC	92	%	74-124
MSU1361-BS	91-20-3	Naphthalene	BSP	REC	98	%	61-128
MSU1361-BS	103-65-1	n-Propylbenzene	BSP	REC	97	%	76-126
MSU1361-BS	100-42-5	Styrene	BSP	REC	90	%	78-123
MSU1361-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	98	%	78-124
MSU1361-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	108	%	71-121
MSU1361-BS	127-18-4	Tetrachloroethene	BSP	REC	95	%	74-129
MSU1361-BS	108-88-3	Toluene	BSP	REC	92	%	80-121
MSU1361-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	105	%	69-129
MSU1361-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	103	%	69-130
MSU1361-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	94	%	74-131
MSU1361-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	93	%	80-119

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1361-BS	79-01-6	Trichloroethene	BSP	REC	92	%	79-123
MSU1361-BS	75-69-4	Trichlorofluoromethane	BSP	REC	100	%	65-141
MSU1361-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	94	%	73-122
MSU1361-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	100	%	76-124
MSU1361-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	109	%	75-124
MSU1361-BS	108-05-4	Vinyl Acetate	BSP	REC	111	%	54-146
MSU1361-BS	75-01-4	Vinyl chloride	BSP	REC	106	%	58-137
MSU1361-BS		m,p-Xylene	BSP	REC	92	%	80-121
MSU1361-BS	95-47-6	o-Xylene	BSP	REC	94	%	78-122
MSU1361-BS	1330-20-7	Xylene (total)	BSP	REC	93	%	79-121
MSU1361-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	100	%	80-119
MSU1361-BS	2037-26-5	Toluene-D8	BSP	SURR	99	%	89-112
MSU1361-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	99	%	85-114
MC42222-1MS*	67-64-1	Acetone	MS	REC	94	%	39-160
MC42222-1MS*	71-43-2	Benzene	MS	REC	92	%	79-120
MC42222-1MS*	108-86-1	Bromobenzene	MS	REC	92	%	80-120
MC42222-1MS*	74-97-5	Bromochloromethane	MS	REC	107	%	78-123
MC42222-1MS*	75-27-4	Bromodichloromethane	MS	REC	92	%	79-125
MC42222-1MS*	75-25-2	Bromoform	MS	REC	89	%	66-130
MC42222-1MS*	74-83-9	Bromomethane	MS	REC	102	%	53-141
MC42222-1MS*	78-93-3	2-Butanone (MEK)	MS	REC	93	%	56-143
MC42222-1MS*	104-51-8	n-Butylbenzene	MS	REC	96	%	75-128
MC42222-1MS*	135-98-8	sec-Butylbenzene	MS	REC	98	%	77-126
MC42222-1MS*	98-06-6	tert-Butylbenzene	MS	REC	97	%	78-124
MC42222-1MS*	75-15-0	Carbon disulfide	MS	REC	77	%	64-133
MC42222-1MS*	56-23-5	Carbon tetrachloride	MS	REC	93	%	72-136
MC42222-1MS*	108-90-7	Chlorobenzene	MS	REC	93	%	82-118
MC42222-1MS*	75-00-3	Chloroethane	MS	REC	108	%	60-138
MC42222-1MS*	67-66-3	Chloroform	MS	REC	94	%	79-124
MC42222-1MS*	74-87-3	Chloromethane	MS	REC	110	%	50-139
MC42222-1MS*	95-49-8	o-Chlorotoluene	MS	REC	92	%	79-122
MC42222-1MS*	106-43-4	p-Chlorotoluene	MS	REC	90	%	78-122
MC42222-1MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	100	%	62-128
MC42222-1MS*	124-48-1	Dibromochloromethane	MS	REC	93	%	74-126
MC42222-1MS*	106-93-4	1,2-Dibromoethane	MS	REC	92	%	77-121
MC42222-1MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	95	%	80-119
MC42222-1MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	93	%	80-119
MC42222-1MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	94	%	79-118
MC42222-1MS*	75-71-8	Dichlorodifluoromethane	MS	REC	93	%	32-152
MC42222-1MS*	75-34-3	1,1-Dichloroethane	MS	REC	90	%	77-125
MC42222-1MS*	107-06-2	1,2-Dichloroethane	MS	REC	93	%	73-128
MC42222-1MS*	75-35-4	1,1-Dichloroethene	MS	REC	90	%	71-131
MC42222-1MS*	156-59-2	cis-1,2-Dichloroethene	MS	REC	99	%	78-123
MC42222-1MS*	156-60-5	trans-1,2-Dichloroethene	MS	REC	85	%	75-124
MC42222-1MS*	78-87-5	1,2-Dichloropropane	MS	REC	96	%	78-122

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42222-1MS*	142-28-9	1,3-Dichloropropane	MS	REC	92	%	80-119
MC42222-1MS*	594-20-7	2,2-Dichloropropane	MS	REC	87	%	60-139
MC42222-1MS*	563-58-6	1,1-Dichloropropene	MS	REC	89	%	79-125
MC42222-1MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	90	%	75-124
MC42222-1MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	84	%	73-127
MC42222-1MS*	100-41-4	Ethylbenzene	MS	REC	95	%	79-121
MC42222-1MS*	87-68-3	Hexachlorobutadiene	MS	REC	98	%	66-134
MC42222-1MS*	591-78-6	2-Hexanone	MS	REC	88	%	57-139
MC42222-1MS*	74-88-4	Iodomethane	MS	REC	95	%	69-131
MC42222-1MS*	98-82-8	Isopropylbenzene	MS	REC	94	%	72-131
MC42222-1MS*	99-87-6	p-Isopropyltoluene	MS	REC	98	%	77-127
MC42222-1MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	102	%	71-124
MC42222-1MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	97	%	67-130
MC42222-1MS*	74-95-3	Methylene bromide	MS	REC	93	%	79-123
MC42222-1MS*	75-09-2	Methylene chloride	MS	REC	93	%	74-124
MC42222-1MS*	91-20-3	Naphthalene	MS	REC	95	%	61-128
MC42222-1MS*	103-65-1	n-Propylbenzene	MS	REC	90	%	76-126
MC42222-1MS*	100-42-5	Styrene	MS	REC	91	%	78-123
MC42222-1MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	102	%	78-124
MC42222-1MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	95	%	71-121
MC42222-1MS*	127-18-4	Tetrachloroethene	MS	REC	93	%	74-129
MC42222-1MS*	108-88-3	Toluene	MS	REC	92	%	80-121
MC42222-1MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	99	%	69-129
MC42222-1MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	98	%	69-130
MC42222-1MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	95	%	74-131
MC42222-1MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	89	%	80-119
MC42222-1MS*	79-01-6	Trichloroethene	MS	REC	97	%	79-123
MC42222-1MS*	75-69-4	Trichlorofluoromethane	MS	REC	100	%	65-141
MC42222-1MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	90	%	73-122
MC42222-1MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	94	%	76-124
MC42222-1MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	101	%	75-124
MC42222-1MS*	108-05-4	Vinyl Acetate	MS	REC	109	%	54-146
MC42222-1MS*	75-01-4	Vinyl chloride	MS	REC	105	%	58-137
MC42222-1MS*		m,p-Xylene	MS	REC	95	%	80-121
MC42222-1MS*	95-47-6	o-Xylene	MS	REC	98	%	78-122
MC42222-1MS*	1330-20-7	Xylene (total)	MS	REC	96	%	79-121
MC42222-1MS*	1868-53-7	Dibromofluoromethane	MS	SURR	102	%	80-119
MC42222-1MS*	2037-26-5	Toluene-D8	MS	SURR	99	%	89-112
MC42222-1MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	93	%	85-114
MC42222-1MSD*	67-64-1	Acetone	MSD	REC	75	%	39-160
MC42222-1MSD*	67-64-1	Acetone	MSD	RPD	23	%	20
MC42222-1MSD*	71-43-2	Benzene	MSD	REC	91	%	79-120
MC42222-1MSD*	71-43-2	Benzene	MSD	RPD	1	%	20
MC42222-1MSD*	108-86-1	Bromobenzene	MSD	REC	103	%	80-120
MC42222-1MSD*	108-86-1	Bromobenzene	MSD	RPD	12	%	20

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42222-1MSD*	74-97-5	Bromochloromethane	MSD	REC	102	%	78-123
MC42222-1MSD*	74-97-5	Bromochloromethane	MSD	RPD	5	%	20
MC42222-1MSD*	75-27-4	Bromodichloromethane	MSD	REC	95	%	79-125
MC42222-1MSD*	75-27-4	Bromodichloromethane	MSD	RPD	2	%	20
MC42222-1MSD*	75-25-2	Bromoform	MSD	REC	91	%	66-130
MC42222-1MSD*	75-25-2	Bromoform	MSD	RPD	2	%	20
MC42222-1MSD*	74-83-9	Bromomethane	MSD	REC	87	%	53-141
MC42222-1MSD*	74-83-9	Bromomethane	MSD	RPD	16	%	20
MC42222-1MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	94	%	56-143
MC42222-1MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	0	%	20
MC42222-1MSD*	104-51-8	n-Butylbenzene	MSD	REC	99	%	75-128
MC42222-1MSD*	104-51-8	n-Butylbenzene	MSD	RPD	3	%	20
MC42222-1MSD*	135-98-8	sec-Butylbenzene	MSD	REC	104	%	77-126
MC42222-1MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	5	%	20
MC42222-1MSD*	98-06-6	tert-Butylbenzene	MSD	REC	98	%	78-124
MC42222-1MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	1	%	20
MC42222-1MSD*	75-15-0	Carbon disulfide	MSD	REC	72	%	64-133
MC42222-1MSD*	75-15-0	Carbon disulfide	MSD	RPD	8	%	20
MC42222-1MSD*	56-23-5	Carbon tetrachloride	MSD	REC	90	%	72-136
MC42222-1MSD*	56-23-5	Carbon tetrachloride	MSD	RPD	4	%	20
MC42222-1MSD*	108-90-7	Chlorobenzene	MSD	REC	98	%	82-118
MC42222-1MSD*	108-90-7	Chlorobenzene	MSD	RPD	5	%	20
MC42222-1MSD*	75-00-3	Chloroethane	MSD	REC	104	%	60-138
MC42222-1MSD*	75-00-3	Chloroethane	MSD	RPD	4	%	20
MC42222-1MSD*	67-66-3	Chloroform	MSD	REC	90	%	79-124
MC42222-1MSD*	67-66-3	Chloroform	MSD	RPD	5	%	20
MC42222-1MSD*	74-87-3	Chloromethane	MSD	REC	61	%	50-139
MC42222-1MSD*	74-87-3	Chloromethane	MSD	RPD	57 [a]	%	20
MC42222-1MSD*	95-49-8	o-Chlorotoluene	MSD	REC	99	%	79-122
MC42222-1MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	7	%	20
MC42222-1MSD*	106-43-4	p-Chlorotoluene	MSD	REC	100	%	78-122
MC42222-1MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	10	%	20
MC42222-1MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	92	%	62-128
MC42222-1MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	9	%	20
MC42222-1MSD*	124-48-1	Dibromochloromethane	MSD	REC	99	%	74-126
MC42222-1MSD*	124-48-1	Dibromochloromethane	MSD	RPD	6	%	20
MC42222-1MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	103	%	77-121
MC42222-1MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	11	%	20
MC42222-1MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	97	%	80-119
MC42222-1MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	2	%	20
MC42222-1MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	98	%	80-119
MC42222-1MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	5	%	20
MC42222-1MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	97	%	79-118
MC42222-1MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	4	%	20
MC42222-1MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	88	%	32-152

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42222-1MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	5	%	20
MC42222-1MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	87	%	77-125
MC42222-1MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	4	%	20
MC42222-1MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	93	%	73-128
MC42222-1MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	0	%	20
MC42222-1MSD*	75-35-4	1,1-Dichloroethene	MSD	REC	85	%	71-131
MC42222-1MSD*	75-35-4	1,1-Dichloroethene	MSD	RPD	5	%	20
MC42222-1MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	REC	94	%	78-123
MC42222-1MSD*	156-59-2	cis-1,2-Dichloroethene	MSD	RPD	6	%	20
MC42222-1MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	REC	81	%	75-124
MC42222-1MSD*	156-60-5	trans-1,2-Dichloroethene	MSD	RPD	5	%	20
MC42222-1MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	100	%	78-122
MC42222-1MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	4	%	20
MC42222-1MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	107	%	80-119
MC42222-1MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	15	%	20
MC42222-1MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	82	%	60-139
MC42222-1MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	6	%	20
MC42222-1MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	88	%	79-125
MC42222-1MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	2	%	20
MC42222-1MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	101	%	75-124
MC42222-1MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	11	%	20
MC42222-1MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	104	%	73-127
MC42222-1MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	21	%	20
MC42222-1MSD*	100-41-4	Ethylbenzene	MSD	REC	96	%	79-121
MC42222-1MSD*	100-41-4	Ethylbenzene	MSD	RPD	2	%	20
MC42222-1MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	94	%	66-134
MC42222-1MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	4	%	20
MC42222-1MSD*	591-78-6	2-Hexanone	MSD	REC	102	%	57-139
MC42222-1MSD*	591-78-6	2-Hexanone	MSD	RPD	14	%	20
MC42222-1MSD*	74-88-4	Iodomethane	MSD	REC	88	%	69-131
MC42222-1MSD*	74-88-4	Iodomethane	MSD	RPD	7	%	20
MC42222-1MSD*	98-82-8	Isopropylbenzene	MSD	REC	101	%	72-131
MC42222-1MSD*	98-82-8	Isopropylbenzene	MSD	RPD	7	%	20
MC42222-1MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	103	%	77-127
MC42222-1MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	5	%	20
MC42222-1MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	98	%	71-124
MC42222-1MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	4	%	20
MC42222-1MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	104	%	67-130
MC42222-1MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	7	%	20
MC42222-1MSD*	74-95-3	Methylene bromide	MSD	REC	94	%	79-123
MC42222-1MSD*	74-95-3	Methylene bromide	MSD	RPD	1	%	20
MC42222-1MSD*	75-09-2	Methylene chloride	MSD	REC	89	%	74-124
MC42222-1MSD*	75-09-2	Methylene chloride	MSD	RPD	5	%	20
MC42222-1MSD*	91-20-3	Naphthalene	MSD	REC	90	%	61-128
MC42222-1MSD*	91-20-3	Naphthalene	MSD	RPD	5	%	20

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42222-1MSD*	103-65-1	n-Propylbenzene	MSD	REC	99	%	76-126
MC42222-1MSD*	103-65-1	n-Propylbenzene	MSD	RPD	9	%	20
MC42222-1MSD*	100-42-5	Styrene	MSD	REC	94	%	78-123
MC42222-1MSD*	100-42-5	Styrene	MSD	RPD	3	%	20
MC42222-1MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	94	%	78-124
MC42222-1MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	8	%	20
MC42222-1MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	97	%	71-121
MC42222-1MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	3	%	20
MC42222-1MSD*	127-18-4	Tetrachloroethene	MSD	REC	95	%	74-129
MC42222-1MSD*	127-18-4	Tetrachloroethene	MSD	RPD	3	%	20
MC42222-1MSD*	108-88-3	Toluene	MSD	REC	100	%	80-121
MC42222-1MSD*	108-88-3	Toluene	MSD	RPD	8	%	20
MC42222-1MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	97	%	69-129
MC42222-1MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	1	%	20
MC42222-1MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	97	%	69-130
MC42222-1MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	2	%	20
MC42222-1MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	92	%	74-131
MC42222-1MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	3	%	20
MC42222-1MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	105	%	80-119
MC42222-1MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	17	%	20
MC42222-1MSD*	79-01-6	Trichloroethene	MSD	REC	101	%	79-123
MC42222-1MSD*	79-01-6	Trichloroethene	MSD	RPD	4	%	20
MC42222-1MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	95	%	65-141
MC42222-1MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	5	%	20
MC42222-1MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	99	%	73-122
MC42222-1MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	10	%	20
MC42222-1MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	99	%	76-124
MC42222-1MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	4	%	20
MC42222-1MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	105	%	75-124
MC42222-1MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	4	%	20
MC42222-1MSD*	108-05-4	Vinyl Acetate	MSD	REC	122	%	54-146
MC42222-1MSD*	108-05-4	Vinyl Acetate	MSD	RPD	12	%	20
MC42222-1MSD*	75-01-4	Vinyl chloride	MSD	REC	97	%	58-137
MC42222-1MSD*	75-01-4	Vinyl chloride	MSD	RPD	8	%	20
MC42222-1MSD*		m,p-Xylene	MSD	REC	96	%	80-121
MC42222-1MSD*		m,p-Xylene	MSD	RPD	1	%	20
MC42222-1MSD*	95-47-6	o-Xylene	MSD	REC	94	%	78-122
MC42222-1MSD*	95-47-6	o-Xylene	MSD	RPD	5	%	20
MC42222-1MSD*	1330-20-7	Xylene (total)	MSD	REC	95	%	79-121
MC42222-1MSD*	1330-20-7	Xylene (total)	MSD	RPD	1	%	20
MC42222-1MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	94	%	80-119
MC42222-1MSD*	2037-26-5	Toluene-D8	MSD	SURR	103	%	89-112
MC42222-1MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	103	%	85-114
MSU1361-MB	1868-53-7	Dibromofluoromethane	MB	SURR	94	%	80-119
MSU1361-MB	2037-26-5	Toluene-D8	MB	SURR	103	%	89-112

* Sample used for QC is not from job MC42160

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1361-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	106	%	85-114
MC42160-15	1868-53-7	Dibromofluoromethane	SAMP	SURR	98	%	80-119
MC42160-15	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42160-15	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
MP25294	SW846 6010C						
MP25294-B1	7440-38-2	Arsenic	BSP	REC	97.6	%	87-113
MP25294-B1	7439-89-6	Iron	BSP	REC	98.4	%	87-115
MP25294-B1	7439-96-5	Manganese	BSP	REC	99.4	%	90-114
MP25294-S1*	7440-38-2	Arsenic	MS	REC	100.8	%	87-113
MP25294-S1*	7439-89-6	Iron	MS	REC	98.5	%	87-115
MP25294-S1*	7439-96-5	Manganese	MS	REC	97.4	%	90-114
MP25294-S2*	7440-38-2	Arsenic	MSD	REC	101.2	%	87-113
MP25294-S2*	7440-38-2	Arsenic	MSD	RPD	.4	%	20
MP25294-S2*	7439-89-6	Iron	MSD	REC	98.5	%	87-115
MP25294-S2*	7439-89-6	Iron	MSD	RPD	0	%	20
MP25294-S2*	7439-96-5	Manganese	MSD	REC	96.8	%	90-114
MP25294-S2*	7439-96-5	Manganese	MSD	RPD	.5	%	20
MP25318	SW846 6010C						
MP25318-B1	7440-38-2	Arsenic	BSP	REC	101.4	%	87-113
MP25318-B1	7439-89-6	Iron	BSP	REC	101	%	87-115
MP25318-B1	7439-96-5	Manganese	BSP	REC	103.6	%	90-114
MP25318-S1*	7440-38-2	Arsenic	MS	REC	106	%	87-113
MP25318-S1*	7439-89-6	Iron	MS	REC	99.7	%	87-115
MP25318-S1*	7439-96-5	Manganese	MS	REC	100.2	%	90-114
MP25318-S2*	7440-38-2	Arsenic	MSD	REC	106.6	%	87-113
MP25318-S2*	7440-38-2	Arsenic	MSD	RPD	.6	%	20
MP25318-S2*	7439-89-6	Iron	MSD	REC	99.3	%	87-115
MP25318-S2*	7439-89-6	Iron	MSD	RPD	.4	%	20
MP25318-S2*	7439-96-5	Manganese	MSD	REC	100.2	%	90-114
MP25318-S2*	7439-96-5	Manganese	MSD	RPD	0	%	20

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

* Sample used for QC is not from job MC42160

New England ACCUTEST LABORATORIES

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GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2529-MB	H75933.D	1	10/23/15	KP	n/a	n/a	MSH2529

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-1, MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-8, MC42160-9, MC42160-10, MC42160-11, MC42160-12

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.76	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.8	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.61	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.63	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.72	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2529-MB	H75933.D	1	10/23/15	KP	n/a	n/a	MSH2529

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-1, MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-8, MC42160-9, MC42160-10, MC42160-11, MC42160-12

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	10	4.6	ug/l	
74-88-4	Iodomethane	ND	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.61	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.4	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.57	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.48	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.7	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	0.29	1.0	0.25	ug/l	J
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.48	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.82	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2529-MB	H75933.D	1	10/23/15	KP	n/a	n/a	MSH2529

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-1, MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-8, MC42160-9, MC42160-10, MC42160-11, MC42160-12

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	79-127%
2037-26-5	Toluene-D8	101%	80-116%
460-00-4	4-Bromofluorobenzene	97%	77-124%

Method Blank Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5503-MB	G146962.D	1	10/26/15	CB	n/a	n/a	MSG5503

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-8, MC42160-10, MC42160-11, MC42160-12

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	117%	79-127%
2037-26-5	Toluene-D8	101%	80-116%
460-00-4	4-Bromofluorobenzene	103%	77-124%

6.1.2

6

Method Blank Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1361-MB	U33296.D	1	10/27/15	AD	n/a	n/a	MSU1361

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-15

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.76	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.8	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.61	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.63	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.72	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1361-MB	U33296.D	1	10/27/15	AD	n/a	n/a	MSU1361

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-15

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	10	4.6	ug/l	
74-88-4	Iodomethane	ND	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.61	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.4	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.57	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.48	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.7	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.48	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.82	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1361-MB	U33296.D	1	10/27/15	AD	n/a	n/a	MSU1361

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-15

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	79-127%
2037-26-5	Toluene-D8	103%	80-116%
460-00-4	4-Bromofluorobenzene	106%	77-124%

Blank Spike Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1361-BS	U33293.D	1	10/27/15	AD	n/a	n/a	MSU1361

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	35.8	72	10-200
71-43-2	Benzene	50	44.1	88	74-124
108-86-1	Bromobenzene	50	47.5	95	80-117
74-97-5	Bromochloromethane	50	52.9	106	73-130
75-27-4	Bromodichloromethane	50	46.6	93	76-136
75-25-2	Bromoform	50	45.9	92	63-139
74-83-9	Bromomethane	50	51.1	102	49-161
78-93-3	2-Butanone (MEK)	50	45.6	91	44-191
104-51-8	n-Butylbenzene	50	50.8	102	84-134
135-98-8	sec-Butylbenzene	50	54.0	108	76-125
98-06-6	tert-Butylbenzene	50	53.2	106	74-123
75-15-0	Carbon disulfide	50	43.6	87	45-138
56-23-5	Carbon tetrachloride	50	45.5	91	64-149
108-90-7	Chlorobenzene	50	46.6	93	73-114
75-00-3	Chloroethane	50	58.0	116	43-165
67-66-3	Chloroform	50	44.8	90	72-132
74-87-3	Chloromethane	50	46.7	93	30-173
95-49-8	o-Chlorotoluene	50	48.9	98	75-116
106-43-4	p-Chlorotoluene	50	46.4	93	78-116
96-12-8	1,2-Dibromo-3-chloropropane	50	49.5	99	50-157
124-48-1	Dibromochloromethane	50	50.0	100	75-133
106-93-4	1,2-Dibromoethane	50	47.8	96	72-133
95-50-1	1,2-Dichlorobenzene	50	48.5	97	73-122
541-73-1	1,3-Dichlorobenzene	50	46.8	94	76-117
106-46-7	1,4-Dichlorobenzene	50	46.7	93	74-120
75-71-8	Dichlorodifluoromethane	50	47.9	96	30-180
75-34-3	1,1-Dichloroethane	50	42.7	85	62-130
107-06-2	1,2-Dichloroethane	50	45.2	90	65-140
75-35-4	1,1-Dichloroethene	50	45.4	91	57-132
156-59-2	cis-1,2-Dichloroethene	50	47.0	94	72-131
156-60-5	trans-1,2-Dichloroethene	50	40.8	82	69-127
78-87-5	1,2-Dichloropropane	50	46.9	94	74-130
142-28-9	1,3-Dichloropropane	50	48.4	97	80-129
594-20-7	2,2-Dichloropropane	50	45.4	91	54-162
563-58-6	1,1-Dichloropropene	50	43.4	87	75-116
10061-01-5	cis-1,3-Dichloropropene	50	48.3	97	86-141

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1361-BS	U33293.D	1	10/27/15	AD	n/a	n/a	MSU1361

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	47.0	94	80-134
100-41-4	Ethylbenzene	50	46.5	93	76-125
87-68-3	Hexachlorobutadiene	50	51.3	103	64-154
591-78-6	2-Hexanone	50	42.4	85	35-200
74-88-4	Iodomethane	50	47.7	95	50-154
98-82-8	Isopropylbenzene	50	51.1	102	74-121
99-87-6	p-Isopropyltoluene	50	53.0	106	84-128
1634-04-4	Methyl Tert Butyl Ether	50	48.9	98	67-145
108-10-1	4-Methyl-2-pentanone (MIBK)	50	46.7	93	61-155
74-95-3	Methylene bromide	50	46.9	94	75-124
75-09-2	Methylene chloride	50	46.1	92	62-137
91-20-3	Naphthalene	50	49.2	98	24-164
103-65-1	n-Propylbenzene	50	48.7	97	76-120
100-42-5	Styrene	50	45.1	90	74-132
630-20-6	1,1,1,2-Tetrachloroethane	50	49.2	98	71-136
79-34-5	1,1,2,2-Tetrachloroethane	50	53.9	108	65-145
127-18-4	Tetrachloroethene	50	47.3	95	73-122
108-88-3	Toluene	50	46.2	92	80-122
87-61-6	1,2,3-Trichlorobenzene	50	52.6	105	33-170
120-82-1	1,2,4-Trichlorobenzene	50	51.5	103	43-159
71-55-6	1,1,1-Trichloroethane	50	47.1	94	68-137
79-00-5	1,1,2-Trichloroethane	50	46.6	93	76-134
79-01-6	Trichloroethene	50	45.9	92	80-125
75-69-4	Trichlorofluoromethane	50	50.0	100	56-166
96-18-4	1,2,3-Trichloropropane	50	47.0	94	65-147
95-63-6	1,2,4-Trimethylbenzene	50	49.9	100	79-124
108-67-8	1,3,5-Trimethylbenzene	50	54.3	109	80-130
108-05-4	Vinyl Acetate	50	55.7	111	72-200
75-01-4	Vinyl chloride	50	52.8	106	39-176
	m,p-Xylene	100	92.3	92	75-121
95-47-6	o-Xylene	50	46.9	94	71-123
1330-20-7	Xylene (total)	150	139	93	74-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1361-BS	U33293.D	1	10/27/15	AD	n/a	n/a	MSU1361

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-15

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	79-127%
2037-26-5	Toluene-D8	99%	80-116%
460-00-4	4-Bromofluorobenzene	99%	77-124%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2529-BS	H75930.D	1	10/23/15	KP	n/a	n/a	MSH2529
MSH2529-BSD	H75931.D	1	10/23/15	KP	n/a	n/a	MSH2529

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-1, MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-8, MC42160-9, MC42160-10, MC42160-11, MC42160-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	53.7	107	57.7	115	7	10-200/25
71-43-2	Benzene	50	45.3	91	47.2	94	4	74-124/25
108-86-1	Bromobenzene	50	45.2	90	47.5	95	5	80-117/25
74-97-5	Bromochloromethane	50	43.4	87	45.0	90	4	73-130/25
75-27-4	Bromodichloromethane	50	46.8	94	48.7	97	4	76-136/25
75-25-2	Bromoform	50	50.3	101	50.9	102	1	63-139/25
74-83-9	Bromomethane	50	50.5	101	53.9	108	7	49-161/25
78-93-3	2-Butanone (MEK)	50	52.3	105	55.0	110	5	44-191/25
104-51-8	n-Butylbenzene	50	53.1	106	55.2	110	4	84-134/25
135-98-8	sec-Butylbenzene	50	49.4	99	51.9	104	5	76-125/25
98-06-6	tert-Butylbenzene	50	48.4	97	51.2	102	6	74-123/25
75-15-0	Carbon disulfide	50	39.8	80	41.4	83	4	45-138/25
56-23-5	Carbon tetrachloride	50	51.9	104	54.2	108	4	64-149/25
108-90-7	Chlorobenzene	50	44.1	88	45.6	91	3	73-114/25
75-00-3	Chloroethane	50	55.7	111	58.0	116	4	43-165/25
67-66-3	Chloroform	50	44.6	89	46.3	93	4	72-132/25
74-87-3	Chloromethane	50	55.1	110	57.8	116	5	30-173/25
95-49-8	o-Chlorotoluene	50	47.1	94	49.1	98	4	75-116/25
106-43-4	p-Chlorotoluene	50	47.0	94	48.8	98	4	78-116/25
96-12-8	1,2-Dibromo-3-chloropropane	50	55.1	110	60.1	120	9	50-157/25
124-48-1	Dibromochloromethane	50	43.3	87	43.9	88	1	75-133/25
106-93-4	1,2-Dibromoethane	50	45.7	91	46.6	93	2	72-133/25
95-50-1	1,2-Dichlorobenzene	50	48.3	97	50.8	102	5	73-122/25
541-73-1	1,3-Dichlorobenzene	50	47.2	94	48.8	98	3	76-117/25
106-46-7	1,4-Dichlorobenzene	50	46.7	93	49.0	98	5	74-120/25
75-71-8	Dichlorodifluoromethane	50	45.9	92	47.4	95	3	30-180/25
75-34-3	1,1-Dichloroethane	50	43.2	86	45.1	90	4	62-130/25
107-06-2	1,2-Dichloroethane	50	45.0	90	46.2	92	3	65-140/25
75-35-4	1,1-Dichloroethene	50	45.1	90	47.5	95	5	57-132/25
156-59-2	cis-1,2-Dichloroethene	50	44.9	90	46.4	93	3	72-131/25
156-60-5	trans-1,2-Dichloroethene	50	44.1	88	45.7	91	4	69-127/25
78-87-5	1,2-Dichloropropane	50	45.4	91	47.5	95	5	74-130/25
142-28-9	1,3-Dichloropropane	50	47.0	94	47.8	96	2	80-129/25
594-20-7	2,2-Dichloropropane	50	48.8	98	49.5	99	1	54-162/25
563-58-6	1,1-Dichloropropene	50	45.7	91	47.9	96	5	75-116/25
10061-01-5	cis-1,3-Dichloropropene	50	48.2	96	50.6	101	5	86-141/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2529-BS	H75930.D	1	10/23/15	KP	n/a	n/a	MSH2529
MSH2529-BSD	H75931.D	1	10/23/15	KP	n/a	n/a	MSH2529

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-1, MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-8, MC42160-9, MC42160-10, MC42160-11, MC42160-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	50	43.0	86	44.7	89	4	80-134/25
100-41-4	Ethylbenzene	50	49.0	98	49.7	99	1	76-125/25
87-68-3	Hexachlorobutadiene	50	61.3	123	67.0	134	9	64-154/25
591-78-6	2-Hexanone	50	51.4	103	52.5	105	2	35-200/25
74-88-4	Iodomethane	50	41.9	84	44.5	89	6	50-154/25
98-82-8	Isopropylbenzene	50	47.1	94	49.4	99	5	74-121/25
99-87-6	p-Isopropyltoluene	50	51.2	102	53.5	107	4	84-128/25
1634-04-4	Methyl Tert Butyl Ether	50	43.8	88	45.1	90	3	67-145/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	45.8	92	47.0	94	3	61-155/25
74-95-3	Methylene bromide	50	46.5	93	47.8	96	3	75-124/25
75-09-2	Methylene chloride	50	44.0	88	45.6	91	4	62-137/25
91-20-3	Naphthalene	50	54.4	109	59.3	119	9	24-164/25
103-65-1	n-Propylbenzene	50	46.9	94	48.9	98	4	76-120/25
100-42-5	Styrene	50	44.8	90	46.0	92	3	74-132/25
630-20-6	1,1,1,2-Tetrachloroethane	50	49.8	100	50.3	101	1	71-136/25
79-34-5	1,1,2,2-Tetrachloroethane	50	52.0	104	53.6	107	3	65-145/25
127-18-4	Tetrachloroethene	50	47.5	95	49.0	98	3	73-122/25
108-88-3	Toluene	50	46.3	93	49.3	99	6	80-122/25
87-61-6	1,2,3-Trichlorobenzene	50	56.3	113	60.7	121	8	33-170/25
120-82-1	1,2,4-Trichlorobenzene	50	56.3	113	60.7	121	8	43-159/25
71-55-6	1,1,1-Trichloroethane	50	47.4	95	49.4	99	4	68-137/25
79-00-5	1,1,2-Trichloroethane	50	45.3	91	47.5	95	5	76-134/25
79-01-6	Trichloroethene	50	47.0	94	49.0	98	4	80-125/25
75-69-4	Trichlorofluoromethane	50	51.7	103	53.9	108	4	56-166/25
96-18-4	1,2,3-Trichloropropane	50	48.4	97	50.0	100	3	65-147/25
95-63-6	1,2,4-Trimethylbenzene	50	50.9	102	52.3	105	3	79-124/25
108-67-8	1,3,5-Trimethylbenzene	50	52.2	104	54.8	110	5	80-130/25
108-05-4	Vinyl Acetate	50	52.0	104	52.7	105	1	72-200/25
75-01-4	Vinyl chloride	50	61.1	122	64.2	128	5	39-176/25
	m,p-Xylene	100	101	101	104	104	3	75-121/25
95-47-6	o-Xylene	50	47.5	95	49.0	98	3	71-123/25
1330-20-7	Xylene (total)	150	148	99	153	102	3	74-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2529-BS	H75930.D	1	10/23/15	KP	n/a	n/a	MSH2529
MSH2529-BSD	H75931.D	1	10/23/15	KP	n/a	n/a	MSH2529

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-1, MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-8, MC42160-9, MC42160-10, MC42160-11, MC42160-12

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	98%	98%	79-127%
2037-26-5	Toluene-D8	101%	102%	80-116%
460-00-4	4-Bromofluorobenzene	99%	99%	77-124%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSG5503-BS	G146959.D	1	10/26/15	CB	n/a	n/a	MSG5503
MSG5503-BSD	G146960.D	1	10/26/15	CB	n/a	n/a	MSG5503

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-8, MC42160-10, MC42160-11, MC42160-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
127-18-4	Tetrachloroethene	50	53.1	106	53.5	107	1	73-122/25
75-01-4	Vinyl chloride	50	53.7	107	58.4	117	8	39-176/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	117%	114%	79-127%
2037-26-5	Toluene-D8	106%	103%	80-116%
460-00-4	4-Bromofluorobenzene	95%	96%	77-124%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42171-1MS	H75951.D	1	10/23/15	KP	n/a	n/a	MSH2529
MC42171-1MSD	H75952.D	1	10/23/15	KP	n/a	n/a	MSH2529
MC42171-1	H75935.D	1	10/23/15	KP	n/a	n/a	MSH2529

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-1, MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-8, MC42160-9, MC42160-10, MC42160-11, MC42160-12

CAS No.	Compound	MC42171-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10 U		50	44.2	88	50	41.3	83	7	10-156/30
71-43-2	Benzene	0.50 U		50	51.3	103	50	48.2	96	6	63-135/30
108-86-1	Bromobenzene	5.0 U		50	47.4	95	50	44.8	90	6	75-116/30
74-97-5	Bromochloromethane	5.0 U		50	51.8	104	50	47.4	95	9	67-136/30
75-27-4	Bromodichloromethane	1.0 U		50	53.4	107	50	49.8	100	7	69-140/30
75-25-2	Bromoform	1.0 U		50	50.5	101	50	47.7	95	6	57-138/30
74-83-9	Bromomethane	2.0 U		50	52.7	105	50	51.2	102	3	25-169/30
78-93-3	2-Butanone (MEK)	10 U		50	51.7	103	50	47.7	95	8	23-159/30
104-51-8	n-Butylbenzene	5.0 U		50	55.4	111	50	51.7	103	7	75-135/30
135-98-8	sec-Butylbenzene	5.0 U		50	52.5	105	50	49.6	99	6	70-125/30
98-06-6	tert-Butylbenzene	5.0 U		50	52.2	104	50	49.1	98	6	64-128/30
75-15-0	Carbon disulfide	5.0 U		50	43.2	86	50	40.2	80	7	40-139/30
56-23-5	Carbon tetrachloride	1.0 U		50	59.8	120	50	55.8	112	7	60-149/30
108-90-7	Chlorobenzene	1.0 U		50	47.2	94	50	44.4	89	6	70-115/30
75-00-3	Chloroethane	2.0 U		50	64.4	129	50	60.6	121	6	37-175/30
67-66-3	Chloroform	1.0 U		50	54.3	109	50	50.0	100	8	64-141/30
74-87-3	Chloromethane	2.0 U		50	59.6	119	50	57.6	115	3	21-178/30
95-49-8	o-Chlorotoluene	5.0 U		50	50.3	101	50	46.9	94	7	60-130/30
106-43-4	p-Chlorotoluene	5.0 U		50	50.0	100	50	47.1	94	6	70-120/30
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		50	68.3	137	50	62.6	125	9	51-156/30
124-48-1	Dibromochloromethane	1.0 U		50	45.9	92	50	43.1	86	6	70-131/30
106-93-4	1,2-Dibromoethane	1.0 U		50	48.7	97	50	45.7	91	6	72-131/30
95-50-1	1,2-Dichlorobenzene	1.0 U		50	52.4	105	50	49.3	99	6	68-122/30
541-73-1	1,3-Dichlorobenzene	1.0 U		50	51.0	102	50	47.5	95	7	71-117/30
106-46-7	1,4-Dichlorobenzene	1.0 U		50	51.2	102	50	47.6	95	7	69-120/30
75-71-8	Dichlorodifluoromethane	15.9		50	63.7	96	50	60.7	90	5	28-181/30
75-34-3	1,1-Dichloroethane	5.9		50	57.5	103	50	53.7	96	7	56-138/30
107-06-2	1,2-Dichloroethane	2.8		50	57.0	108	50	52.5	99	8	60-146/30
75-35-4	1,1-Dichloroethene	1.0 U		50	53.2	106	50	49.7	99	7	52-137/30
156-59-2	cis-1,2-Dichloroethene	2.7		50	55.3	105	50	52.8	100	5	64-139/30
156-60-5	trans-1,2-Dichloroethene	1.0 U		50	50.2	100	50	48.6	97	3	63-132/30
78-87-5	1,2-Dichloropropane	2.0 U		50	51.3	103	50	48.3	97	6	67-137/30
142-28-9	1,3-Dichloropropane	5.0 U		50	52.8	106	50	48.9	98	8	78-130/30
594-20-7	2,2-Dichloropropane	5.0 U		50	52.9	106	50	49.3	99	7	36-166/30
563-58-6	1,1-Dichloropropene	5.0 U		50	50.1	100	50	47.0	94	6	68-123/30
10061-01-5	cis-1,3-Dichloropropene	0.50 U		50	50.8	102	50	47.6	95	7	77-142/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42171-1MS	H75951.D	1	10/23/15	KP	n/a	n/a	MSH2529
MC42171-1MSD	H75952.D	1	10/23/15	KP	n/a	n/a	MSH2529
MC42171-1	H75935.D	1	10/23/15	KP	n/a	n/a	MSH2529

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-1, MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-8, MC42160-9, MC42160-10, MC42160-11, MC42160-12

CAS No.	Compound	MC42171-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	0.50 U		50	44.5	89	50	41.9	84	6	73-136/30
100-41-4	Ethylbenzene	1.0 U		50	51.0	102	50	47.9	96	6	60-136/30
87-68-3	Hexachlorobutadiene	5.0 U		50	62.6	125	50	60.7	121	3	63-143/30
591-78-6	2-Hexanone	10 U		50	54.3	109	50	51.3	103	6	29-151/30
74-88-4	Iodomethane	5.0 U		50	47.9	96	50	45.9	92	4	37-158/30
98-82-8	Isopropylbenzene	5.0 U		50	49.5	99	50	46.6	93	6	67-123/30
99-87-6	p-Isopropyltoluene	5.0 U		50	53.6	107	50	50.6	101	6	78-126/30
1634-04-4	Methyl Tert Butyl Ether	1.0 U		50	50.3	101	50	47.8	96	5	60-156/30
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		50	59.1	118	50	55.6	111	6	47-167/30
74-95-3	Methylene bromide	5.0 U		50	54.9	110	50	50.1	100	9	70-130/30
75-09-2	Methylene chloride	0.94		50	53.3	105	50	50.1	98	6	55-144/30
91-20-3	Naphthalene	5.0 U		50	57.4	115	50	58.2	116	1	23-167/30
103-65-1	n-Propylbenzene	5.0 U		50	48.3	97	50	45.4	91	6	66-124/30
100-42-5	Styrene	5.0 U		50	44.3	89	50	41.7	83	6	61-137/30
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U		50	53.9	108	50	50.8	102	6	71-132/30
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U		50	58.7	117	50	54.9	110	7	62-149/30
127-18-4	Tetrachloroethene	1.0 U		50	49.6	99	50	46.3	93	7	65-124/30
108-88-3	Toluene	1.0 U		50	52.1	104	50	47.6	95	9	69-134/30
87-61-6	1,2,3-Trichlorobenzene	5.0 U		50	58.3	117	50	56.0	112	4	41-157/30
120-82-1	1,2,4-Trichlorobenzene	5.0 U		50	58.3	117	50	56.0	112	4	46-147/30
71-55-6	1,1,1-Trichloroethane	1.0 U		50	56.7	113	50	53.0	106	7	61-144/30
79-00-5	1,1,2-Trichloroethane	1.0 U		50	52.0	104	50	48.1	96	8	69-142/30
79-01-6	Trichloroethene	0.31		50	52.8	105	50	48.7	97	8	69-133/30
75-69-4	Trichlorofluoromethane	1.0 U		50	59.7	119	50	54.9	110	8	60-163/30
96-18-4	1,2,3-Trichloropropane	5.0 U		50	50.4	101	50	48.6	97	4	57-150/30
95-63-6	1,2,4-Trimethylbenzene	5.0 U		50	52.8	106	50	49.9	100	6	67-130/30
108-67-8	1,3,5-Trimethylbenzene	5.0 U		50	55.6	111	50	51.6	103	7	66-137/30
108-05-4	Vinyl Acetate	5.0 U		50	56.9	114	50	54.5	109	4	48-200/30
75-01-4	Vinyl chloride	1.0 U		50	70.4	141	50	67.8	136	4	39-176/30
	m,p-Xylene	1.0 U		100	106	106	100	99.9	100	6	64-128/30
95-47-6	o-Xylene	1.0 U		50	50.5	101	50	47.4	95	6	64-126/30
1330-20-7	Xylene (total)	1.0 U		150	157	105	150	147	98	7	65-127/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42171-1MS	H75951.D	1	10/23/15	KP	n/a	n/a	MSH2529
MC42171-1MSD	H75952.D	1	10/23/15	KP	n/a	n/a	MSH2529
MC42171-1	H75935.D	1	10/23/15	KP	n/a	n/a	MSH2529

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-1, MC42160-2, MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-8, MC42160-9, MC42160-10, MC42160-11, MC42160-12

CAS No.	Surrogate Recoveries	MS	MSD	MC42171-1	Limits
1868-53-7	Dibromofluoromethane	106%	105%	101%	79-127%
2037-26-5	Toluene-D8	101%	99%	101%	80-116%
460-00-4	4-Bromofluorobenzene	96%	96%	98%	77-124%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42222-1MS	U33316.D	1	10/27/15	AD	n/a	n/a	MSU1361
MC42222-1MSD	U33317.D	1	10/27/15	AD	n/a	n/a	MSU1361
MC42222-1	U33310.D	1	10/27/15	AD	n/a	n/a	MSU1361

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-15

CAS No.	Compound	MC42222-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10 U		50	47.2	94	50	37.5	75	23	10-156/30
71-43-2	Benzene	0.50 U		50	46.1	92	50	45.6	91	1	63-135/30
108-86-1	Bromobenzene	5.0 U		50	45.8	92	50	51.4	103	12	75-116/30
74-97-5	Bromochloromethane	5.0 U		50	53.7	107	50	51.2	102	5	67-136/30
75-27-4	Bromodichloromethane	1.0 U		50	46.2	92	50	47.3	95	2	69-140/30
75-25-2	Bromoform	1.0 U		50	44.4	89	50	45.4	91	2	57-138/30
74-83-9	Bromomethane	2.0 U		50	51.1	102	50	43.5	87	16	25-169/30
78-93-3	2-Butanone (MEK)	10 U		50	46.6	93	50	46.8	94	0	23-159/30
104-51-8	n-Butylbenzene	5.0 U		50	48.2	96	50	49.7	99	3	75-135/30
135-98-8	sec-Butylbenzene	5.0 U		50	49.2	98	50	51.8	104	5	70-125/30
98-06-6	tert-Butylbenzene	5.0 U		50	48.7	97	50	49.2	98	1	64-128/30
75-15-0	Carbon disulfide	5.0 U		50	38.6	77	50	35.8	72	8	40-139/30
56-23-5	Carbon tetrachloride	1.0 U		50	46.6	93	50	44.9	90	4	60-149/30
108-90-7	Chlorobenzene	1.0 U		50	46.6	93	50	48.9	98	5	70-115/30
75-00-3	Chloroethane	2.0 U		50	53.8	108	50	51.9	104	4	37-175/30
67-66-3	Chloroform	1.0 U		50	47.2	94	50	45.1	90	5	64-141/30
74-87-3	Chloromethane	2.0 U		50	54.8	110	50	30.6	61	57* [a]	21-178/30
95-49-8	o-Chlorotoluene	5.0 U		50	46.2	92	50	49.5	99	7	60-130/30
106-43-4	p-Chlorotoluene	5.0 U		50	45.0	90	50	49.8	100	10	70-120/30
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		50	50.2	100	50	45.9	92	9	51-156/30
124-48-1	Dibromochloromethane	1.0 U		50	46.6	93	50	49.6	99	6	70-131/30
106-93-4	1,2-Dibromoethane	1.0 U		50	45.9	92	50	51.4	103	11	72-131/30
95-50-1	1,2-Dichlorobenzene	1.0 U		50	47.5	95	50	48.4	97	2	68-122/30
541-73-1	1,3-Dichlorobenzene	1.0 U		50	46.6	93	50	48.8	98	5	71-117/30
106-46-7	1,4-Dichlorobenzene	1.0 U		50	46.9	94	50	48.6	97	4	69-120/30
75-71-8	Dichlorodifluoromethane	2.0 U		50	46.3	93	50	43.9	88	5	28-181/30
75-34-3	1,1-Dichloroethane	1.0 U		50	45.1	90	50	43.3	87	4	56-138/30
107-06-2	1,2-Dichloroethane	1.0 U		50	46.5	93	50	46.5	93	0	60-146/30
75-35-4	1,1-Dichloroethene	1.0 U		50	44.8	90	50	42.6	85	5	52-137/30
156-59-2	cis-1,2-Dichloroethene	0.72	J	50	50.4	99	50	47.7	94	6	64-139/30
156-60-5	trans-1,2-Dichloroethene	1.0 U		50	42.6	85	50	40.7	81	5	63-132/30
78-87-5	1,2-Dichloropropane	2.0 U		50	47.9	96	50	49.9	100	4	67-137/30
142-28-9	1,3-Dichloropropane	5.0 U		50	46.0	92	50	53.6	107	15	78-130/30
594-20-7	2,2-Dichloropropane	5.0 U		50	43.4	87	50	40.9	82	6	36-166/30
563-58-6	1,1-Dichloropropene	5.0 U		50	44.6	89	50	43.9	88	2	68-123/30
10061-01-5	cis-1,3-Dichloropropene	0.50 U		50	45.1	90	50	50.4	101	11	77-142/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42222-1MS	U33316.D	1	10/27/15	AD	n/a	n/a	MSU1361
MC42222-1MSD	U33317.D	1	10/27/15	AD	n/a	n/a	MSU1361
MC42222-1	U33310.D	1	10/27/15	AD	n/a	n/a	MSU1361

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-15

CAS No.	Compound	MC42222-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	0.50 U		50	42.0	84	50	51.8	104	21	73-136/30
100-41-4	Ethylbenzene	1.0 U		50	47.3	95	50	48.2	96	2	60-136/30
87-68-3	Hexachlorobutadiene	5.0 U		50	48.8	98	50	47.1	94	4	63-143/30
591-78-6	2-Hexanone	10 U		50	44.2	88	50	51.1	102	14	29-151/30
74-88-4	Iodomethane	5.0 U		50	47.4	95	50	44.2	88	7	37-158/30
98-82-8	Isopropylbenzene	5.0 U		50	47.1	94	50	50.5	101	7	67-123/30
99-87-6	p-Isopropyltoluene	5.0 U		50	48.8	98	50	51.5	103	5	78-126/30
1634-04-4	Methyl Tert Butyl Ether	1.0 U		50	51.1	102	50	49.2	98	4	60-156/30
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		50	48.4	97	50	51.8	104	7	47-167/30
74-95-3	Methylene bromide	5.0 U		50	46.6	93	50	47.2	94	1	70-130/30
75-09-2	Methylene chloride	2.0 U		50	46.6	93	50	44.3	89	5	55-144/30
91-20-3	Naphthalene	5.0 U		50	47.6	95	50	45.1	90	5	23-167/30
103-65-1	n-Propylbenzene	5.0 U		50	45.2	90	50	49.5	99	9	66-124/30
100-42-5	Styrene	5.0 U		50	45.7	91	50	47.2	94	3	61-137/30
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U		50	51.2	102	50	47.1	94	8	71-132/30
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U		50	47.4	95	50	48.6	97	3	62-149/30
127-18-4	Tetrachloroethene	1.0 U		50	46.5	93	50	47.7	95	3	65-124/30
108-88-3	Toluene	1.0 U		50	46.1	92	50	50.1	100	8	69-134/30
87-61-6	1,2,3-Trichlorobenzene	5.0 U		50	49.3	99	50	48.6	97	1	41-157/30
120-82-1	1,2,4-Trichlorobenzene	5.0 U		50	49.2	98	50	48.3	97	2	46-147/30
71-55-6	1,1,1-Trichloroethane	1.0 U		50	47.7	95	50	46.2	92	3	61-144/30
79-00-5	1,1,2-Trichloroethane	1.0 U		50	44.6	89	50	52.7	105	17	69-142/30
79-01-6	Trichloroethene	1.0 U		50	48.6	97	50	50.6	101	4	69-133/30
75-69-4	Trichlorofluoromethane	1.0 U		50	50.0	100	50	47.4	95	5	60-163/30
96-18-4	1,2,3-Trichloropropane	5.0 U		50	45.0	90	50	49.6	99	10	57-150/30
95-63-6	1,2,4-Trimethylbenzene	5.0 U		50	47.2	94	50	49.3	99	4	67-130/30
108-67-8	1,3,5-Trimethylbenzene	5.0 U		50	50.3	101	50	52.3	105	4	66-137/30
108-05-4	Vinyl Acetate	5.0 U		50	54.4	109	50	61.2	122	12	48-200/30
75-01-4	Vinyl chloride	1.0 U		50	52.5	105	50	48.5	97	8	39-176/30
	m,p-Xylene	1.0 U		100	94.7	95	100	95.8	96	1	64-128/30
95-47-6	o-Xylene	1.0 U		50	49.1	98	50	46.8	94	5	64-126/30
1330-20-7	Xylene (total)	1.0 U		150	144	96	150	143	95	1	65-127/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42222-1MS	U33316.D	1	10/27/15	AD	n/a	n/a	MSU1361
MC42222-1MSD	U33317.D	1	10/27/15	AD	n/a	n/a	MSU1361
MC42222-1	U33310.D	1	10/27/15	AD	n/a	n/a	MSU1361

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42160-15

CAS No.	Surrogate Recoveries	MS	MSD	MC42222-1	Limits
1868-53-7	Dibromofluoromethane	102%	94%	100%	79-127%
2037-26-5	Toluene-D8	99%	103%	101%	80-116%
460-00-4	4-Bromofluorobenzene	93%	103%	98%	77-124%

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC42160-1	H75942.D	109	99	96
MC42160-2	G146977.D	117	102	100
MC42160-2	H75943.D	107	101	98
MC42160-3	G146974.D	115	102	100
MC42160-3	H75944.D	108	102	97
MC42160-4	G146973.D	116	103	100
MC42160-4	H75945.D	109	101	97
MC42160-5	G146972.D	113	102	100
MC42160-5	H75940.D	107	103	99
MC42160-6	H75938.D	106	103	95
MC42160-7	H75939.D	105	101	97
MC42160-8	G146976.D	117	102	101
MC42160-8	H75946.D	110	100	97
MC42160-9	H75947.D	110	103	97
MC42160-10	G146969.D	116	100	102
MC42160-10	H75948.D	110	102	96
MC42160-11	G146979.D	119	102	103
MC42160-11	H75949.D	109	101	97
MC42160-12	G146971.D	121	101	104
MC42160-12	H75950.D	110	101	96
MC42160-15	U33297.D	98	100	99
MC42171-1MS	H75951.D	106	101	96
MC42171-1MSD	H75952.D	105	99	96
MC42222-1MS	U33316.D	102	99	93
MC42222-1MSD	U33317.D	94	103	103
MSG5503-BS	G146959.D	117	106	95
MSG5503-BSD	G146960.D	114	103	96
MSG5503-MB	G146962.D	117	101	103
MSH2529-BS	H75930.D	98	101	99
MSH2529-BSD	H75931.D	98	102	99
MSH2529-MB	H75933.D	100	101	97
MSU1361-BS	U33293.D	100	99	99
MSU1361-MB	U33296.D	94	103	106

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-127%
S2 = Toluene-D8	80-116%
S3 = 4-Bromofluorobenzene	77-124%

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New England ACCUTEST LABORATORIES

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GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1545-MB	BA22706.D	1	10/19/15	AF	n/a	n/a	GBA1545

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1545-BSP	BA22708.D	1	10/19/15	AF	n/a	n/a	GBA1545

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	98.5	111	50-150
74-84-0	Ethane	166	178	107	50-150
74-85-1	Ethene	155	186	120	50-150

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42160
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42202-11MS	BA22711.D	1	10/19/15	AF	n/a	n/a	GBA1545
MC42202-11MSD	BA22712.D	1	10/19/15	AF	n/a	n/a	GBA1545
MC42202-11	BA22709.D	1	10/19/15	AF	n/a	n/a	GBA1545

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9

CAS No.	Compound	MC42202-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
74-82-8	Methane	1090		88.7	925	-186* [a]	88.7	1110	23* [a]	18	50-150/30
74-84-0	Ethane	10 U		166	165	99	166	170	102	3	50-150/30
74-85-1	Ethene	10 U		155	177	114	155	175	113	1	50-150/30

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

New England ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25294
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/14/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28		
Antimony	6.0	.76	2		
Arsenic	4.0	1.3	1.7	-1.2	<4.0
Barium	50	.24	1		
Beryllium	4.0	.18	.25		
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43		
Calcium	5000	5.3	15		
Chromium	10	.37	.48		
Cobalt	50	.14	.28		
Copper	25	.48	2.4		
Gold	50	.95	1.5		
Iron	100	3.2	17	4.7	<100
Lead	5.0	.56	1.7		
Lithium	500	2	2.5		
Magnesium	5000	22	54		
Manganese	15	.04	1.4	0.50	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5		
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49		
Selenium	10	1	2		
Silicon	100	13	30		
Silver	5.0	.6	1		
Sodium	5000	10	77		
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7		
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25294
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/14/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51		
Zinc	20	.096	1		
Zirconium	50	.29	1.2		

Associated samples MP25294: MC42160-1F, MC42160-2F, MC42160-3F, MC42160-4F, MC42160-5F, MC42160-6F, MC42160-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25294
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/14/15

Metal	MC42005-4F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	504	500	100.8	75-125
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Gold					
Iron	19.5	9870	10000	98.5	75-125
Lead					
Lithium					
Magnesium					
Manganese	165	652	500	97.4	75-125
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Sulfur					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25294
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/14/15

Metal	MC42005-4F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium					
Zinc					
Zirconium					

Associated samples MP25294: MC42160-1F, MC42160-2F, MC42160-3F, MC42160-4F, MC42160-5F, MC42160-6F, MC42160-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25294
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/14/15

Metal	MC42005-4F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	506	500	101.2	0.4	20
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron	19.5	9870	10000	98.5	0.0	20
Lead						
Lithium						
Magnesium						
Manganese	165	649	500	96.8	0.5	20
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25294
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:				10/14/15	
Metal	MC42005-4F Original MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium					
Zinc					
Zirconium					

Associated samples MP25294: MC42160-1F, MC42160-2F, MC42160-3F, MC42160-4F, MC42160-5F, MC42160-6F, MC42160-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25294
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/14/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	488	500	97.6	80-120
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	9840	10000	98.4	80-120
Lead				
Lithium				
Magnesium				
Manganese	497	500	99.4	80-120
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25294
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/14/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25294: MC42160-1F, MC42160-2F, MC42160-3F, MC42160-4F, MC42160-5F, MC42160-6F, MC42160-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25294
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/14/15

Metal	MC42005-4F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	19.5	82.4	322.6(a)	0-10
Lead				
Lithium				
Magnesium				
Manganese	165	169	2.2	0-10
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25294
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/14/15

Metal	MC42005-4F Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25294: MC42160-1F, MC42160-2F, MC42160-3F, MC42160-4F, MC42160-5F, MC42160-6F, MC42160-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.1.4

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28		
Antimony	6.0	.76	2		
Arsenic	4.0	1.3	1.7	-0.70	<4.0
Barium	50	.24	1		
Beryllium	4.0	.18	.25		
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43		
Calcium	5000	5.3	15		
Chromium	10	.37	.48		
Cobalt	50	.14	.28		
Copper	25	.48	2.4		
Gold	50	.95	1.5		
Iron	100	3.2	17	0.50	<100
Lead	5.0	.56	1.7		
Lithium	500	2	2.5		
Magnesium	5000	22	54		
Manganese	15	.04	1.4	0.10	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5		
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49		
Selenium	10	1	2		
Silicon	100	13	30		
Silver	5.0	.6	1		
Sodium	5000	10	77		
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7		
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51		
Zinc	20	.096	1		
Zirconium	50	.29	1.2		

Associated samples MP25318: MC42160-9F, MC42160-12F, MC42160-13F, MC42160-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	530	500	106.0	75-125
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Gold					
Iron	0.0	9970	10000	99.7	75-125
Lead					
Lithium					
Magnesium					
Manganese	739	1240	500	100.2	75-125
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Sulfur					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium					
Zinc					
Zirconium					

Associated samples MP25318: MC42160-9F, MC42160-12F, MC42160-13F, MC42160-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.2.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	533	500	106.6	0.6	20
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron	0.0	9930	10000	99.3	0.4	20
Lead						
Lithium						
Magnesium						
Manganese	739	1240	500	100.2	0.0	20
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium						
Zinc						
Zirconium						

Associated samples MP25318: MC42160-9F, MC42160-12F, MC42160-13F, MC42160-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	507	500	101.4	80-120
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	10100	10000	101.0	80-120
Lead				
Lithium				
Magnesium				
Manganese	518	500	103.6	80-120
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25318: MC42160-9F, MC42160-12F, MC42160-13F, MC42160-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	0.00	0.00	NC	0-10
Lead				
Lithium				
Magnesium				
Manganese	739	755	2.1	0-10
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25318: MC42160-9F, MC42160-12F, MC42160-13F, MC42160-14F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN52064	5.0	0.0	mg/l	250	256	102.4	80-120%
Nitrogen, Nitrate + Nitrite	GP19723/GN52119	0.10	0.0	mg/l	2	2.08	104.0	90-110%
Nitrogen, Nitrite	GP19693/GN52037	0.010	0.0	mg/l	0.020	0.022	110.0	80-120%
Sulfide	GN52066	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Total Organic Carbon	GP19721/GN52118	1.0	0.0	mg/l	10	9.98	99.8	80-120%

Associated Samples:
Batch GN52064: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
Batch GN52066: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
Batch GP19693: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9, MC42160-12
Batch GP19721: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
Batch GP19723: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
(*) Outside of QC limits

9.1
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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN52064	MC42193-1	mg/l	558	556	0.4	0-20%
Nitrogen, Nitrate + Nitrite	GP19723/GN52119	MC42193-1	mg/l	14.3	14.1	1.4	0-20%
Nitrogen, Nitrite	GP19693/GN52037	MC42173-1	mg/l	0.0	0.0	0.0	0-20%
Sulfide	GN52066	MC42263-1	mg/l	0.0	0.0	0.0	0-20%

Associated Samples:
Batch GN52064: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
Batch GN52066: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
Batch GP19693: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9, MC42160-12
Batch GP19723: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
(*) Outside of QC limits

9.2
9

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN52064	MC42193-1	mg/l	558	250	812	101.6	75-125%
Nitrogen, Nitrate + Nitrite	GP19723/GN52119	MC42193-1	mg/l	14.3	20	35.4	105.5	90-110%
Nitrogen, Nitrite	GP19693/GN52037	MC42173-1	mg/l	0.0	0.020	0.022	110.0	75-125%
Sulfide	GN52066	MC42263-1	mg/l	0.0	13.4	13.0	97.0	75-125%
Total Organic Carbon	GP19721/GN52118	MC42426-1	mg/l	0.27	10	10.0	97.3	75-125%

Associated Samples:
Batch GN52064: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
Batch GN52066: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
Batch GP19693: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9, MC42160-12
Batch GP19721: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
Batch GP19723: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

9.3
9

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42160
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19721/GN52118	MC42426-1	mg/l	0.27	10	9.9	1.0	20%

Associated Samples:
Batch GP19721: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

9.4

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New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West, Building One, Marlborough, MA 01752
TEL. 508-481-6200
www.accutest.com

FED-EX Tracking # 6484 9125 1768
Bottle Order Control #
Accutest Quote #
Accutest Job # MC42160

Client / Reporting Information
Company Name: Accutest Laboratories
Street Address: 495 Technology Center West, Bldg One
City: Marlborough, State: MA, Zip: (
Project Contact: frankd
E-mail: frankd@accutest.com
Phone #: 508-481-6200
Fax #:
Sampler(s) Name(s):
Phone:

Project Information
Project Name: Fort Devens, AOC50, Devens, MA
Street:
City:
State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)
Company Name:
Street Address:
City:
State:
Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	SO4	LAB USE ONLY
3	G6M-07-02X-FAL15		10/13/15	2:15:00 PM		AQ	1					1				X	
4	G6M-DUP2		10/13/15	2:30:00 PM		AQ	1					1				X	
5	G6M-02-08X-FAL15		10/13/15	11:30:00 AM		AQ	1					1				X	MA
6	G6M-04-10A-FAL15		10/13/15	10:36:00 AM		AQ	1					1				X	
7	G6M-04-10X-FAL15		10/13/15	12:06:00 PM		AQ	1					1				X	
9	G6M-03-02X-FAL15		10/13/15	10:25:00 AM		AQ	1					1				X	
12	G6M-02-01X-FAL15		10/13/15	2:20:00 PM		AQ	1					1				X	

Turnaround Time (Business days)
- [ ] Std. 10 Business Days
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [x] other Due 10/27/2015

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [x] Other COMMBN

Commercial "A" = Results Only

Comments / Special Instructions
Ship to ALNJ -- SO4 by 300 "Limited Volume"
INITIAL ASSESSMENT 38mg
LABEL VERIFICATION An

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/14/15	1 FedEx	2 FX	10-15-15 9:50	2 [signature]
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #		

- [ ] Intact
- [ ] Not intact

Preserved where applicable [ ]
On Ice [x]
Cooler Temp. 3.4°C

IP.

10.1
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MC42160: Chain of Custody
Page 1 of 2
Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42160 **Client:** **Project:**

Date / Time Received: 10/15/2015 9:50:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4);
Cooler Temps (Corrected) °C: Cooler 1: (3.6);

Cooler Security

	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

10.1
10

MC42160: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC42160
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/13/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC42160

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42160
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Sulfate	GP93055/GN34799	10	0.69	mg/l	80	78.8	98.5	90-110%
Sulfate	GP93055/GN34811	10	0.0	mg/l	80	81.0	101.3	90-110%

Associated Samples:
Batch GP93055: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9, MC42160-12
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42160
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Sulfate	GP93055/GN34799	JC6766-10	mg/l	100	99.7	0.3	0-20%

Associated Samples:
Batch GP93055: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9, MC42160-12
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42160
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Sulfate	GP93055/GN34799	MC42160-7	mg/l	35.4	80	113	97.0	80-120%

Associated Samples:
Batch GP93055: MC42160-3, MC42160-4, MC42160-5, MC42160-6, MC42160-7, MC42160-9, MC42160-12
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

11/20/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

VOC/Metals

Accutest Job Number: MC42178

Sampling Date: 10/14/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
lekes@hsenv.com

ATTN: Laurie Ekes

Total number of pages in report: **769**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

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Sample Summary

H&S Environmental

Job No: MC42178

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC42178-1	10/14/15	11:47	SE	10/14/15	AQ	Ground Water	G6M-04-15X_FAL15
MC42178-1F	10/14/15	11:47	SE	10/14/15	AQ	Groundwater Filtered	G6M-04-15X_FAL15
MC42178-2	10/14/15	10:31	SE	10/14/15	AQ	Ground Water	G6M-04-13X_FAL15
MC42178-2F	10/14/15	10:31	SE	10/14/15	AQ	Groundwater Filtered	G6M-04-13X_FAL15
MC42178-3	10/14/15	10:00	SE	10/14/15	AQ	Ground Water	G6M-95-19X_FAL15
MC42178-3D	10/14/15	10:00	SE	10/14/15	AQ	Water Dup/MSD	G6M-95-19X_FAL15
MC42178-3F	10/14/15	10:00	SE	10/14/15	AQ	Groundwater Filtered	G6M-95-19X_FAL15
MC42178-3FD	10/14/15	10:00	SE	10/14/15	AQ	Water Dup/MSD	G6M-95-19X_FAL15
MC42178-3FS	10/14/15	10:00	SE	10/14/15	AQ	Water Matrix Spike	G6M-95-19X_FAL15
MC42178-3S	10/14/15	10:00	SE	10/14/15	AQ	Water Matrix Spike	G6M-95-19X_FAL15
MC42178-4	10/14/15	11:13	SE	10/14/15	AQ	Ground Water	G6M-96-22B_FAL15
MC42178-4F	10/14/15	11:13	SE	10/14/15	AQ	Groundwater Filtered	G6M-96-22B_FAL15
MC42178-5	10/14/15	10:19	SE	10/14/15	AQ	Ground Water	G6M-96-22A_FAL15

Accutest Laboratories

Sample Summary
(continued)

H&S Environmental

Job No: MC42178

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC42178-5F	10/14/15	10:19	SE	10/14/15	AQ	Groundwater Filtered	G6M-96-22A_FAL15
MC42178-6	10/14/15	12:47	SE	10/14/15	AQ	Ground Water	G6M-04-01X_FAL15
MC42178-6F	10/14/15	12:47	SE	10/14/15	AQ	Groundwater Filtered	G6M-04-01X_FAL15
MC42178-7	10/14/15	12:53	SE	10/14/15	AQ	Ground Water	G6M-04-03X_FAL15
MC42178-7F	10/14/15	12:53	SE	10/14/15	AQ	Groundwater Filtered	G6M-04-03X_FAL15
MC42178-8	10/14/15	12:40	SE	10/14/15	AQ	Ground Water	G6M-03-07X_FAL15
MC42178-8F	10/14/15	12:40	SE	10/14/15	AQ	Groundwater Filtered	G6M-03-07X_FAL15
MC42178-9	10/14/15	11:40	SE	10/14/15	AQ	Ground Water	G6M-04-03X_FAL15-H
MC42178-10	10/14/15	13:05	SE	10/14/15	AQ	Ground Water	G6M-DUP1_FAL15
MC42178-10F	10/14/15	13:05	SE	10/14/15	AQ	Groundwater Filtered	G6M-DUP1_FAL15
MC42178-11	10/14/15	13:40	SE	10/14/15	AQ	Ground Water	G6M-13-06X_FAL15
MC42178-11F	10/14/15	13:40	SE	10/14/15	AQ	Groundwater Filtered	G6M-13-06X_FAL15
MC42178-12	10/14/15	14:42	SE	10/14/15	AQ	Ground Water	G6M-04-09X_FAL15

Sample Summary

(continued)

H&S Environmental

Job No: MC42178

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC42178-12F	10/14/15	14:42	SE	10/14/15	AQ	Groundwater Filtered	G6M-04-09X_FAL15
MC42178-13	10/14/15	00:00	SE	10/14/15	AQ	Trip Blank Water	TRIP BLANK

ACCUTEST LABORATORIES

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC42178

Site: Fort Devens, AOC50, Devens, MA **Report Date** 11/20/2015 1:27:54 PM

12 Sample(s) and 1 Trip Blank were collected on 10/14/2015 and were received at Accutest on 10/14/2015 properly preserved, at 2.9 Deg. C and intact. These Samples received an Accutest job number of MC42178. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSU1363

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC42178-3MS, MC42178-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for MSD for 2-Hexanone are outside control limits for sample MC42178-3MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- MC42178-1 through MC42178-13: Laboratory not DOD certified for method 8260c analysis.
  Samples were analyzed at Accutest of New England in order to meet method required Holding Times.
- Continuing calibration check standard MSU1363-CC1360 for trichlorofluoromethane, vinyl acetate, trans-1,3-dichloropropene exceed 20% Difference (biased high). Associated samples are non-detect for these compounds.
- MC42178-3MS/MSD, MSU1363-ECC1360 for Tert Butyl Alcohol-D9: Outside control limits. Target analytes not associated with this internal standard.
- MC42178-11: Elevated RL due to dilution required for matrix interference (foaming).
- MC42178-3MSD for 1,1,2,2-Tetrachloroethane: Outside DoD control limits, but within in-house control limits.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1548

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42178-7DUP were used as the QC samples indicated.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25318

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42178-3FMS, MC42178-3FMSD, MC42178-3FSDL were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** N:GP93103

- Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	**Batch ID:** GP19724

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42193-3DUP, MC42193-3MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	**Batch ID:** R37531

- MC42178-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37532

- MC42178-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37533

- MC42178-10 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37534

- MC42178-11 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	**Batch ID:** GP19693

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42173-1DUP, MC42173-1MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 2320B

Matrix: AQ	**Batch ID:** GN52114

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42193-3DUP, MC42193-3MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ	**Batch ID:** GN52066

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42263-1DUP, MC42263-1MS were used as the QC samples for Sulfide.

Matrix: AQ	**Batch ID:** GN52067

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11DUP, MC42202-11MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SW846 9060

Matrix: AQ	**Batch ID:** GP19721

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42426-1MS, MC42426-1MSD were used as the QC samples for Total Organic Carbon.

Matrix: AQ	**Batch ID:** GP19722

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11MS, MC42202-11MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC42178).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Accutest Labs of New England, Inc. **Job No** MC42178

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 10/26/2015 4:10:42 P

On 10/16/2015, 4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 2.9 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC42178 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP93103

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC6249-1DUP, JC6249-1MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42178-1	**G6M-04-15X_FAL15**					
Tetrachloroethene [a]		0.76 J	1.0	0.50	ug/l	SW846 8260C
Toluene [a]		0.97 J	1.0	0.50	ug/l	SW846 8260C
m,p-Xylene [a]		1.2	1.0	1.0	ug/l	SW846 8260C
o-Xylene [a]		0.51 J	1.0	0.50	ug/l	SW846 8260C
Xylene (total) [a]		1.7	1.0	0.50	ug/l	SW846 8260C
MC42178-1F	**G6M-04-15X_FAL15**					
Arsenic		103	4.0	2.0	ug/l	SW846 6010C
Iron		45000	500	250	ug/l	SW846 6010C
Manganese		21200	150	75	ug/l	SW846 6010C
MC42178-2	**G6M-04-13X_FAL15**					
No hits reported in this sample.						
MC42178-2F	**G6M-04-13X_FAL15**					
No hits reported in this sample.						
MC42178-3	**G6M-95-19X_FAL15**					
Tetrachloroethene [a]		1.9	1.0	0.50	ug/l	SW846 8260C
MC42178-3F	**G6M-95-19X_FAL15**					
Manganese		739	15	7.5	ug/l	SW846 6010C
MC42178-4	**G6M-96-22B_FAL15**					
No hits reported in this sample.						
MC42178-4F	**G6M-96-22B_FAL15**					
Manganese		5610	75	38	ug/l	SW846 6010C
MC42178-5	**G6M-96-22A_FAL15**					
No hits reported in this sample.						
MC42178-5F	**G6M-96-22A_FAL15**					
Manganese		3810	15	7.5	ug/l	SW846 6010C

Summary of Hits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42178-6	**G6M-04-01X_FAL15**					
1,2,4-Trimethylbenzene [a]		0.57 J	5.0	0.50	ug/l	SW846 8260C
Xylene (total) [a]		0.99 J	1.0	0.50	ug/l	SW846 8260C
MC42178-6F	**G6M-04-01X_FAL15**					
Arsenic		382	4.0	2.0	ug/l	SW846 6010C
Iron		96400	1000	500	ug/l	SW846 6010C
Manganese		24400	150	75	ug/l	SW846 6010C
MC42178-7	**G6M-04-03X_FAL15**					
Acetone [a]		5.7 J	10	5.0	ug/l	SW846 8260C
Chloroethane [a]		1.2 J	2.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene [a]		43.0	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene [a]		5.0	1.0	0.50	ug/l	SW846 8260C
Trichloroethene [a]		3.2	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride [a]		6.8	1.0	0.50	ug/l	SW846 8260C
Methane		8190	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		337	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [b]		0.13	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.13	0.10	0.054	mg/l	EPA 353.2
Sulfate [c]		7.0 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		8.2	1.0	0.81	mg/l	SW846 9060
MC42178-7F	**G6M-04-03X_FAL15**					
Arsenic		232	4.0	2.0	ug/l	SW846 6010C
Iron		75100	500	250	ug/l	SW846 6010C
Manganese		11300	75	38	ug/l	SW846 6010C
MC42178-8	**G6M-03-07X_FAL15**					
cis-1,2-Dichloroethene [a]		0.59 J	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene [a]		1.8	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride [a]		0.73 J	1.0	0.50	ug/l	SW846 8260C
Methane		16600	200	100	ug/l	VRSK 175
Ethene		6.5 J	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		161	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [b]		0.085 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.085 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [c]		2.3 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		24.3	1.0	0.81	mg/l	SW846 9060

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Summary of Hits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42178-8F	**G6M-03-07X_FAL15**					
Arsenic		441	4.0	2.0	ug/l	SW846 6010C
Iron		102000	1000	500	ug/l	SW846 6010C
Manganese		1660	15	7.5	ug/l	SW846 6010C
MC42178-9	**G6M-04-03X_FAL15-H**					
Acetone [a]		9.5 J	10	5.0	ug/l	SW846 8260C
Chloroethane [a]		1.1 J	2.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene [a]		33.2	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene [a]		13.2	1.0	0.50	ug/l	SW846 8260C
Trichloroethene [a]		10.0	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride [a]		5.8	1.0	0.50	ug/l	SW846 8260C
MC42178-10	**G6M-DUP1_FAL15**					
Acetone [a]		6.3 J	10	5.0	ug/l	SW846 8260C
Chloroethane [a]		1.3 J	2.0	0.50	ug/l	SW846 8260C
Chloromethane [a]		1.5 J	2.0	1.0	ug/l	SW846 8260C
cis-1,2-Dichloroethene [a]		43.2	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene [a]		5.0	1.0	0.50	ug/l	SW846 8260C
Trichloroethene [a]		3.4	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride [a]		7.0	1.0	0.50	ug/l	SW846 8260C
Methane		10200	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		277	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [b]		0.063 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.063 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [c]		52.5	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		8.0	1.0	0.81	mg/l	SW846 9060
MC42178-10F	**G6M-DUP1_FAL15**					
Arsenic		217	4.0	2.0	ug/l	SW846 6010C
Iron		74500	500	250	ug/l	SW846 6010C
Manganese		11500	75	38	ug/l	SW846 6010C
MC42178-11	**G6M-13-06X_FAL15**					
Acetone [d]		61.8	50	25	ug/l	SW846 8260C
2-Butanone (MEK) [d]		68.4	50	25	ug/l	SW846 8260C
cis-1,2-Dichloroethene [d]		3.2 J	5.0	2.5	ug/l	SW846 8260C
Vinyl chloride [d]		3.3 J	5.0	2.5	ug/l	SW846 8260C
m,p-Xylene [d]		15.3	5.0	5.0	ug/l	SW846 8260C

Summary of Hits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
o-Xylene [d]		6.8	5.0	2.5	ug/l	SW846 8260C
Xylene (total) [d]		22.1	5.0	2.5	ug/l	SW846 8260C
Methane		11300	200	100	ug/l	VRSK 175
Ethene		30.2	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		434	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [b]		0.071 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.071 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [c]		1.7 J	10	0.50	mg/l	EPA 300/SW846 9056A
Sulfide		1.5 J	2.0	1.0	mg/l	SM21 4500 S F
Total Organic Carbon		61.5	2.0	1.6	mg/l	SW846 9060
MC42178-11F	**G6M-13-06X_FAL15**					
Arsenic		531	4.0	2.0	ug/l	SW846 6010C
Iron		260000	2000	1000	ug/l	SW846 6010C
Manganese		21300	300	150	ug/l	SW846 6010C
MC42178-12	**G6M-04-09X_FAL15**					
Toluene [a]		1.1	1.0	0.50	ug/l	SW846 8260C
1,2,4-Trimethylbenzene [a]		1.3 J	5.0	0.50	ug/l	SW846 8260C
1,3,5-Trimethylbenzene [a]		0.83 J	5.0	0.50	ug/l	SW846 8260C
o-Xylene [a]		0.50 J	1.0	0.50	ug/l	SW846 8260C
Xylene (total) [a]		1.5	1.0	0.50	ug/l	SW846 8260C
Total Organic Carbon		16.4	1.0	0.81	mg/l	SW846 9060
MC42178-12F	**G6M-04-09X_FAL15**					
Arsenic		577	4.0	2.0	ug/l	SW846 6010C
Iron		241000	2000	1000	ug/l	SW846 6010C
Manganese		5600	75	38	ug/l	SW846 6010C

MC42178-13 **TRIP BLANK**

No hits reported in this sample.

(a) Laboratory not DOD certified for method 8260c analysis.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(c) Analysis performed at Accutest Laboratories, Dayton, NJ.
(d) Laboratory not DOD certified for method 8260c analysis. Elevated RL due to dilution required for matrix interference (foaming).

New England
ACCUTEST
LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-15X_FAL15		
Lab Sample ID:	MC42178-1	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33355.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-15X_FAL15		
Lab Sample ID:	MC42178-1	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.76	1.0	0.50	ug/l	J
108-88-3	Toluene	0.97	1.0	0.50	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.2	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.51	1.0	0.50	ug/l	J
1330-20-7	Xylene (total)	1.7	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-15X_FAL15		
Lab Sample ID:	MC42178-1	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		80-116%
460-00-4	4-Bromofluorobenzene	96%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-15X_FAL15		
Lab Sample ID:	MC42178-1F	**Date Sampled:**	10/14/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	103	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	45000	500	250	ug/l	5	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	21200	150	75	ug/l	10	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-13X_FAL15		
Lab Sample ID:	MC42178-2	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33356.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-13X_FAL15		
Lab Sample ID:	MC42178-2	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-13X_FAL15		
Lab Sample ID:	MC42178-2	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%		80-116%
460-00-4	4-Bromofluorobenzene	97%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-13X_FAL15			
Lab Sample ID:	MC42178-2F		**Date Sampled:**	10/14/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	10/14/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	7.5 U	15	7.5	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-95-19X_FAL15		
Lab Sample ID:	MC42178-3	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33354.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-95-19X_FAL15		
Lab Sample ID:	MC42178-3	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	1.9	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-95-19X_FAL15		
Lab Sample ID:	MC42178-3	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		80-116%
460-00-4	4-Bromofluorobenzene	92%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-95-19X_FAL15		
Lab Sample ID:	MC42178-3F	**Date Sampled:**	10/14/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	739	15	7.5	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-96-22B_FAL15		
Lab Sample ID:	MC42178-4	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33357.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-96-22B_FAL15			
Lab Sample ID:	MC42178-4		**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water		**Date Received:**	10/14/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-96-22B_FAL15			
Lab Sample ID:	MC42178-4		**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water		**Date Received:**	10/14/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		80-116%
460-00-4	4-Bromofluorobenzene	97%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-96-22B_FAL15		
Lab Sample ID:	MC42178-4F	**Date Sampled:**	10/14/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	50 U	100	50	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Manganese	5610	75	38	ug/l	5	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-96-22A_FAL15		
Lab Sample ID:	MC42178-5	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33358.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-96-22A_FAL15		
Lab Sample ID:	MC42178-5	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-96-22A_FAL15		
Lab Sample ID:	MC42178-5	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		80-116%
460-00-4	4-Bromofluorobenzene	91%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-96-22A_FAL15		
Lab Sample ID:	MC42178-5F	**Date Sampled:**	10/14/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	3810	15	7.5	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID: G6M-04-01X_FAL15
Lab Sample ID: MC42178-6
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Fort Devens, AOC50, Devens, MA

Date Sampled: 10/14/15
Date Received: 10/14/15
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33362.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-01X_FAL15			
Lab Sample ID:	MC42178-6		**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water		**Date Received:**	10/14/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.57	5.0	0.50	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.99	1.0	0.50	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-01X_FAL15		
Lab Sample ID:	MC42178-6	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%		80-116%
460-00-4	4-Bromofluorobenzene	100%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected　LOD = Limit of Detection　J = Indicates an estimated value
LOQ = Limit of Quantitation　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID: G6M-04-01X_FAL15
Lab Sample ID: MC42178-6F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/14/15
Date Received: 10/14/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	382	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	96400	1000	500	ug/l	10	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	24400	150	75	ug/l	10	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-03X_FAL15		
Lab Sample ID:	MC42178-7	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33359.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.7	10	5.0	ug/l	J
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.2	2.0	0.50	ug/l	J
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	43.0	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-03X_FAL15		
Lab Sample ID:	MC42178-7	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	5.0	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	3.2	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	6.8	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-03X_FAL15		
Lab Sample ID:	MC42178-7	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		80-116%
460-00-4	4-Bromofluorobenzene	92%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-03X_FAL15		
Lab Sample ID:	MC42178-7	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22767.D	1	10/21/15	AF	n/a	n/a	GBA1548
Run #2	BA22768.D	1	10/21/15	AF	n/a	n/a	GBA1548

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	8190 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected　LOD = Limit of Detection　J = Indicates an estimated value
LOQ = Limit of Quantitation　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-03X_FAL15		
Lab Sample ID:	MC42178-7	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	337	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.13	0.11	0.057	mg/l	1	10/24/15 08:42	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.13	0.10	0.054	mg/l	1	10/24/15 08:42	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/14/15 18:00	CF	SM 21 4500 NO2 B
Sulfate [b]	7.0 J	10	0.50	mg/l	1	10/23/15 21:17	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	8.2	1.0	0.81	mg/l	1	10/24/15 01:59	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-03X_FAL15			
Lab Sample ID:	MC42178-7F		**Date Sampled:**	10/14/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	10/14/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	232	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	75100	500	250	ug/l	5	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	11300	75	38	ug/l	5	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID: G6M-03-07X_FAL15
Lab Sample ID: MC42178-8
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: Fort Devens, AOC50, Devens, MA
Date Sampled: 10/14/15
Date Received: 10/14/15
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33364.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.59	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethene	1.8	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X_FAL15		
Lab Sample ID:	MC42178-8	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.73	1.0	0.50	ug/l	J
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X_FAL15		
Lab Sample ID:	MC42178-8	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		80-116%
460-00-4	4-Bromofluorobenzene	91%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-07X_FAL15		
Lab Sample ID:	MC42178-8	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22770.D	1	10/21/15	AF	n/a	n/a	GBA1548
Run #2	BA22772.D	1	10/21/15	AF	n/a	n/a	GBA1548

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	16600 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	6.5	10	5.0	ug/l	J

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-07X_FAL15		
Lab Sample ID:	MC42178-8	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	161	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.085 J	0.11	0.057	mg/l	1	10/24/15 08:43	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.085 J	0.10	0.054	mg/l	1	10/24/15 08:43	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/14/15 18:00	CF	SM 21 4500 NO2 B
Sulfate [b]	2.3 J	10	0.50	mg/l	1	10/23/15 21:41	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	24.3	1.0	0.81	mg/l	1	10/24/15 02:16	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-07X_FAL15		
Lab Sample ID:	MC42178-8F	**Date Sampled:**	10/14/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	441	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	102000	1000	500	ug/l	10	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	1660	15	7.5	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-03X_FAL15-H		
Lab Sample ID:	MC42178-9	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33360.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	9.5	10	5.0	ug/l	J
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.1	2.0	0.50	ug/l	J
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	33.2	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-03X_FAL15-H		
Lab Sample ID:	MC42178-9	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	13.2	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	10.0	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	5.8	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-03X_FAL15-H			
Lab Sample ID:	MC42178-9		**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water		**Date Received:**	10/14/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%		80-116%
460-00-4	4-Bromofluorobenzene	93%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-DUP1_FAL15		
Lab Sample ID:	MC42178-10	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33361.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	6.3	10	5.0	ug/l	J
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.3	2.0	0.50	ug/l	J
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.5	2.0	1.0	ug/l	J
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	43.2	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP1_FAL15		
Lab Sample ID:	MC42178-10	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	5.0	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	3.4	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	7.0	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP1_FAL15		
Lab Sample ID:	MC42178-10	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	90%		80-116%
460-00-4	4-Bromofluorobenzene	92%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-DUP1_FAL15		
Lab Sample ID:	MC42178-10	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22773.D	1	10/21/15	AF	n/a	n/a	GBA1548
Run #2	BA22774.D	1	10/21/15	AF	n/a	n/a	GBA1548

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	10200 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-DUP1_FAL15			
Lab Sample ID:	MC42178-10		**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water		**Date Received:**	10/14/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	277	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.063 J	0.11	0.057	mg/l	1	10/24/15 08:45	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.063 J	0.10	0.054	mg/l	1	10/24/15 08:45	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/14/15 18:00	CF	SM 21 4500 NO2 B
Sulfate [b]	52.5	10	0.50	mg/l	1	10/23/15 22:05	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	8.0	1.0	0.81	mg/l	1	10/24/15 02:36	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-DUP1_FAL15		
Lab Sample ID:	MC42178-10F	**Date Sampled:**	10/14/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	217	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	74500	500	250	ug/l	5	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	11500	75	38	ug/l	5	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-06X_FAL15		
Lab Sample ID:	MC42178-11	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33365.D	5	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	61.8	50	25	ug/l	
71-43-2	Benzene	2.5 U	2.5	2.5	ug/l	
108-86-1	Bromobenzene	5.0 U	25	5.0	ug/l	
74-97-5	Bromochloromethane	2.5 U	25	2.5	ug/l	
75-27-4	Bromodichloromethane	2.5 U	5.0	2.5	ug/l	
75-25-2	Bromoform	2.5 U	5.0	2.5	ug/l	
74-83-9	Bromomethane	5.0 U	10	5.0	ug/l	
78-93-3	2-Butanone (MEK)	68.4	50	25	ug/l	
104-51-8	n-Butylbenzene	5.0 U	25	5.0	ug/l	
135-98-8	sec-Butylbenzene	5.0 U	25	5.0	ug/l	
98-06-6	tert-Butylbenzene	5.0 U	25	5.0	ug/l	
75-15-0	Carbon disulfide	5.0 U	25	5.0	ug/l	
56-23-5	Carbon tetrachloride	2.5 U	5.0	2.5	ug/l	
108-90-7	Chlorobenzene	2.5 U	5.0	2.5	ug/l	
75-00-3	Chloroethane	2.5 U	10	2.5	ug/l	
67-66-3	Chloroform	2.5 U	5.0	2.5	ug/l	
74-87-3	Chloromethane	5.0 U	10	5.0	ug/l	
95-49-8	o-Chlorotoluene	5.0 U	25	5.0	ug/l	
106-43-4	p-Chlorotoluene	5.0 U	25	5.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	25 U	25	25	ug/l	
124-48-1	Dibromochloromethane	5.0 U	5.0	5.0	ug/l	
106-93-4	1,2-Dibromoethane	5.0 U	5.0	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	2.5 U	5.0	2.5	ug/l	
541-73-1	1,3-Dichlorobenzene	2.5 U	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	2.5 U	5.0	2.5	ug/l	
75-71-8	Dichlorodifluoromethane	5.0 U	10	5.0	ug/l	
75-34-3	1,1-Dichloroethane	2.5 U	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	2.5 U	5.0	2.5	ug/l	
75-35-4	1,1-Dichloroethene	2.5 U	5.0	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.2	5.0	2.5	ug/l	J
156-60-5	trans-1,2-Dichloroethene	2.5 U	5.0	2.5	ug/l	
78-87-5	1,2-Dichloropropane	2.5 U	10	2.5	ug/l	

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: G6M-13-06X_FAL15
Lab Sample ID: MC42178-11 **Date Sampled:** 10/14/15
Matrix: AQ - Ground Water **Date Received:** 10/14/15
Method: SW846 8260C **Percent Solids:** n/a
Project: Fort Devens, AOC50, Devens, MA

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	5.0 U	25	5.0	ug/l	
594-20-7	2,2-Dichloropropane	10 U	25	10	ug/l	
563-58-6	1,1-Dichloropropene	5.0 U	25	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	2.5 U	2.5	2.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	2.5 U	2.5	2.5	ug/l	
100-41-4	Ethylbenzene	2.5 U	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	10 U	25	10	ug/l	
591-78-6	2-Hexanone	25 U	50	25	ug/l	
74-88-4	Iodomethane	10 U	25	10	ug/l	
98-82-8	Isopropylbenzene	5.0 U	25	5.0	ug/l	
99-87-6	p-Isopropyltoluene	5.0 U	25	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.5 U	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	25 U	25	25	ug/l	
74-95-3	Methylene bromide	5.0 U	25	5.0	ug/l	
75-09-2	Methylene chloride	5.0 U	10	5.0	ug/l	
91-20-3	Naphthalene	10 U	25	10	ug/l	
103-65-1	n-Propylbenzene	5.0 U	25	5.0	ug/l	
100-42-5	Styrene	2.5 U	25	2.5	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	2.5 U	5.0	2.5	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	2.5 U	2.5	2.5	ug/l	
127-18-4	Tetrachloroethene	2.5 U	5.0	2.5	ug/l	
108-88-3	Toluene	2.5 U	5.0	2.5	ug/l	
87-61-6	1,2,3-Trichlorobenzene	10 U	25	10	ug/l	
120-82-1	1,2,4-Trichlorobenzene	10 U	25	10	ug/l	
71-55-6	1,1,1-Trichloroethane	2.5 U	5.0	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	2.5 U	5.0	2.5	ug/l	
79-01-6	Trichloroethene	2.5 U	5.0	2.5	ug/l	
75-69-4	Trichlorofluoromethane	5.0 U	5.0	5.0	ug/l	
96-18-4	1,2,3-Trichloropropane	5.0 U	25	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	2.5 U	25	2.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	2.5 U	25	2.5	ug/l	
108-05-4	Vinyl Acetate	25 U	25	25	ug/l	
75-01-4	Vinyl chloride	3.3	5.0	2.5	ug/l	J
	m,p-Xylene	15.3	5.0	5.0	ug/l	
95-47-6	o-Xylene	6.8	5.0	2.5	ug/l	
1330-20-7	Xylene (total)	22.1	5.0	2.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-06X_FAL15			
Lab Sample ID:	MC42178-11		**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water		**Date Received:**	10/14/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	96%		80-116%
460-00-4	4-Bromofluorobenzene	94%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis. Elevated RL due to dilution required for matrix interference (foaming).

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-06X_FAL15		
Lab Sample ID:	MC42178-11	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22775.D	1	10/21/15	AF	n/a	n/a	GBA1548
Run #2	BA22776.D	1	10/21/15	AF	n/a	n/a	GBA1548

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	11300 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	30.2	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-06X_FAL15		
Lab Sample ID:	MC42178-11	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	434	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.071 J	0.11	0.057	mg/l	1	10/24/15 08:46	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.071 J	0.10	0.054	mg/l	1	10/24/15 08:46	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/14/15 18:00	CF	SM 21 4500 NO2 B
Sulfate [b]	1.7 J	10	0.50	mg/l	1	10/23/15 22:29	ANJ	EPA 300/SW846 9056A
Sulfide	1.5 J	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	61.5	2.0	1.6	mg/l	2	10/24/15 06:15	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-06X_FAL15		
Lab Sample ID:	MC42178-11F	**Date Sampled:**	10/14/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	531	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	260000	2000	1000	ug/l	20	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	21300	300	150	ug/l	20	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-09X_FAL15		
Lab Sample ID:	MC42178-12	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33363.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-09X_FAL15		
Lab Sample ID:	MC42178-12	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	1.1	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	1.3	5.0	0.50	ug/l	J
108-67-8	1,3,5-Trimethylbenzene	0.83	5.0	0.50	ug/l	J
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50	1.0	0.50	ug/l	J
1330-20-7	Xylene (total)	1.5	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-09X_FAL15		
Lab Sample ID:	MC42178-12	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	93%		80-116%
460-00-4	4-Bromofluorobenzene	94%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-09X_FAL15		
Lab Sample ID:	MC42178-12	**Date Sampled:**	10/14/15
Matrix:	AQ - Ground Water	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Total Organic Carbon	16.4	1.0	0.81	mg/l	1	10/24/15 06:34	CF	SW846 9060

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-09X_FAL15		
Lab Sample ID:	MC42178-12F	**Date Sampled:**	10/14/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/14/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	577	4.0	2.0	ug/l	1	10/19/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	241000	2000	1000	ug/l	20	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	5600	75	38	ug/l	5	10/19/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25318

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42178-13	**Date Sampled:**	10/14/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33348.D	1	10/28/15	AD	n/a	n/a	MSU1363
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42178-13	**Date Sampled:**	10/14/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42178-13	**Date Sampled:**	10/14/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/14/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	97%		80-116%
460-00-4	4-Bromofluorobenzene	94%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

(p1of2)

495 Technology Center West
Building One, Marlborough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #:	MC42178
Accutest Control #:	

Client Information	Facility Information
Name: H&S Environmental	Project Name: Devens
Address: 160 East Main Street, Suite 2F	Location: AOC50 VOC/Metals
City: Westborough	Project No.
State: MA Zip: 01581	
Send Report to: Laurie Ekes (lekes@hsenv.com)	
Phone #: (508)367-7190	FAX #:

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: voc	NaOH	HNO3	H2So4	None	VOCs (3-40ml VOA vials/HCl)	Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3 Field Filter	TOC (3-40ml VOA/HCl)	Dissolved Gases	Alkalinity, Sulfate (250ml NP)	Nitrate/Nitrite (250ml H2SO4)	Sulfide (250ml Zn acetate/NaOH)				
G6M-04-15X_FAL15	10-14-15	1147	SE	WG	4	3		1			X	X									-1F
G6M-04-13X_FAL15	10-14-15	1031		WG	4	3		1			X	X									-2F
G6M-95-19X_FAL15	10-14-15	1000		WG	4	3		1			X	X									-3F
G6M-96-22B_FAL15	10-14-15	1113		WG	4	3		1			X	X									-4F
G6M-96-22A_FAL15	10-14-15	1019		GW	4	3		1			X	X									-5F
G6M-04-01X-FAL15	10-14-15	1247			4	3		1			X	X									-6F
G6M-04-03X_FAL15	10-14-15	1253			11	7	2	1	2	1	X	X	X	X	X	X	X				-7F
G6M-03-07X-FAL15	10-14-15	1240			11	7	1	1	1	1	X	X	X	X	X	X	X				-8F
G6M-04-03X_FAL15-H	10-14-15	1140			3	3					X										-9
G6M-Dupl_FAL15	10-14-15	1305		GW	11	5	2	1	2	1	X	X	X	X	X	X	X				-10F

Turnaround Information

- [X] 10 Day STD
- [ ] 5 Day STD (By Contract only)
- [ ] 5 Day Rush
- [ ] 3 Day Rush
- [ ] 2 Day Rush
- [ ] 1 Day Rush

Approved By:

Data Deliverable Information

- [ ] Comm A
- [ ] Comm B
- [ ] Full T1
- [ ] Other
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP CAT A
- [ ] NYASP CATB

EDD Format:

Comments / Remarks

G6M-95-19X_FAL15 (use as MS/MSD)

11D, 5D, SCI

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/14/15 1650	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved ☐	On Ice: ☑ 2.9°

5.1

5

MC42178: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West
Building One, Marlbourough, MA 01752
508-481-6200 FAX: 508-481-7753

p2of2

Accutest Job #: MC42178
Accutest Control #:

Client Information

Name: H&S Environmental
Address: 160 East Main Street, Suite 2F
City: Westborough
State: MA Zip: 01581
Send Report to: Laurie Ekes (lekes@hsenv.com)
Phone #: (508)367-7190

Facility Information

Project Name: Devens
Location: AOC50 VOC/Metals
Project No.:
FAX #:

Analytical Information

Field ID / Point of Collection	Date	Time	Sampled By	Matrix	# of bottles	voc	NaOH	HNO3	H2So4	None	VOCs (3-40ml VOA vials/HCl)	Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3 Filtered	TOC (3-40ml VOA/HCl)	Dissolved Gas	Alkalinity, Sulfate	nitrate/nitrite	sulfide (Zn acetate NaOH)				
GLGM-13-06X-FAL15	10-14-15	1340		WG	#11	5	2	1	2	1	X	X	X	X	X	X	X				-11F
GLGM-04-09X-FAL15	10-14-15	1442		WG	#6	3		1	2		X	X	X								-12F
LGM-95-19X-FAL15MS	10-14-15	1000		WG	4	3		1			X	X									-3MS
LGM-95-19X-FAL15MSD	10-14-15	1000		WG	4	3		1			X	X									-3MD
Trip Blank	10/14/15	—			3	3					X										-13

Turnaround Information

- [X] 10 Day STD
- [ ] 5 Day STD (By Contract only)
- [ ] 5 Day Rush
- [ ] 3 Day Rush
- [ ] 2 Day Rush
- [ ] 1 Day Rush

Approved By:

Data Deliverable Information

- [ ] Comm A
- [ ] Comm B
- [ ] Full T1
- [ ] Other
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP CAT A
- [ ] NYASP CATB

EDD Format:

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	10/14/15 1650	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved ☐	On Ice: ☐

5.1

5

MC42178: Chain of Custody
Page 2 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42178 **Client:** HS **Project:**

Date / Time Received: 10/14/2015 4:30:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2.9/2.9); #2: (2.9/2.9);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y or N	
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1; G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	☐
2. Trip Blank listed on COC:	☑	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

MC42178: Chain of Custody
Page 3 of 3

Internal Sample Tracking Chronicle

H&S Environmental

Job No: MC42178

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC42178-1 Collected: 14-OCT-15 11:47 By: SE Received: 14-OCT-15 By: NT G6M-04-15X_FAL15						
MC42178-1	SW846 8260C	28-OCT-15 15:21	AD			V8260STD
MC42178-2 Collected: 14-OCT-15 10:31 By: SE Received: 14-OCT-15 By: NT G6M-04-13X_FAL15						
MC42178-2	SW846 8260C	28-OCT-15 15:49	AD			V8260STD
MC42178-3 Collected: 14-OCT-15 10:00 By: SE Received: 14-OCT-15 By: NT G6M-95-19X_FAL15						
MC42178-3	SW846 8260C	28-OCT-15 14:54	AD			V8260STD
MC42178-4 Collected: 14-OCT-15 11:13 By: SE Received: 14-OCT-15 By: NT G6M-96-22B_FAL15						
MC42178-4	SW846 8260C	28-OCT-15 16:16	AD			V8260STD
MC42178-5 Collected: 14-OCT-15 10:19 By: SE Received: 14-OCT-15 By: NT G6M-96-22A_FAL15						
MC42178-5	SW846 8260C	28-OCT-15 16:43	AD			V8260STD
MC42178-6 Collected: 14-OCT-15 12:47 By: SE Received: 14-OCT-15 By: NT G6M-04-01X_FAL15						
MC42178-6	SW846 8260C	28-OCT-15 18:31	AD			V8260STD
MC42178-7 Collected: 14-OCT-15 12:53 By: SE Received: 14-OCT-15 By: NT G6M-04-03X_FAL15						
MC42178-7	SM 21 4500 NO2 B	14-OCT-15 18:00	CF	14-OCT-15	CF	NO2
MC42178-7	SM21 4500 S F	19-OCT-15	BF			S
MC42178-7	VRSK 175	21-OCT-15 09:22	AF			VRSK175DGMEE
MC42178-7	VRSK 175	21-OCT-15 09:42	AF			VRSK175DGMEE
MC42178-7	SM21 2320B	23-OCT-15	MC			ALK
MC42178-7	EPA 300/SW846 9056A	23-OCT-15 21:17	ANJ	23-OCT-15		SO4
MC42178-7	SW846 9060	24-OCT-15 01:59	CF	23-OCT-15	CF	TOC

Internal Sample Tracking Chronicle

H&S Environmental

Job No: MC42178

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC42178-7	EPA 353.2	24-OCT-15 08:42	MC			NO3O
MC42178-7	EPA 353.2	24-OCT-15 08:42	MC	24-OCT-15	MC	NO32
MC42178-7	SW846 8260C	28-OCT-15 17:10	AD			V8260STD
MC42178-8	Collected: 14-OCT-15 12:40 By: SE		Received: 14-OCT-15 By: NT			
G6M-03-07X_FAL15						
MC42178-8	SM 21 4500 NO2 B	14-OCT-15 18:00	CF	14-OCT-15	CF	NO2
MC42178-8	SM21 4500 S F	19-OCT-15	BF			S
MC42178-8	VRSK 175	21-OCT-15 10:14	AF			VRSK175DGMEE
MC42178-8	VRSK 175	21-OCT-15 10:49	AF			VRSK175DGMEE
MC42178-8	SM21 2320B	23-OCT-15	MC			ALK
MC42178-8	EPA 300/SW846 9056A	23-OCT-15 21:41	ANJ	23-OCT-15		SO4
MC42178-8	SW846 9060	24-OCT-15 02:16	CF	23-OCT-15	CF	TOC
MC42178-8	EPA 353.2	24-OCT-15 08:43	MC			NO3O
MC42178-8	EPA 353.2	24-OCT-15 08:43	MC	24-OCT-15	MC	NO32
MC42178-8	SW846 8260C	28-OCT-15 19:26	AD			V8260STD
MC42178-9	Collected: 14-OCT-15 11:40 By: SE		Received: 14-OCT-15 By: NT			
G6M-04-03X_FAL15-H						
MC42178-9	SW846 8260C	28-OCT-15 17:37	AD			V8260STD
MC42178-10	Collected: 14-OCT-15 13:05 By: SE		Received: 14-OCT-15 By: NT			
G6M-DUP1_FAL15						
MC42178-10	SM 21 4500 NO2 B	14-OCT-15 18:00	CF	14-OCT-15	CF	NO2
MC42178-10	SM21 4500 S F	19-OCT-15	BF			S
MC42178-10	VRSK 175	21-OCT-15 11:04	AF			VRSK175DGMEE
MC42178-10	VRSK 175	21-OCT-15 11:18	AF			VRSK175DGMEE
MC42178-10	SM21 2320B	23-OCT-15	MC			ALK
MC42178-10	EPA 300/SW846 9056A	23-OCT-15 22:05	ANJ	23-OCT-15		SO4
MC42178-10	SW846 9060	24-OCT-15 02:36	CF	23-OCT-15	CF	TOC
MC42178-10	EPA 353.2	24-OCT-15 08:45	MC			NO3O
MC42178-10	EPA 353.2	24-OCT-15 08:45	MC	24-OCT-15	MC	NO32
MC42178-10	SW846 8260C	28-OCT-15 18:04	AD			V8260STD
MC42178-11	Collected: 14-OCT-15 13:40 By: SE		Received: 14-OCT-15 By: NT			
G6M-13-06X_FAL15						

Internal Sample Tracking Chronicle

H&S Environmental

Job No: MC42178

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC42178-11	SM 21 4500 NO2 B	14-OCT-15 18:00	CF	14-OCT-15	CF	NO2
MC42178-11	SM21 4500 S F	19-OCT-15	BF			S
MC42178-11	VRSK 175	21-OCT-15 11:32	AF			VRSK175DGMEE
MC42178-11	VRSK 175	21-OCT-15 11:47	AF			VRSK175DGMEE
MC42178-11	SM21 2320B	23-OCT-15	MC			ALK
MC42178-11	EPA 300/SW846 9056A	23-OCT-15 22:29	ANJ	23-OCT-15		SO4
MC42178-11	SW846 9060	24-OCT-15 06:15	CF	23-OCT-15	CF	TOC
MC42178-11	EPA 353.2	24-OCT-15 08:46	MC			NO3O
MC42178-11	EPA 353.2	24-OCT-15 08:46	MC	24-OCT-15	MC	NO32
MC42178-11	SW846 8260C	28-OCT-15 19:53	AD			V8260STD
MC42178-12 G6M-04-09X_FAL15	Collected: 14-OCT-15 14:42 By: SE		Received: 14-OCT-15 By: NT			
MC42178-12	SW846 9060	24-OCT-15 06:34	CF	23-OCT-15	CF	TOC
MC42178-12	SW846 8260C	28-OCT-15 18:59	AD			V8260STD
MC42178-13 TRIP BLANK	Collected: 14-OCT-15 00:00 By: SE		Received: 14-OCT-15 By: NT			
MC42178-13	SW846 8260C	28-OCT-15 12:12	AD			V8260STD
MC42178-1F G6M-04-15X_FAL15	Collected: 14-OCT-15 11:47 By: SE		Received: 14-OCT-15 By: NT			
MC42178-1F	SW846 6010C	23-OCT-15 13:31	EAL	19-OCT-15	EM	AS
MC42178-1F	SW846 6010C	26-OCT-15 14:15	EAL	19-OCT-15	EM	FE
MC42178-1F	SW846 6010C	26-OCT-15 16:08	EAL	19-OCT-15	EM	MN
MC42178-2F G6M-04-13X_FAL15	Collected: 14-OCT-15 10:31 By: SE		Received: 14-OCT-15 By: NT			
MC42178-2F	SW846 6010C	23-OCT-15 13:36	EAL	19-OCT-15	EM	AS,FE,MN
MC42178-3F G6M-95-19X_FAL15	Collected: 14-OCT-15 10:00 By: SE		Received: 14-OCT-15 By: NT			
MC42178-3F	SW846 6010C	23-OCT-15 13:19	EAL	19-OCT-15	EM	AS,FE,MN

Internal Sample Tracking Chronicle

H&S Environmental

Job No: MC42178

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC42178-4F	Collected: 14-OCT-15 11:13 By: SE		Received: 14-OCT-15 By: NT			
G6M-96-22B_FAL15						
MC42178-4F	SW846 6010C	23-OCT-15 13:42	EAL	19-OCT-15	EM	AS,FE
MC42178-4F	SW846 6010C	26-OCT-15 16:14	EAL	19-OCT-15	EM	MN
MC42178-5F	Collected: 14-OCT-15 10:19 By: SE		Received: 14-OCT-15 By: NT			
G6M-96-22A_FAL15						
MC42178-5F	SW846 6010C	23-OCT-15 13:48	EAL	19-OCT-15	EM	AS,FE,MN
MC42178-6F	Collected: 14-OCT-15 12:47 By: SE		Received: 14-OCT-15 By: NT			
G6M-04-01X_FAL15						
MC42178-6F	SW846 6010C	23-OCT-15 14:06	EAL	19-OCT-15	EM	AS
MC42178-6F	SW846 6010C	26-OCT-15 14:26	EAL	19-OCT-15	EM	FE,MN
MC42178-7F	Collected: 14-OCT-15 12:53 By: SE		Received: 14-OCT-15 By: NT			
G6M-04-03X_FAL15						
MC42178-7F	SW846 6010C	23-OCT-15 14:12	EAL	19-OCT-15	EM	AS
MC42178-7F	SW846 6010C	26-OCT-15 14:57	EAL	19-OCT-15	EM	FE,MN
MC42178-8F	Collected: 14-OCT-15 12:40 By: SE		Received: 14-OCT-15 By: NT			
G6M-03-07X_FAL15						
MC42178-8F	SW846 6010C	23-OCT-15 14:18	EAL	19-OCT-15	EM	AS,MN
MC42178-8F	SW846 6010C	26-OCT-15 15:03	EAL	19-OCT-15	EM	FE
MC42178-10F	Collected: 14-OCT-15 13:05 By: SE		Received: 14-OCT-15 By: NT			
G6M-DUP1_FAL15						
MC42178-10F	SW846 6010C	23-OCT-15 14:24	EAL	19-OCT-15	EM	AS
MC42178-10F	SW846 6010C	26-OCT-15 15:09	EAL	19-OCT-15	EM	FE,MN
MC42178-11F	Collected: 14-OCT-15 13:40 By: SE		Received: 14-OCT-15 By: NT			
G6M-13-06X_FAL15						
MC42178-11F	SW846 6010C	23-OCT-15 14:30	EAL	19-OCT-15	EM	AS

Internal Sample Tracking Chronicle

H&S Environmental

Job No: MC42178

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC42178-11	SW846 6010C	26-OCT-15 15:15	EAL	19-OCT-15	EM	FE,MN
MC42178-12	Collected: 14-OCT-15 14:42 By: SE		Received: 14-OCT-15 By: NT			
G6M-04-09X_FAL15						
MC42178-12	SW846 6010C	23-OCT-15 14:36	EAL	19-OCT-15	EM	AS
MC42178-12	SW846 6010C	26-OCT-15 15:21	EAL	19-OCT-15	EM	MN
MC42178-12	SW846 6010C	26-OCT-15 15:26	EAL	19-OCT-15	EM	FE

Accutest Internal Chain of Custody

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Received: 10/14/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC42178-1.2	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-1.2	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-1.2	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-1.2	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-1F.4	Walk In Ref #5	Eric Mensah	10/19/15 14:15	Retrieve from Storage
MC42178-1F.4	Eric Mensah	Walk In Ref #5	10/19/15 15:05	Return to Storage
MC42178-2.1	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-2.1	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-2.1	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-2.1	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-3.2	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-3.2	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-3.2	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-3.2	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-3.3	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-3.3	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-3.3	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-3.3	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-3.6	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-3.6	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-3.6	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-3.6	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-3.9	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-3.9	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-3.9	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-3.9	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-3F.13	Walk In Ref #5	Eric Mensah	10/19/15 14:15	Retrieve from Storage
MC42178-3F.13	Eric Mensah	Walk In Ref #5	10/19/15 15:05	Return to Storage
MC42178-4.1	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-4.1	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-4.1	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-4.1	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-4F.11	Walk In Ref #5	Eric Mensah	10/19/15 14:15	Retrieve from Storage
MC42178-4F.11	Eric Mensah	Walk In Ref #5	10/19/15 15:05	Return to Storage

Accutest Internal Chain of Custody

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Received: 10/14/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC42178-5.3	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-5.3	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-5.3	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-5.3	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-5F.11	Walk In Ref #5	Eric Mensah	10/19/15 14:15	Retrieve from Storage
MC42178-5F.11	Eric Mensah	Walk In Ref #5	10/19/15 15:05	Return to Storage
MC42178-6.1	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-6.1	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-6.1	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-6.1	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-6F.11	Walk In Ref #5	Eric Mensah	10/19/15 14:15	Retrieve from Storage
MC42178-6F.11	Eric Mensah	Walk In Ref #5	10/19/15 15:05	Return to Storage
MC42178-7.1	VOC Ref #5	Anthony Franciosa	10/21/15 07:27	Retrieve from Storage
MC42178-7.1	Anthony Franciosa	GCBA	10/21/15 07:27	Load on Instrument
MC42178-7.1	GCBA	Anthony Franciosa	10/21/15 15:37	Unload from Instrument
MC42178-7.1	Anthony Franciosa	VOC Ref #5	10/21/15 15:37	Return to Storage
MC42178-7.2	VOC Ref #5	Anthony Franciosa	10/21/15 07:27	Retrieve from Storage
MC42178-7.2	Anthony Franciosa	GCBA	10/21/15 07:27	Load on Instrument
MC42178-7.2	GCBA	Anthony Franciosa	10/21/15 15:37	Unload from Instrument
MC42178-7.2	Anthony Franciosa	VOC Ref #5	10/21/15 15:37	Return to Storage
MC42178-7.4	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-7.4	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-7.4	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-7.4	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-7.6	Walk In Ref #9	Crystall Woodruff	10/23/15 18:07	Retrieve from Storage
MC42178-7.6	Crystall Woodruff	TOC1	10/23/15 19:06	Load on Instrument
MC42178-7.8	Walk In Ref #9	Miranda Cardullo	10/23/15 15:00	Retrieve from Storage
MC42178-7.8	Miranda Cardullo	Walk In Ref #9	10/23/15 18:44	Return to Storage
MC42178-7.9	Walk In Ref #9	Miranda Cardullo	10/24/15 04:43	Retrieve from Storage
MC42178-7.9	Miranda Cardullo	Walk In Ref #9	10/24/15 10:13	Return to Storage
MC42178-7.10	Walk In Ref #9	Bijan Firowznin	10/19/15 10:01	Retrieve from Storage
MC42178-7.10	Bijan Firowznin		10/19/15 15:42	Depleted
MC42178-8.1	VOC Ref #5	Anthony Franciosa	10/21/15 07:27	Retrieve from Storage

Accutest Internal Chain of Custody

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Received: 10/14/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC42178-8.1	Anthony Franciosa	GCBA	10/21/15 07:27	Load on Instrument
MC42178-8.1	GCBA	Anthony Franciosa	10/21/15 15:37	Unload from Instrument
MC42178-8.1	Anthony Franciosa	VOC Ref #5	10/21/15 15:37	Return to Storage
MC42178-8.2	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-8.2	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-8.2	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-8.2	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-8.7	Walk In Ref #9	Crystall Woodruff	10/23/15 18:07	Retrieve from Storage
MC42178-8.7	Crystall Woodruff	TOC1	10/23/15 19:06	Load on Instrument
MC42178-8.8	Walk In Ref #9	Miranda Cardullo	10/23/15 15:00	Retrieve from Storage
MC42178-8.8	Miranda Cardullo	Walk In Ref #9	10/23/15 18:44	Return to Storage
MC42178-8.9	Walk In Ref #9	Miranda Cardullo	10/24/15 04:43	Retrieve from Storage
MC42178-8.9	Miranda Cardullo	Walk In Ref #9	10/24/15 10:13	Return to Storage
MC42178-8.10	Walk In Ref #9	Bijan Firowznin	10/19/15 10:01	Retrieve from Storage
MC42178-8.10	Bijan Firowznin		10/19/15 15:42	Depleted
MC42178-8F.11	Walk In Ref #5	Eric Mensah	10/19/15 14:15	Retrieve from Storage
MC42178-8F.11	Eric Mensah	Walk In Ref #5	10/19/15 15:05	Return to Storage
MC42178-9.3	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-9.3	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-9.3	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-9.3	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-10.1	VOC Ref #5	Anthony Franciosa	10/21/15 07:27	Retrieve from Storage
MC42178-10.1	Anthony Franciosa	GCBA	10/21/15 07:27	Load on Instrument
MC42178-10.1	GCBA	Anthony Franciosa	10/21/15 15:37	Unload from Instrument
MC42178-10.1	Anthony Franciosa	VOC Ref #5	10/21/15 15:37	Return to Storage
MC42178-10.2	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-10.2	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-10.2	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-10.2	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-10.6	Walk In Ref #9	Crystall Woodruff	10/23/15 18:07	Retrieve from Storage
MC42178-10.6	Crystall Woodruff	TOC1	10/23/15 19:06	Load on Instrument
MC42178-10.8	Walk In Ref #9	Miranda Cardullo	10/23/15 15:00	Retrieve from Storage
MC42178-10.8	Miranda Cardullo	Walk In Ref #9	10/23/15 18:44	Return to Storage

Accutest Internal Chain of Custody

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Received: 10/14/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC42178-10.9	Walk In Ref #9	Miranda Cardullo	10/24/15 04:43	Retrieve from Storage
MC42178-10.9	Miranda Cardullo	Walk In Ref #9	10/24/15 10:13	Return to Storage
MC42178-10.10	Walk In Ref #9	Bijan Firowznin	10/19/15 10:01	Retrieve from Storage
MC42178-10.10	Bijan Firowznin		10/19/15 15:42	Depleted
MC42178-11.1	VOC Ref #5	Anthony Franciosa	10/21/15 07:27	Retrieve from Storage
MC42178-11.1	Anthony Franciosa	GCBA	10/21/15 07:27	Load on Instrument
MC42178-11.1	GCBA	Anthony Franciosa	10/21/15 15:37	Unload from Instrument
MC42178-11.1	Anthony Franciosa	VOC Ref #5	10/21/15 15:37	Return to Storage
MC42178-11.4	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-11.4	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-11.4	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-11.4	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-11.6	Walk In Ref #9	Crystall Woodruff	10/23/15 18:07	Retrieve from Storage
MC42178-11.6	Crystall Woodruff	TOC1	10/23/15 19:06	Load on Instrument
MC42178-11.8	Walk In Ref #9	Miranda Cardullo	10/23/15 15:00	Retrieve from Storage
MC42178-11.8	Miranda Cardullo	Walk In Ref #9	10/23/15 18:44	Return to Storage
MC42178-11.9	Walk In Ref #9	Miranda Cardullo	10/24/15 04:43	Retrieve from Storage
MC42178-11.9	Miranda Cardullo	Walk In Ref #9	10/24/15 10:13	Return to Storage
MC42178-11.10	Walk In Ref #9	Bijan Firowznin	10/19/15 10:01	Retrieve from Storage
MC42178-11.10	Bijan Firowznin		10/19/15 15:42	Depleted
MC42178-12.3	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-12.3	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-12.3	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-12.3	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage
MC42178-12.6	Walk In Ref #9	Crystall Woodruff	10/23/15 18:07	Retrieve from Storage
MC42178-12.6	Crystall Woodruff	TOC1	10/23/15 19:06	Load on Instrument
MC42178-12F.11	Walk In Ref #5	Eric Mensah	10/19/15 14:15	Retrieve from Storage
MC42178-12F.11	Eric Mensah	Walk In Ref #5	10/19/15 15:05	Return to Storage
MC42178-13.2	VOC Ref #5	Andrew Delman	10/28/15 11:15	Retrieve from Storage
MC42178-13.2	Andrew Delman	GCMSU	10/28/15 11:15	Load on Instrument
MC42178-13.2	GCMSU	Andrew Delman	10/29/15 11:30	Unload from Instrument
MC42178-13.2	Andrew Delman	VOC Ref #5	10/29/15 11:30	Return to Storage

QC Evaluation: DOD QSM5 Limits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1363	SW846 8260C						
MSU1363-BS	67-64-1	Acetone	BSP	REC	92	%	39-160
MSU1363-BS	71-43-2	Benzene	BSP	REC	99	%	79-120
MSU1363-BS	108-86-1	Bromobenzene	BSP	REC	96	%	80-120
MSU1363-BS	74-97-5	Bromochloromethane	BSP	REC	115	%	78-123
MSU1363-BS	75-27-4	Bromodichloromethane	BSP	REC	103	%	79-125
MSU1363-BS	75-25-2	Bromoform	BSP	REC	91	%	66-130
MSU1363-BS	74-83-9	Bromomethane	BSP	REC	113	%	53-141
MSU1363-BS	78-93-3	2-Butanone (MEK)	BSP	REC	102	%	56-143
MSU1363-BS	104-51-8	n-Butylbenzene	BSP	REC	112	%	75-128
MSU1363-BS	135-98-8	sec-Butylbenzene	BSP	REC	114	%	77-126
MSU1363-BS	98-06-6	tert-Butylbenzene	BSP	REC	115	%	78-124
MSU1363-BS	75-15-0	Carbon disulfide	BSP	REC	87	%	64-133
MSU1363-BS	56-23-5	Carbon tetrachloride	BSP	REC	107	%	72-136
MSU1363-BS	108-90-7	Chlorobenzene	BSP	REC	98	%	82-118
MSU1363-BS	75-00-3	Chloroethane	BSP	REC	128	%	60-138
MSU1363-BS	67-66-3	Chloroform	BSP	REC	106	%	79-124
MSU1363-BS	74-87-3	Chloromethane	BSP	REC	120	%	50-139
MSU1363-BS	95-49-8	o-Chlorotoluene	BSP	REC	103	%	79-122
MSU1363-BS	106-43-4	p-Chlorotoluene	BSP	REC	96	%	78-122
MSU1363-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	108	%	62-128
MSU1363-BS	124-48-1	Dibromochloromethane	BSP	REC	100	%	74-126
MSU1363-BS	106-93-4	1,2-Dibromoethane	BSP	REC	93	%	77-121
MSU1363-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	104	%	80-119
MSU1363-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	100	%	80-119
MSU1363-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	100	%	79-118
MSU1363-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	111	%	32-152
MSU1363-BS	75-34-3	1,1-Dichloroethane	BSP	REC	99	%	77-125
MSU1363-BS	107-06-2	1,2-Dichloroethane	BSP	REC	107	%	73-128
MSU1363-BS	75-35-4	1,1-Dichloroethene	BSP	REC	98	%	71-131
MSU1363-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	107	%	78-123
MSU1363-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	91	%	75-124
MSU1363-BS	78-87-5	1,2-Dichloropropane	BSP	REC	101	%	78-122
MSU1363-BS	142-28-9	1,3-Dichloropropane	BSP	REC	97	%	80-119
MSU1363-BS	594-20-7	2,2-Dichloropropane	BSP	REC	106	%	60-139
MSU1363-BS	563-58-6	1,1-Dichloropropene	BSP	REC	102	%	79-125
MSU1363-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	95	%	75-124
MSU1363-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	88	%	73-127
MSU1363-BS	100-41-4	Ethylbenzene	BSP	REC	101	%	79-121
MSU1363-BS	87-68-3	Hexachlorobutadiene	BSP	REC	115	%	66-134
MSU1363-BS	591-78-6	2-Hexanone	BSP	REC	92	%	57-139
MSU1363-BS	74-88-4	Iodomethane	BSP	REC	98	%	69-131
MSU1363-BS	98-82-8	Isopropylbenzene	BSP	REC	108	%	72-131

* Sample used for QC is not from job MC42178

QC Evaluation: DOD QSM5 Limits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1363-BS	99-87-6	p-Isopropyltoluene	BSP	REC	112	%	77-127
MSU1363-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	106	%	71-124
MSU1363-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	100	%	67-130
MSU1363-BS	74-95-3	Methylene bromide	BSP	REC	102	%	79-123
MSU1363-BS	75-09-2	Methylene chloride	BSP	REC	99	%	74-124
MSU1363-BS	91-20-3	Naphthalene	BSP	REC	109	%	61-128
MSU1363-BS	103-65-1	n-Propylbenzene	BSP	REC	101	%	76-126
MSU1363-BS	100-42-5	Styrene	BSP	REC	97	%	78-123
MSU1363-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	112	%	78-124
MSU1363-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	100	%	71-121
MSU1363-BS	127-18-4	Tetrachloroethene	BSP	REC	103	%	74-129
MSU1363-BS	108-88-3	Toluene	BSP	REC	97	%	80-121
MSU1363-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	120	%	69-129
MSU1363-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	117	%	69-130
MSU1363-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	110	%	74-131
MSU1363-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	92	%	80-119
MSU1363-BS	79-01-6	Trichloroethene	BSP	REC	109	%	79-123
MSU1363-BS	75-69-4	Trichlorofluoromethane	BSP	REC	121	%	65-141
MSU1363-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	97	%	73-122
MSU1363-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	105	%	76-124
MSU1363-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	114	%	75-124
MSU1363-BS	108-05-4	Vinyl Acetate	BSP	REC	142	%	54-146
MSU1363-BS	75-01-4	Vinyl chloride	BSP	REC	116	%	58-137
MSU1363-BS		m,p-Xylene	BSP	REC	101	%	80-121
MSU1363-BS	95-47-6	o-Xylene	BSP	REC	105	%	78-122
MSU1363-BS	1330-20-7	Xylene (total)	BSP	REC	102	%	79-121
MSU1363-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	106	%	80-119
MSU1363-BS	2037-26-5	Toluene-D8	BSP	SURR	97	%	89-112
MSU1363-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	93	%	85-114
MC42178-3MS	67-64-1	Acetone	MS	REC	106	%	39-160
MC42178-3MS	71-43-2	Benzene	MS	REC	101	%	79-120
MC42178-3MS	108-86-1	Bromobenzene	MS	REC	98	%	80-120
MC42178-3MS	74-97-5	Bromochloromethane	MS	REC	116	%	78-123
MC42178-3MS	75-27-4	Bromodichloromethane	MS	REC	101	%	79-125
MC42178-3MS	75-25-2	Bromoform	MS	REC	93	%	66-130
MC42178-3MS	74-83-9	Bromomethane	MS	REC	108	%	53-141
MC42178-3MS	78-93-3	2-Butanone (MEK)	MS	REC	110	%	56-143
MC42178-3MS	104-51-8	n-Butylbenzene	MS	REC	110	%	75-128
MC42178-3MS	135-98-8	sec-Butylbenzene	MS	REC	115	%	77-126
MC42178-3MS	98-06-6	tert-Butylbenzene	MS	REC	114	%	78-124
MC42178-3MS	75-15-0	Carbon disulfide	MS	REC	81	%	64-133
MC42178-3MS	56-23-5	Carbon tetrachloride	MS	REC	102	%	72-136
MC42178-3MS	108-90-7	Chlorobenzene	MS	REC	101	%	82-118
MC42178-3MS	75-00-3	Chloroethane	MS	REC	120	%	60-138
MC42178-3MS	67-66-3	Chloroform	MS	REC	107	%	79-124

* Sample used for QC is not from job MC42178

QC Evaluation: DOD QSM5 Limits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42178-3MS	74-87-3	Chloromethane	MS	REC	101	%	50-139
MC42178-3MS	95-49-8	o-Chlorotoluene	MS	REC	104	%	79-122
MC42178-3MS	106-43-4	p-Chlorotoluene	MS	REC	97	%	78-122
MC42178-3MS	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	123	%	62-128
MC42178-3MS	124-48-1	Dibromochloromethane	MS	REC	102	%	74-126
MC42178-3MS	106-93-4	1,2-Dibromoethane	MS	REC	99	%	77-121
MC42178-3MS	95-50-1	1,2-Dichlorobenzene	MS	REC	107	%	80-119
MC42178-3MS	541-73-1	1,3-Dichlorobenzene	MS	REC	101	%	80-119
MC42178-3MS	106-46-7	1,4-Dichlorobenzene	MS	REC	101	%	79-118
MC42178-3MS	75-71-8	Dichlorodifluoromethane	MS	REC	101	%	32-152
MC42178-3MS	75-34-3	1,1-Dichloroethane	MS	REC	101	%	77-125
MC42178-3MS	107-06-2	1,2-Dichloroethane	MS	REC	105	%	73-128
MC42178-3MS	75-35-4	1,1-Dichloroethene	MS	REC	102	%	71-131
MC42178-3MS	156-59-2	cis-1,2-Dichloroethene	MS	REC	111	%	78-123
MC42178-3MS	156-60-5	trans-1,2-Dichloroethene	MS	REC	94	%	75-124
MC42178-3MS	78-87-5	1,2-Dichloropropane	MS	REC	103	%	78-122
MC42178-3MS	142-28-9	1,3-Dichloropropane	MS	REC	101	%	80-119
MC42178-3MS	594-20-7	2,2-Dichloropropane	MS	REC	93	%	60-139
MC42178-3MS	563-58-6	1,1-Dichloropropene	MS	REC	103	%	79-125
MC42178-3MS	10061-01-5	cis-1,3-Dichloropropene	MS	REC	95	%	75-124
MC42178-3MS	10061-02-6	trans-1,3-Dichloropropene	MS	REC	86	%	73-127
MC42178-3MS	100-41-4	Ethylbenzene	MS	REC	103	%	79-121
MC42178-3MS	87-68-3	Hexachlorobutadiene	MS	REC	115	%	66-134
MC42178-3MS	591-78-6	2-Hexanone	MS	REC	98	%	57-139
MC42178-3MS	74-88-4	Iodomethane	MS	REC	101	%	69-131
MC42178-3MS	98-82-8	Isopropylbenzene	MS	REC	109	%	72-131
MC42178-3MS	99-87-6	p-Isopropyltoluene	MS	REC	113	%	77-127
MC42178-3MS	1634-04-4	Methyl Tert Butyl Ether	MS	REC	113	%	71-124
MC42178-3MS	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	109	%	67-130
MC42178-3MS	74-95-3	Methylene bromide	MS	REC	104	%	79-123
MC42178-3MS	75-09-2	Methylene chloride	MS	REC	102	%	74-124
MC42178-3MS	91-20-3	Naphthalene	MS	REC	119	%	61-128
MC42178-3MS	103-65-1	n-Propylbenzene	MS	REC	101	%	76-126
MC42178-3MS	100-42-5	Styrene	MS	REC	96	%	78-123
MC42178-3MS	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	116	%	78-124
MC42178-3MS	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	116	%	71-121
MC42178-3MS	127-18-4	Tetrachloroethene	MS	REC	105	%	74-129
MC42178-3MS	108-88-3	Toluene	MS	REC	98	%	80-121
MC42178-3MS	87-61-6	1,2,3-Trichlorobenzene	MS	REC	123	%	69-129
MC42178-3MS	120-82-1	1,2,4-Trichlorobenzene	MS	REC	119	%	69-130
MC42178-3MS	71-55-6	1,1,1-Trichloroethane	MS	REC	106	%	74-131
MC42178-3MS	79-00-5	1,1,2-Trichloroethane	MS	REC	94	%	80-119
MC42178-3MS	79-01-6	Trichloroethene	MS	REC	105	%	79-123
MC42178-3MS	75-69-4	Trichlorofluoromethane	MS	REC	112	%	65-141
MC42178-3MS	96-18-4	1,2,3-Trichloropropane	MS	REC	101	%	73-122

* Sample used for QC is not from job MC42178

QC Evaluation: DOD QSM5 Limits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42178-3MS	95-63-6	1,2,4-Trimethylbenzene	MS	REC	106	%	76-124
MC42178-3MS	108-67-8	1,3,5-Trimethylbenzene	MS	REC	116	%	75-124
MC42178-3MS	108-05-4	Vinyl Acetate	MS	REC	139	%	54-146
MC42178-3MS	75-01-4	Vinyl chloride	MS	REC	114	%	58-137
MC42178-3MS		m,p-Xylene	MS	REC	102	%	80-121
MC42178-3MS	95-47-6	o-Xylene	MS	REC	109	%	78-122
MC42178-3MS	1330-20-7	Xylene (total)	MS	REC	105	%	79-121
MC42178-3MS	1868-53-7	Dibromofluoromethane	MS	SURR	109	%	80-119
MC42178-3MS	2037-26-5	Toluene-D8	MS	SURR	95	%	89-112
MC42178-3MS	460-00-4	4-Bromofluorobenzene	MS	SURR	93	%	85-114
MC42178-3MSD	67-64-1	Acetone	MSD	REC	113	%	39-160
MC42178-3MSD	67-64-1	Acetone	MSD	RPD	7	%	20
MC42178-3MSD	71-43-2	Benzene	MSD	REC	100	%	79-120
MC42178-3MSD	71-43-2	Benzene	MSD	RPD	0	%	20
MC42178-3MSD	108-86-1	Bromobenzene	MSD	REC	106	%	80-120
MC42178-3MSD	108-86-1	Bromobenzene	MSD	RPD	7	%	20
MC42178-3MSD	74-97-5	Bromochloromethane	MSD	REC	115	%	78-123
MC42178-3MSD	74-97-5	Bromochloromethane	MSD	RPD	1	%	20
MC42178-3MSD	75-27-4	Bromodichloromethane	MSD	REC	104	%	79-125
MC42178-3MSD	75-27-4	Bromodichloromethane	MSD	RPD	3	%	20
MC42178-3MSD	75-25-2	Bromoform	MSD	REC	100	%	66-130
MC42178-3MSD	75-25-2	Bromoform	MSD	RPD	7	%	20
MC42178-3MSD	74-83-9	Bromomethane	MSD	REC	109	%	53-141
MC42178-3MSD	74-83-9	Bromomethane	MSD	RPD	1	%	20
MC42178-3MSD	78-93-3	2-Butanone (MEK)	MSD	REC	128	%	56-143
MC42178-3MSD	78-93-3	2-Butanone (MEK)	MSD	RPD	16	%	20
MC42178-3MSD	104-51-8	n-Butylbenzene	MSD	REC	109	%	75-128
MC42178-3MSD	104-51-8	n-Butylbenzene	MSD	RPD	1	%	20
MC42178-3MSD	135-98-8	sec-Butylbenzene	MSD	REC	116	%	77-126
MC42178-3MSD	135-98-8	sec-Butylbenzene	MSD	RPD	0	%	20
MC42178-3MSD	98-06-6	tert-Butylbenzene	MSD	REC	114	%	78-124
MC42178-3MSD	98-06-6	tert-Butylbenzene	MSD	RPD	0	%	20
MC42178-3MSD	75-15-0	Carbon disulfide	MSD	REC	81	%	64-133
MC42178-3MSD	75-15-0	Carbon disulfide	MSD	RPD	0	%	20
MC42178-3MSD	56-23-5	Carbon tetrachloride	MSD	REC	100	%	72-136
MC42178-3MSD	56-23-5	Carbon tetrachloride	MSD	RPD	2	%	20
MC42178-3MSD	108-90-7	Chlorobenzene	MSD	REC	104	%	82-118
MC42178-3MSD	108-90-7	Chlorobenzene	MSD	RPD	2	%	20
MC42178-3MSD	75-00-3	Chloroethane	MSD	REC	116	%	60-138
MC42178-3MSD	75-00-3	Chloroethane	MSD	RPD	4	%	20
MC42178-3MSD	67-66-3	Chloroform	MSD	REC	105	%	79-124
MC42178-3MSD	67-66-3	Chloroform	MSD	RPD	1	%	20
MC42178-3MSD	74-87-3	Chloromethane	MSD	REC	107	%	50-139
MC42178-3MSD	74-87-3	Chloromethane	MSD	RPD	6	%	20
MC42178-3MSD	95-49-8	o-Chlorotoluene	MSD	REC	106	%	79-122

* Sample used for QC is not from job MC42178

QC Evaluation: DOD QSM5 Limits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42178-3MSD	95-49-8	o-Chlorotoluene	MSD	RPD	2	%	20
MC42178-3MSD	106-43-4	p-Chlorotoluene	MSD	REC	101	%	78-122
MC42178-3MSD	106-43-4	p-Chlorotoluene	MSD	RPD	4	%	20
MC42178-3MSD	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	122	%	62-128
MC42178-3MSD	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	1	%	20
MC42178-3MSD	124-48-1	Dibromochloromethane	MSD	REC	109	%	74-126
MC42178-3MSD	124-48-1	Dibromochloromethane	MSD	RPD	6	%	20
MC42178-3MSD	106-93-4	1,2-Dibromoethane	MSD	REC	111	%	77-121
MC42178-3MSD	106-93-4	1,2-Dibromoethane	MSD	RPD	12	%	20
MC42178-3MSD	95-50-1	1,2-Dichlorobenzene	MSD	REC	108	%	80-119
MC42178-3MSD	95-50-1	1,2-Dichlorobenzene	MSD	RPD	1	%	20
MC42178-3MSD	541-73-1	1,3-Dichlorobenzene	MSD	REC	102	%	80-119
MC42178-3MSD	541-73-1	1,3-Dichlorobenzene	MSD	RPD	1	%	20
MC42178-3MSD	106-46-7	1,4-Dichlorobenzene	MSD	REC	103	%	79-118
MC42178-3MSD	106-46-7	1,4-Dichlorobenzene	MSD	RPD	2	%	20
MC42178-3MSD	75-71-8	Dichlorodifluoromethane	MSD	REC	98	%	32-152
MC42178-3MSD	75-71-8	Dichlorodifluoromethane	MSD	RPD	3	%	20
MC42178-3MSD	75-34-3	1,1-Dichloroethane	MSD	REC	99	%	77-125
MC42178-3MSD	75-34-3	1,1-Dichloroethane	MSD	RPD	2	%	20
MC42178-3MSD	107-06-2	1,2-Dichloroethane	MSD	REC	106	%	73-128
MC42178-3MSD	107-06-2	1,2-Dichloroethane	MSD	RPD	1	%	20
MC42178-3MSD	75-35-4	1,1-Dichloroethene	MSD	REC	98	%	71-131
MC42178-3MSD	75-35-4	1,1-Dichloroethene	MSD	RPD	4	%	20
MC42178-3MSD	156-59-2	cis-1,2-Dichloroethene	MSD	REC	109	%	78-123
MC42178-3MSD	156-59-2	cis-1,2-Dichloroethene	MSD	RPD	2	%	20
MC42178-3MSD	156-60-5	trans-1,2-Dichloroethene	MSD	REC	92	%	75-124
MC42178-3MSD	156-60-5	trans-1,2-Dichloroethene	MSD	RPD	2	%	20
MC42178-3MSD	78-87-5	1,2-Dichloropropane	MSD	REC	107	%	78-122
MC42178-3MSD	78-87-5	1,2-Dichloropropane	MSD	RPD	4	%	20
MC42178-3MSD	142-28-9	1,3-Dichloropropane	MSD	REC	115	%	80-119
MC42178-3MSD	142-28-9	1,3-Dichloropropane	MSD	RPD	13	%	20
MC42178-3MSD	594-20-7	2,2-Dichloropropane	MSD	REC	93	%	60-139
MC42178-3MSD	594-20-7	2,2-Dichloropropane	MSD	RPD	0	%	20
MC42178-3MSD	563-58-6	1,1-Dichloropropene	MSD	REC	99	%	79-125
MC42178-3MSD	563-58-6	1,1-Dichloropropene	MSD	RPD	4	%	20
MC42178-3MSD	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	105	%	75-124
MC42178-3MSD	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	10	%	20
MC42178-3MSD	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	104	%	73-127
MC42178-3MSD	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	19	%	20
MC42178-3MSD	100-41-4	Ethylbenzene	MSD	REC	103	%	79-121
MC42178-3MSD	100-41-4	Ethylbenzene	MSD	RPD	0	%	20
MC42178-3MSD	87-68-3	Hexachlorobutadiene	MSD	REC	112	%	66-134
MC42178-3MSD	87-68-3	Hexachlorobutadiene	MSD	RPD	2	%	20
MC42178-3MSD	591-78-6	2-Hexanone	MSD	REC	134	%	57-139
MC42178-3MSD	591-78-6	2-Hexanone	MSD	RPD	31 [a]	%	20

* Sample used for QC is not from job MC42178

QC Evaluation: DOD QSM5 Limits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42178-3MSD	74-88-4	Iodomethane	MSD	REC	99	%	69-131
MC42178-3MSD	74-88-4	Iodomethane	MSD	RPD	2	%	20
MC42178-3MSD	98-82-8	Isopropylbenzene	MSD	REC	111	%	72-131
MC42178-3MSD	98-82-8	Isopropylbenzene	MSD	RPD	2	%	20
MC42178-3MSD	99-87-6	p-Isopropyltoluene	MSD	REC	114	%	77-127
MC42178-3MSD	99-87-6	p-Isopropyltoluene	MSD	RPD	1	%	20
MC42178-3MSD	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	115	%	71-124
MC42178-3MSD	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	2	%	20
MC42178-3MSD	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	130	%	67-130
MC42178-3MSD	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	17	%	20
MC42178-3MSD	74-95-3	Methylene bromide	MSD	REC	108	%	79-123
MC42178-3MSD	74-95-3	Methylene bromide	MSD	RPD	3	%	20
MC42178-3MSD	75-09-2	Methylene chloride	MSD	REC	101	%	74-124
MC42178-3MSD	75-09-2	Methylene chloride	MSD	RPD	1	%	20
MC42178-3MSD	91-20-3	Naphthalene	MSD	REC	116	%	61-128
MC42178-3MSD	91-20-3	Naphthalene	MSD	RPD	2	%	20
MC42178-3MSD	103-65-1	n-Propylbenzene	MSD	REC	105	%	76-126
MC42178-3MSD	103-65-1	n-Propylbenzene	MSD	RPD	3	%	20
MC42178-3MSD	100-42-5	Styrene	MSD	REC	98	%	78-123
MC42178-3MSD	100-42-5	Styrene	MSD	RPD	2	%	20
MC42178-3MSD	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	110	%	78-124
MC42178-3MSD	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	6	%	20
MC42178-3MSD	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	127	%	71-121
MC42178-3MSD	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	9	%	20
MC42178-3MSD	127-18-4	Tetrachloroethene	MSD	REC	103	%	74-129
MC42178-3MSD	127-18-4	Tetrachloroethene	MSD	RPD	1	%	20
MC42178-3MSD	108-88-3	Toluene	MSD	REC	102	%	80-121
MC42178-3MSD	108-88-3	Toluene	MSD	RPD	5	%	20
MC42178-3MSD	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	122	%	69-129
MC42178-3MSD	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	1	%	20
MC42178-3MSD	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	117	%	69-130
MC42178-3MSD	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	2	%	20
MC42178-3MSD	71-55-6	1,1,1-Trichloroethane	MSD	REC	105	%	74-131
MC42178-3MSD	71-55-6	1,1,1-Trichloroethane	MSD	RPD	1	%	20
MC42178-3MSD	79-00-5	1,1,2-Trichloroethane	MSD	REC	110	%	80-119
MC42178-3MSD	79-00-5	1,1,2-Trichloroethane	MSD	RPD	16	%	20
MC42178-3MSD	79-01-6	Trichloroethene	MSD	REC	103	%	79-123
MC42178-3MSD	79-01-6	Trichloroethene	MSD	RPD	2	%	20
MC42178-3MSD	75-69-4	Trichlorofluoromethane	MSD	REC	108	%	65-141
MC42178-3MSD	75-69-4	Trichlorofluoromethane	MSD	RPD	3	%	20
MC42178-3MSD	96-18-4	1,2,3-Trichloropropane	MSD	REC	115	%	73-122
MC42178-3MSD	96-18-4	1,2,3-Trichloropropane	MSD	RPD	12	%	20
MC42178-3MSD	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	107	%	76-124
MC42178-3MSD	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	1	%	20
MC42178-3MSD	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	117	%	75-124

* Sample used for QC is not from job MC42178

QC Evaluation: DOD QSM5 Limits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42178-3MSD	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	1	%	20
MC42178-3MSD	108-05-4	Vinyl Acetate	MSD	REC	143	%	54-146
MC42178-3MSD	108-05-4	Vinyl Acetate	MSD	RPD	3	%	20
MC42178-3MSD	75-01-4	Vinyl chloride	MSD	REC	111	%	58-137
MC42178-3MSD	75-01-4	Vinyl chloride	MSD	RPD	2	%	20
MC42178-3MSD		m,p-Xylene	MSD	REC	101	%	80-121
MC42178-3MSD		m,p-Xylene	MSD	RPD	1	%	20
MC42178-3MSD	95-47-6	o-Xylene	MSD	REC	103	%	78-122
MC42178-3MSD	95-47-6	o-Xylene	MSD	RPD	5	%	20
MC42178-3MSD	1330-20-7	Xylene (total)	MSD	REC	102	%	79-121
MC42178-3MSD	1330-20-7	Xylene (total)	MSD	RPD	3	%	20
MC42178-3MSD	1868-53-7	Dibromofluoromethane	MSD	SURR	105	%	80-119
MC42178-3MSD	2037-26-5	Toluene-D8	MSD	SURR	98	%	89-112
MC42178-3MSD	460-00-4	4-Bromofluorobenzene	MSD	SURR	99	%	85-114
MSU1363-MB	1868-53-7	Dibromofluoromethane	MB	SURR	107	%	80-119
MSU1363-MB	2037-26-5	Toluene-D8	MB	SURR	95	%	89-112
MSU1363-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	93	%	85-114
MC42178-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC42178-1	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42178-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC42178-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC42178-2	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42178-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42178-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	115	%	80-119
MC42178-3	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC42178-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC42178-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC42178-4	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42178-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42178-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	113	%	80-119
MC42178-5	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
MC42178-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	91	%	85-114
MC42178-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119
MC42178-6	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42178-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	100	%	85-114
MC42178-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC42178-7	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
MC42178-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC42178-8	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC42178-8	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
MC42178-8	460-00-4	4-Bromofluorobenzene	SAMP	SURR	91	%	85-114
MC42178-9	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC42178-9	2037-26-5	Toluene-D8	SAMP	SURR	96	%	89-112
MC42178-9	460-00-4	4-Bromofluorobenzene	SAMP	SURR	93	%	85-114
MC42178-10	1868-53-7	Dibromofluoromethane	SAMP	SURR	111	%	80-119

* Sample used for QC is not from job MC42178

QC Evaluation: DOD QSM5 Limits

Job Number: MC42178
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42178-10	2037-26-5	Toluene-D8	SAMP	SURR	90	%	89-112
MC42178-10	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC42178-11	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	80-119
MC42178-11	2037-26-5	Toluene-D8	SAMP	SURR	96	%	89-112
MC42178-11	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
MC42178-12	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC42178-12	2037-26-5	Toluene-D8	SAMP	SURR	93	%	89-112
MC42178-12	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
MC42178-13	1868-53-7	Dibromofluoromethane	SAMP	SURR	108	%	80-119
MC42178-13	2037-26-5	Toluene-D8	SAMP	SURR	97	%	89-112
MC42178-13	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
MP25318	SW846 6010C						
MP25318-B1	7440-38-2	Arsenic	BSP	REC	101.4	%	87-113
MP25318-B1	7439-89-6	Iron	BSP	REC	101	%	87-115
MP25318-B1	7439-96-5	Manganese	BSP	REC	103.6	%	90-114
MP25318-S1	7440-38-2	Arsenic	MS	REC	106	%	87-113
MP25318-S1	7439-89-6	Iron	MS	REC	99.7	%	87-115
MP25318-S1	7439-96-5	Manganese	MS	REC	100.2	%	90-114
MP25318-S2	7440-38-2	Arsenic	MSD	REC	106.6	%	87-113
MP25318-S2	7440-38-2	Arsenic	MSD	RPD	.6	%	20
MP25318-S2	7439-89-6	Iron	MSD	REC	99.3	%	87-115
MP25318-S2	7439-89-6	Iron	MSD	RPD	.4	%	20
MP25318-S2	7439-96-5	Manganese	MSD	REC	100.2	%	90-114
MP25318-S2	7439-96-5	Manganese	MSD	RPD	0	%	20

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

* Sample used for QC is not from job MC42178

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1363-MB	U33347.D	1	10/28/15	AD	n/a	n/a	MSU1363

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42178-1, MC42178-2, MC42178-3, MC42178-4, MC42178-5, MC42178-6, MC42178-7, MC42178-8, MC42178-9, MC42178-10, MC42178-11, MC42178-12, MC42178-13

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.76	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.8	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.61	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.63	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.72	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1363-MB	U33347.D	1	10/28/15	AD	n/a	n/a	MSU1363

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42178-1, MC42178-2, MC42178-3, MC42178-4, MC42178-5, MC42178-6, MC42178-7, MC42178-8, MC42178-9, MC42178-10, MC42178-11, MC42178-12, MC42178-13

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	10	4.6	ug/l	
74-88-4	Iodomethane	ND	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.61	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.4	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.27	ug/l	
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.57	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.48	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.7	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.48	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.82	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1363-MB	U33347.D	1	10/28/15	AD	n/a	n/a	MSU1363

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42178-1, MC42178-2, MC42178-3, MC42178-4, MC42178-5, MC42178-6, MC42178-7, MC42178-8, MC42178-9, MC42178-10, MC42178-11, MC42178-12, MC42178-13

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	107%	79-127%
2037-26-5	Toluene-D8	95%	80-116%
460-00-4	4-Bromofluorobenzene	93%	77-124%

Blank Spike Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1363-BS	U33344.D	1	10/28/15	AD	n/a	n/a	MSU1363

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42178-1, MC42178-2, MC42178-3, MC42178-4, MC42178-5, MC42178-6, MC42178-7, MC42178-8, MC42178-9, MC42178-10, MC42178-11, MC42178-12, MC42178-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	46.1	92	10-200
71-43-2	Benzene	50	49.3	99	74-124
108-86-1	Bromobenzene	50	48.0	96	80-117
74-97-5	Bromochloromethane	50	57.6	115	73-130
75-27-4	Bromodichloromethane	50	51.5	103	76-136
75-25-2	Bromoform	50	45.3	91	63-139
74-83-9	Bromomethane	50	56.5	113	49-161
78-93-3	2-Butanone (MEK)	50	51.1	102	44-191
104-51-8	n-Butylbenzene	50	55.8	112	84-134
135-98-8	sec-Butylbenzene	50	56.8	114	76-125
98-06-6	tert-Butylbenzene	50	57.4	115	74-123
75-15-0	Carbon disulfide	50	43.7	87	45-138
56-23-5	Carbon tetrachloride	50	53.6	107	64-149
108-90-7	Chlorobenzene	50	49.1	98	73-114
75-00-3	Chloroethane	50	64.0	128	43-165
67-66-3	Chloroform	50	53.0	106	72-132
74-87-3	Chloromethane	50	59.9	120	30-173
95-49-8	o-Chlorotoluene	50	51.6	103	75-116
106-43-4	p-Chlorotoluene	50	48.2	96	78-116
96-12-8	1,2-Dibromo-3-chloropropane	50	54.0	108	50-157
124-48-1	Dibromochloromethane	50	50.0	100	75-133
106-93-4	1,2-Dibromoethane	50	46.6	93	72-133
95-50-1	1,2-Dichlorobenzene	50	52.2	104	73-122
541-73-1	1,3-Dichlorobenzene	50	49.8	100	76-117
106-46-7	1,4-Dichlorobenzene	50	50.0	100	74-120
75-71-8	Dichlorodifluoromethane	50	55.4	111	30-180
75-34-3	1,1-Dichloroethane	50	49.6	99	62-130
107-06-2	1,2-Dichloroethane	50	53.4	107	65-140
75-35-4	1,1-Dichloroethene	50	48.9	98	57-132
156-59-2	cis-1,2-Dichloroethene	50	53.3	107	72-131
156-60-5	trans-1,2-Dichloroethene	50	45.6	91	69-127
78-87-5	1,2-Dichloropropane	50	50.6	101	74-130
142-28-9	1,3-Dichloropropane	50	48.7	97	80-129
594-20-7	2,2-Dichloropropane	50	53.0	106	54-162
563-58-6	1,1-Dichloropropene	50	50.9	102	75-116
10061-01-5	cis-1,3-Dichloropropene	50	47.7	95	86-141

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1363-BS	U33344.D	1	10/28/15	AD	n/a	n/a	MSU1363

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42178-1, MC42178-2, MC42178-3, MC42178-4, MC42178-5, MC42178-6, MC42178-7, MC42178-8, MC42178-9, MC42178-10, MC42178-11, MC42178-12, MC42178-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	44.1	88	80-134
100-41-4	Ethylbenzene	50	50.6	101	76-125
87-68-3	Hexachlorobutadiene	50	57.3	115	64-154
591-78-6	2-Hexanone	50	46.0	92	35-200
74-88-4	Iodomethane	50	49.2	98	50-154
98-82-8	Isopropylbenzene	50	53.8	108	74-121
99-87-6	p-Isopropyltoluene	50	56.0	112	84-128
1634-04-4	Methyl Tert Butyl Ether	50	53.0	106	67-145
108-10-1	4-Methyl-2-pentanone (MIBK)	50	49.9	100	61-155
74-95-3	Methylene bromide	50	50.9	102	75-124
75-09-2	Methylene chloride	50	49.5	99	62-137
91-20-3	Naphthalene	50	54.4	109	24-164
103-65-1	n-Propylbenzene	50	50.5	101	76-120
100-42-5	Styrene	50	48.3	97	74-132
630-20-6	1,1,1,2-Tetrachloroethane	50	55.8	112	71-136
79-34-5	1,1,2,2-Tetrachloroethane	50	49.8	100	65-145
127-18-4	Tetrachloroethene	50	51.5	103	73-122
108-88-3	Toluene	50	48.4	97	80-122
87-61-6	1,2,3-Trichlorobenzene	50	59.8	120	33-170
120-82-1	1,2,4-Trichlorobenzene	50	58.4	117	43-159
71-55-6	1,1,1-Trichloroethane	50	55.0	110	68-137
79-00-5	1,1,2-Trichloroethane	50	46.0	92	76-134
79-01-6	Trichloroethene	50	54.4	109	80-125
75-69-4	Trichlorofluoromethane	50	60.3	121	56-166
96-18-4	1,2,3-Trichloropropane	50	48.4	97	65-147
95-63-6	1,2,4-Trimethylbenzene	50	52.7	105	79-124
108-67-8	1,3,5-Trimethylbenzene	50	57.1	114	80-130
108-05-4	Vinyl Acetate	50	71.2	142	72-200
75-01-4	Vinyl chloride	50	58.1	116	39-176
	m,p-Xylene	100	101	101	75-121
95-47-6	o-Xylene	50	52.4	105	71-123
1330-20-7	Xylene (total)	150	153	102	74-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1363-BS	U33344.D	1	10/28/15	AD	n/a	n/a	MSU1363

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42178-1, MC42178-2, MC42178-3, MC42178-4, MC42178-5, MC42178-6, MC42178-7, MC42178-8, MC42178-9, MC42178-10, MC42178-11, MC42178-12, MC42178-13

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	79-127%
2037-26-5	Toluene-D8	97%	80-116%
460-00-4	4-Bromofluorobenzene	93%	77-124%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42178-3MS	U33368.D	1	10/28/15	AD	n/a	n/a	MSU1363
MC42178-3MSD	U33369.D	1	10/28/15	AD	n/a	n/a	MSU1363
MC42178-3 [a]	U33354.D	1	10/28/15	AD	n/a	n/a	MSU1363

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42178-1, MC42178-2, MC42178-3, MC42178-4, MC42178-5, MC42178-6, MC42178-7, MC42178-8, MC42178-9, MC42178-10, MC42178-11, MC42178-12, MC42178-13

CAS No.	Compound	MC42178-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10 U		50	52.8	106	50	56.4	113	7	10-156/30
71-43-2	Benzene	0.50 U		50	50.4	101	50	50.2	100	0	63-135/30
108-86-1	Bromobenzene	5.0 U		50	49.2	98	50	52.9	106	7	75-116/30
74-97-5	Bromochloromethane	5.0 U		50	57.8	116	50	57.4	115	1	67-136/30
75-27-4	Bromodichloromethane	1.0 U		50	50.7	101	50	52.2	104	3	69-140/30
75-25-2	Bromoform	1.0 U		50	46.5	93	50	50.0	100	7	57-138/30
74-83-9	Bromomethane	2.0 U		50	54.0	108	50	54.7	109	1	25-169/30
78-93-3	2-Butanone (MEK)	10 U		50	54.8	110	50	64.1	128	16	23-159/30
104-51-8	n-Butylbenzene	5.0 U		50	55.1	110	50	54.4	109	1	75-135/30
135-98-8	sec-Butylbenzene	5.0 U		50	57.7	115	50	57.8	116	0	70-125/30
98-06-6	tert-Butylbenzene	5.0 U		50	57.0	114	50	56.9	114	0	64-128/30
75-15-0	Carbon disulfide	5.0 U		50	40.6	81	50	40.7	81	0	40-139/30
56-23-5	Carbon tetrachloride	1.0 U		50	50.8	102	50	49.8	100	2	60-149/30
108-90-7	Chlorobenzene	1.0 U		50	50.7	101	50	51.8	104	2	70-115/30
75-00-3	Chloroethane	2.0 U		50	60.1	120	50	58.0	116	4	37-175/30
67-66-3	Chloroform	1.0 U		50	53.3	107	50	52.7	105	1	64-141/30
74-87-3	Chloromethane	2.0 U		50	50.3	101	50	53.4	107	6	21-178/30
95-49-8	o-Chlorotoluene	5.0 U		50	51.8	104	50	52.9	106	2	60-130/30
106-43-4	p-Chlorotoluene	5.0 U		50	48.5	97	50	50.7	101	4	70-120/30
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		50	61.4	123	50	60.8	122	1	51-156/30
124-48-1	Dibromochloromethane	1.0 U		50	51.2	102	50	54.6	109	6	70-131/30
106-93-4	1,2-Dibromoethane	1.0 U		50	49.3	99	50	55.5	111	12	72-131/30
95-50-1	1,2-Dichlorobenzene	1.0 U		50	53.5	107	50	53.8	108	1	68-122/30
541-73-1	1,3-Dichlorobenzene	1.0 U		50	50.5	101	50	51.2	102	1	71-117/30
106-46-7	1,4-Dichlorobenzene	1.0 U		50	50.6	101	50	51.7	103	2	69-120/30
75-71-8	Dichlorodifluoromethane	2.0 U		50	50.5	101	50	49.0	98	3	28-181/30
75-34-3	1,1-Dichloroethane	1.0 U		50	50.5	101	50	49.7	99	2	56-138/30
107-06-2	1,2-Dichloroethane	1.0 U		50	52.4	105	50	53.0	106	1	60-146/30
75-35-4	1,1-Dichloroethene	1.0 U		50	51.2	102	50	49.1	98	4	52-137/30
156-59-2	cis-1,2-Dichloroethene	1.0 U		50	55.4	111	50	54.5	109	2	64-139/30
156-60-5	trans-1,2-Dichloroethene	1.0 U		50	47.0	94	50	46.1	92	2	63-132/30
78-87-5	1,2-Dichloropropane	2.0 U		50	51.5	103	50	53.7	107	4	67-137/30
142-28-9	1,3-Dichloropropane	5.0 U		50	50.7	101	50	57.7	115	13	78-130/30
594-20-7	2,2-Dichloropropane	5.0 U		50	46.4	93	50	46.6	93	0	36-166/30
563-58-6	1,1-Dichloropropene	5.0 U		50	51.3	103	50	49.3	99	4	68-123/30
10061-01-5	cis-1,3-Dichloropropene	0.50 U		50	47.4	95	50	52.6	105	10	77-142/30

* = Outside of Control Limits.

6.3.1
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Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42178-3MS	U33368.D	1	10/28/15	AD	n/a	n/a	MSU1363
MC42178-3MSD	U33369.D	1	10/28/15	AD	n/a	n/a	MSU1363
MC42178-3 [a]	U33354.D	1	10/28/15	AD	n/a	n/a	MSU1363

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42178-1, MC42178-2, MC42178-3, MC42178-4, MC42178-5, MC42178-6, MC42178-7, MC42178-8, MC42178-9, MC42178-10, MC42178-11, MC42178-12, MC42178-13

CAS No.	Compound	MC42178-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	0.50	U	50	43.0	86	50	51.9	104	19	73-136/30
100-41-4	Ethylbenzene	1.0	U	50	51.5	103	50	51.3	103	0	60-136/30
87-68-3	Hexachlorobutadiene	5.0	U	50	57.4	115	50	56.0	112	2	63-143/30
591-78-6	2-Hexanone	10	U	50	48.8	98	50	66.8	134	31* [b]	29-151/30
74-88-4	Iodomethane	5.0	U	50	50.4	101	50	49.4	99	2	37-158/30
98-82-8	Isopropylbenzene	5.0	U	50	54.4	109	50	55.4	111	2	67-123/30
99-87-6	p-Isopropyltoluene	5.0	U	50	56.6	113	50	57.1	114	1	78-126/30
1634-04-4	Methyl Tert Butyl Ether	1.0	U	50	56.3	113	50	57.5	115	2	60-156/30
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0	U	50	54.6	109	50	65.0	130	17	47-167/30
74-95-3	Methylene bromide	5.0	U	50	52.2	104	50	53.9	108	3	70-130/30
75-09-2	Methylene chloride	2.0	U	50	51.1	102	50	50.5	101	1	55-144/30
91-20-3	Naphthalene	5.0	U	50	59.4	119	50	58.0	116	2	23-167/30
103-65-1	n-Propylbenzene	5.0	U	50	50.7	101	50	52.3	105	3	66-124/30
100-42-5	Styrene	5.0	U	50	47.9	96	50	49.0	98	2	61-137/30
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U	50	58.1	116	50	54.8	110	6	71-132/30
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	50	58.2	116	50	63.6	127	9	62-149/30
127-18-4	Tetrachloroethene	1.9		50	54.4	105	50	53.6	103	1	65-124/30
108-88-3	Toluene	1.0	U	50	48.9	98	50	51.2	102	5	69-134/30
87-61-6	1,2,3-Trichlorobenzene	5.0	U	50	61.4	123	50	61.0	122	1	41-157/30
120-82-1	1,2,4-Trichlorobenzene	5.0	U	50	59.3	119	50	58.4	117	2	46-147/30
71-55-6	1,1,1-Trichloroethane	1.0	U	50	53.0	106	50	52.5	105	1	61-144/30
79-00-5	1,1,2-Trichloroethane	1.0	U	50	46.9	94	50	55.0	110	16	69-142/30
79-01-6	Trichloroethene	1.0	U	50	52.3	105	50	51.3	103	2	69-133/30
75-69-4	Trichlorofluoromethane	1.0	U	50	55.8	112	50	53.9	108	3	60-163/30
96-18-4	1,2,3-Trichloropropane	5.0	U	50	50.6	101	50	57.3	115	12	57-150/30
95-63-6	1,2,4-Trimethylbenzene	5.0	U	50	53.0	106	50	53.6	107	1	67-130/30
108-67-8	1,3,5-Trimethylbenzene	5.0	U	50	58.1	116	50	58.5	117	1	66-137/30
108-05-4	Vinyl Acetate	5.0	U	50	69.5	139	50	71.6	143	3	48-200/30
75-01-4	Vinyl chloride	1.0	U	50	56.9	114	50	55.5	111	2	39-176/30
	m,p-Xylene	1.0	U	100	102	102	100	101	101	1	64-128/30
95-47-6	o-Xylene	1.0	U	50	54.3	109	50	51.6	103	5	64-126/30
1330-20-7	Xylene (total)	1.0	U	150	157	105	150	153	102	3	65-127/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42178-3MS	U33368.D	1	10/28/15	AD	n/a	n/a	MSU1363
MC42178-3MSD	U33369.D	1	10/28/15	AD	n/a	n/a	MSU1363
MC42178-3 [a]	U33354.D	1	10/28/15	AD	n/a	n/a	MSU1363

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42178-1, MC42178-2, MC42178-3, MC42178-4, MC42178-5, MC42178-6, MC42178-7, MC42178-8, MC42178-9, MC42178-10, MC42178-11, MC42178-12, MC42178-13

CAS No.	Surrogate Recoveries	MS	MSD	MC42178-3	Limits
1868-53-7	Dibromofluoromethane	109%	105%	115%	79-127%
2037-26-5	Toluene-D8	95%	98%	95%	80-116%
460-00-4	4-Bromofluorobenzene	93%	99%	92%	77-124%

(a) Laboratory not DOD certified for method 8260c analysis.
(b) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample:	MSU1360-BFB	**Injection Date:**	10/26/15
Lab File ID:	U33275.D	**Injection Time:**	18:12
Instrument ID:	GCMSU		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	43851	20.9		Pass
75	30.0 - 60.0% of mass 95	107181	51.2		Pass
95	Base peak, 100% relative abundance	209387	100.0		Pass
96	5.0 - 9.0% of mass 95	14330	6.84		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 150.0% of mass 95	175552	83.8		Pass
175	5.0 - 9.0% of mass 174	12789	6.11	(7.29) [a]	Pass
176	95.0 - 101.0% of mass 174	167403	79.9	(95.4) [a]	Pass
177	5.0 - 9.0% of mass 176	11035	5.27	(6.59) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSU1360-IC1360	U33275.D	10/26/15	18:12	00:00	Initial cal 0.5
MSU1360-IC1360	U33276.D	10/26/15	18:39	00:27	Initial cal 1
MSU1360-IC1360	U33277.D	10/26/15	19:06	00:54	Initial cal 2
MSU1360-IC1360	U33278.D	10/26/15	19:33	01:21	Initial cal 5
MSU1360-IC1360	U33279.D	10/26/15	20:00	01:48	Initial cal 10
MSU1360-IC1360	U33280.D	10/26/15	20:27	02:15	Initial cal 20
MSU1360-ICC1360	U33281.D	10/26/15	20:54	02:42	Initial cal 50
MSU1360-IC1360	U33282.D	10/26/15	21:21	03:09	Initial cal 100
MSU1360-IC1360	U33283.D	10/26/15	21:48	03:36	Initial cal 200
MSU1360-IC1360	U33284.D	10/26/15	22:15	04:03	Initial cal 400
MSU1360-ICV1360	U33287.D	10/26/15	23:36	05:24	Initial cal verification 50
MSU1360-ICV1360	U33288.D	10/27/15	00:03	05:51	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample:	MSU1363-BFB	**Injection Date:**	10/28/15
Lab File ID:	U33343.D	**Injection Time:**	09:56
Instrument ID:	GCMSU		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	43699	22.8		Pass
75	30.0 - 60.0% of mass 95	102800	53.6		Pass
95	Base peak, 100% relative abundance	191808	100.0		Pass
96	5.0 - 9.0% of mass 95	13016	6.79		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 150.0% of mass 95	155411	81.0		Pass
175	5.0 - 9.0% of mass 174	11437	5.96	(7.36) [a]	Pass
176	95.0 - 101.0% of mass 174	150395	78.4	(96.8) [a]	Pass
177	5.0 - 9.0% of mass 176	10078	5.25	(6.70) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSU1363-CC1360	U33343.D	10/28/15	09:56	00:00	Continuing cal 50
MSU1363-BS	U33344.D	10/28/15	10:24	00:28	Blank Spike
MSU1363-MB	U33347.D	10/28/15	11:44	01:48	Method Blank
MC42178-13	U33348.D	10/28/15	12:12	02:16	TRIP BLANK
ZZZZZZ	U33349.D	10/28/15	12:39	02:43	(unrelated sample)
ZZZZZZ	U33350.D	10/28/15	13:06	03:10	(unrelated sample)
ZZZZZZ	U33351.D	10/28/15	13:33	03:37	(unrelated sample)
ZZZZZZ	U33352.D	10/28/15	14:00	04:04	(unrelated sample)
ZZZZZZ	U33353.D	10/28/15	14:27	04:31	(unrelated sample)
MC42178-3	U33354.D	10/28/15	14:54	04:58	G6M-95-19X_FAL15
MC42178-1	U33355.D	10/28/15	15:21	05:25	G6M-04-15X_FAL15
MC42178-2	U33356.D	10/28/15	15:49	05:53	G6M-04-13X_FAL15
MC42178-4	U33357.D	10/28/15	16:16	06:20	G6M-96-22B_FAL15
MC42178-5	U33358.D	10/28/15	16:43	06:47	G6M-96-22A_FAL15
MC42178-7	U33359.D	10/28/15	17:10	07:14	G6M-04-03X_FAL15
MC42178-9	U33360.D	10/28/15	17:37	07:41	G6M-04-03X_FAL15-H
MC42178-10	U33361.D	10/28/15	18:04	08:08	G6M-DUP1_FAL15
MC42178-6	U33362.D	10/28/15	18:31	08:35	G6M-04-01X_FAL15
MC42178-12	U33363.D	10/28/15	18:59	09:03	G6M-04-09X_FAL15
MC42178-8	U33364.D	10/28/15	19:26	09:30	G6M-03-07X_FAL15
MC42178-11	U33365.D	10/28/15	19:53	09:57	G6M-13-06X_FAL15
ZZZZZZ	U33366.D	10/28/15	20:20	10:24	(unrelated sample)
ZZZZZZ	U33367.D	10/28/15	20:48	10:52	(unrelated sample)
MC42178-3MS	U33368.D	10/28/15	21:15	11:19	Matrix Spike

Instrument Performance Check (BFB)

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample:	MSU1363-BFB	**Injection Date:**	10/28/15
Lab File ID:	U33343.D	**Injection Time:**	09:56
Instrument ID:	GCMSU		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MC42178-3MSD	U33369.D	10/28/15	21:42	11:46	Matrix Spike Duplicate
MSU1363-ECC1360	U33370.D	10/28/15	22:09	12:13	Ending cal 50

Volatile Internal Standard Area Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Check Std:	MSU1363-CC1360	**Injection Date:**	10/28/15
Lab File ID:	U33343.D	**Injection Time:**	09:56
Instrument ID:	GCMSU	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	371874	9.50	628713	10.39	411820	13.60	493257	16.17	145736	7.59
Upper Limit [a]	743748	10.00	1257426	10.89	823640	14.10	986514	16.67	291472	8.09
Lower Limit [b]	185937	9.00	314357	9.89	205910	13.10	246629	15.67	72868	7.09

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSU1363-BS	408129	9.49	671920	10.39	365182	13.60	477779	16.17	274838	7.52
MSU1363-MB	384269	9.49	605566	10.39	337192	13.60	474254	16.17	156049	7.59
MC42178-13 [c]	386014	9.49	608776	10.39	347713	13.60	485978	16.17	250928	7.51
ZZZZZZ	381822	9.49	607792	10.39	337576	13.60	458537	16.17	186901	7.55
ZZZZZZ	384375	9.49	605374	10.39	337945	13.60	474044	16.17	268701	7.49
ZZZZZZ	382206	9.49	603202	10.39	329032	13.60	435568	16.17	174283	7.59
ZZZZZZ	373981	9.49	587589	10.39	324046	13.60	455906	16.17	267152	7.48
ZZZZZZ	356963	9.49	572651	10.39	324197	13.60	434842	16.17	206750	7.61
MC42178-3 [c]	339590	9.49	530432	10.39	311307	13.60	480170	16.17	280583	7.52
MC42178-1 [c]	344734	9.49	579404	10.39	347350	13.60	460345	16.17	278476	7.53
MC42178-2 [c]	349581	9.49	569919	10.39	343819	13.60	448380	16.17	222727	7.52
MC42178-4 [c]	377627	9.49	614192	10.39	358353	13.60	466818	16.17	238734	7.46
MC42178-5 [c]	346472	9.49	533948	10.39	295331	13.60	448675	16.17	246430	7.48
MC42178-7 [c]	352703	9.49	567011	10.39	305476	13.60	440552	16.17	242257	7.56
MC42178-9 [c]	349740	9.50	566989	10.39	319706	13.60	429845	16.17	253275	7.53
MC42178-10 [c]	353150	9.49	534197	10.39	298116	13.60	459546	16.17	254572	7.51
MC42178-6 [c]	366663	9.50	604399	10.39	366904	13.60	454529	16.17	157301	7.54
MC42178-12 [c]	367296	9.50	594617	10.39	318588	13.60	426037	16.17	119434	7.63
MC42178-8 [c]	353849	9.50	545218	10.39	294176	13.60	429083	16.17	272314	7.55
MC42178-11 [d]	376852	9.50	598010	10.39	330717	13.60	440025	16.17	235983	7.50
ZZZZZZ	397311	9.50	714603	10.39	458626	13.60	476887	16.17	263137	7.53
ZZZZZZ	446042	9.50	737384	10.39	454775	13.60	533180	16.17	196322	7.58
MC42178-3MS	443790	9.50	733748	10.39	387227	13.60	510575	16.17	349866 [e]	7.49
MC42178-3MSD	464160	9.49	773559	10.39	432631	13.60	529180	16.17	314562 [e]	7.59
MSU1363-ECC1360	484929	9.49	810151	10.39	508777	13.60	614435	16.17	331485 [e]	7.48

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Laboratory not DOD certified for method 8260c analysis.

Volatile Internal Standard Area Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Check Std:	MSU1363-CC1360	**Injection Date:**	10/28/15
Lab File ID:	U33343.D	**Injection Time:**	09:56
Instrument ID:	GCMSU	**Method:**	SW846 8260C

Lab	IS 1		IS 2		IS 3		IS 4		IS 5	
Sample ID	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT

(d) Laboratory not DOD certified for method 8260c analysis. Elevated RL due to dilution required for matrix interference (foaming).
(e) Outside control limits. Target analytes not associated with this internal standard.

Volatile Surrogate Recovery Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC42178-1	U33355.D	106	102	96
MC42178-2	U33356.D	104	101	97
MC42178-3	U33354.D	115	95	92
MC42178-4	U33357.D	102	100	97
MC42178-5	U33358.D	113	92	91
MC42178-6	U33362.D	106	101	100
MC42178-7	U33359.D	110	92	92
MC42178-8	U33364.D	110	92	91
MC42178-9	U33360.D	109	96	93
MC42178-10	U33361.D	111	90	92
MC42178-11	U33365.D	105	96	94
MC42178-12	U33363.D	110	93	94
MC42178-13	U33348.D	108	97	94
MC42178-3MS	U33368.D	109	95	93
MC42178-3MSD	U33369.D	105	98	99
MSU1363-BS	U33344.D	106	97	93
MSU1363-MB	U33347.D	107	95	93

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-127%
S2 = Toluene-D8	80-116%
S3 = 4-Bromofluorobenzene	77-124%

Initial Calibration Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Sample: MSU1360-ICC1360
Lab FileID: U33281.D

```
                           Response Factor Report  MSU

 Method       : R:\1\methods\U151027.m (RTE Integrator)
 Title        : SW-846 Method 8260
 Last Update  : Tue Oct 27 10:20:21 2015
 Response via : Initial Calibration

 Calibration Files
 0.5 =U33275.D    1.0 =U33276.D    2.0 =U33277.D    5.0 =U33278.D
 10  =U33279.D    20  =U33280.D    50  =U33281.D    100 =U33282.D
 200 =U33283.D    400 =U33284.D        =                =

 Compound
             0.5   1.0   2.0   5.0   10    20    50    100   200   400    Avg    %RSD
 ---------------------------------------------------------------------------

 1) I   tert butyl alcohol-d9 ----------------ISTD--------------------
 2)  tertiary butyl alcohol
                       0.455 0.985 1.053 0.834 1.030 1.076 1.011 1.018  0.933   22.16
            ---- Linear regression ----  Coefficient =  0.9986
              Response Ratio = -0.01704 + 1.02721 *A

 3)  Ethanol
                                                                        0.000#  -1.00

 4) I   pentafluorobenzene    ----------------ISTD--------------------
 5)  dichlorodifluoromethane
             1.194 1.173 1.087 1.284 1.142 0.830 1.134 1.073 1.044 0.963  1.092   11.66
 6)  chloromethane
             1.015 0.996 0.797 0.886 0.854 0.515 0.706 0.647 0.599 0.554  0.757   23.76
            ---- Linear regression ----  Coefficient =  0.9909
              Response Ratio = 0.00871 + 0.58743 *A

 7)  vinyl chloride
             0.855 0.803 0.722 0.876 0.838 0.572 0.841 0.823 0.821 0.786  0.794   11.16
 8)  bromomethane
                       0.495 0.562 0.507 0.347 0.466 0.465 0.441 0.389  0.459   14.75
 9)  chloroethane
                   0.482 0.353 0.436 0.398 0.316 0.404 0.368 0.364 0.319  0.382   14.08
10)  ethyl ether
                   0.474 0.378 0.505 0.539 0.515 0.495 0.475 0.476 0.423  0.476   10.28
11)  acetonitrile
                       1.017 1.048 1.096 1.074 1.011 0.956 0.950 0.827  0.997    8.61
12)  trichlorofluoromethane
             1.283 1.222 1.092 1.343 1.248 0.890 1.242 1.189 1.159 1.109  1.178   10.78
13)  freon-113
                   0.720 0.616 0.766 0.831 0.747 0.775 0.721 0.748 0.663  0.732    8.60
14)  acrolein
                                                                        0.000#  -1.00
15)  1,1-dichloroethene
             0.514 0.620 0.480 0.574 0.635 0.567 0.592 0.558 0.569 0.515  0.562    8.60
16)  acetone
                                   0.084 0.057 0.077 0.066 0.082 0.072  0.073#  14.01
17)  Methyl Acetate
                             0.310 0.348 0.162 0.279 0.199 0.257 0.241  0.257   24.78
            ---- Quadratic regression ----  Coefficient =  0.9954
              Response Ratio = -0.00438 + 0.24631 *A + -0.00044 *A^2

18)  methylene chloride
             0.690 0.767 0.555 0.695 0.728 0.651 0.672 0.648 0.653 0.587  0.665    9.36
```

Initial Calibration Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample: MSU1360-ICC1360
Lab FileID: U33281.D

19)	methyl tert butyl ether	1.692	1.790	1.509	1.788	1.921	1.789	1.802	1.763	1.824	1.614	1.749	6.66
20)	acrylonitrile				0.240	0.282	0.243	0.260	0.265	0.289	0.248	0.261	7.27
21)	allyl chloride				1.087	1.152	1.074	1.040	0.977	0.996	0.844	1.024	9.66
22)	trans-1,2-dichloroethene	0.597	0.654	0.502	0.626	0.659	0.598	0.605	0.569	0.566	0.507	0.588	9.18
23)	iodomethane	1.078	1.191	0.920	1.130	1.221	1.093	1.138	1.092	1.111	1.007	1.098	7.84
24)	carbon disulfide		2.370	1.797	2.132	2.268	2.021	2.125	2.048	2.071	1.866	2.077	8.59
25)	propionitrile				0.043	0.047	0.047	0.047	0.044	0.045	0.041	0.045#	5.54
26)	vinyl acetate		0.830	0.746	0.954	1.043	0.760	0.854	0.801	0.784	0.648	0.825	14.18
27)	chloroprene	0.888	1.063	0.778	1.031	1.113	1.041	1.048	0.977	0.989	0.888	0.982	10.38
28)	di-isopropyl ether	1.967	2.152	1.727	2.119	2.207	2.115	2.084	2.017	1.983	1.733	2.010	8.24
29)	methacrylonitrile		0.408	0.327	0.364	0.396	0.510	0.380	0.372	0.416	0.373	0.394	12.91
30)	2-butanone					0.074	0.063	0.073	0.072	0.083	0.075	0.073#	8.51
31)	Ethyl Acetate											0.000#	-1.00
32)	Hexane		0.772	0.612	0.680	0.719	0.690	0.658	0.601	0.596	0.529	0.651	11.33
33)	1,1-dichloroethane	1.076	1.290	0.971	1.250	1.312	1.194	1.190	1.133	1.133	1.015	1.156	9.78
34)	tert-butyl ethyl ether	1.836	2.032	1.663	2.048	2.179	2.077	2.097	2.060	2.123	1.895	2.001	7.83
35)	isobutyl alcohol		0.056	0.038	0.047	0.049	0.046	0.046	0.044	0.045	0.040	0.045#	11.32
36)	2,2-dichloropropane	0.940	1.017	0.811	0.972	1.058	0.947	0.986	0.928	0.916	0.832	0.941	8.09
37)	cis-1,2-dichloroethene	0.636	0.722	0.547	0.723	0.739	0.659	0.668	0.627	0.640	0.568	0.653	9.81
38)	bromochloromethane		0.332	0.239	0.338	0.353	0.323	0.331	0.313	0.324	0.291	0.316	10.61
39)	chloroform	1.103	1.243	0.933	1.252	1.305	1.188	1.191	1.127	1.154	1.045	1.154	9.44
40)	dibromofluoromethane (s)	0.618	0.623	0.605	0.656	0.645	0.597	0.611	0.606	0.619	0.605	0.619	3.06
41)	Tetrahydrofuran				0.202	0.241	0.196	0.205	0.198	0.220	0.186	0.207	8.70
42)	1,1,1-trichloroethane	0.878	1.061	0.841	1.066	1.130	1.067	1.099	1.054	1.087	0.990	1.027	9.33
43) I	1,4-difluorobenzene	----------------ISTD--------------------											
44)	Cyclohexane		0.792	0.622	0.848	0.884	0.799	0.783	0.716	0.723	0.626	0.755	12.07
45)	carbon tetrachloride	0.426	0.588	0.430	0.591	0.626	0.572	0.573	0.548	0.552	0.494	0.540	12.62
46)	1,1-dichloropropene	0.426	0.566	0.421	0.563	0.583	0.544	0.518	0.483	0.482	0.430	0.502	12.40
47)	benzene	1.401	1.560	1.180	1.481	1.508	1.434	1.359	1.283	1.244	1.065	1.351	11.61
48)	1,2-dichloroethane		0.606	0.476	0.608	0.630	0.600	0.572	0.550	0.551	0.473	0.563	10.08

Initial Calibration Summary

Job Number: MC42178 **Sample:** MSU1360-ICC1360
Account: HSMAW H&S Environmental **Lab FileID:** U33281.D
Project: Fort Devens, AOC50, Devens, MA

```
49)  tert-amyl methyl ether
           1.121 1.216 0.968 1.236 1.272 1.193 1.165 1.122 1.118 0.970  1.138    9.04
50)  heptane
                 0.556 0.456 0.502 0.522 0.547 0.495 0.468 0.443 0.388  0.486   11.01
51)  trichloroethene
                 0.627 0.293 0.393 0.414 0.388 0.382 0.356 0.365 0.335  0.395   23.84
             ---- Linear regression ----  Coefficient =  0.9970
               Response Ratio = 0.00439 + 0.34871 *A

52)  1,2-dichloropropane
                 0.348 0.310 0.356 0.362 0.367 0.356 0.351 0.345 0.298  0.344    6.89
53)  dibromomethane
                 0.232 0.178 0.240 0.245 0.241 0.235 0.232 0.240 0.216  0.229    9.04
54)  bromodichloromethane
                 0.482 0.388 0.479 0.503 0.507 0.504 0.507 0.522 0.482  0.486    8.10
55)  Methylcyclohexane
           0.575 0.703 0.547 0.739 0.748 0.694 0.680 0.619 0.629 0.545  0.648   11.70
56)  2-chloroethyl vinyl ether
                       0.176 0.128 0.122 0.128 0.156 0.184 0.190 0.185  0.159   18.34
             ---- Linear regression ----  Coefficient =  0.9951
               Response Ratio = -0.00459 + 0.18410 *A

57)  methyl methacrylate
                             0.140 0.179 0.193 0.197 0.214 0.227 0.208  0.194   14.73
58)  1,4-dioxane
                                                                        0.000#  -1.00
59)  cis-1,3-dichloropropene
           0.470 0.435 0.442 0.410 0.461 0.538 0.522 0.558 0.574 0.538  0.495   11.68
60)  toluene-d8 (s)
           1.162 1.114 1.219 1.111 1.119 1.180 1.201 1.257 1.288 1.322  1.197    6.23
61)  4-methyl-2-pentanone
           0.459 0.379 0.336 0.358 0.382 0.358 0.367 0.373 0.399 0.362  0.377    8.79
62)  toluene
           0.713 0.742 0.660 0.694 0.740 0.793 0.765 0.784 0.791 0.729  0.741    5.91
63)  trans-1,3-dichloropropene
           0.394 0.369 0.379 0.337 0.375 0.463 0.450 0.501              0.408   13.81
64)  1,1,2-trichloroethane
                 0.208 0.207 0.205 0.213 0.242 0.231 0.249 0.258 0.242  0.228    8.94
65)  ethyl methacrylate
           0.341 0.323 0.314 0.315 0.341 0.377 0.363 0.397 0.411 0.388  0.357    9.93

66) I   chlorobenzene-d5      ----------------ISTD--------------------
67)  tetrachloroethene
           0.531 0.621 0.513 0.588 0.633 0.639 0.616 0.572 0.553 0.490  0.575    9.13
68)  1,3-dichloropropane
           0.738 0.759 0.727 0.698 0.777 0.837 0.789 0.797 0.779 0.694  0.760    5.97
69)  dibromochloromethane
           0.475 0.511 0.443 0.523 0.559 0.611 0.605 0.614 0.617 0.563  0.552   11.29
70)  1,2-dibromoethane
                 0.450 0.441 0.466 0.496 0.519 0.504 0.504 0.508 0.465  0.484    5.86
71)  2-hexanone
                             0.465 0.494 0.428 0.422 0.408 0.416 0.343  0.425   11.18
72)  chlorobenzene
           1.452 1.629 1.317 1.528 1.595 1.619 1.567 1.514 1.490 1.347  1.506    7.15
73)  1,1,1,2-tetrachloroethane
           0.612 0.691 0.509 0.717 0.756 0.715 0.697 0.643 0.626 0.539  0.650   12.36
74)  ethylbenzene
           2.661 3.114 2.279 2.861 3.011 2.938 2.786 2.607 2.531 2.174  2.696   11.40
75)  m,p-xylene
           1.039 1.183 0.871 1.094 1.151 1.116 1.066 1.005 0.980 0.852  1.036   10.70
```

Initial Calibration Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Sample: MSU1360-ICC1360
Lab FileID: U33281.D

76) o-xylene
1.012 1.313 0.936 1.313 1.344 1.248 1.222 1.114 1.096 0.917 1.151 13.86
77) styrene
1.594 1.880 1.402 1.809 1.941 1.871 1.786 1.719 1.707 1.467 1.718 10.46
78) bromoform
0.394 0.290 0.391 0.443 0.426 0.444 0.449 0.481 0.445 0.418 13.30
79) trans-1,4-dichloro-2-butene
0.148 0.205 0.240 0.219 0.227 0.224 0.243 0.224 0.216 13.84

80) I 1,4-dichlorobenzene-d ----------------ISTD--------------------
81) isopropylbenzene
2.395 2.358 2.135 2.287 2.484 2.780 2.673 2.574 2.598 2.294 2.458 8.11
82) bromofluorobenzene (s)
0.756 0.715 0.794 0.709 0.707 0.771 0.754 0.806 0.834 0.891 0.774 7.68
83) bromobenzene
0.604 0.647 0.557 0.612 0.623 0.680 0.638 0.652 0.663 0.608 0.628 5.62
84) 1,1,2,2-tetrachloroethane
0.626 0.558 0.542 0.536 0.581 0.646 0.610 0.645 0.646 0.592 0.598 7.16
85) 1,2,3-trichloropropane
0.606 0.635 0.539 0.581 0.611 0.624 0.610 0.614 0.630 0.582 0.603 4.76
86) n-propylbenzene
2.871 3.045 2.573 2.891 3.045 3.302 3.129 3.018 3.020 2.523 2.942 8.15
87) 2-chlorotoluene
2.193 2.214 1.865 2.071 2.149 2.300 2.215 2.168 2.150 1.851 2.118 7.03
88) 4-chlorotoluene
1.846 1.965 1.635 1.759 1.874 2.002 1.887 1.917 1.971 1.811 1.867 5.94
89) 1,3,5-trimethylbenzene
2.171 2.211 1.941 2.143 2.330 2.551 2.522 2.430 2.401 1.996 2.270 9.30
90) tert-butylbenzene
1.093 1.282 1.529 1.555 1.513 1.558 1.388 1.417 12.40
91) 1,2,4-trimethylbenzene
2.496 2.531 2.117 2.384 2.560 2.729 2.673 2.600 2.574 2.176 2.484 8.11
92) sec-butylbenzene
2.839 2.823 2.537 2.727 3.032 3.391 3.380 3.191 3.164 2.556 2.964 10.62
93) 1,3-dichlorobenzene
1.473 1.485 1.221 1.410 1.472 1.487 1.441 1.388 1.380 1.227 1.398 7.15
94) p-isopropyltoluene
2.558 2.568 2.170 2.454 2.702 2.934 2.928 2.739 2.699 2.219 2.597 10.05
95) 1,4-dichlorobenzene
1.481 1.520 1.263 1.425 1.520 1.513 1.464 1.406 1.393 1.249 1.423 6.99
96) 1,2-dichlorobenzene
1.516 1.678 1.331 1.571 1.639 1.625 1.618 1.510 1.449 1.252 1.519 9.19
97) n-butylbenzene
2.832 2.987 2.287 2.759 2.943 2.992 2.980 2.663 2.586 2.154 2.718 11.01
98) 1,2-dibromo-3-chloropropane
0.115 0.152 0.165 0.152 0.180 0.164 0.165 0.149 0.155 12.30
99) 1,3,5-trichlorobenzene
1.609 1.231 1.548 1.570 1.533 1.548 1.283 1.251 1.057 1.403 14.18
100) 1,2,4-trichlorobenzene
1.442 1.164 1.375 1.406 1.380 1.459 1.193 1.186 0.994 1.289 12.39
101) hexachlorobutadiene
0.692 0.709 0.534 0.625 0.657 0.644 0.667 0.534 0.567 0.501 0.613 11.98
102) naphthalene
3.213 2.952 2.266 2.820 2.996 2.824 3.157 2.715 2.605 2.148 2.770 12.66
103) 2-Methylnaphthalene
1.381 1.547 1.408 1.764 1.312 1.489 1.222 1.446 12.21
104) 1-Methylnaphthalene
1.061 1.178 1.020 1.291 0.952 1.062 0.854 1.060 13.50
105) 1,2,3-trichlorobenzene
1.279 1.017 1.220 1.245 1.181 1.282 1.042 1.068 0.896 1.137 11.97

Initial Calibration Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Sample: MSU1360-ICC1360
Lab FileID: U33281.D

```
----------------------------------------------------------------------------
(#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          U151027.m         Tue Oct 27 10:41:07 2015
```

Initial Calibration Verification

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Sample: MSU1360-ICV1360
Lab FileID: U33287.D

```
                        Evaluate Continuing Calibration Report

 Data File : R:\1\data\U151026\U33287.D                        Vial: 17
 Acq On    : 26 Oct 2015  11:36 pm                         Operator: andrewd1
 Sample    : icv1360-50                                    Inst     : MSU
 Misc      : ms34382,msu1360,,,,5,1                        Multiplr: 1.00
 MS Integration Params: RTEINT.P

 Method       : R:\1\methods\U151027.m (RTE Integrator)
 Title        : SW-846 Method 8260
 Last Update  : Tue Oct 27 10:20:21 2015
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev :  20%     Min. Rel. Area : 200%

        Compound                           AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
 ----------------------------------------------------------------------------
 1 I   tert butyl alcohol-d9             1.000   1.000      0.0  107   0.05    7.52

           ----------------------- Amount  Calc.    %Drift   -------------
 2 P   tertiary butyl alcohol                   ----------NA----------

           ----------------------- AvgRF   CCRF      %Dev   --------------
 3 P   Ethanol                                  ----------NA----------

 4 I   pentafluorobenzene                1.000   1.000      0.0  111   0.00    9.49
 5 P   dichlorodifluoromethane                  ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
 6 P   chloromethane                            ----------NA----------

           ----------------------- AvgRF   CCRF      %Dev   --------------
 7 P   vinyl chloride                           ----------NA----------
 8 P   bromomethane                             ----------NA----------
 9 P   chloroethane                             ----------NA----------
10 P   ethyl ether                              ----------NA----------
11 P   acetonitrile                             ----------NA----------
12 P   trichlorofluoromethane                   ----------NA----------
13 P   freon-113                                ----------NA----------
14 P   acrolein                                 ----------NA----------
15 P   1,1-dichloroethene                       ----------NA----------
16 P   acetone                                  ----------NA----------

           ----------------------- Amount  Calc.    %Drift   -------------
17 P   Methyl Acetate                           ----------NA----------

           ----------------------- AvgRF   CCRF      %Dev   --------------
18 P   methylene chloride                       ----------NA----------
19 P   methyl tert butyl ether                  ----------NA----------
20 P   acrylonitrile                            ----------NA----------
21 P   allyl chloride                           ----------NA----------
22 P   trans-1,2-dichloroethene                 ----------NA----------
23 P   iodomethane                              ----------NA----------
24 P   carbon disulfide                         ----------NA----------
25 P   propionitrile                            ----------NA----------
26 P   vinyl acetate                            ----------NA----------
27 P   chloroprene                              ----------NA----------
28 P   di-isopropyl ether                       ----------NA----------
29 P   methacrylonitrile                        ----------NA----------
```

Initial Calibration Verification

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Sample: MSU1360-ICV1360
Lab FileID: U33287.D

30 P	2-butanone		----------NA----------					
31 P	Ethyl Acetate		----------NA----------					
32 P	Hexane		----------NA----------					
33 P	1,1-dichloroethane		----------NA----------					
34 P	tert-butyl ethyl ether		----------NA----------					
35 P	isobutyl alcohol		----------NA----------					
36 P	2,2-dichloropropane		----------NA----------					
37 P	cis-1,2-dichloroethene		----------NA----------					
38 P	bromochloromethane		----------NA----------					
39 P	chloroform		----------NA----------					
40 S	dibromofluoromethane (s)	0.619	0.610	1.5	111	0.00	9.56
41 P	Tetrahydrofuran		----------NA----------					
42 P	1,1,1-trichloroethane		----------NA----------					
43 I	1,4-difluorobenzene	1.000	1.000	0.0	112	0.00	10.39
44 P	Cyclohexane		----------NA----------					
45 P	carbon tetrachloride		----------NA----------					
46 P	1,1-dichloropropene		----------NA----------					
47 P	benzene		----------NA----------					
48 P	1,2-dichloroethane		----------NA----------					
49 P	tert-amyl methyl ether		----------NA----------					
50 P	heptane		----------NA----------					
	-----------------------	Amount	Calc.	%Drift	-------------			
51 P	trichloroethene		----------NA----------					
	-----------------------	AvgRF	CCRF	%Dev	--------------			
52 P	1,2-dichloropropane		----------NA----------					
53 P	dibromomethane		----------NA----------					
54 P	bromodichloromethane		----------NA----------					
55 P	Methylcyclohexane		----------NA----------					
	-----------------------	Amount	Calc.	%Drift	-------------			
56 P	2-chloroethyl vinyl ether	50.000	44.141	11.7	113	0.00	11.44
	-----------------------	AvgRF	CCRF	%Dev	--------------			
57 P	methyl methacrylate		----------NA----------					
58 P	1,4-dioxane		----------NA----------					
59 P	cis-1,3-dichloropropene		----------NA----------					
60 S	toluene-d8 (s)	1.197	1.188	0.8	110	0.00	11.99
61 P	4-methyl-2-pentanone		----------NA----------					
62 P	toluene		----------NA----------					
63 P	trans-1,3-dichloropropene		----------NA----------					
64 P	1,1,2-trichloroethane		----------NA----------					
65 P	ethyl methacrylate		----------NA----------					
66 I	chlorobenzene-d5	1.000	1.000	0.0	107	0.00	13.60
67 P	tetrachloroethene		----------NA----------					
68 P	1,3-dichloropropane		----------NA----------					
69 P	dibromochloromethane		----------NA----------					
70 P	1,2-dibromoethane		----------NA----------					
71 P	2-hexanone		----------NA----------					
72 P	chlorobenzene		----------NA----------					
73 P	1,1,1,2-tetrachloroethane		----------NA----------					
74 P	ethylbenzene		----------NA----------					
75 P	m,p-xylene		----------NA----------					
76 P	o-xylene		----------NA----------					
77 P	styrene		----------NA----------					
78 P	bromoform		----------NA----------					
79 P	trans-1,4-dichloro-2-bute		----------NA----------					

6.7.2

6

Initial Calibration Verification

Job Number: MC42178 **Sample:** MSU1360-ICV1360
Account: HSMAW H&S Environmental **Lab FileID:** U33287.D
Project: Fort Devens, AOC50, Devens, MA

```
 80 I   1,4-dichlorobenzene-d4      1.000   1.000      0.0  106   0.00   16.17
 81 P   isopropylbenzene                  ----------NA----------
 82 S   bromofluorobenzene (s)      0.774   0.747      3.5  105   0.00   14.87
 83 P   bromobenzene                      ----------NA----------
 84 P   1,1,2,2-tetrachloroethane         ----------NA----------
 85 P   1,2,3-trichloropropane            ----------NA----------
 86 P   n-propylbenzene                   ----------NA----------
 87 P   2-chlorotoluene                   ----------NA----------
 88 P   4-chlorotoluene                   ----------NA----------
 89 P   1,3,5-trimethylbenzene            ----------NA----------
 90 P   tert-butylbenzene                 ----------NA----------
 91 P   1,2,4-trimethylbenzene            ----------NA----------
 92 P   sec-butylbenzene                  ----------NA----------
 93 P   1,3-dichlorobenzene               ----------NA----------
 94 P   p-isopropyltoluene                ----------NA----------
 95 P   1,4-dichlorobenzene               ----------NA----------
 96 P   1,2-dichlorobenzene               ----------NA----------
 97 P   n-butylbenzene                    ----------NA----------
 98 P   1,2-dibromo-3-chloropropa         ----------NA----------
 99 P   1,3,5-trichlorobenzene            ----------NA----------
100 P   1,2,4-trichlorobenzene            ----------NA----------
101 P   hexachlorobutadiene               ----------NA----------
102 P   naphthalene                       ----------NA----------
103 P   2-Methylnaphthalene               ----------NA----------
104 P   1-Methylnaphthalene               ----------NA----------
105 P   1,2,3-trichlorobenzene            ----------NA----------
 --------------------------------------------------------------------------
 --------------------------------------------------------------------------

    (#) = Out of Range               SPCC's out = 91   CCC's out = 0
     U33281.D   U151027.m        Tue Oct 27 10:40:53 2015
```

6.7.2

6

Initial Calibration Verification

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Sample: MSU1360-ICV1360
Lab FileID: U33288.D

Evaluate Continuing Calibration Report

Data File : R:\1\data\U151026\U33288.D
Acq On : 27 Oct 2015 12:03 am
Sample : icv1360-50
Misc : ms34382,msu1360,,,,5,1
MS Integration Params: RTEINT.P

Vial: 18
Operator: andrewd1
Inst : MSU
Multiplr: 1.00

Method : R:\1\methods\U151027.m (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Tue Oct 27 10:20:21 2015
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	tert butyl alcohol-d9	1.000	1.000	0.0	108	0.08	7.55
			Amount	Calc.	%Drift			
2	P	tertiary butyl alcohol	500.000	532.278	-6.5	113	0.08	7.64
			AvgRF	CCRF	%Dev			
3	P	Ethanol	0.000	0.145	0.0	0#	0.20	6.55
4	I	pentafluorobenzene	1.000	1.000	0.0	114	0.00	9.49
5	P	dichlorodifluoromethane	1.092	1.053	3.6	106	0.00	4.36
			Amount	Calc.	%Drift			
6	P	chloromethane	50.000	58.736	-17.5	113	0.00	4.75
			AvgRF	CCRF	%Dev			
7	P	vinyl chloride	0.794	0.856	-7.8	116	0.00	4.99
8	P	bromomethane	0.459	0.476	-3.7	117	0.00	5.59
9	P	chloroethane	0.382	0.409	-7.1	116	0.00	5.75
10	P	ethyl ether	0.476	0.465	2.3	107	0.00	6.51
11	P	acetonitrile	0.997	0.935	6.2	106	0.00	7.36
12	P	trichlorofluoromethane	1.178	1.173	0.4	108	0.00	6.18
13	P	freon-113	0.732	0.722	1.4	107	0.00	6.90
14	P	acrolein		-----------NA----------				
15	P	1,1-dichloroethene	0.562	0.560	0.4	108	0.00	6.91
16	P	acetone	0.073	0.072#	1.4	106	0.05	6.96
			Amount	Calc.	%Drift			
17	P	Methyl Acetate	50.000	46.513	7.0	92	0.04	6.96
			AvgRF	CCRF	%Dev			
18	P	methylene chloride	0.665	0.660	0.8	112	0.00	7.53
19	P	methyl tert butyl ether	1.749	1.844	-5.4	117	0.00	7.83
20	P	acrylonitrile	0.261	0.261	0.0	115	0.02	7.81
21	P	allyl chloride	1.024	0.947	7.5	104	0.00	7.36
22	P	trans-1,2-dichloroethene	0.588	0.537	8.7	102	0.00	7.88
23	P	iodomethane	1.098	1.116	-1.6	112	0.00	7.16
24	P	carbon disulfide	2.077	1.943	6.5	105	0.00	7.29
25	P	propionitrile	0.045	0.041#	8.9	98	0.00	8.48
26	P	vinyl acetate	0.825	0.935	-13.3	125	0.00	8.30
27	P	chloroprene	0.982	0.905	7.8	99	0.00	8.48
28	P	di-isopropyl ether	2.010	2.025	-0.7	111	0.00	8.34
29	P	methacrylonitrile	0.394	0.408	-3.6	123	0.00	9.23

Initial Calibration Verification

Job Number: MC42178 **Sample:** MSU1360-ICV1360
Account: HSMAW H&S Environmental **Lab FileID:** U33288.D
Project: Fort Devens, AOC50, Devens, MA

30	P	2-butanone	0.073	0.081#	-11.0	128	0.01	8.99
31	P	Ethyl Acetate	0.000	0.466	0.0	0#	0.00	8.17
32	P	Hexane	0.651	0.542	16.7	94	0.00	8.17
33	P	1,1-dichloroethane	1.156	1.085	6.1	104	0.00	8.40
34	P	tert-butyl ethyl ether	2.001	1.957	2.2	107	0.00	8.76
35	P	isobutyl alcohol	0.045	0.041#	8.9	103	0.00	8.76
36	P	2,2-dichloropropane	0.941	0.835	11.3	97	0.00	9.08
37	P	cis-1,2-dichloroethene	0.653	0.676	-3.5	116	0.00	9.04
38	P	bromochloromethane	0.316	0.325	-2.8	113	0.00	9.32
39	P	chloroform	1.154	1.110	3.8	107	0.00	9.38
40	S	dibromofluoromethane (s)	0.619	0.603	2.6	113	0.00	9.56
41	P	Tetrahydrofuran	0.207	0.218	-5.3	122	0.01	9.35
42	P	1,1,1-trichloroethane	1.027	1.039	-1.2	108	0.00	9.64
43	I	1,4-difluorobenzene	1.000	1.000	0.0	115	0.00	10.39
44	P	Cyclohexane	0.755	0.683	9.5	100	0.00	9.74
45	P	carbon tetrachloride	0.540	0.539	0.2	108	0.00	9.82
46	P	1,1-dichloropropene	0.502	0.485	3.4	107	0.00	9.78
47	P	benzene	1.351	1.323	2.1	112	0.00	10.02
48	P	1,2-dichloroethane	0.563	0.555	1.4	111	0.00	10.05
49	P	tert-amyl methyl ether	1.138	1.123	1.3	110	0.00	10.06
50	P	heptane	0.486	0.484	0.4	112	0.00	10.22
		-----------------------	Amount	Calc.	%Drift	-------------		
51	P	trichloroethene	50.000	52.759	-5.5	112	0.00	10.69
		-----------------------	AvgRF	CCRF	%Dev	--------------		
52	P	1,2-dichloropropane	0.344	0.351	-2.0	113	0.00	10.98
53	P	dibromomethane	0.229	0.233	-1.7	114	0.00	11.09
54	P	bromodichloromethane	0.486	0.485	0.2	110	0.00	11.23
55	P	Methylcyclohexane	0.648	0.633	2.3	107	0.00	10.99
		-----------------------	Amount	Calc.	%Drift	-------------		
56	P	2-chloroethyl vinyl ether		----------NA----------				
		-----------------------	AvgRF	CCRF	%Dev	--------------		
57	P	methyl methacrylate	0.194	0.204	-5.2	119	0.00	10.90
58	P	1,4-dioxane	0.000	0.003#	0.0	0#	0.05	11.08
59	P	cis-1,3-dichloropropene	0.495	0.502	-1.4	110	0.00	11.68
60	S	toluene-d8 (s)	1.197	1.181	1.3	113	0.00	11.99
61	P	4-methyl-2-pentanone	0.377	0.419	-11.1	131	0.00	11.76
62	P	toluene	0.741	0.739	0.3	111	0.00	12.07
63	P	trans-1,3-dichloropropene	0.408	0.412	-1.0	105	0.00	12.25
64	P	1,1,2-trichloroethane	0.228	0.233	-2.2	115	0.00	12.49
65	P	ethyl methacrylate	0.357	0.382	-7.0	120	0.00	12.21
66	I	chlorobenzene-d5	1.000	1.000	0.0	113	0.00	13.60
67	P	tetrachloroethene	0.575	0.590	-2.6	109	0.00	12.65
68	P	1,3-dichloropropane	0.760	0.840	-10.5	120	0.00	12.68
69	P	dibromochloromethane	0.552	0.606	-9.8	114	0.00	12.95
70	P	1,2-dibromoethane	0.484	0.524	-8.3	118	0.00	13.13
71	P	2-hexanone	0.425	0.476	-12.0	128	0.00	12.64
72	P	chlorobenzene	1.506	1.539	-2.2	111	0.00	13.63
73	P	1,1,1,2-tetrachloroethane	0.650	0.682	-4.9	111	0.00	13.70
74	P	ethylbenzene	2.696	2.715	-0.7	110	0.00	13.69
75	P	m,p-xylene	1.036	1.045	-0.9	111	0.00	13.81
76	P	o-xylene	1.151	1.167	-1.4	108	0.00	14.26
77	P	styrene	1.718	1.701	1.0	108	0.00	14.27
78	P	bromoform	0.418	0.442	-5.7	113	0.00	14.54
79	P	trans-1,4-dichloro-2-bute	0.216	0.230	-6.5	115	0.00	14.68

6.7.3
6

Initial Calibration Verification

Job Number: MC42178 **Sample:** MSU1360-ICV1360
Account: HSMAW H&S Environmental **Lab FileID:** U33288.D
Project: Fort Devens, AOC50, Devens, MA

80	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	113	0.00	16.17
81	P	isopropylbenzene	2.458	2.593	-5.5	109	0.00	14.64
82	S	bromofluorobenzene (s)	0.774	0.756	2.3	113	0.00	14.87
83	P	bromobenzene	0.628	0.648	-3.2	114	0.00	15.08
84	P	1,1,2,2-tetrachloroethane	0.598	0.618	-3.3	114	0.00	14.95
85	P	1,2,3-trichloropropane	0.603	0.623	-3.3	115	0.00	15.06
86	P	n-propylbenzene	2.942	2.973	-1.1	107	0.00	15.10
87	P	2-chlorotoluene	2.118	2.156	-1.8	110	0.00	15.26
88	P	4-chlorotoluene	1.867	1.865	0.1	111	0.00	15.38
89	P	1,3,5-trimethylbenzene	2.270	2.544	-12.1	114	0.00	15.27
90	P	tert-butylbenzene	1.417	1.519	-7.2	110	0.00	15.65
91	P	1,2,4-trimethylbenzene	2.484	2.597	-4.5	109	0.00	15.71
92	P	sec-butylbenzene	2.964	3.276	-10.5	109	0.00	15.90
93	P	1,3-dichlorobenzene	1.398	1.404	-0.4	110	0.00	16.10
94	P	p-isopropyltoluene	2.597	2.877	-10.8	111	0.00	16.04
95	P	1,4-dichlorobenzene	1.423	1.441	-1.3	111	0.00	16.20
96	P	1,2-dichlorobenzene	1.519	1.564	-3.0	109	0.00	16.62
97	P	n-butylbenzene	2.718	2.889	-6.3	109	0.00	16.49
98	P	1,2-dibromo-3-chloropropa	0.155	0.167	-7.7	104	0.00	17.46
99	P	1,3,5-trichlorobenzene	1.403	1.410	-0.5	103	0.00	17.66
100	P	1,2,4-trichlorobenzene	1.289	1.382	-7.2	107	0.00	18.37
101	P	hexachlorobutadiene	0.613	0.652	-6.4	110	0.00	18.48
102	P	naphthalene	2.770	2.847	-2.8	102	0.00	18.71
103	P	2-Methylnaphthalene	1.446	1.786	-23.5#	114	0.00	20.11
104	P	1-Methylnaphthalene	1.060	1.383	-30.5#	121	0.00	20.37
105	P	1,2,3-trichlorobenzene	1.137	1.250	-9.9	110	0.00	18.96

(#) = Out of Range SPCC's out = 6 CCC's out = 0
U33281.D U151027.m Tue Oct 27 10:41:05 2015

Continuing Calibration Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Sample: MSU1363-CC1360
Lab FileID: U33343.D

```
                     Evaluate Continuing Calibration Report

  Data File : R:\1\data\U151028\U33343.D                    Vial: 1
  Acq On    : 28 Oct 2015   9:56 am                     Operator: andrewd1
  Sample    : cc1360-50                                 Inst     : MSU
  Misc      : ms35520,msu1363,,,,5,1                    Multiplr: 1.00
  MS Integration Params: RTEINT.P

  Method        : R:\1\methods\U151027.m (RTE Integrator)
  Title         : SW-846 Method 8260
  Last Update   : Tue Oct 27 10:20:21 2015
  Response via  : Multiple Level Calibration

  Min. RRF      :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
  Max. RRF Dev  :  20%     Max. Rel. Area : 200%

         Compound                     AvgRF    CCRF      %Dev Area%  Dev(min)R.T.
  ----------------------------------------------------------------------------
  1 I   tert butyl alcohol-d9        1.000    1.000       0.0   43#   0.12    7.59

           ----------------------- Amount  Calc.    %Drift   -------------
  2 P   tertiary butyl alcohol    500.000 251.448    49.7#  21    0.08    7.65

           ----------------------- AvgRF   CCRF      %Dev   --------------
  3 P   Ethanol                      0.000   0.021#     0.0    0#   0.01    6.36

  4 I   pentafluorobenzene           1.000   1.000      0.0   75    0.00    9.50
  5 P   dichlorodifluoromethane      1.092   1.310    -20.0   87    0.00    4.36

           ----------------------- Amount  Calc.    %Drift   -------------
  6 P   chloromethane               50.000  59.045    -18.1   75    0.00    4.73

           ----------------------- AvgRF   CCRF      %Dev   --------------
  7 P   vinyl chloride               0.794   0.921    -16.0   82    0.00    4.98
  8 P   bromomethane                 0.459   0.529    -15.3   86    0.00    5.59
  9 P   chloroethane                 0.382   0.410     -7.3   77    0.00    5.75
 10 P   ethyl ether                  0.476   0.473      0.6   72    0.00    6.51
 11 P   acetonitrile                 0.997   1.005     -0.8   75    0.00    7.37
 12 P   trichlorofluoromethane       1.178   1.415    -20.1#  86    0.00    6.17
 13 P   freon-113                    0.732   0.813    -11.1   79    0.00    6.89
 14 P   acrolein                             ----------NA----------
 15 P   1,1-dichloroethene           0.562   0.586     -4.3   75    0.00    6.91
 16 P   acetone                      0.073   0.077#    -5.5   75    0.07    6.99

           ----------------------- Amount  Calc.    %Drift   -------------
 17 P   Methyl Acetate              50.000  52.514     -5.0   68    0.06    6.97

           ----------------------- AvgRF   CCRF      %Dev   --------------
 18 P   methylene chloride           0.665   0.689     -3.6   77    0.00    7.53
 19 P   methyl tert butyl ether      1.749   1.868     -6.8   78    0.01    7.85
 20 P   acrylonitrile                0.261   0.265     -1.5   77    0.05    7.84
 21 P   allyl chloride               1.024   1.023      0.1   74    0.00    7.37
 22 P   trans-1,2-dichloroethene     0.588   0.591     -0.5   74    0.00    7.88
 23 P   iodomethane                  1.098   1.154     -5.1   76    0.00    7.16
 24 P   carbon disulfide             2.077   2.108     -1.5   75    0.00    7.29
 25 P   propionitrile                0.045   0.046#    -2.2   73    0.00    8.48
 26 P   vinyl acetate                0.825   1.076    -30.4#  95    0.00    8.31
 27 P   chloroprene                  0.982   1.005     -2.3   72    0.00    8.48
 28 P   di-isopropyl ether           2.010   2.166     -7.8   78    0.00    8.35
 29 P   methacrylonitrile            0.394   0.370      6.1   73    0.00    9.23
```

Continuing Calibration Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Sample: MSU1363-CC1360
Lab FileID: U33343.D

30	P	2-butanone	0.073	0.079#	-8.2	82	0.04	9.02
31	P	Ethyl Acetate	0.000	0.523	0.0	0#	0.00	8.18
32	P	Hexane	0.651	0.638	2.0	73	0.00	8.18
33	P	1,1-dichloroethane	1.156	1.179	-2.0	75	0.00	8.40
34	P	tert-butyl ethyl ether	2.001	2.165	-8.2	78	0.00	8.77
35	P	isobutyl alcohol	0.045	0.049#	-8.9	82	0.00	8.77
36	P	2,2-dichloropropane	0.941	1.061	-12.8	81	0.00	9.07
37	P	cis-1,2-dichloroethene	0.653	0.651	0.3	73	0.00	9.04
38	P	bromochloromethane	0.316	0.329	-4.1	75	0.00	9.32
39	P	chloroform	1.154	1.222	-5.9	77	0.00	9.38
40	S	dibromofluoromethane (s)	0.619	0.636	-2.7	79	0.00	9.56
41	P	Tetrahydrofuran	0.207	0.211	-1.9	78	0.04	9.37
42	P	1,1,1-trichloroethane	1.027	1.164	-13.3	80	0.00	9.64
43	I	1,4-difluorobenzene	1.000	1.000	0.0	79	0.00	10.39
44	P	Cyclohexane	0.755	0.743	1.6	75	0.00	9.74
45	P	carbon tetrachloride	0.540	0.584	-8.1	81	0.00	9.82
46	P	1,1-dichloropropene	0.502	0.490	2.4	75	0.00	9.79
47	P	benzene	1.351	1.315	2.7	76	0.00	10.03
48	P	1,2-dichloroethane	0.563	0.606	-7.6	84	0.00	10.05
49	P	tert-amyl methyl ether	1.138	1.137	0.1	77	0.00	10.07
50	P	heptane	0.486	0.508	-4.5	81	0.00	10.22
		-----------------------	Amount	Calc.	%Drift	-------------		
51	P	trichloroethene	50.000	50.676	-1.4	74	0.00	10.69
		-----------------------	AvgRF	CCRF	%Dev	-------------		
52	P	1,2-dichloropropane	0.344	0.365	-6.1	81	0.00	10.98
53	P	dibromomethane	0.229	0.242	-5.7	81	0.00	11.10
54	P	bromodichloromethane	0.486	0.523	-7.6	82	0.00	11.23
55	P	Methylcyclohexane	0.648	0.648	0.0	75	0.00	10.99
		-----------------------	Amount	Calc.	%Drift	-------------		
56	P	2-chloroethyl vinyl ether	50.000	48.957	2.1	89	0.00	11.44
		-----------------------	AvgRF	CCRF	%Dev	-------------		
57	P	methyl methacrylate	0.194	0.208	-7.2	84	0.00	10.90
58	P	1,4-dioxane	0.000	0.001#	0.0	0#	0.07	11.10
59	P	cis-1,3-dichloropropene	0.495	0.561	-13.3	85	0.00	11.68
60	S	toluene-d8 (s)	1.197	1.305	-9.0	86	0.00	11.99
61	P	4-methyl-2-pentanone	0.377	0.381	-1.1	82	0.00	11.77
62	P	toluene	0.741	0.811	-9.4	84	0.00	12.07
63	P	trans-1,3-dichloropropene	0.408	0.517	-26.7#	91	0.00	12.25
64	P	1,1,2-trichloroethane	0.228	0.259	-13.6	88	0.00	12.49
65	P	ethyl methacrylate	0.357	0.403	-12.9	88	0.00	12.22
66	I	chlorobenzene-d5	1.000	1.000	0.0	92	0.00	13.60
67	P	tetrachloroethene	0.575	0.553	3.8	83	0.00	12.65
68	P	1,3-dichloropropane	0.760	0.774	-1.8	91	0.00	12.68
69	P	dibromochloromethane	0.552	0.565	-2.4	86	0.00	12.95
70	P	1,2-dibromoethane	0.484	0.482	0.4	88	0.00	13.13
71	P	2-hexanone	0.425	0.420	1.2	92	0.00	12.64
72	P	chlorobenzene	1.506	1.472	2.3	87	0.00	13.63
73	P	1,1,1,2-tetrachloroethane	0.650	0.629	3.2	83	0.00	13.70
74	P	ethylbenzene	2.696	2.597	3.7	86	0.00	13.69
75	P	m,p-xylene	1.036	0.984	5.0	85	0.00	13.82
76	P	o-xylene	1.151	1.104	4.1	83	0.00	14.26
77	P	styrene	1.718	1.658	3.5	86	0.00	14.27
78	P	bromoform	0.418	0.379	9.3	79	0.00	14.55
79	P	trans-1,4-dichloro-2-bute	0.216	0.206	4.6	84	0.00	14.68

6.7.4

6

Continuing Calibration Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample: MSU1363-CC1360
Lab FileID: U33343.D

80	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	87	0.00	16.17
81	P	isopropylbenzene	2.458	2.520	-2.5	82	0.00	14.64
82	S	bromofluorobenzene (s)	0.774	0.772	0.3	89	0.00	14.87
83	P	bromobenzene	0.628	0.619	1.4	84	0.00	15.09
84	P	1,1,2,2-tetrachloroethane	0.598	0.620	-3.7	88	0.00	14.95
85	P	1,2,3-trichloropropane	0.603	0.591	2.0	84	0.00	15.06
86	P	n-propylbenzene	2.942	2.971	-1.0	83	0.00	15.10
87	P	2-chlorotoluene	2.118	2.144	-1.2	84	0.00	15.26
88	P	4-chlorotoluene	1.867	1.837	1.6	85	0.00	15.38
89	P	1,3,5-trimethylbenzene	2.270	2.391	-5.3	82	0.00	15.27
90	P	tert-butylbenzene	1.417	1.465	-3.4	82	0.00	15.65
91	P	1,2,4-trimethylbenzene	2.484	2.518	-1.4	82	0.00	15.71
92	P	sec-butylbenzene	2.964	3.162	-6.7	81	0.00	15.90
93	P	1,3-dichlorobenzene	1.398	1.359	2.8	82	0.00	16.10
94	P	p-isopropyltoluene	2.597	2.728	-5.0	81	0.00	16.04
95	P	1,4-dichlorobenzene	1.423	1.384	2.7	82	0.00	16.20
96	P	1,2-dichlorobenzene	1.519	1.510	0.6	81	0.00	16.62
97	P	n-butylbenzene	2.718	2.738	-0.7	80	0.00	16.49
98	P	1,2-dibromo-3-chloropropa	0.155	0.147	5.2	71	0.00	17.46
99	P	1,3,5-trichlorobenzene	1.403	1.396	0.5	78	0.00	17.66
100	P	1,2,4-trichlorobenzene	1.289	1.283	0.5	77	0.00	18.37
101	P	hexachlorobutadiene	0.613	0.591	3.6	77	0.00	18.48
102	P	naphthalene	2.770	2.660	4.0	73	0.00	18.71
103	P	2-Methylnaphthalene	1.446	1.278	11.6	63	0.00	20.11
104	P	1-Methylnaphthalene	1.060	0.925	12.7	62	0.00	20.37
105	P	1,2,3-trichlorobenzene	1.137	1.106	2.7	75	0.00	18.96

(#) = Out of Range SPCC's out = 7 CCC's out = 0
U33281.D U151027.m Thu Oct 29 09:57:09 2015

Continuing Calibration Summary

Job Number: MC42178 **Sample:** MSU1363-ECC1360
Account: HSMAW H&S Environmental **Lab FileID:** U33370.D
Project: Fort Devens, AOC50, Devens, MA

```
                    Evaluate Continuing Calibration Report

 Data File : R:\1\data\U151028\U33370.D                Vial: 16
 Acq On    : 28 Oct 2015  10:09 pm                 Operator: andrewd1
 Sample    : ecc1360-50                            Inst    : MSU
 Misc      : ms35525,msu1363,,,,5,1                Multiplr: 1.00
 MS Integration Params: RTEINT.P

 Method        : R:\1\methods\U151027.m (RTE Integrator)
 Title         : SW-846 Method 8260
 Last Update   : Tue Oct 27 10:20:21 2015
 Response via  : Multiple Level Calibration

 Min. RRF      :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
 Max. RRF Dev  :  20%     Max. Rel. Area : 200%

       Compound                       AvgRF   CCRF      %Dev Area%  Dev(min)R.T.
 ----------------------------------------------------------------------------
 1 I   tert butyl alcohol-d9          1.000   1.000      0.0   99   0.01    7.48

           ----------------------- Amount  Calc.     %Drift   -------------
 2 P   tertiary butyl alcohol     500.000 519.409     -3.9  100   0.00    7.57

           ----------------------- AvgRF   CCRF      %Dev   --------------
 3 P   Ethanol                        0.000   0.067      0.0    0# -0.02    6.34

 4 I   pentafluorobenzene             1.000   1.000      0.0   98   0.00    9.49
 5 P   dichlorodifluoromethane        1.092   0.877     19.7   76   0.00    4.36

           ----------------------- Amount  Calc.     %Drift   -------------
 6 P   chloromethane                 50.000  35.995     28.0#  60   0.00    4.74

           ----------------------- AvgRF   CCRF      %Dev   --------------
 7 P   vinyl chloride                 0.794   0.737      7.2   86   0.00    4.99
 8 P   bromomethane                   0.459   0.376     18.1   79   0.00    5.60
 9 P   chloroethane                   0.382   0.417     -9.2  101   0.00    5.75
10 P   ethyl ether                    0.476   0.425     10.7   84   0.00    6.51
11 P   acetonitrile                   0.997   0.874     12.3   85   0.00    7.37
12 P   trichlorofluoromethane         1.178   1.089      7.6   86   0.00    6.18
13 P   freon-113                      0.732   0.668      8.7   85   0.00    6.90
14 P   acrolein                              ----------NA----------
15 P   1,1-dichloroethene             0.562   0.524      6.8   87   0.00    6.91
16 P   acetone                        0.073   0.068#     6.8   86   0.02    6.94

           ----------------------- Amount  Calc.     %Drift   -------------
17 P   Methyl Acetate                50.000  51.331     -2.7   87   0.03    6.94

           ----------------------- AvgRF   CCRF      %Dev   --------------
18 P   methylene chloride             0.665   0.640      3.8   94   0.00    7.53
19 P   methyl tert butyl ether        1.749   1.814     -3.7   99   0.00    7.84
20 P   acrylonitrile                  0.261   0.262     -0.4   99   0.00    7.80
21 P   allyl chloride                 1.024   0.882     13.9   83   0.00    7.37
22 P   trans-1,2-dichloroethene       0.588   0.502     14.6   82   0.00    7.88
23 P   iodomethane                    1.098   1.037      5.6   90   0.00    7.16
24 P   carbon disulfide               2.077   1.654     20.4#  77   0.00    7.29
25 P   propionitrile                  0.045   0.038#    15.6   79   0.00    8.48
26 P   vinyl acetate                  0.825   1.181    -43.2# 136   0.00    8.31
27 P   chloroprene                    0.982   0.853     13.1   80   0.00    8.48
28 P   di-isopropyl ether             2.010   2.015     -0.2   95   0.00    8.35
29 P   methacrylonitrile              0.394   0.383      2.8   99   0.00    9.22
```

Continuing Calibration Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample: MSU1363-ECC1360
Lab FileID: U33370.D

30	P	2-butanone	0.073	0.074#	-1.4	100	0.00	8.98
31	P	Ethyl Acetate	0.000	0.416	0.0	0#	0.00	8.17
32	P	Hexane	0.651	0.487	25.2#	73	0.00	8.18
33	P	1,1-dichloroethane	1.156	1.042	9.9	86	0.00	8.40
34	P	tert-butyl ethyl ether	2.001	1.940	3.0	91	0.00	8.77
35	P	isobutyl alcohol	0.045	0.041#	8.9	89	0.00	8.76
36	P	2,2-dichloropropane	0.941	0.807	14.2	80	0.00	9.08
37	P	cis-1,2-dichloroethene	0.653	0.641	1.8	94	0.00	9.04
38	P	bromochloromethane	0.316	0.322	-1.9	96	0.00	9.32
39	P	chloroform	1.154	1.090	5.5	90	0.00	9.38
40	S	dibromofluoromethane (s)	0.619	0.609	1.6	98	0.00	9.56
41	P	Tetrahydrofuran	0.207	0.194	6.3	93	0.00	9.34
42	P	1,1,1-trichloroethane	1.027	1.010	1.7	90	0.00	9.64
43	I	1,4-difluorobenzene	1.000	1.000	0.0	102	0.00	10.39
44	P	Cyclohexane	0.755	0.611	19.1	79	0.00	9.74
45	P	carbon tetrachloride	0.540	0.503	6.9	89	0.00	9.82
46	P	1,1-dichloropropene	0.502	0.453	9.8	89	0.00	9.78
47	P	benzene	1.351	1.258	6.9	94	0.00	10.02
48	P	1,2-dichloroethane	0.563	0.530	5.9	94	0.00	10.05
49	P	tert-amyl methyl ether	1.138	1.067	6.2	93	0.00	10.06
50	P	heptane	0.486	0.454	6.6	93	0.00	10.22
		-----------------------	Amount	Calc.	%Drift	-------------		
51	P	trichloroethene	50.000	48.266	3.5	91	0.00	10.69
		-----------------------	AvgRF	CCRF	%Dev	--------------		
52	P	1,2-dichloropropane	0.344	0.356	-3.5	102	0.00	10.98
53	P	dibromomethane	0.229	0.226	1.3	98	0.00	11.09
54	P	bromodichloromethane	0.486	0.479	1.4	97	0.00	11.23
55	P	Methylcyclohexane	0.648	0.568	12.3	85	0.00	10.99
		-----------------------	Amount	Calc.	%Drift	-------------		
56	P	2-chloroethyl vinyl ether	50.000	49.590	0.8	116	0.00	11.44
		-----------------------	AvgRF	CCRF	%Dev	--------------		
57	P	methyl methacrylate	0.194	0.211	-8.8	109	0.00	10.90
58	P	1,4-dioxane	0.000	0.004#	0.0	0#	0.03	11.06
59	P	cis-1,3-dichloropropene	0.495	0.529	-6.9	103	0.00	11.68
60	S	toluene-d8 (s)	1.197	1.261	-5.3	107	0.00	11.99
61	P	4-methyl-2-pentanone	0.377	0.401	-6.4	111	0.00	11.76
62	P	toluene	0.741	0.789	-6.5	105	0.00	12.07
63	P	trans-1,3-dichloropropene	0.408	0.458	-12.3	103	0.00	12.25
64	P	1,1,2-trichloroethane	0.228	0.259	-13.6	114	0.00	12.49
65	P	ethyl methacrylate	0.357	0.422	-18.2	118	0.00	12.21
66	I	chlorobenzene-d5	1.000	1.000	0.0	114	0.00	13.60
67	P	tetrachloroethene	0.575	0.554	3.7	103	0.00	12.65
68	P	1,3-dichloropropane	0.760	0.827	-8.8	119	0.00	12.68
69	P	dibromochloromethane	0.552	0.564	-2.2	106	0.00	12.95
70	P	1,2-dibromoethane	0.484	0.506	-4.5	114	0.00	13.13
71	P	2-hexanone	0.425	0.414	2.6	112	0.00	12.64
72	P	chlorobenzene	1.506	1.505	0.1	109	0.00	13.63
73	P	1,1,1,2-tetrachloroethane	0.650	0.612	5.8	100	0.00	13.70
74	P	ethylbenzene	2.696	2.642	2.0	108	0.00	13.69
75	P	m,p-xylene	1.036	1.007	2.8	108	0.00	13.81
76	P	o-xylene	1.151	1.077	6.4	100	0.00	14.26
77	P	styrene	1.718	1.700	1.0	108	0.00	14.27
78	P	bromoform	0.418	0.394	5.7	101	0.00	14.54
79	P	trans-1,4-dichloro-2-bute	0.216	0.217	-0.5	109	0.00	14.68

Continuing Calibration Summary

Job Number: MC42178 **Sample:** MSU1363-ECC1360
Account: HSMAW H&S Environmental **Lab FileID:** U33370.D
Project: Fort Devens, AOC50, Devens, MA

80	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	108	0.00	16.17
81	P	isopropylbenzene	2.458	2.445	0.5	99	0.00	14.64
82	S	bromofluorobenzene (s)	0.774	0.795	-2.7	114	0.00	14.87
83	P	bromobenzene	0.628	0.649	-3.3	110	0.00	15.08
84	P	1,1,2,2-tetrachloroethane	0.598	0.684	-14.4	122	0.00	14.95
85	P	1,2,3-trichloropropane	0.603	0.614	-1.8	109	0.00	15.06
86	P	n-propylbenzene	2.942	2.932	0.3	102	0.00	15.10
87	P	2-chlorotoluene	2.118	2.110	0.4	103	0.00	15.26
88	P	4-chlorotoluene	1.867	1.882	-0.8	108	0.00	15.38
89	P	1,3,5-trimethylbenzene	2.270	2.428	-7.0	104	0.00	15.27
90	P	tert-butylbenzene	1.417	1.423	-0.4	99	0.00	15.65
91	P	1,2,4-trimethylbenzene	2.484	2.476	0.3	100	0.00	15.71
92	P	sec-butylbenzene	2.964	3.087	-4.1	99	0.00	15.90
93	P	1,3-dichlorobenzene	1.398	1.382	1.1	104	0.00	16.10
94	P	p-isopropyltoluene	2.597	2.722	-4.8	101	0.00	16.04
95	P	1,4-dichlorobenzene	1.423	1.424	-0.1	105	0.00	16.20
96	P	1,2-dichlorobenzene	1.519	1.504	1.0	101	0.00	16.62
97	P	n-butylbenzene	2.718	2.755	-1.4	100	0.00	16.49
98	P	1,2-dibromo-3-chloropropa	0.155	0.167	-7.7	100	0.00	17.46
99	P	1,3,5-trichlorobenzene	1.403	1.375	2.0	96	0.00	17.66
100	P	1,2,4-trichlorobenzene	1.289	1.334	-3.5	99	0.00	18.37
101	P	hexachlorobutadiene	0.613	0.636	-3.8	103	0.00	18.48
102	P	naphthalene	2.770	2.801	-1.1	96	0.00	18.71
103	P	2-Methylnaphthalene	1.446	1.720	-18.9	106	0.00	20.11
104	P	1-Methylnaphthalene	1.060	1.334	-25.8#	112	0.00	20.37
105	P	1,2,3-trichlorobenzene	1.137	1.222	-7.5	103	0.00	18.96

(#) = Out of Range SPCC's out = 6 CCC's out = 0
U33281.D U151027.m Thu Oct 29 08:46:18 2015

6.7.5

6

New England ACCUTEST LABORATORIES

GC/MS Volatiles

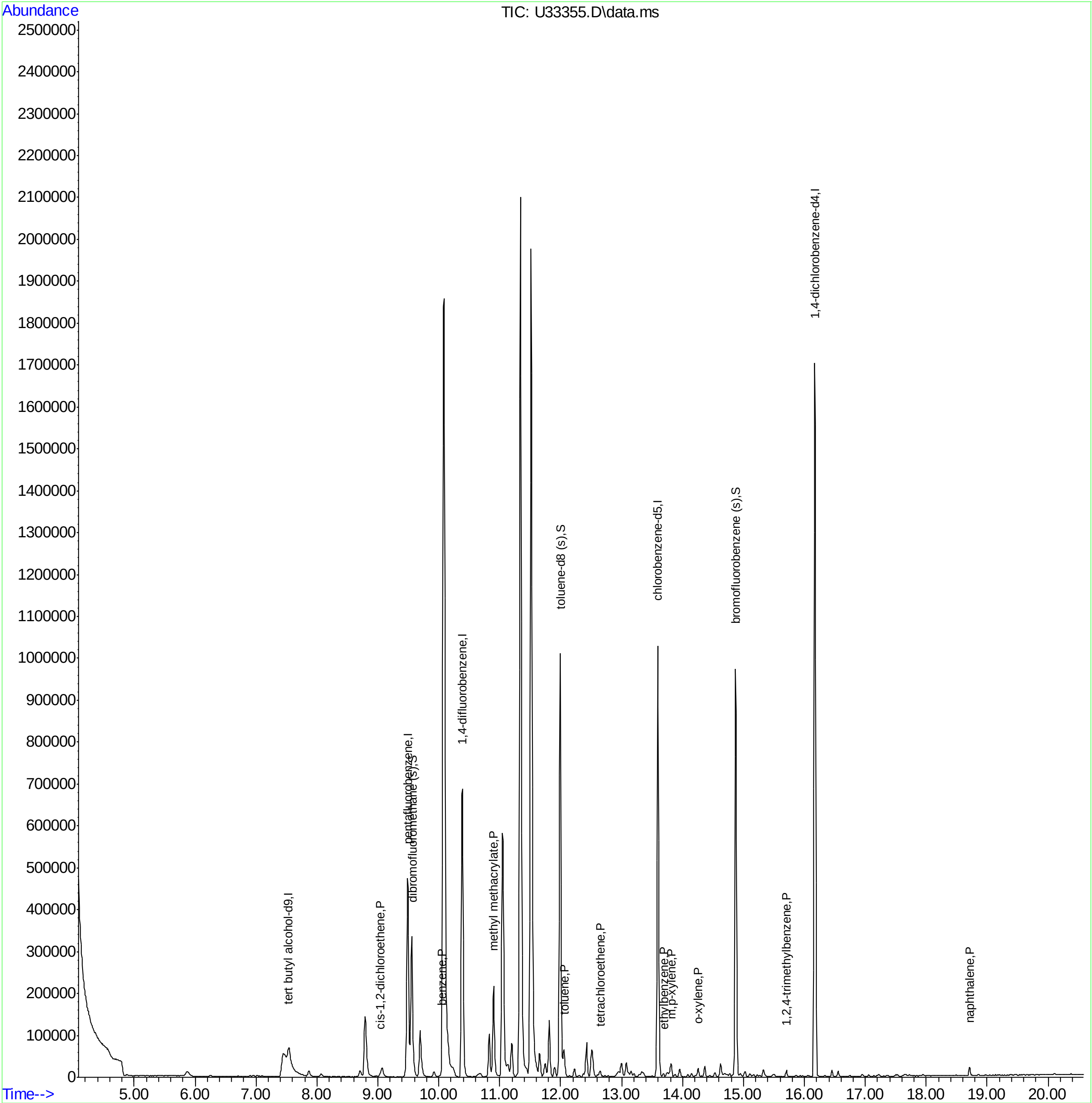
Raw Data

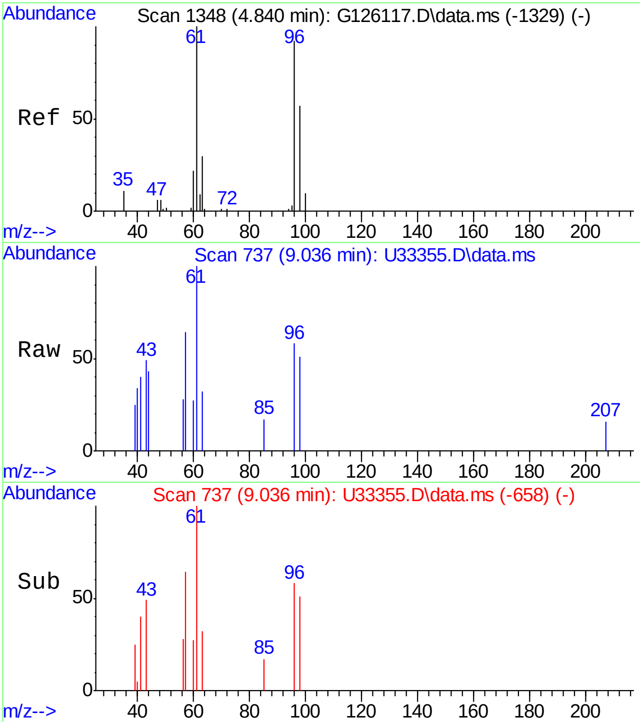
Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33355.D
Acq On    : 28 Oct 2015   3:21 pm
Operator  : andrewd1
Sample    : mc42178-1
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 16:47:30 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

        Compound                     R.T. QIon  Response  Conc Units Dev(Min)
 ----------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9         7.532   65    278476   500.00 ppb      0.06
   4) pentafluorobenzene            9.494  168    344734    50.00 ppb      0.00
  43) 1,4-difluorobenzene          10.388  114    579404    50.00 ppb      0.00
  66) chlorobenzene-d5             13.595   82    347350    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4       16.172  152    460345    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)      9.560  113    226342    53.08 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =  106.16%
  60) toluene-d8 (s)               11.993   98    704697    50.79 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =  101.58%
  82) bromofluorobenzene (s)       14.873   95    340605    47.82 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =   95.64%

 Target Compounds                                                   Qvalue
  37) cis-1,2-dichloroethene        9.034   96      2177     0.48 ppb       83
  47) benzene                      10.041   78      3694     0.24 ppb  #    29
  51) trichloroethene              10.692   95      2514    Below Cal       90
  57) methyl methacrylate          10.906   69     17126     7.62 ppb  #     1
  62) toluene                      12.069   92      8350     0.97 ppb       90
  67) tetrachloroethene            12.645  166      3054     0.76 ppb       89
  74) ethylbenzene                 13.686   91      6046     0.32 ppb       94
  75) m,p-xylene                   13.812  106      8886     1.24 ppb       90
  76) o-xylene                     14.258  106      4093     0.51 ppb       92
  91) 1,2,4-trimethylbenzene       15.706  105      8776     0.38 ppb      100
 102) naphthalene                  18.710  128     17752     0.70 ppb      100
 ----------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33355.D
Acq On    : 28 Oct 2015   3:21 pm
Operator  : andrewd1
Sample    : mc42178-1
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 16:47:30 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

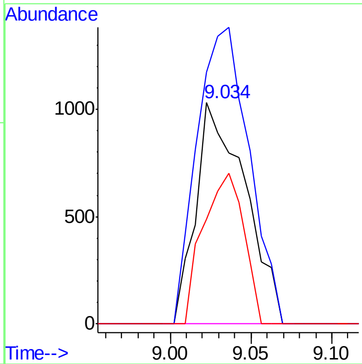


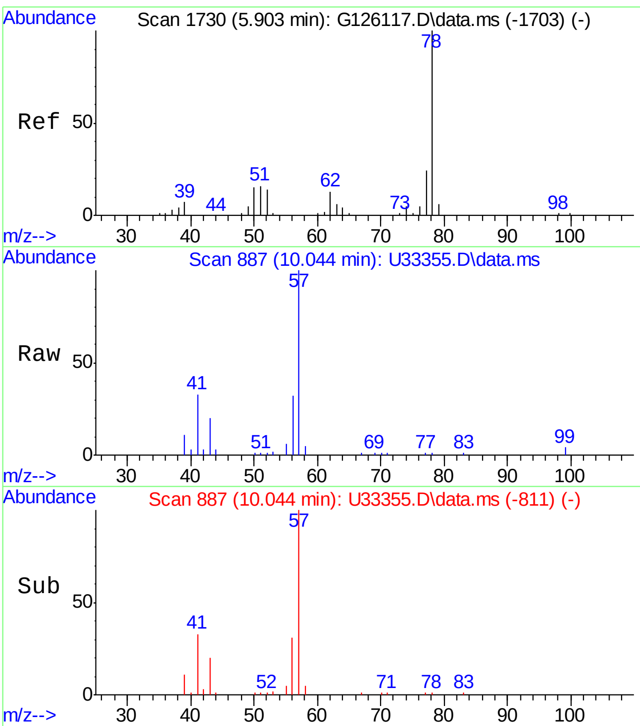


#37
cis-1,2-dichloroethene
Concen: 0.48 ppb
RT: 9.034 min Scan# 737
Delta R.T. -0.003 min
Lab File: U33355.D
Acq: 28 Oct 2015 3:21 pm

Tgt Ion: 96 Resp: 2177

Ion	Ratio	Lower	Upper
96	100		
61	173.2	126.3	186.3
98	87.6	36.2	96.2

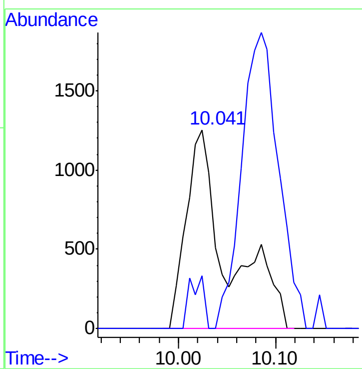




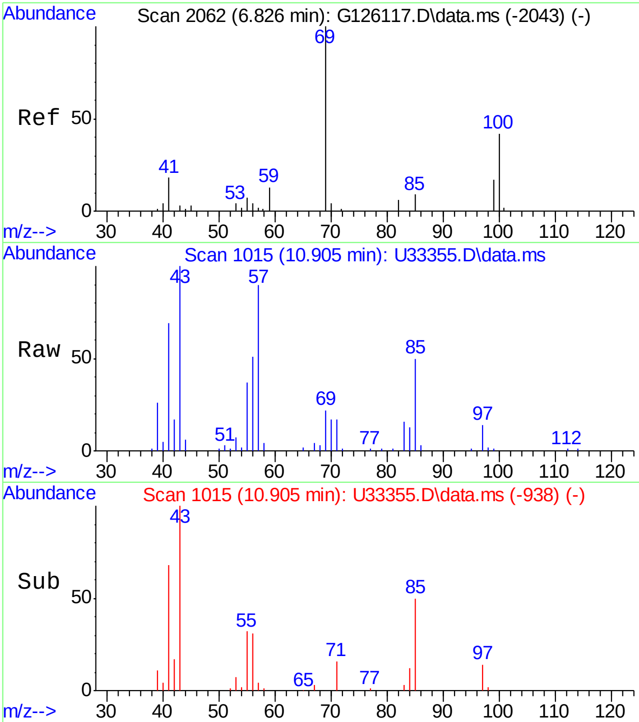
#47
benzene
Concen: 0.24 ppb
RT: 10.041 min Scan# 887
Delta R.T. 0.017 min
Lab File: U33355.D
Acq: 28 Oct 2015 3:21 pm

Tgt Ion: 78 Resp: 3694

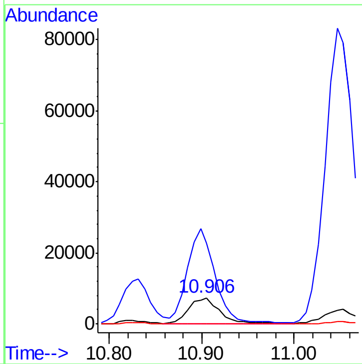
Ion	Ratio	Lower	Upper
78	100		
77	58.9	0.0	53.9#

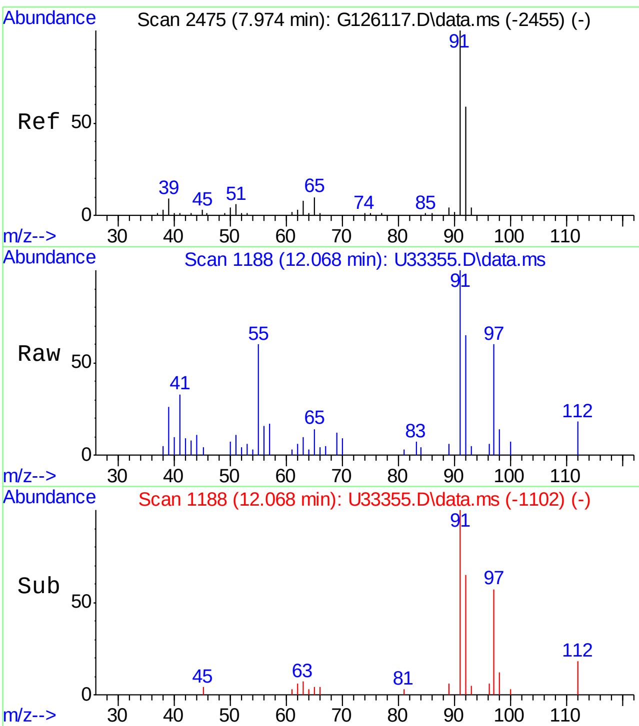


7.1.1
7

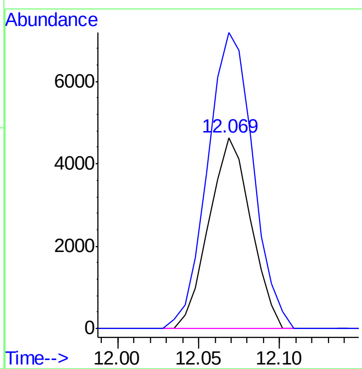


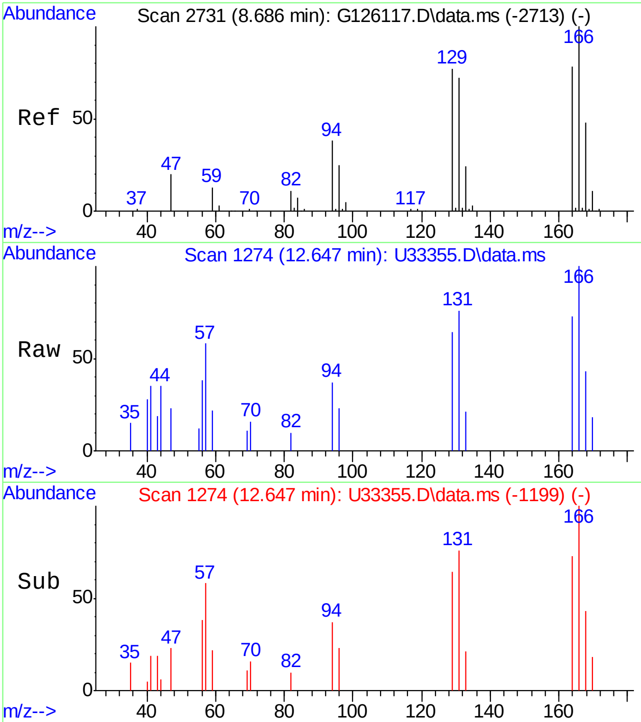

```
#57
methyl methacrylate
Concen:     7.62 ppb
RT:  10.906 min   Scan# 1015
Delta R.T.  0.008 min
Lab File:   U33355.D
Acq: 28 Oct 2015    3:21 pm

Tgt Ion: 69 Resp:    17126
Ion  Ratio   Lower   Upper
 69  100
 41  305.4   130.6   190.6#
100    0.0     3.5    63.5#
```





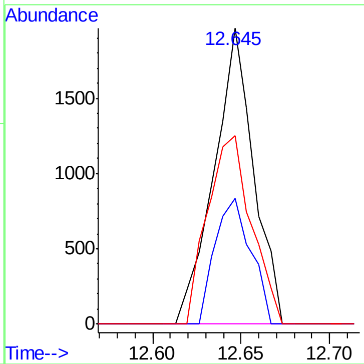

```
#62
toluene
Concen:     0.97 ppb
RT:  12.069 min   Scan# 1188
Delta R.T.  -0.001 min
Lab File:   U33355.D
Acq: 28 Oct 2015    3:21 pm

Tgt Ion: 92 Resp:     8350
Ion  Ratio   Lower   Upper
 92  100
 91  154.9   139.2   199.2
```

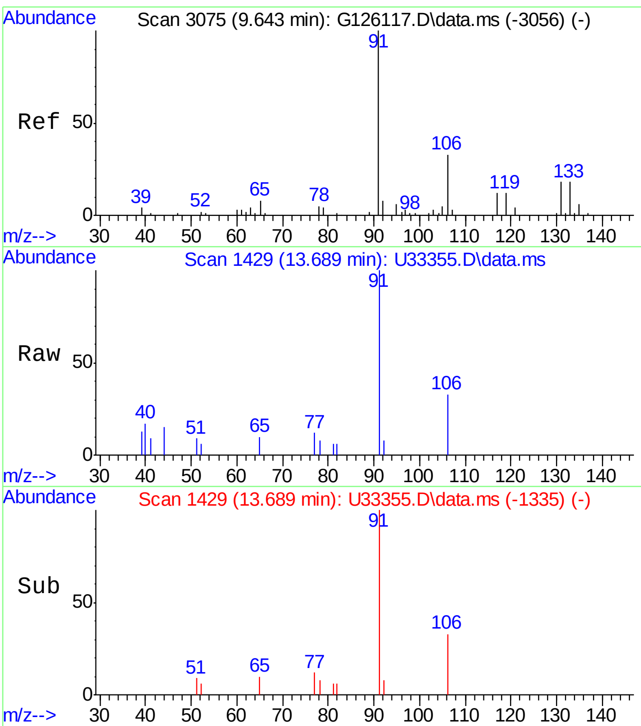




#67
tetrachloroethene
Concen: 0.76 ppb
RT: 12.645 min Scan# 1274
Delta R.T. 0.000 min
Lab File: U33355.D
Acq: 28 Oct 2015 3:21 pm

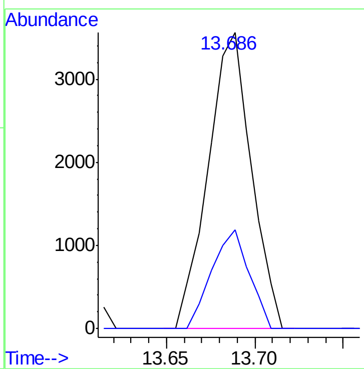
Tgt Ion:166	Resp:		3054
Ion	Ratio	Lower	Upper
166	100		
168	42.6	19.2	79.2
129	63.8	43.8	103.8

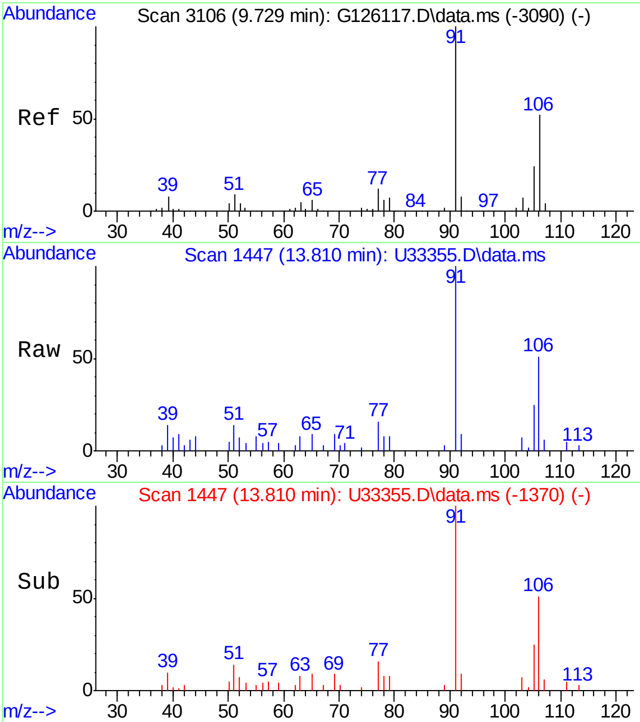




#74
ethylbenzene
Concen: 0.32 ppb
RT: 13.686 min Scan# 1429
Delta R.T. -0.000 min
Lab File: U33355.D
Acq: 28 Oct 2015 3:21 pm

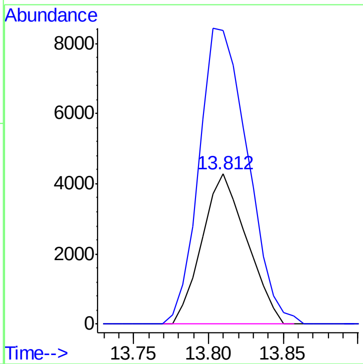
Tgt Ion: 91	Resp:		6046
Ion	Ratio	Lower	Upper
91	100		
106	33.2	0.1	60.1

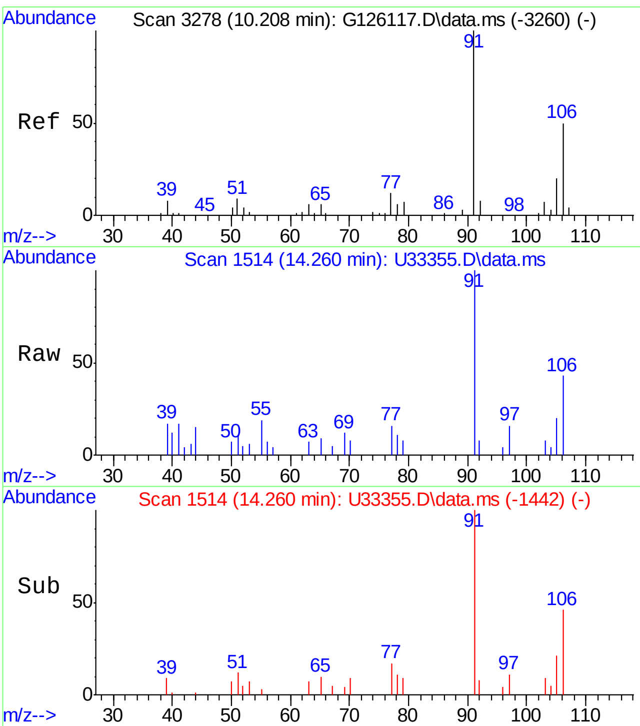




#75
m,p-xylene
Concen: 1.24 ppb
RT: 13.812 min Scan# 1447
Delta R.T. -0.003 min
Lab File: U33355.D
Acq: 28 Oct 2015 3:21 pm

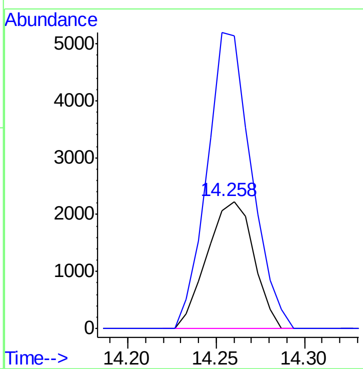
Tgt	Ion:106	Resp:	8886
Ion	Ratio	Lower	Upper
106	100		
91	195.3	180.7	240.7

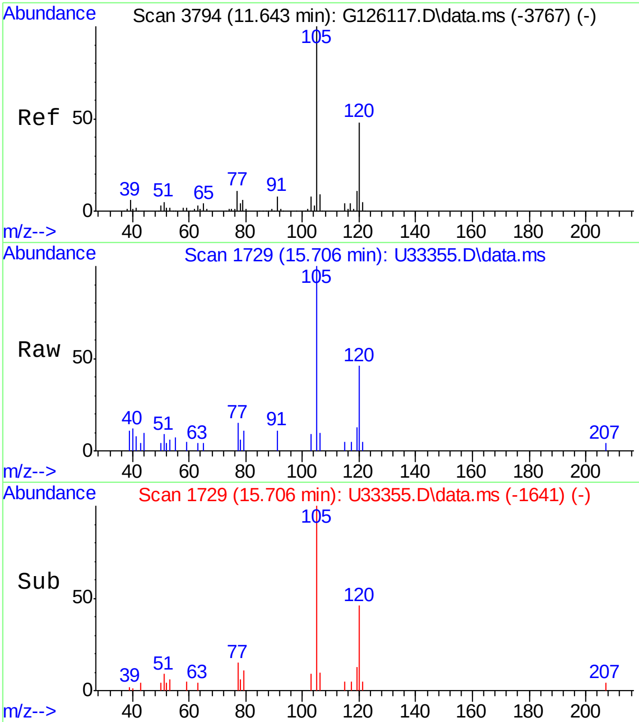




#76
o-xylene
Concen: 0.51 ppb
RT: 14.258 min Scan# 1514
Delta R.T. -0.000 min
Lab File: U33355.D
Acq: 28 Oct 2015 3:21 pm

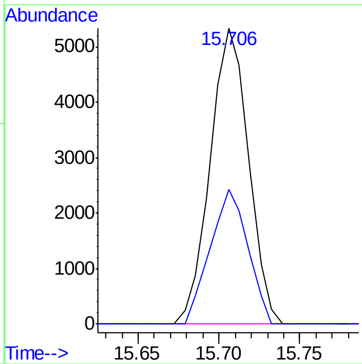
Tgt	Ion:106	Resp:	4093
Ion	Ratio	Lower	Upper
106	100		
91	230.7	188.5	248.5

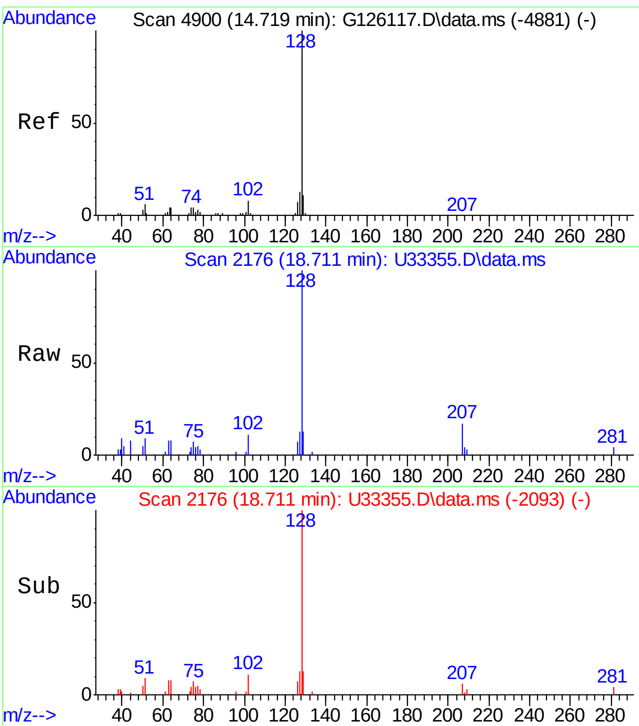




#91
1,2,4-trimethylbenzene
Concen: 0.38 ppb
RT: 15.706 min Scan# 1729
Delta R.T. -0.001 min
Lab File: U33355.D
Acq: 28 Oct 2015 3:21 pm

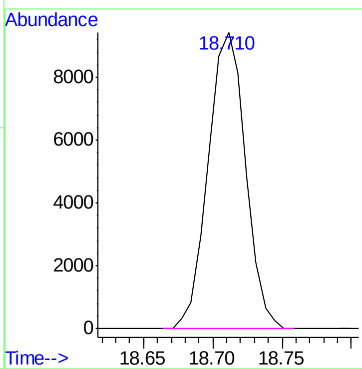
Tgt Ion:105	Resp:	8776	
Ion	Ratio	Lower	Upper
105	100		
120	45.5	15.3	75.3





#102
naphthalene
Concen: 0.70 ppb
RT: 18.710 min Scan# 2176
Delta R.T. -0.002 min
Lab File: U33355.D
Acq: 28 Oct 2015 3:21 pm

Tgt Ion:128 Resp: 17752

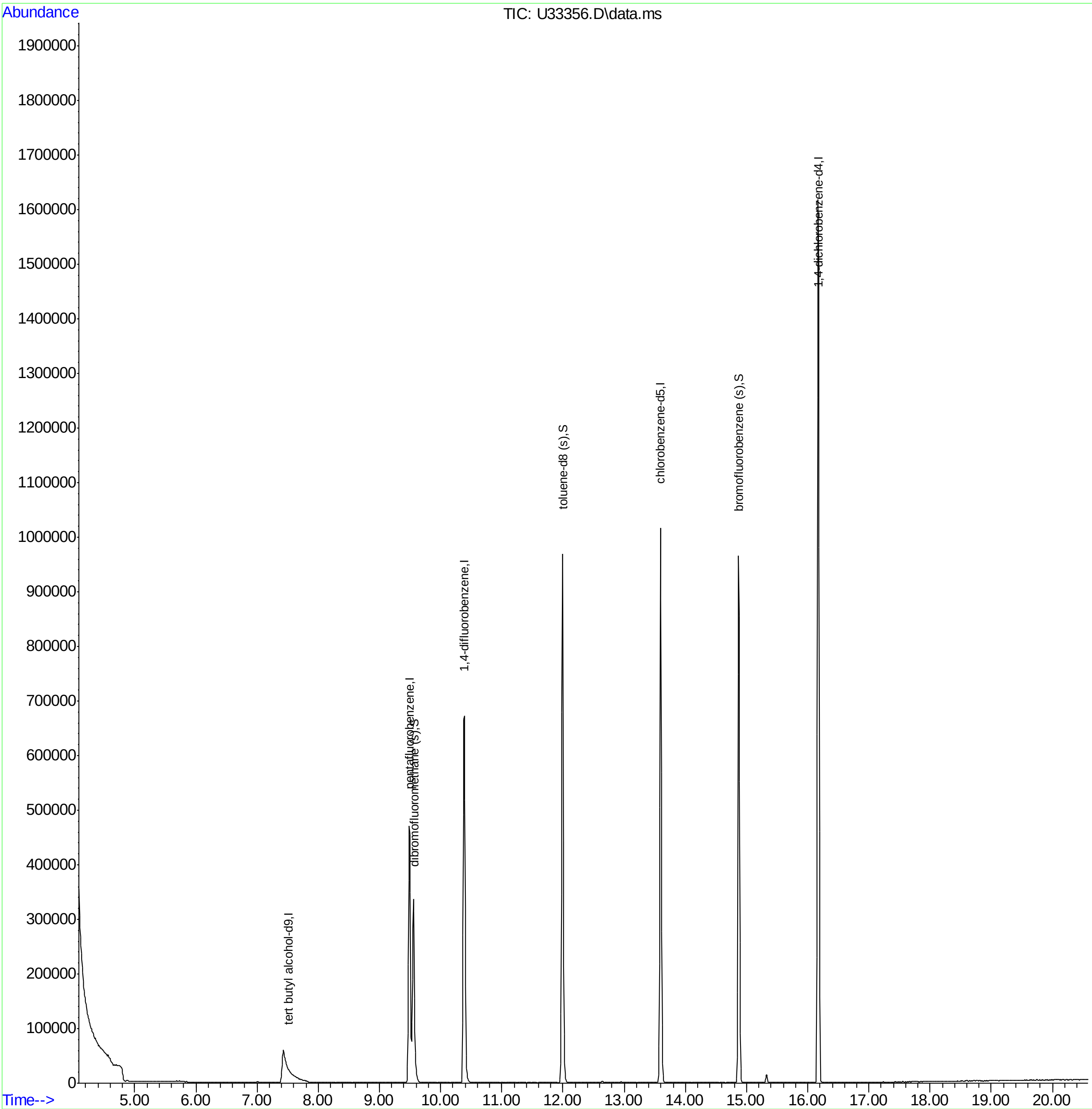


Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33356.D
Acq On    : 28 Oct 2015   3:49 pm
Operator  : andrewd1
Sample    : mc42178-2
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Oct 28 16:48:00 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

       Compound                   R.T. QIon  Response  Conc Units Dev(Min)
 --------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9      7.517   65    222727   500.00 ppb      0.05
   4) pentafluorobenzene         9.495  168    349581    50.00 ppb      0.00
  43) 1,4-difluorobenzene       10.388  114    569919    50.00 ppb      0.00
  66) chlorobenzene-d5          13.595   82    343819    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4    16.173  152    448380    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)   9.560  113    224935    52.02 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery   =  104.04%
  60) toluene-d8 (s)            11.993   98    692552    50.74 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery   =  101.48%
  82) bromofluorobenzene (s)    14.873   95    335370    48.34 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery   =   96.68%

 Target Compounds                                                 Qvalue
 --------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33356.D
Acq On    : 28 Oct 2015   3:49 pm
Operator  : andrewd1
Sample    : mc42178-2
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Oct 28 16:48:00 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33354.D
Acq On    : 28 Oct 2015   2:54 pm
Operator  : andrewd1
Sample    : mc42178-3
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 28 16:46:01 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

```
        Compound                     R.T. QIon  Response  Conc Units Dev(Min)
-------------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9        7.518   65    280583    500.00 ppb      0.05
   4) pentafluorobenzene           9.495  168    339590     50.00 ppb      0.00
  43) 1,4-difluorobenzene         10.389  114    530432     50.00 ppb      0.00
  66) chlorobenzene-d5            13.596   82    311307     50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4      16.173  152    480170     50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)     9.561  113    241070     57.39 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery   =  114.78%
  60) toluene-d8 (s)              11.994   98    605970     47.71 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery   =   95.42%
  82) bromofluorobenzene (s)      14.874   95    341653     45.98 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery   =   91.96%

 Target Compounds                                                    Qvalue
   6) chloromethane                4.721   50      2137    Below Cal       87
  67) tetrachloroethene           12.645  166      6970      1.95 ppb      95
-------------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

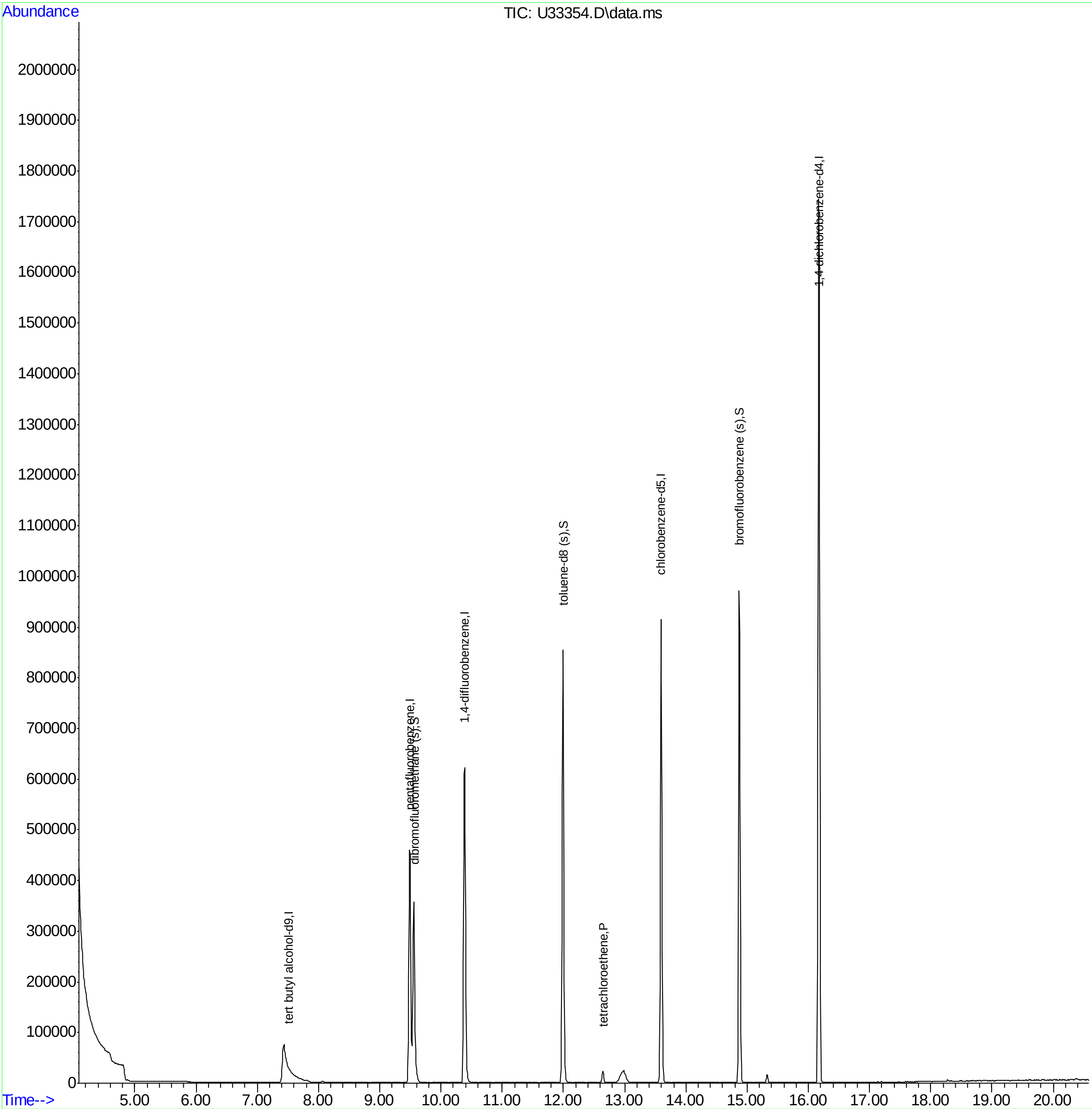
7.1.3

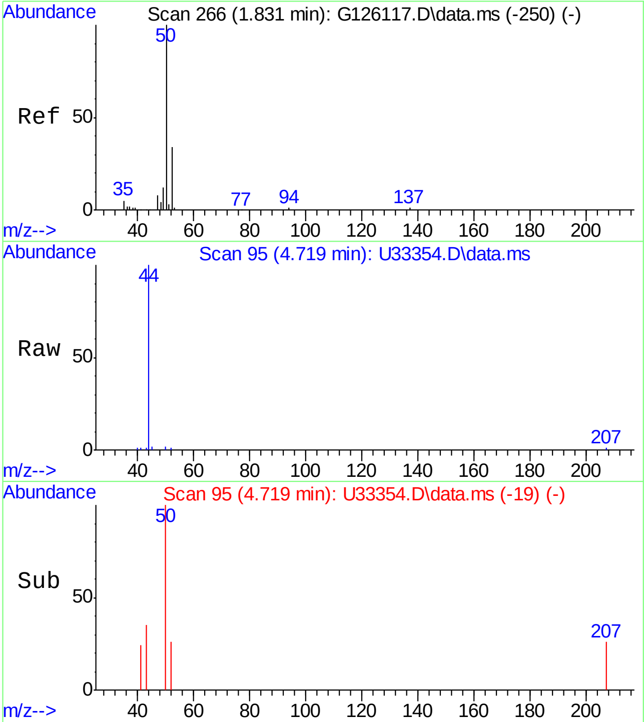
7

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33354.D
Acq On : 28 Oct 2015 2:54 pm
Operator : andrewd1
Sample : mc42178-3
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 28 16:46:01 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

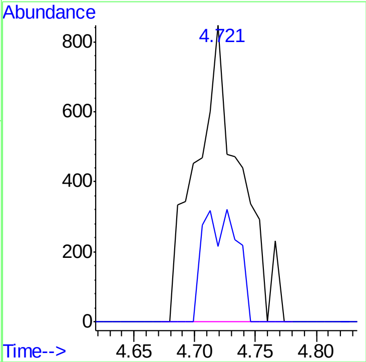


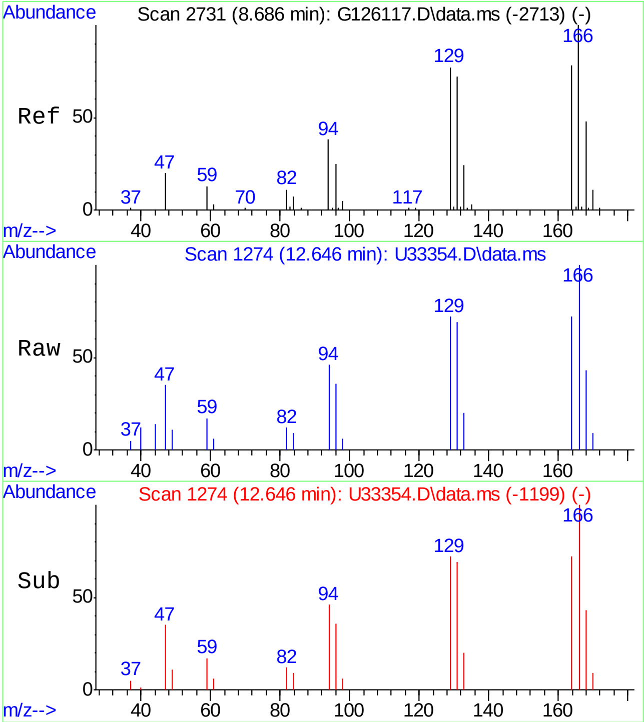


#6
chloromethane
Concen: Below Cal
RT: 4.721 min Scan# 95
Delta R.T. -0.020 min
Lab File: U33354.D
Acq: 28 Oct 2015 2:54 pm

Tgt Ion: 50 Resp: 2137

Ion	Ratio	Lower	Upper
50	100		
52	25.5	2.6	62.6

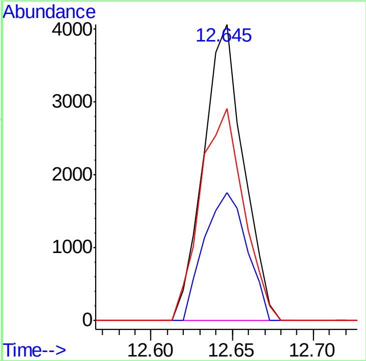




#67
tetrachloroethene
Concen: 1.95 ppb
RT: 12.645 min Scan# 1274
Delta R.T. 0.000 min
Lab File: U33354.D
Acq: 28 Oct 2015 2:54 pm

Tgt Ion:166 Resp: 6970

Ion	Ratio	Lower	Upper
166	100		
168	43.3	19.2	79.2
129	71.5	43.8	103.8



Quantitation Report (QT Reviewed)

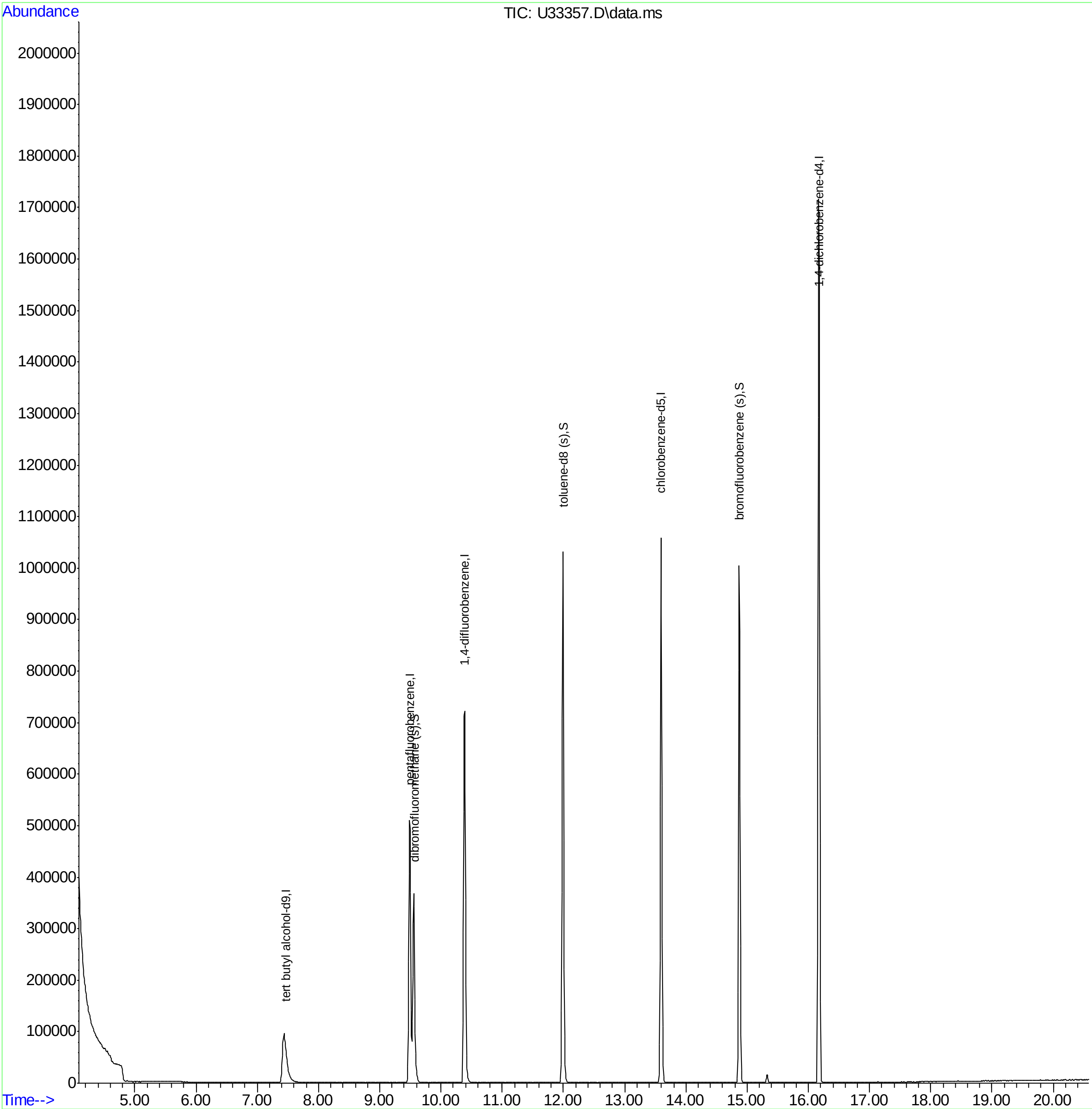
```
Data Path : R:\1\data\U151028\
Data File : U33357.D
Acq On    : 28 Oct 2015   4:16 pm
Operator  : andrewd1
Sample    : mc42178-4
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 3   Sample Multiplier: 1

Quant Time: Oct 28 18:13:04 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

        Compound                       R.T. QIon  Response  Conc Units Dev(Min)
 --------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9          7.460   65    238734   500.00 ppb      0.00
   4) pentafluorobenzene             9.494  168    377627    50.00 ppb      0.00
  43) 1,4-difluorobenzene           10.388  114    614192    50.00 ppb      0.00
  66) chlorobenzene-d5              13.595   82    358353    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4        16.172  152    466818    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)       9.560  113    238909    51.14 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =  102.28%
  60) toluene-d8 (s)                11.993   98    733708    49.88 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =   99.76%
  82) bromofluorobenzene (s)        14.873   95    350902    48.58 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =   97.16%

 Target Compounds                                                  Qvalue
 --------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

7.1.4

7

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33357.D
Acq On    : 28 Oct 2015   4:16 pm
Operator  : andrewd1
Sample    : mc42178-4
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 3   Sample Multiplier: 1

Quant Time: Oct 28 18:13:04 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

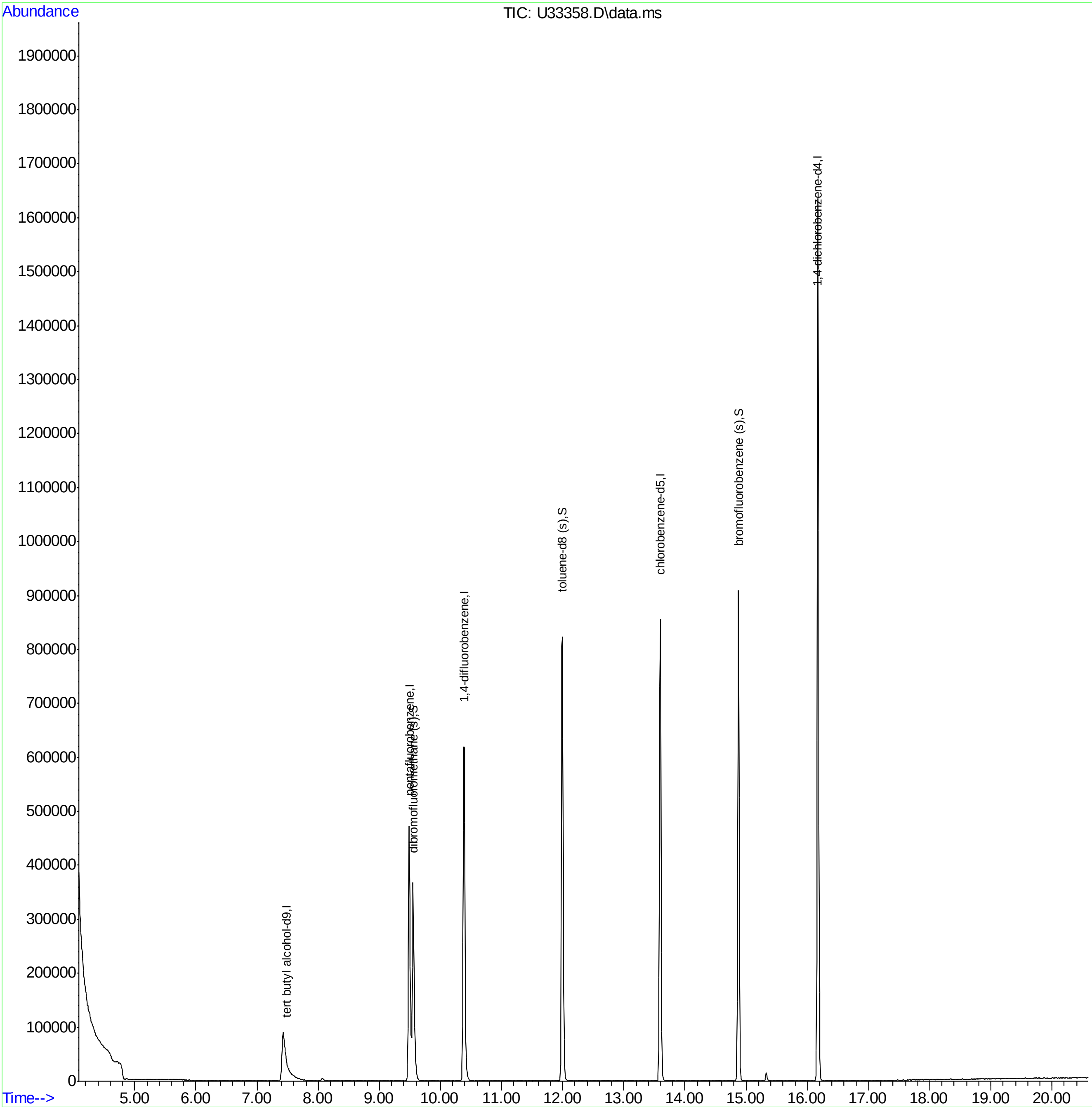


Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33358.D
Acq On    : 28 Oct 2015   4:43 pm
Operator  : andrewd1
Sample    : mc42178-5
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 4   Sample Multiplier: 1

Quant Time: Oct 28 18:13:33 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

        Compound                      R.T. QIon  Response  Conc Units Dev(Min)
-------------------------------------------------------------------------------
Internal Standards
  1) tert butyl alcohol-d9         7.480   65   246430   500.00 ppb      0.00
  4) pentafluorobenzene            9.494  168   346472    50.00 ppb      0.00
 43) 1,4-difluorobenzene          10.388  114   533948    50.00 ppb      0.00
 66) chlorobenzene-d5             13.595   82   295331    50.00 ppb      0.00
 80) 1,4-dichlorobenzene-d4       16.173  152   448675    50.00 ppb      0.00

System Monitoring Compounds
 40) dibromofluoromethane (s)      9.560  113   243001    56.70 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery   =  113.40%
 60) toluene-d8 (s)               11.993   98   590768    46.20 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery   =   92.40%
 82) bromofluorobenzene (s)       14.873   95   314178    45.25 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery   =   90.50%

Target Compounds                                                  Qvalue
-------------------------------------------------------------------------------

(#) = qualifier out of range (m) = manual integration (+) = signals summed
```

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33358.D
Acq On    : 28 Oct 2015   4:43 pm
Operator  : andrewd1
Sample    : mc42178-5
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 4   Sample Multiplier: 1

Quant Time: Oct 28 18:13:33 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

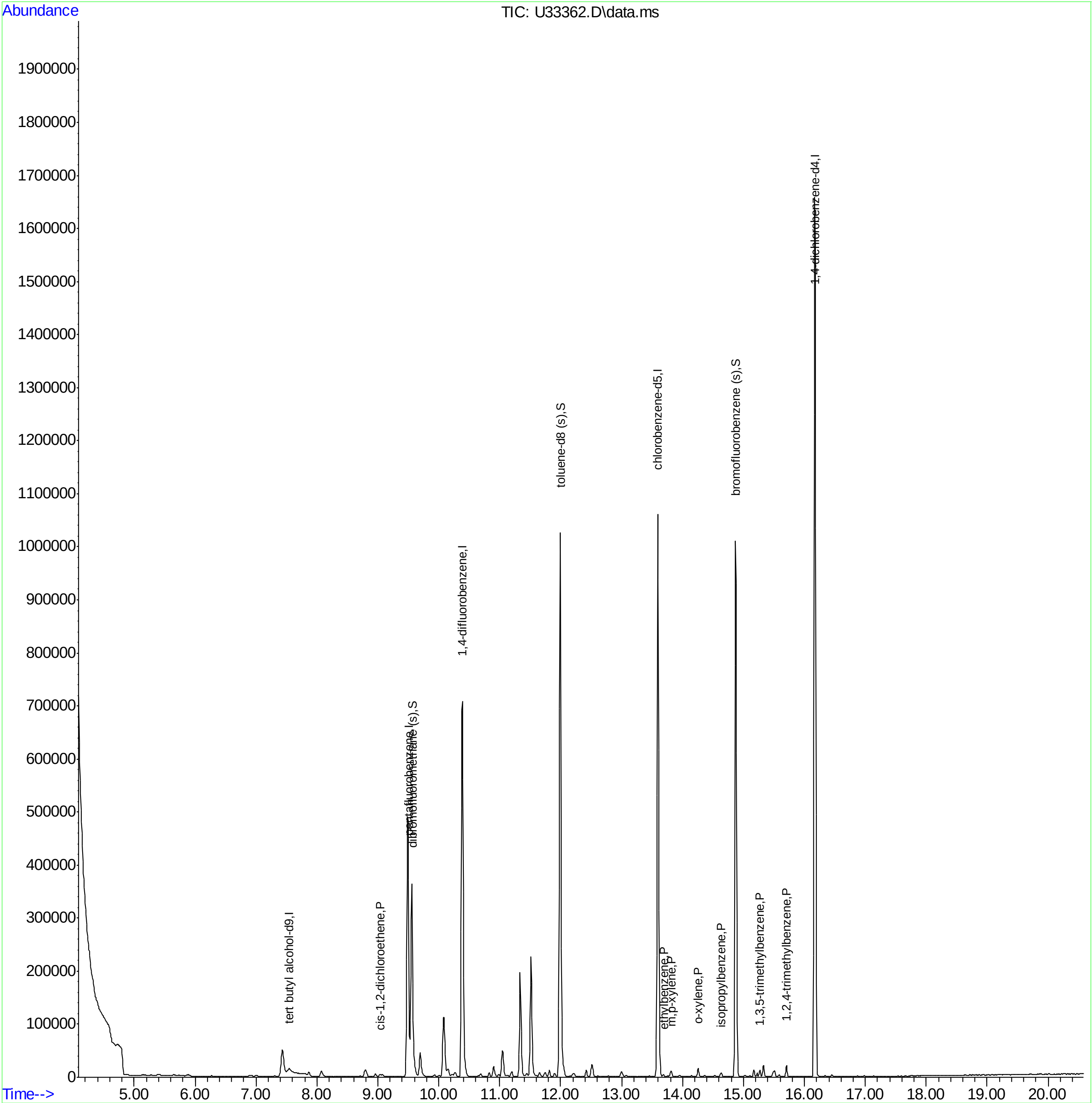


Quantitation Report (QT Reviewed)

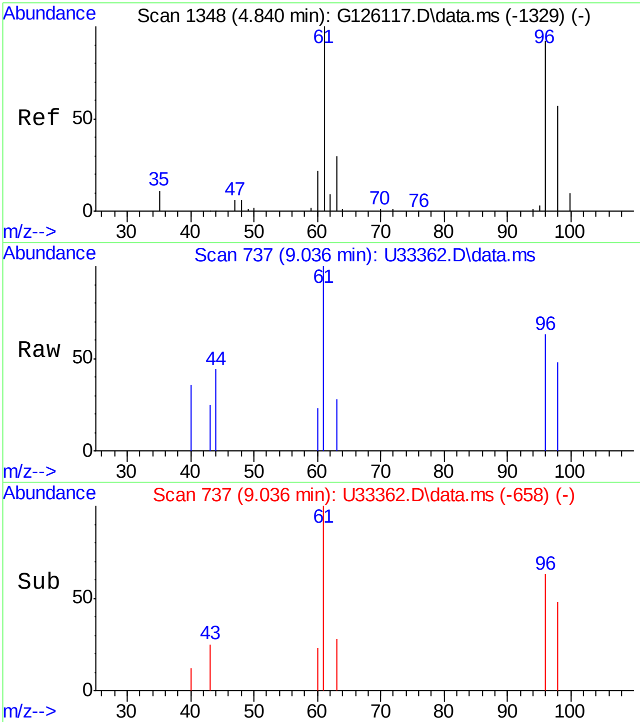
```
Data Path : R:\1\data\U151028\
Data File : U33362.D
Acq On    : 28 Oct 2015   6:31 pm
Operator  : andrewd1
Sample    : mc42178-6
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 29 08:32:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

        Compound                       R.T. QIon  Response  Conc Units Dev(Min)
 --------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9          7.538   65    157301   500.00 ppb      0.07
   4) pentafluorobenzene             9.497  168    366663    50.00 ppb      0.00
  43) 1,4-difluorobenzene           10.389  114    604399    50.00 ppb      0.00
  66) chlorobenzene-d5              13.596   82    366904    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4        16.173  152    454529    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)       9.561  113    239286    52.76 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =  105.52%
  60) toluene-d8 (s)                11.994   98    727899    50.29 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =  100.58%
  82) bromofluorobenzene (s)        14.874   95    353404    50.25 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =  100.50%

 Target Compounds                                                   Qvalue
  37) cis-1,2-dichloroethene         9.035   96      2339     0.49 ppb        96
  74) ethylbenzene                  13.686   91      4118     0.21 ppb        90
  75) m,p-xylene                    13.813  106      4157     0.55 ppb        89
  76) o-xylene                      14.258  106      3769     0.45 ppb  #     58
  81) isopropylbenzene              14.639  105      4599     0.21 ppb        92
  89) 1,3,5-trimethylbenzene        15.268  105      7897     0.38 ppb        92
  91) 1,2,4-trimethylbenzene        15.707  105     12820     0.57 ppb        92
 --------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

Quantitation Report (QT Reviewed)

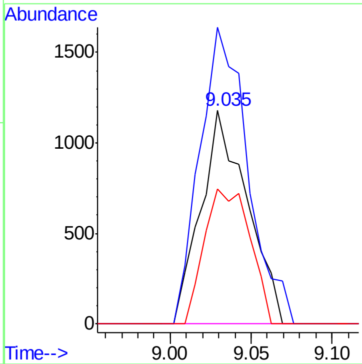
```
Data Path : R:\1\data\U151028\
Data File : U33362.D
Acq On    : 28 Oct 2015   6:31 pm
Operator  : andrewd1
Sample    : mc42178-6
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 29 08:32:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

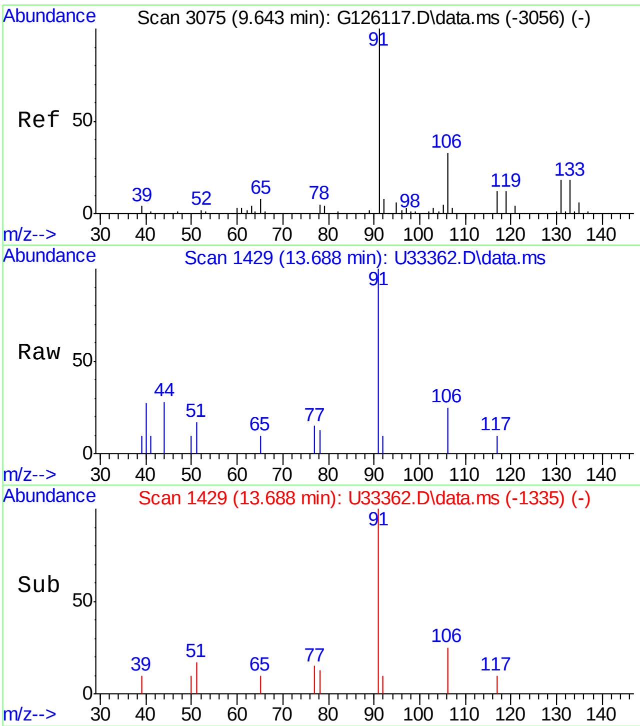


U151027.m Thu Oct 29 08:32:26 2015 Page: 2

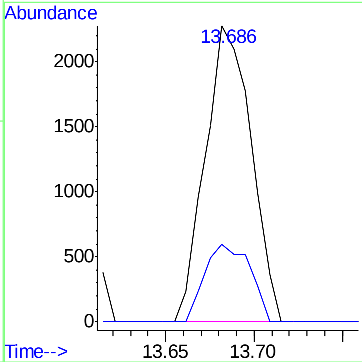



```
#37
cis-1,2-dichloroethene
Concen:     0.49 ppb
RT:    9.035 min   Scan# 737
Delta R.T.   -0.002 min
Lab File:    U33362.D
Acq: 28 Oct 2015    6:31 pm

Tgt Ion: 96 Resp:     2339
Ion   Ratio   Lower   Upper
 96   100
 61   157.9   126.3   186.3
 98    75.2    36.2    96.2
```



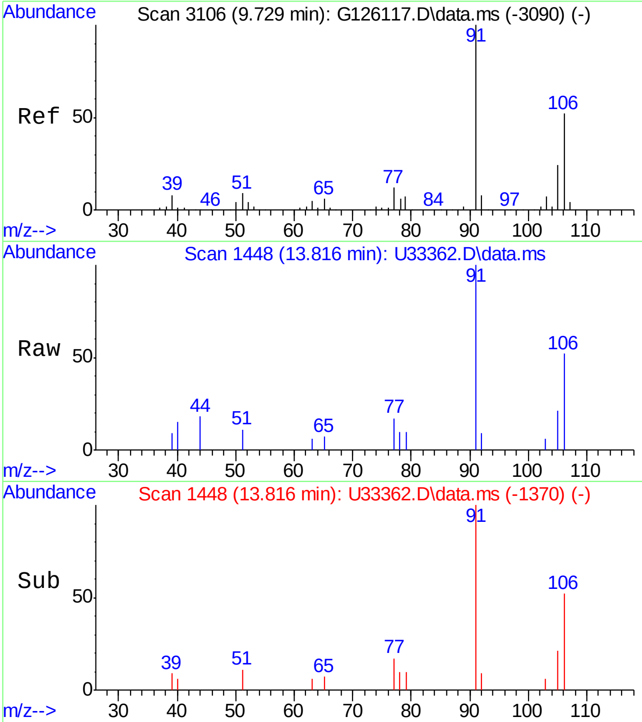



```
#74
ethylbenzene
Concen:     0.21 ppb
RT:   13.686 min   Scan# 1429
Delta R.T.   -0.000 min
Lab File:    U33362.D
Acq: 28 Oct 2015    6:31 pm

Tgt Ion: 91 Resp:     4118
Ion   Ratio   Lower   Upper
 91   100
106    24.8     0.1    60.1
```



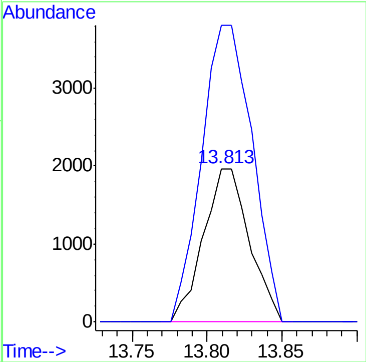
7.1.6

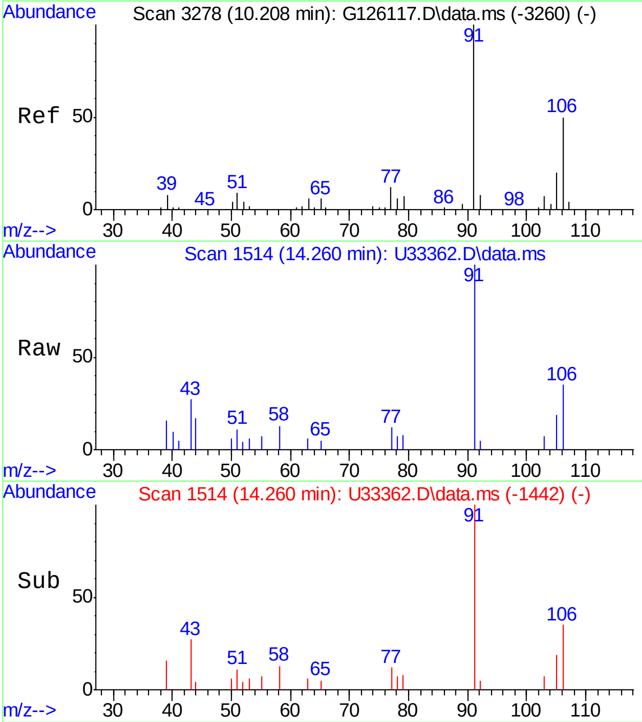
7



#75
m,p-xylene
Concen: 0.55 ppb
RT: 13.813 min Scan# 1448
Delta R.T. -0.002 min
Lab File: U33362.D
Acq: 28 Oct 2015 6:31 pm

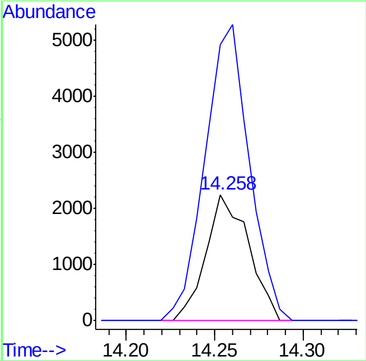
Tgt Ion:106	Resp:		4157
Ion	Ratio	Lower	Upper
106	100		
91	193.9	180.7	240.7

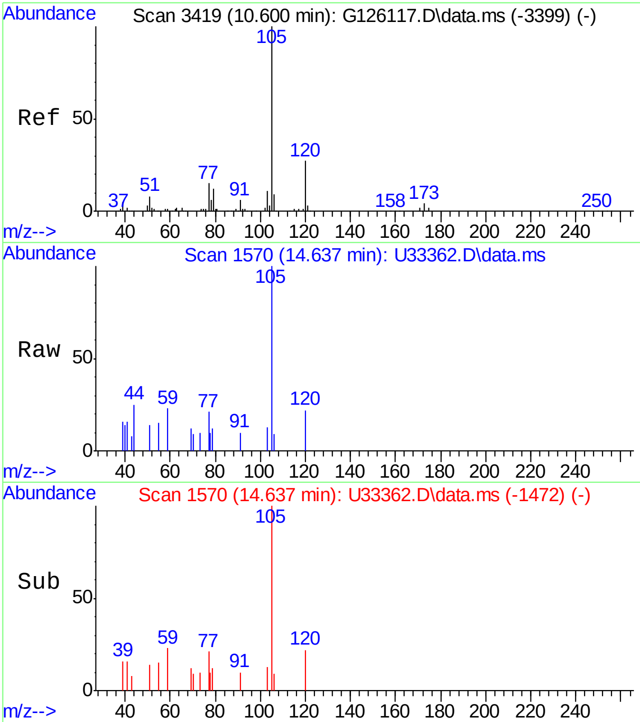




#76
o-xylene
Concen: 0.45 ppb
RT: 14.258 min Scan# 1514
Delta R.T. -0.000 min
Lab File: U33362.D
Acq: 28 Oct 2015 6:31 pm

Tgt Ion:106	Resp:		3769
Ion	Ratio	Lower	Upper
106	100		
91	285.8	188.5	248.5#

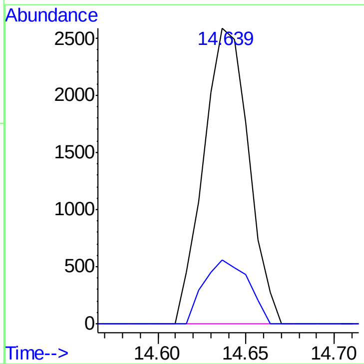


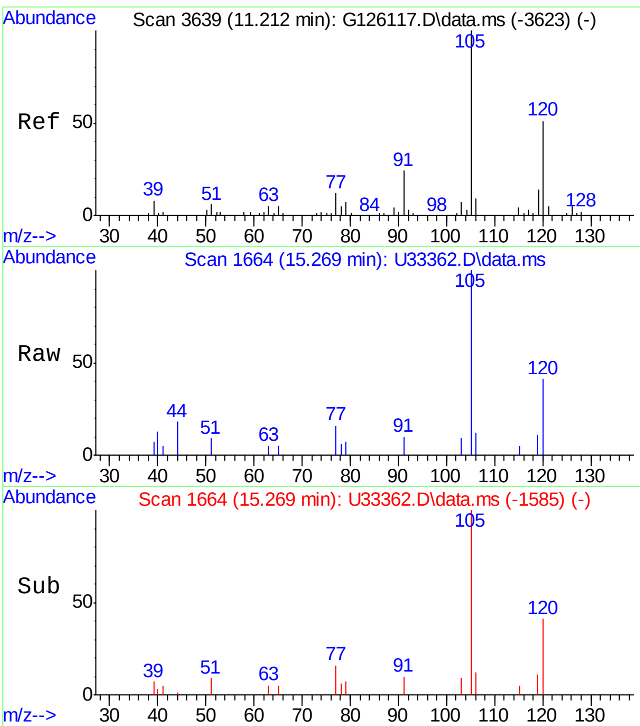


#81
isopropylbenzene
Concen: 0.21 ppb
RT: 14.639 min Scan# 1570
Delta R.T. -0.000 min
Lab File: U33362.D
Acq: 28 Oct 2015 6:31 pm

Tgt Ion:105 Resp: 4599

Ion	Ratio	Lower	Upper
105	100		
120	21.8	0.0	55.8

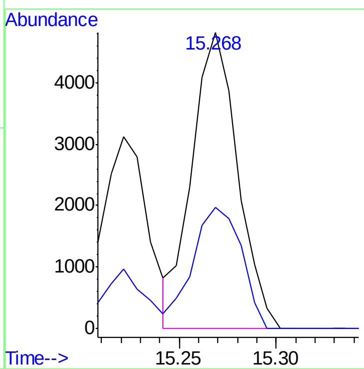


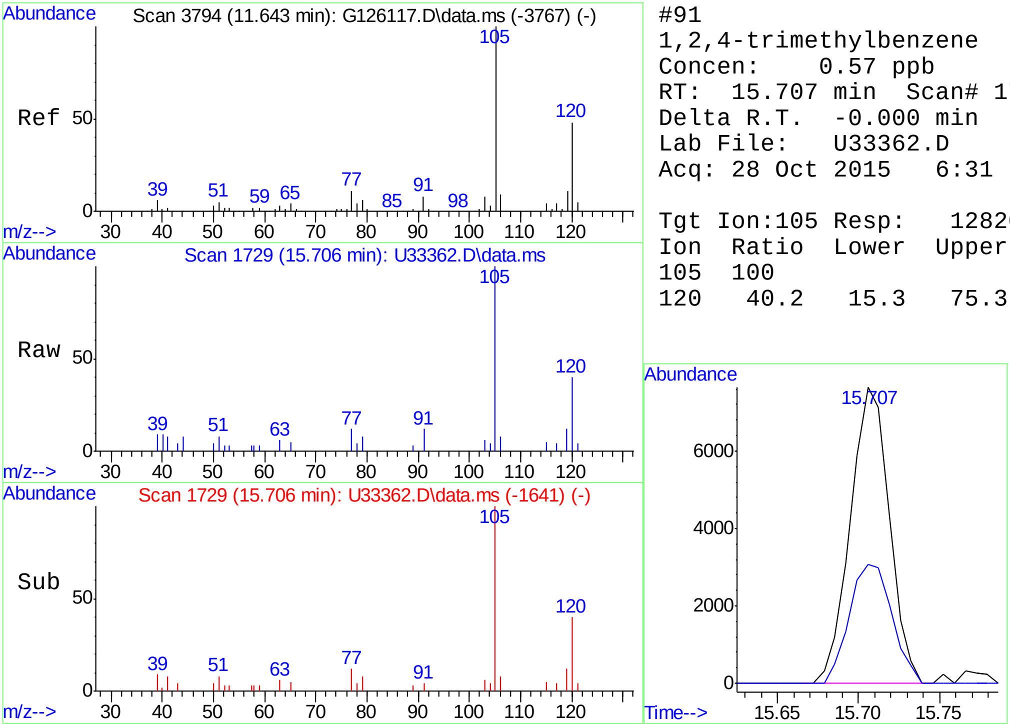


#89
1,3,5-trimethylbenzene
Concen: 0.38 ppb
RT: 15.268 min Scan# 1664
Delta R.T. -0.002 min
Lab File: U33362.D
Acq: 28 Oct 2015 6:31 pm

Tgt Ion:105 Resp: 7897

Ion	Ratio	Lower	Upper
105	100		
120	40.8	16.1	76.1





#91
1,2,4-trimethylbenzene
Concen: 0.57 ppb
RT: 15.707 min Scan# 1729
Delta R.T. -0.000 min
Lab File: U33362.D
Acq: 28 Oct 2015 6:31 pm

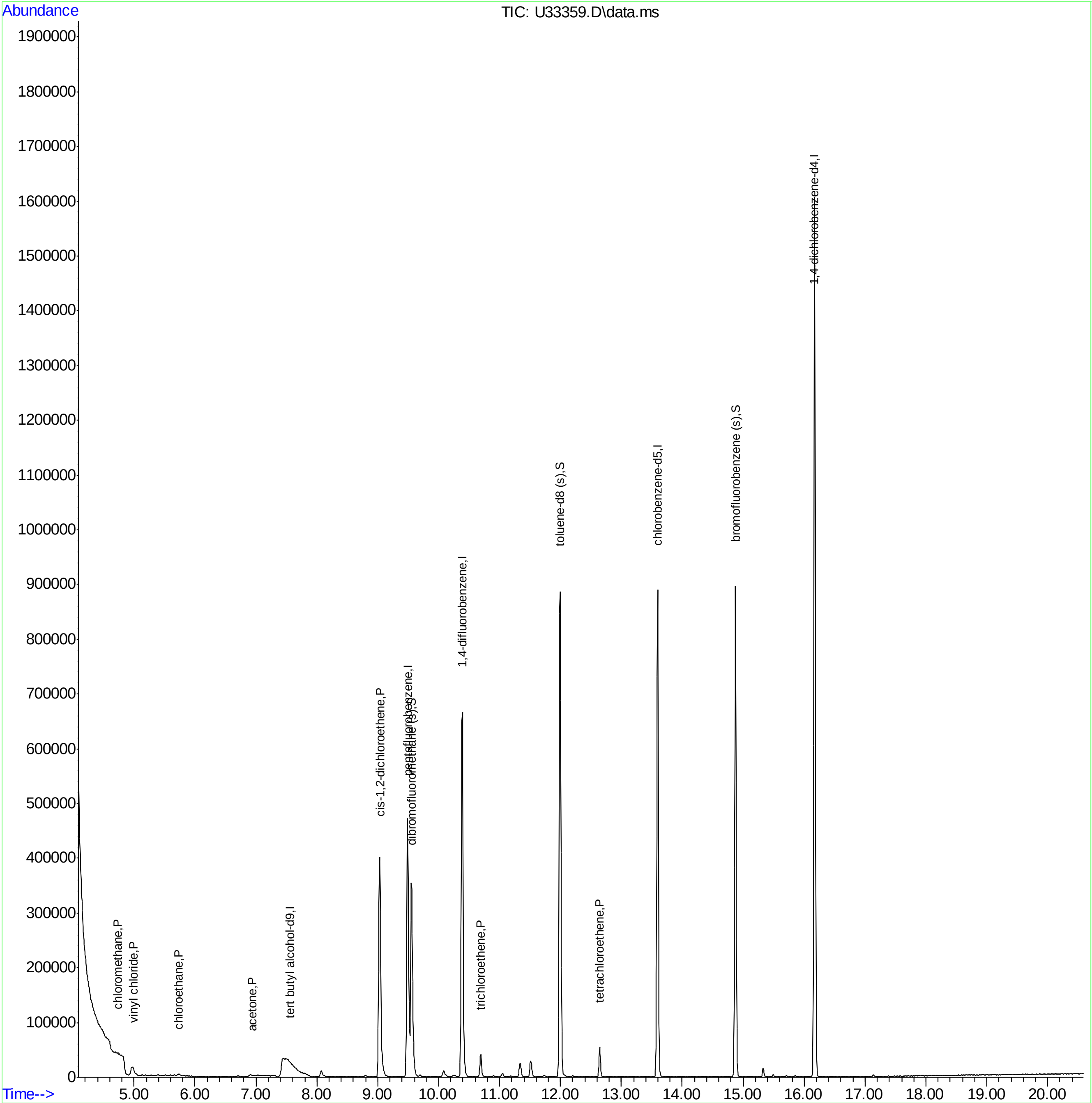
Tgt Ion:105 Resp: 12820

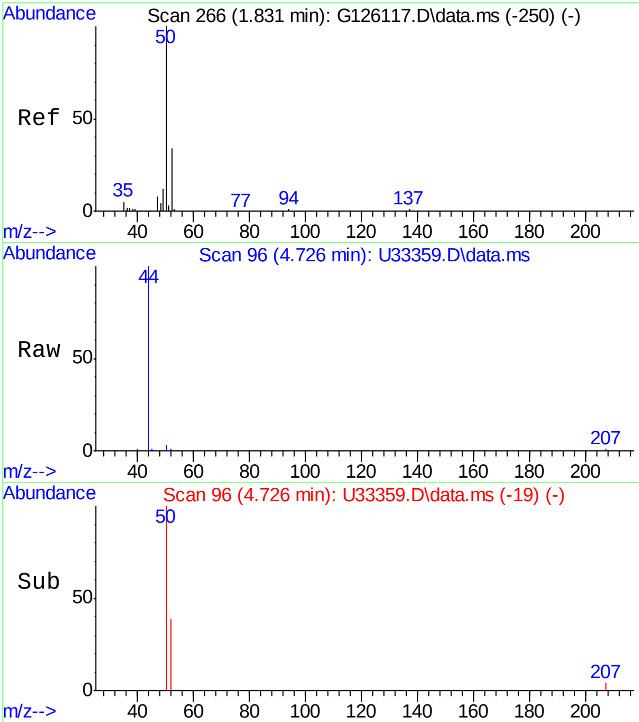
Ion	Ratio	Lower	Upper
105	100		
120	40.2	15.3	75.3

```
                    Quantitation Report    (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33359.D
Acq On    : 28 Oct 2015   5:10 pm
Operator  : andrewd1
Sample    : mc42178-7
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 5   Sample Multiplier: 1

Quant Time: Oct 28 18:14:19 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

        Compound                   R.T. QIon  Response  Conc Units Dev(Min)
 --------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9       7.562   65    242257   500.00 ppb      0.09
   4) pentafluorobenzene          9.495  168    352703    50.00 ppb      0.00
  43) 1,4-difluorobenzene        10.388  114    567011    50.00 ppb      0.00
  66) chlorobenzene-d5           13.596   82    305476    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4     16.173  152    440552    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)    9.561  113    238984    54.78 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =  109.56%
  60) toluene-d8 (s)             11.993   98    621827    45.80 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =   91.60%
  82) bromofluorobenzene (s)     14.874   95    313827    46.04 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =   92.08%

 Target Compounds                                                  Qvalue
   6) chloromethane               4.724   50      4210     0.27 ppb        88
   7) vinyl chloride              4.980   62     38130     6.81 ppb        94
   9) chloroethane                5.737   64      3284     1.22 ppb        90
  16) acetone                     6.934   58      2935     5.69 ppb  #      1
  37) cis-1,2-dichloroethene      9.038   96    197921    42.97 ppb        96
  51) trichloroethene            10.691   95     15000     3.16 ppb        98
  67) tetrachloroethene          12.645  166     17696     5.03 ppb        93
 --------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

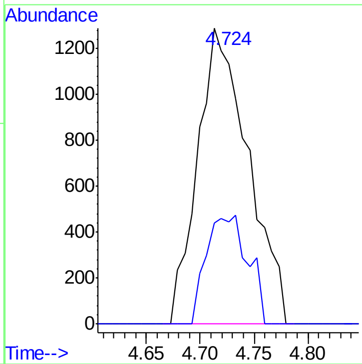
Quantitation Report (QT Reviewed)

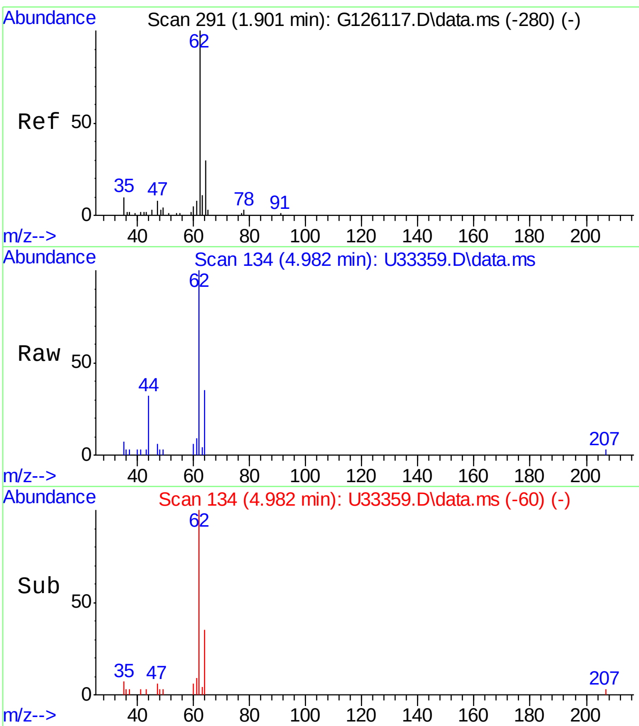
```
Data Path : R:\1\data\U151028\
Data File : U33359.D
Acq On    : 28 Oct 2015   5:10 pm
Operator  : andrewd1
Sample    : mc42178-7
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 5   Sample Multiplier: 1

Quant Time: Oct 28 18:14:19 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



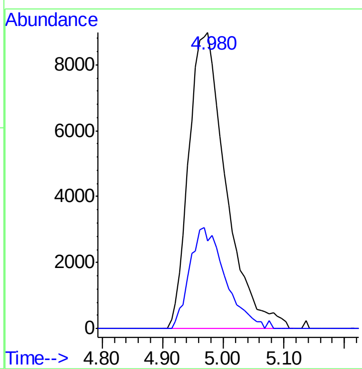


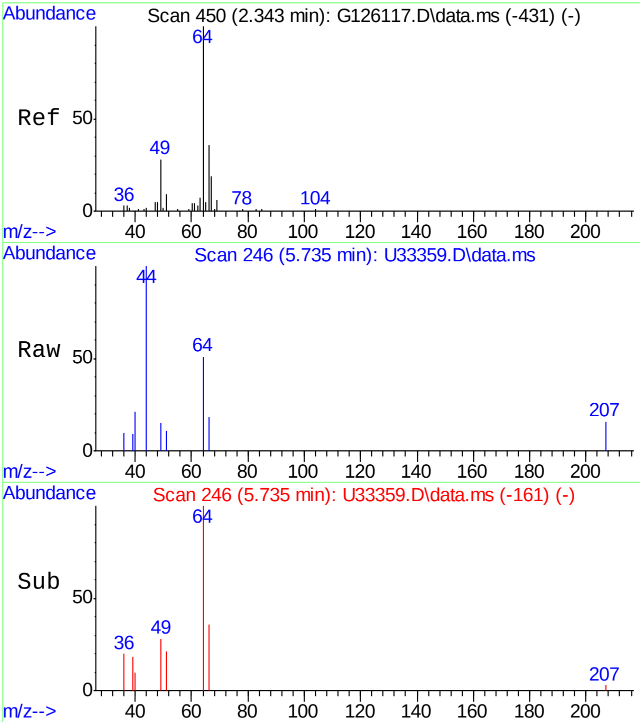

```
#6
chloromethane
Concen:     0.27 ppb
RT:    4.724 min   Scan# 96
Delta R.T.   -0.017 min
Lab File:    U33359.D
Acq: 28 Oct 2015    5:10 pm

Tgt Ion: 50 Resp:     4210
Ion   Ratio   Lower   Upper
 50   100
 52    39.2     2.6    62.6
```






```
#7
vinyl chloride
Concen:     6.81 ppb
RT:    4.980 min   Scan# 134
Delta R.T.   -0.003 min
Lab File:    U33359.D
Acq: 28 Oct 2015    5:10 pm

Tgt Ion: 62 Resp:    38130
Ion   Ratio   Lower   Upper
 62   100
 64    35.2     1.8    61.8
```

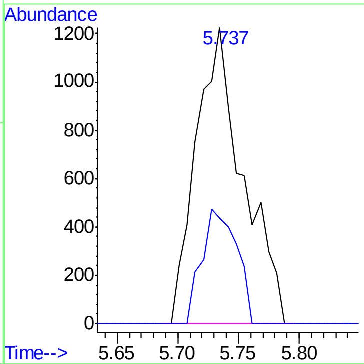


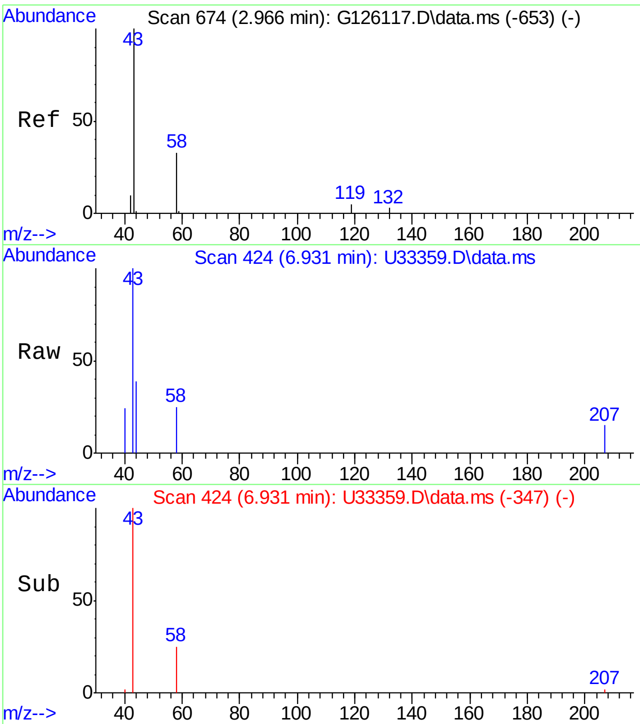


#9
chloroethane
Concen: 1.22 ppb
RT: 5.737 min Scan# 246
Delta R.T. -0.009 min
Lab File: U33359.D
Acq: 28 Oct 2015 5:10 pm

Tgt Ion: 64 Resp: 3284

Ion	Ratio	Lower	Upper
64	100		
66	35.5	0.1	60.1

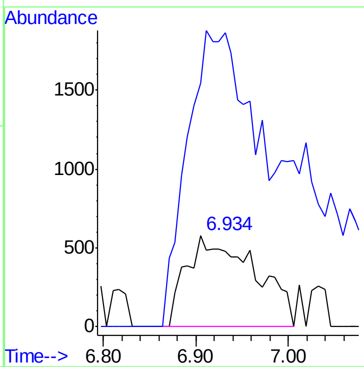


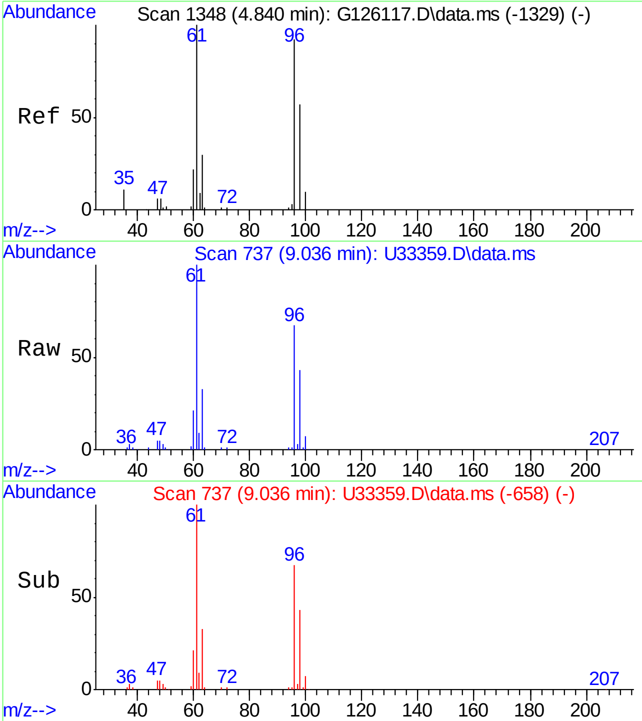


#16
acetone
Concen: 5.69 ppb
RT: 6.934 min Scan# 424
Delta R.T. 0.020 min
Lab File: U33359.D
Acq: 28 Oct 2015 5:10 pm

Tgt Ion: 58 Resp: 2935

Ion	Ratio	Lower	Upper
58	100		
43	0.0	278.8	338.8#

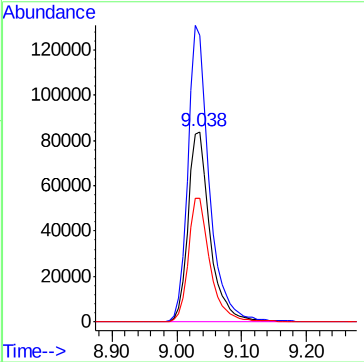


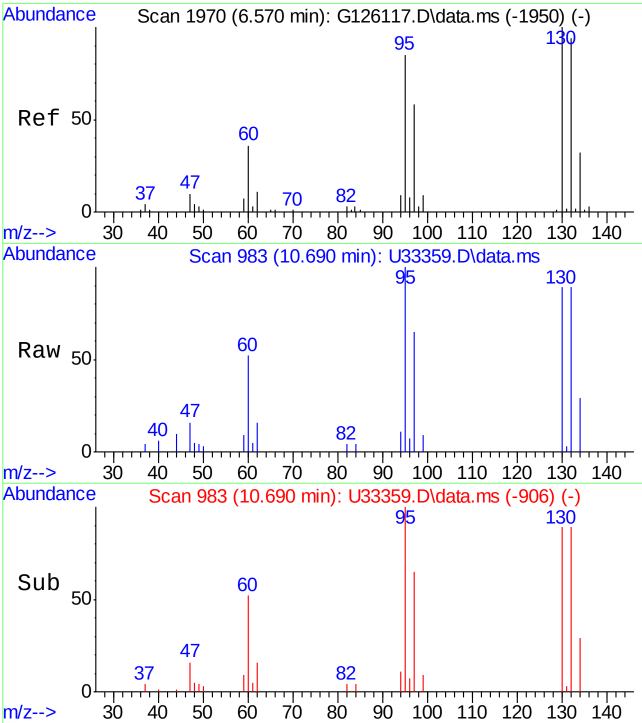


#37
cis-1,2-dichloroethene
Concen: 42.97 ppb
RT: 9.038 min Scan# 737
Delta R.T. 0.001 min
Lab File: U33359.D
Acq: 28 Oct 2015 5:10 pm

Tgt Ion: 96 Resp: 197921

Ion	Ratio	Lower	Upper
96	100		
61	150.4	126.3	186.3
98	65.2	36.2	96.2

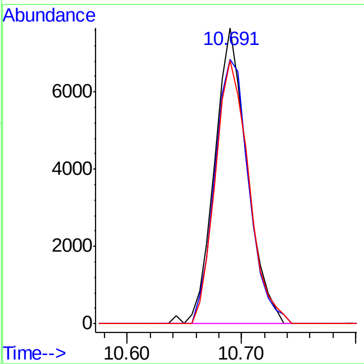


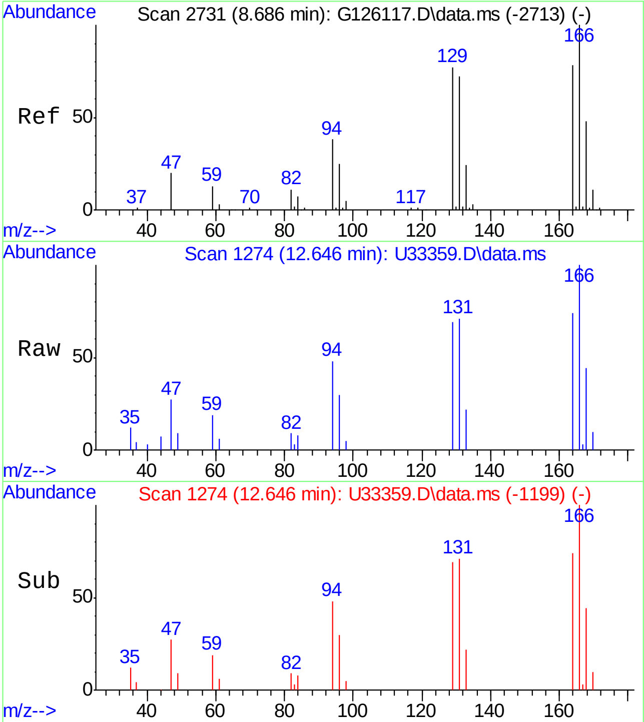


#51
trichloroethene
Concen: 3.16 ppb
RT: 10.691 min Scan# 983
Delta R.T. 0.000 min
Lab File: U33359.D
Acq: 28 Oct 2015 5:10 pm

Tgt Ion: 95 Resp: 15000

Ion	Ratio	Lower	Upper
95	100		
130	89.5	58.8	118.8
132	89.0	62.5	122.5

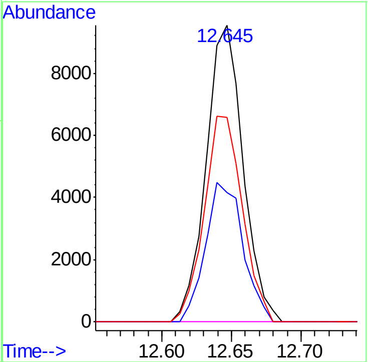




#67
tetrachloroethene
Concen: 5.03 ppb
RT: 12.645 min Scan# 1274
Delta R.T. 0.000 min
Lab File: U33359.D
Acq: 28 Oct 2015 5:10 pm

Tgt Ion:166 Resp: 17696

Ion	Ratio	Lower	Upper
166	100		
168	43.6	19.2	79.2
129	68.8	43.8	103.8

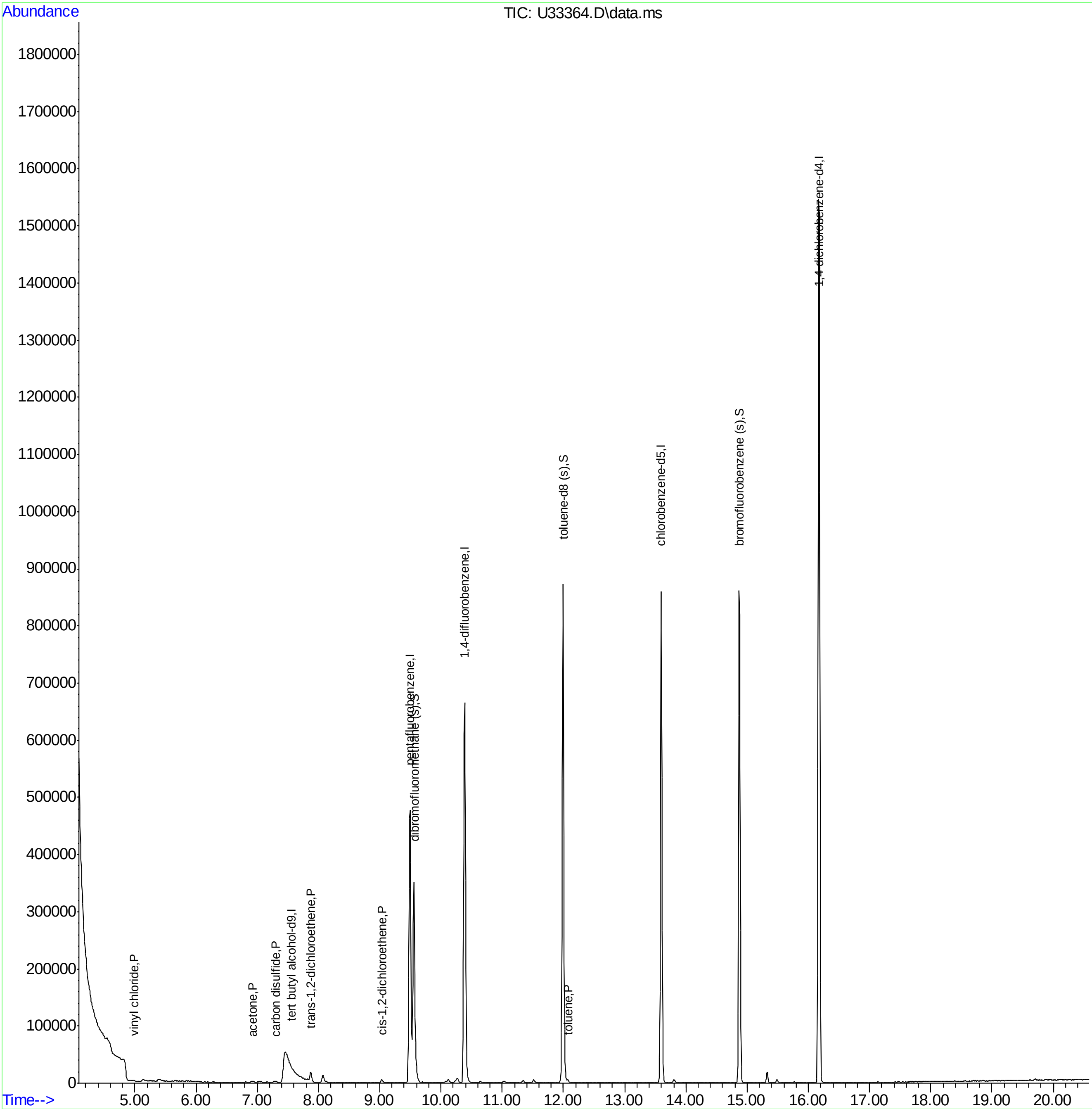


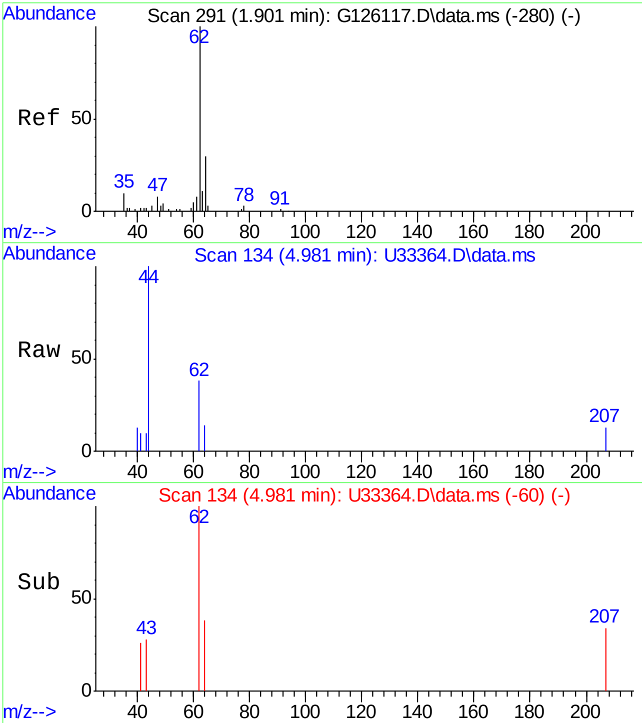
Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33364.D
Acq On    : 28 Oct 2015   7:26 pm
Operator  : andrewd1
Sample    : mc42178-8
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 29 08:34:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

        Compound                   R.T. QIon  Response  Conc Units Dev(Min)
 --------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9        7.547   65   272314   500.00 ppb      0.08
   4) pentafluorobenzene           9.496  168   353849    50.00 ppb      0.00
  43) 1,4-difluorobenzene         10.389  114   545218    50.00 ppb      0.00
  66) chlorobenzene-d5            13.596   82   294176    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4      16.173  152   429083    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)     9.562  113   240729    55.00 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =  110.00%
  60) toluene-d8 (s)              11.994   98   602949    46.18 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =   92.36%
  82) bromofluorobenzene (s)      14.874   95   302067    45.50 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =   91.00%

 Target Compounds                                                  Qvalue
   7) vinyl chloride               4.982   62     4109     0.73 ppb      89
  16) acetone                      6.917   58     2111     4.08 ppb  #    1
  22) trans-1,2-dichloroethene     7.879   96     7491     1.80 ppb      85
  24) carbon disulfide             7.297   76     3739     0.25 ppb      76
  37) cis-1,2-dichloroethene       9.035   96     2744     0.59 ppb      92
  62) toluene                     12.072   92     2237     0.28 ppb      87
 --------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33364.D
Acq On    : 28 Oct 2015   7:26 pm
Operator  : andrewd1
Sample    : mc42178-8
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 29 08:34:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

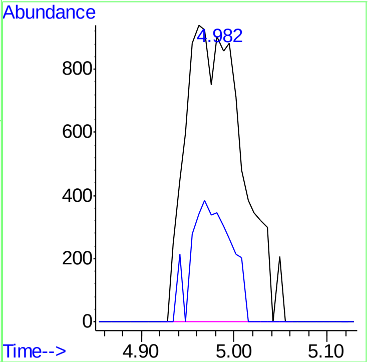


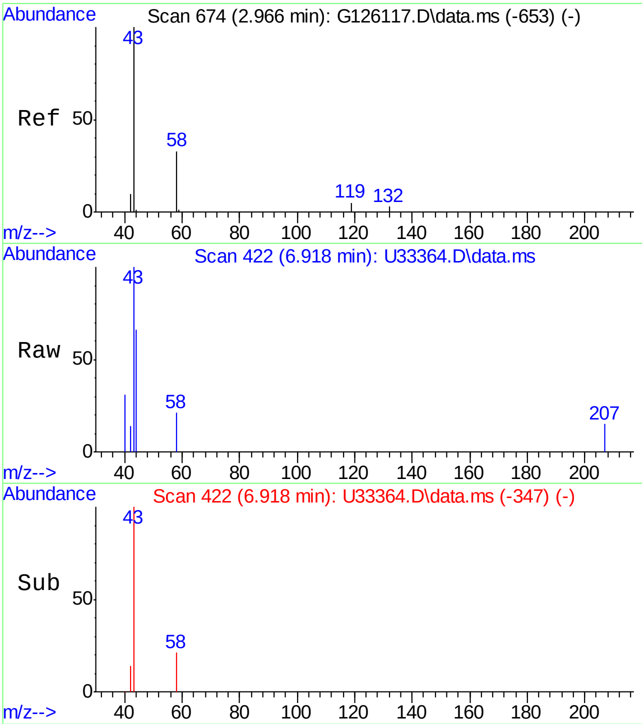


#7
vinyl chloride
Concen: 0.73 ppb
RT: 4.982 min Scan# 134
Delta R.T. -0.001 min
Lab File: U33364.D
Acq: 28 Oct 2015 7:26 pm

Tgt Ion: 62 Resp: 4109

Ion	Ratio	Lower	Upper
62	100		
64	38.2	1.8	61.8

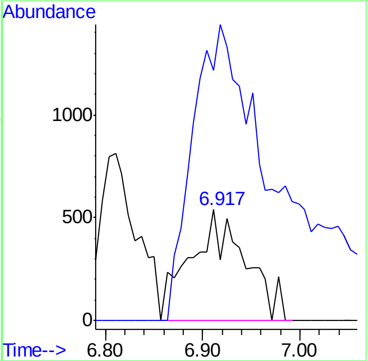


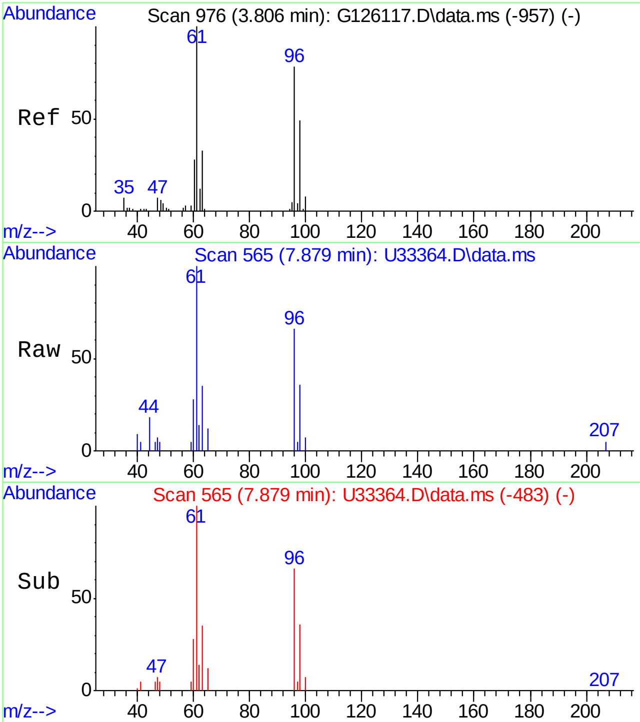


#16
acetone
Concen: 4.08 ppb
RT: 6.917 min Scan# 422
Delta R.T. 0.003 min
Lab File: U33364.D
Acq: 28 Oct 2015 7:26 pm

Tgt Ion: 58 Resp: 2111

Ion	Ratio	Lower	Upper
58	100		
43	0.0	278.8	338.8#

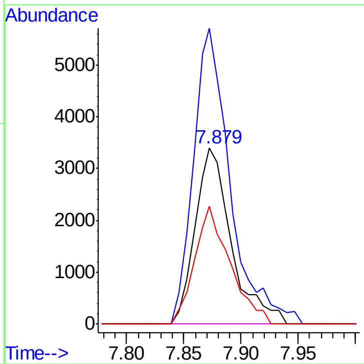


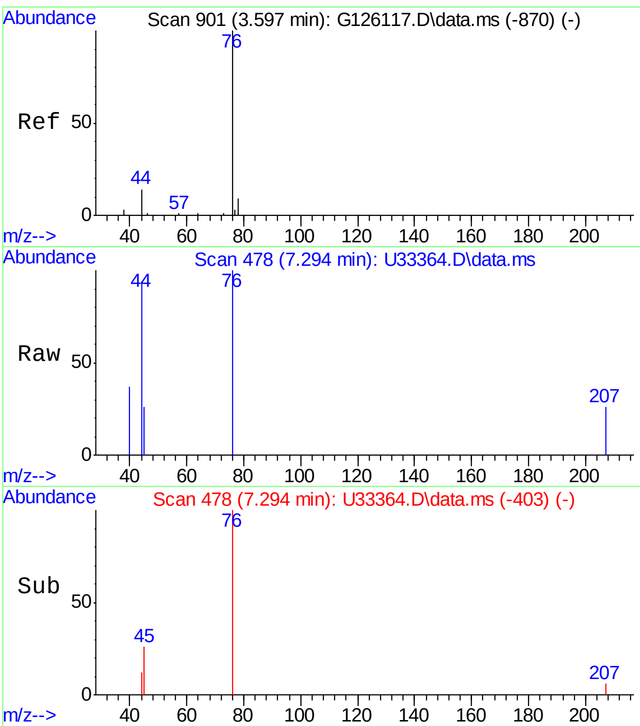


#22
trans-1,2-dichloroethene
Concen: 1.80 ppb
RT: 7.879 min Scan# 565
Delta R.T. 0.001 min
Lab File: U33364.D
Acq: 28 Oct 2015 7:26 pm

Tgt Ion: 96 Resp: 7491

Ion	Ratio	Lower	Upper
96	100		
61	152.2	145.5	205.5
98	55.5	35.2	95.2

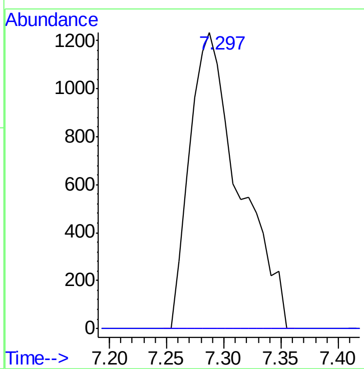


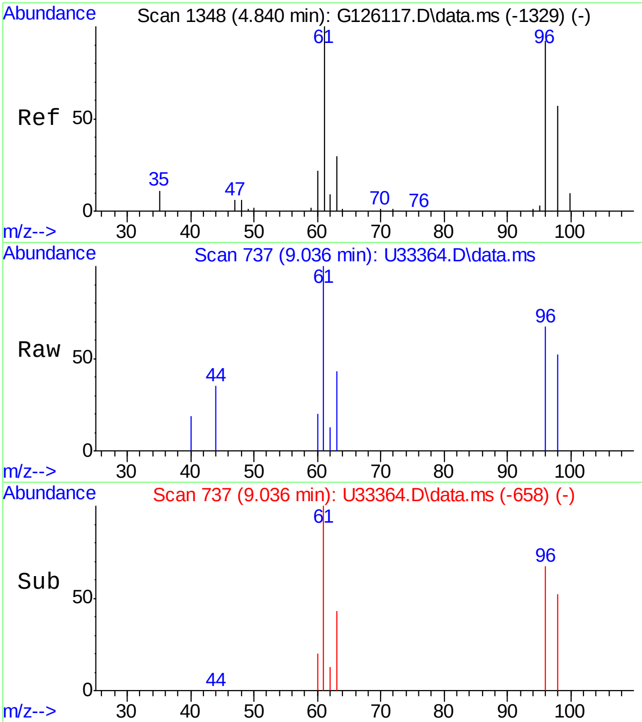


#24
carbon disulfide
Concen: 0.25 ppb
RT: 7.297 min Scan# 478
Delta R.T. 0.009 min
Lab File: U33364.D
Acq: 28 Oct 2015 7:26 pm

Tgt Ion: 76 Resp: 3739

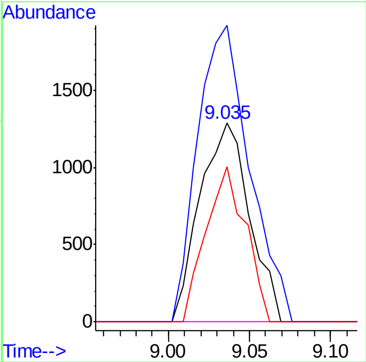
Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	38.8

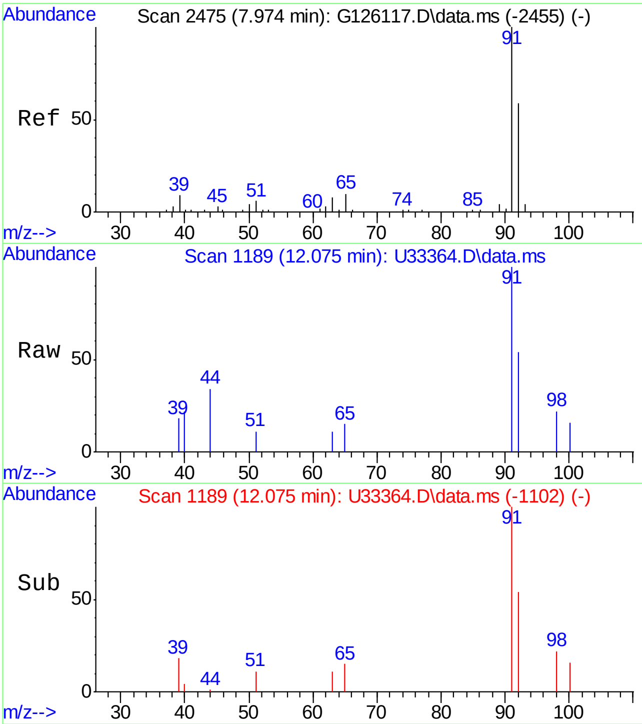




#37
cis-1,2-dichloroethene
Concen: 0.59 ppb
RT: 9.035 min Scan# 737
Delta R.T. -0.002 min
Lab File: U33364.D
Acq: 28 Oct 2015 7:26 pm

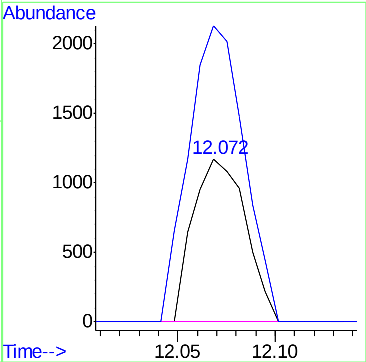
Tgt Ion: 96	Resp:	2744	
Ion	Ratio	Lower	Upper
96	100		
61	149.1	126.3	186.3
98	78.1	36.2	96.2





#62
toluene
Concen: 0.28 ppb
RT: 12.072 min Scan# 1189
Delta R.T. 0.002 min
Lab File: U33364.D
Acq: 28 Oct 2015 7:26 pm

Tgt Ion: 92	Resp:	2237	
Ion	Ratio	Lower	Upper
92	100		
91	186.7	139.2	199.2

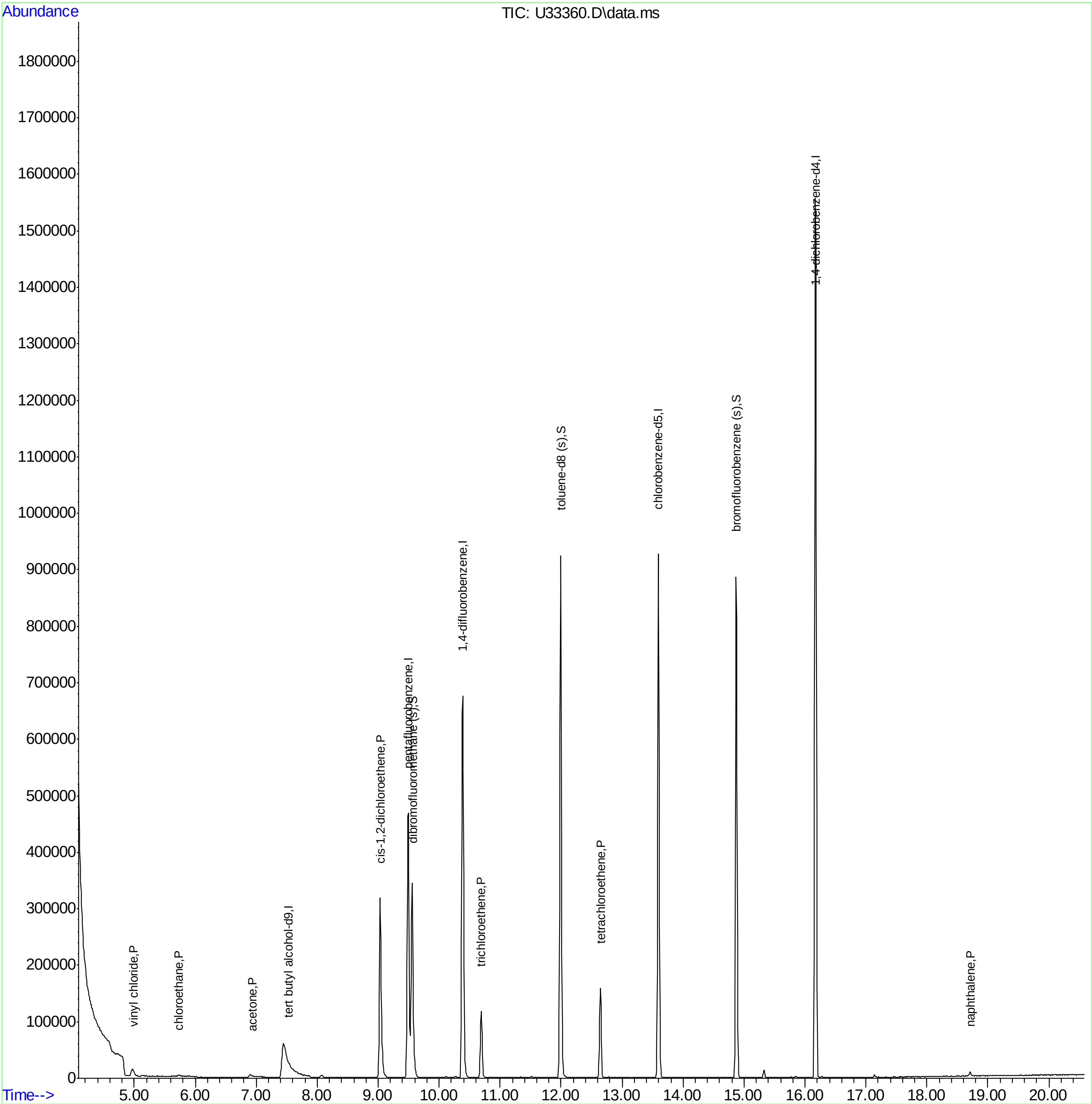


Quantitation Report (QT Reviewed)

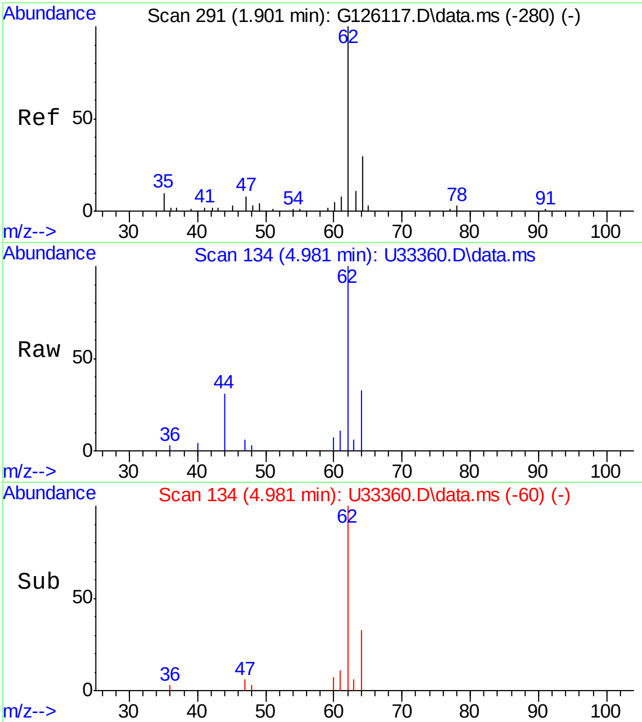
```
Data Path : R:\1\data\U151028\
Data File : U33360.D
Acq On    : 28 Oct 2015   5:37 pm
Operator  : andrewd1
Sample    : mc42178-9
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 28 18:15:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

        Compound                     R.T. QIon  Response  Conc Units Dev(Min)
-----------------------------------------------------------------------------
Internal Standards
  1) tert butyl alcohol-d9          7.528   65    253275   500.00 ppb      0.06
  4) pentafluorobenzene             9.495  168    349740    50.00 ppb      0.00
 43) 1,4-difluorobenzene           10.389  114    566989    50.00 ppb      0.00
 66) chlorobenzene-d5              13.596   82    319706    50.00 ppb      0.00
 80) 1,4-dichlorobenzene-d4        16.173  152    429845    50.00 ppb      0.00

System Monitoring Compounds
 40) dibromofluoromethane (s)       9.561  113    235486    54.43 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery   =  108.86%
 60) toluene-d8 (s)                11.994   98    650086    47.88 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery   =   95.76%
 82) bromofluorobenzene (s)        14.874   95    310402    46.67 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery   =   93.34%

Target Compounds                                                   Qvalue
  7) vinyl chloride                 4.983   62     32023     5.77 ppb        99
  9) chloroethane                   5.737   64      2888     1.08 ppb        82
 16) acetone                        6.934   58      4865     9.52 ppb  #      1
 37) cis-1,2-dichloroethene         9.039   96    151486    33.17 ppb        95
 51) trichloroethene               10.693   95     42206    10.04 ppb        95
 67) tetrachloroethene             12.646  166     48426    13.16 ppb        97
102) naphthalene                   18.710  128      7760     0.33 ppb       100
-----------------------------------------------------------------------------

(#) = qualifier out of range (m) = manual integration (+) = signals summed
```

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33360.D
Acq On    : 28 Oct 2015   5:37 pm
Operator  : andrewd1
Sample    : mc42178-9
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 28 18:15:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



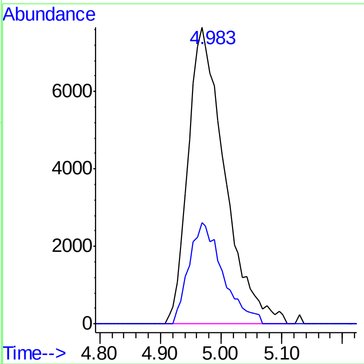
U151027.m Wed Oct 28 18:15:22 2015 Page: 2

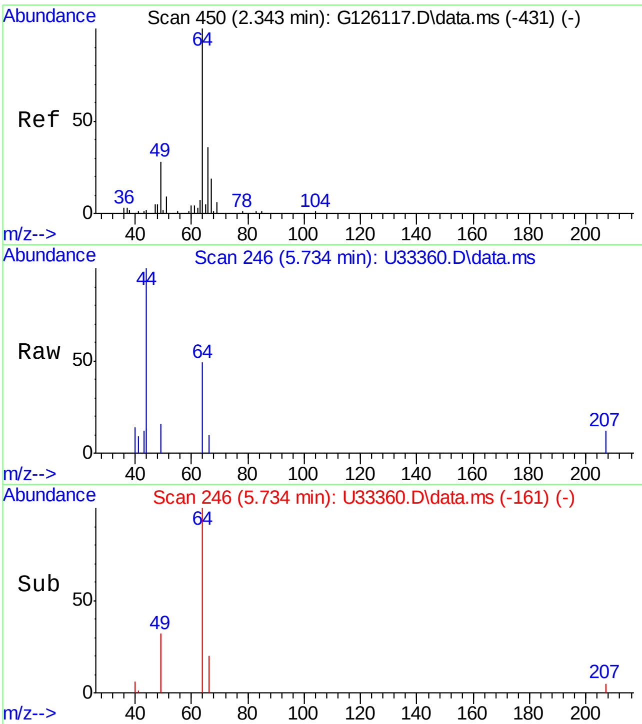


#7
vinyl chloride
Concen: 5.77 ppb
RT: 4.983 min Scan# 134
Delta R.T. -0.000 min
Lab File: U33360.D
Acq: 28 Oct 2015 5:37 pm

Tgt Ion: 62 Resp: 32023

Ion	Ratio	Lower	Upper
62	100		
64	32.6	1.8	61.8

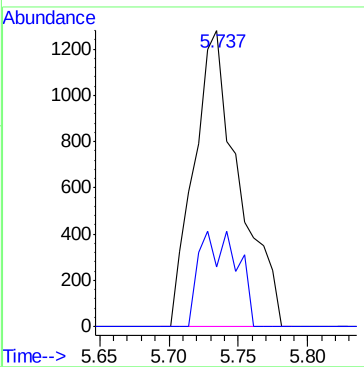


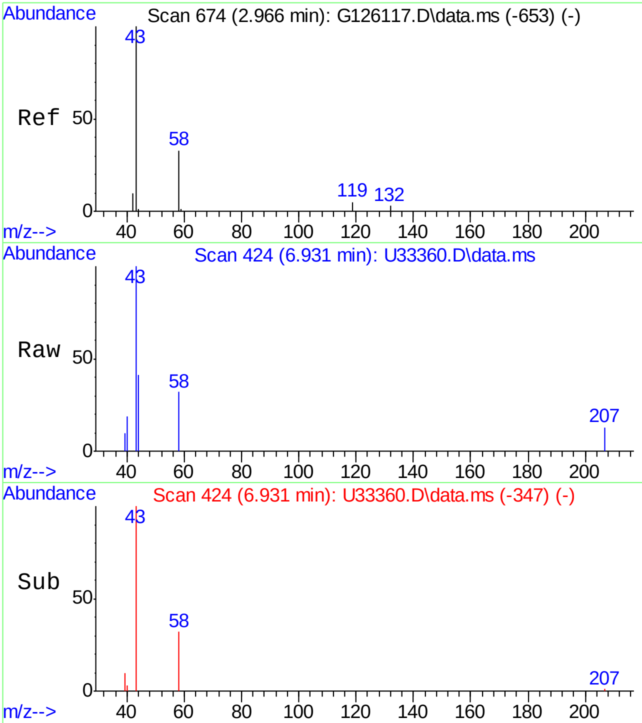


#9
chloroethane
Concen: 1.08 ppb
RT: 5.737 min Scan# 246
Delta R.T. -0.009 min
Lab File: U33360.D
Acq: 28 Oct 2015 5:37 pm

Tgt Ion: 64 Resp: 2888

Ion	Ratio	Lower	Upper
64	100		
66	20.3	0.1	60.1

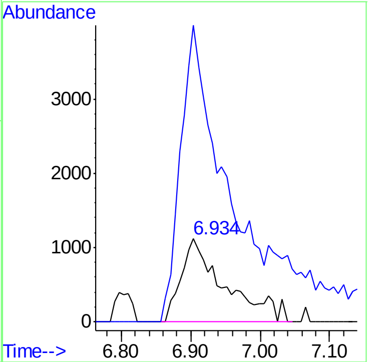


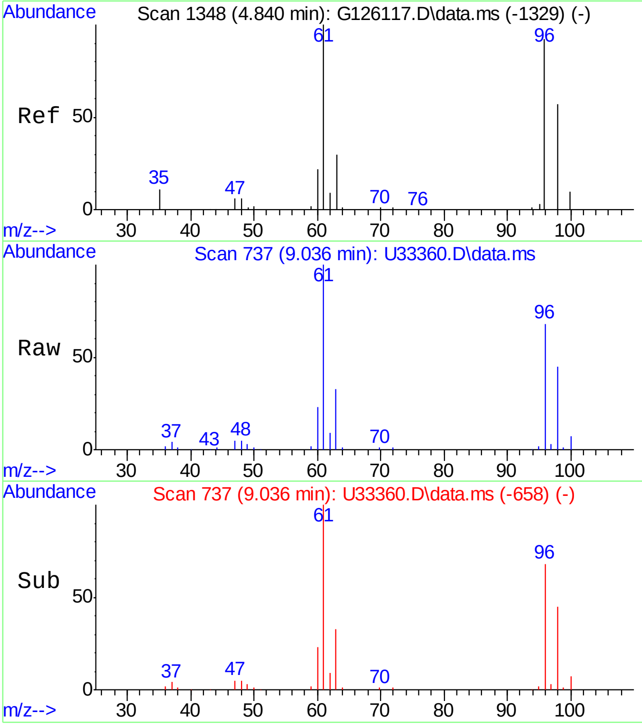


#16
acetone
Concen: 9.52 ppb
RT: 6.934 min Scan# 424
Delta R.T. 0.020 min
Lab File: U33360.D
Acq: 28 Oct 2015 5:37 pm

Tgt Ion: 58 Resp: 4865

Ion	Ratio	Lower	Upper
58	100		
43	0.0	278.8	338.8#

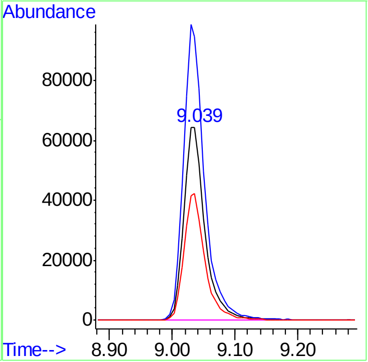


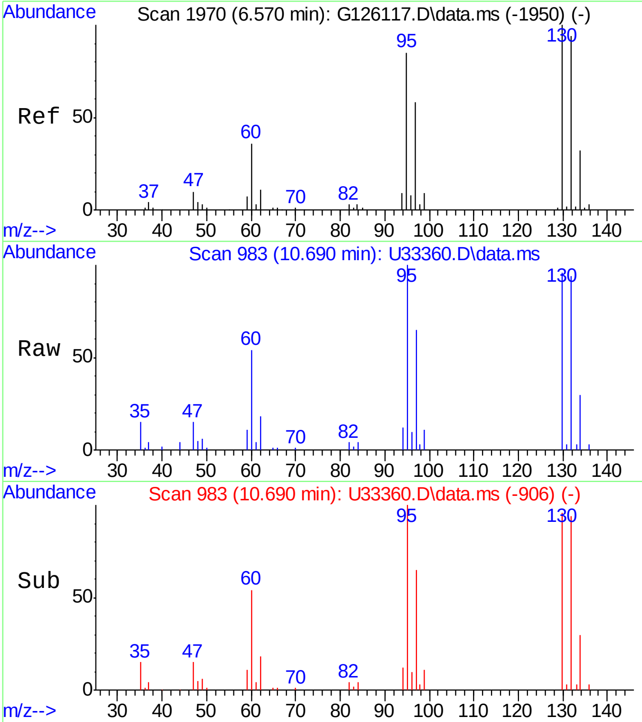


#37
cis-1,2-dichloroethene
Concen: 33.17 ppb
RT: 9.039 min Scan# 737
Delta R.T. 0.002 min
Lab File: U33360.D
Acq: 28 Oct 2015 5:37 pm

Tgt Ion: 96 Resp: 151486

Ion	Ratio	Lower	Upper
96	100		
61	147.5	126.3	186.3
98	65.7	36.2	96.2

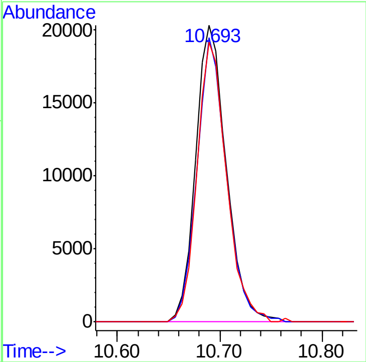


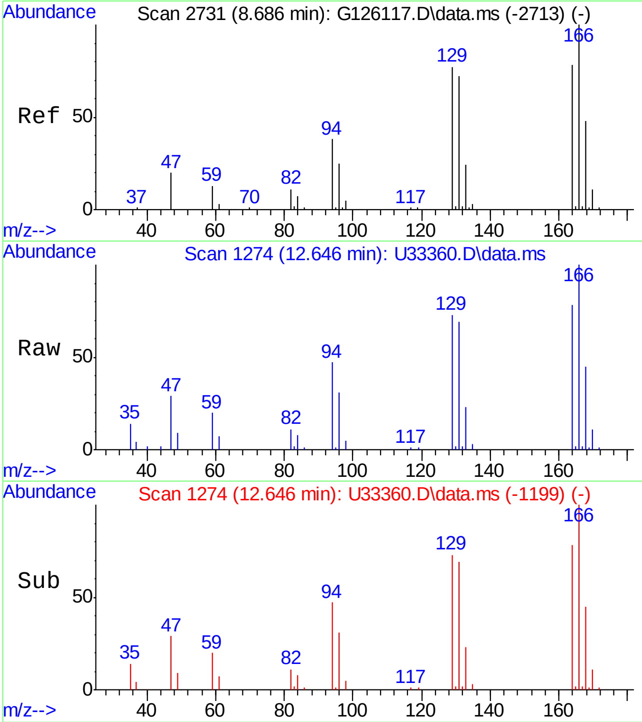


#51
trichloroethene
Concen: 10.04 ppb
RT: 10.693 min Scan# 983
Delta R.T. 0.002 min
Lab File: U33360.D
Acq: 28 Oct 2015 5:37 pm

Tgt Ion: 95 Resp: 42206

Ion	Ratio	Lower	Upper
95	100		
130	95.7	58.8	118.8
132	94.4	62.5	122.5

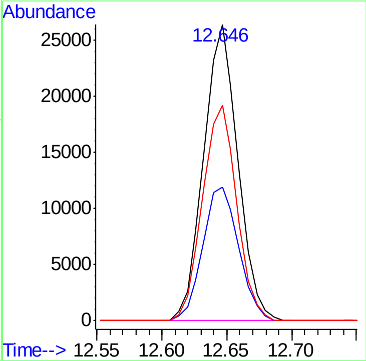


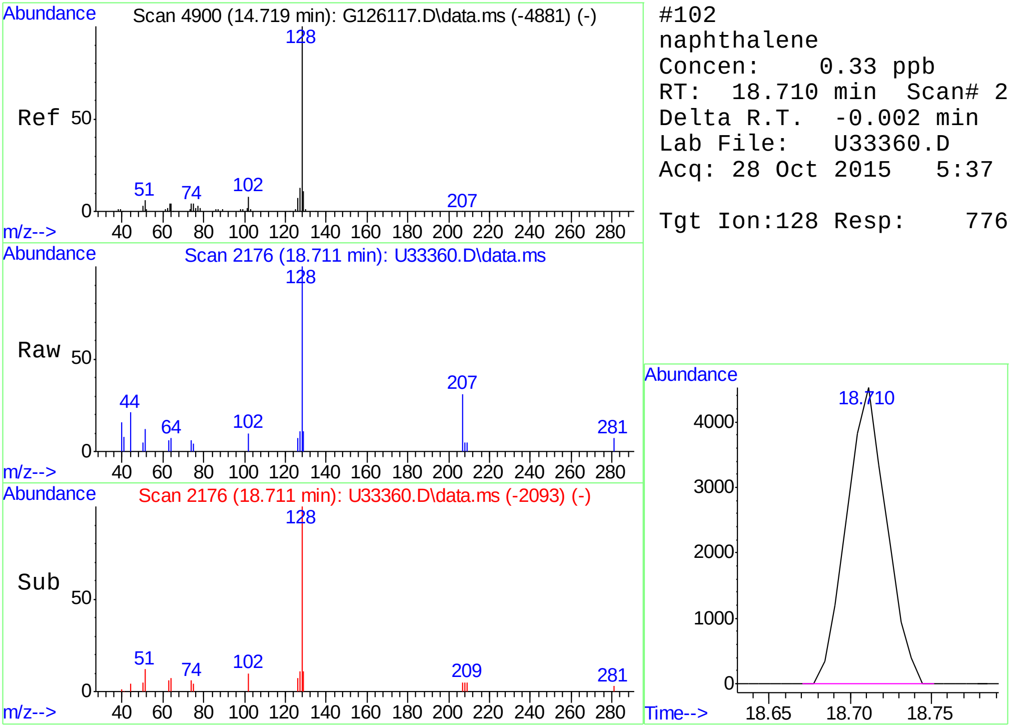


#67
tetrachloroethene
Concen: 13.16 ppb
RT: 12.646 min Scan# 1274
Delta R.T. 0.001 min
Lab File: U33360.D
Acq: 28 Oct 2015 5:37 pm

Tgt Ion:166 Resp: 48426

Ion	Ratio	Lower	Upper
166	100		
168	45.0	19.2	79.2
129	72.7	43.8	103.8





#102
naphthalene
Concen: 0.33 ppb
RT: 18.710 min Scan# 2176
Delta R.T. -0.002 min
Lab File: U33360.D
Acq: 28 Oct 2015 5:37 pm

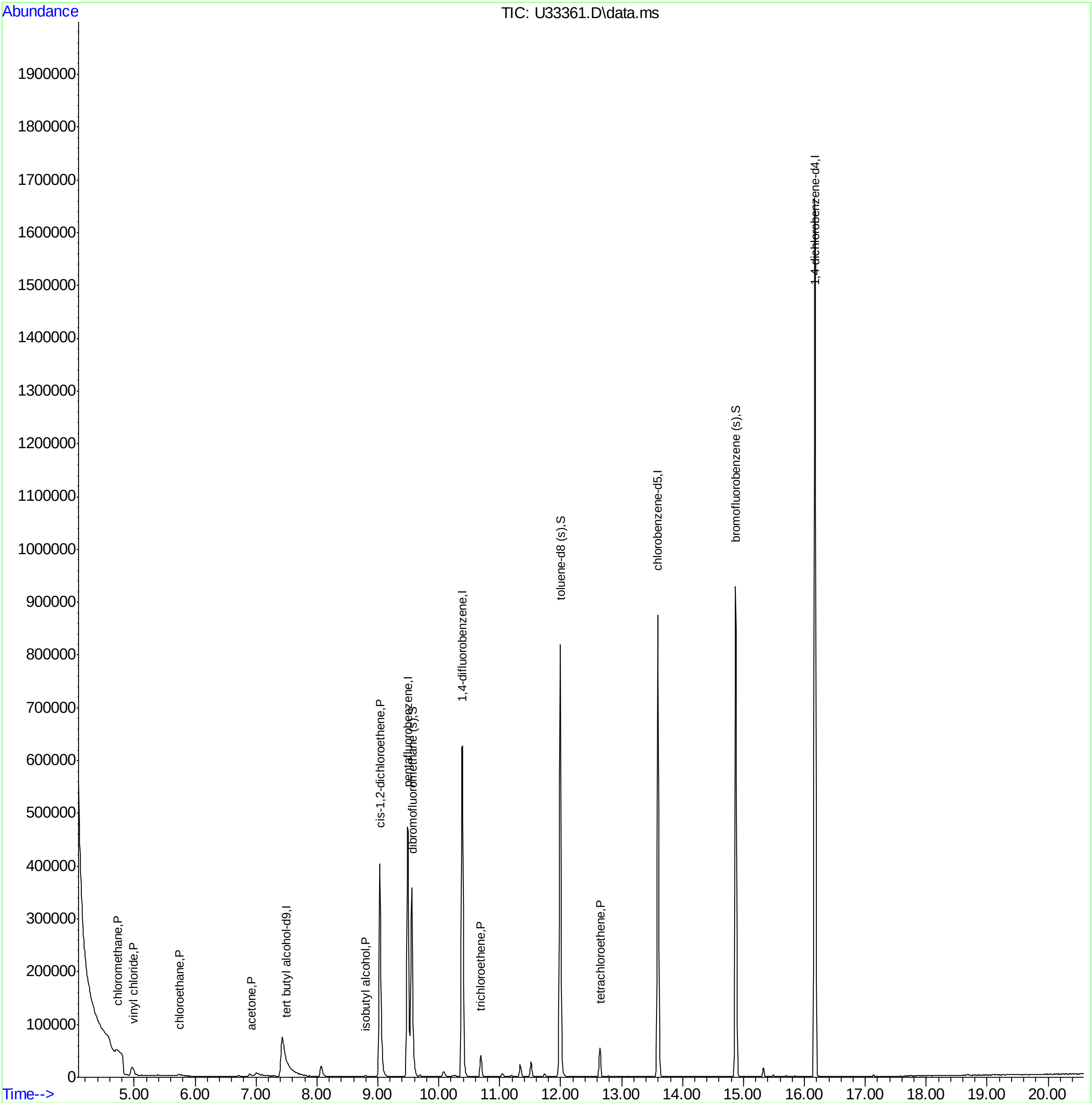
Tgt Ion:128 Resp: 7760

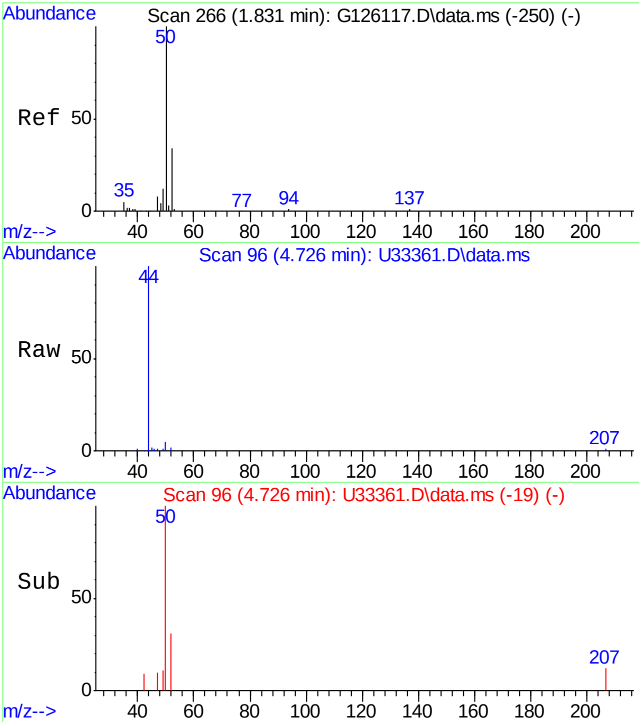
Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33361.D
Acq On    : 28 Oct 2015   6:04 pm
Operator  : andrewd1
Sample    : mc42178-10
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Time: Oct 28 18:29:00 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

        Compound                    R.T. QIon  Response  Conc Units Dev(Min)
--------------------------------------------------------------------------
Internal Standards
  1) tert butyl alcohol-d9         7.505   65    254572   500.00 ppb      0.04
  4) pentafluorobenzene            9.495  168    353150    50.00 ppb      0.00
 43) 1,4-difluorobenzene          10.388  114    534197    50.00 ppb      0.00
 66) chlorobenzene-d5             13.596   82    298116    50.00 ppb      0.00
 80) 1,4-dichlorobenzene-d4       16.173  152    459546    50.00 ppb      0.00

System Monitoring Compounds
 40) dibromofluoromethane (s)      9.560  113    241619    55.31 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery    =  110.62%
 60) toluene-d8 (s)               11.993   98    578545    45.23 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery    =   90.46%
 82) bromofluorobenzene (s)       14.874   95    326668    45.94 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery    =   91.88%

Target Compounds                                                   Qvalue
  6) chloromethane                 4.727   50      9149     1.46 ppb        97
  7) vinyl chloride                4.981   62     39451     7.04 ppb        99
  9) chloroethane                  5.741   64      3437     1.27 ppb        98
 16) acetone                       6.920   58      3262     6.32 ppb  #      1
 35) isobutyl alcohol              8.800   43      2138     6.66 ppb  #     60
 37) cis-1,2-dichloroethene        9.038   96    199071    43.17 ppb        95
 51) trichloroethene              10.691   95     15005     3.40 ppb        95
 67) tetrachloroethene            12.645  166     17211     5.02 ppb        97
--------------------------------------------------------------------------

(#) = qualifier out of range (m) = manual integration (+) = signals summed
```

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33361.D
Acq On    : 28 Oct 2015   6:04 pm
Operator  : andrewd1
Sample    : mc42178-10
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Time: Oct 28 18:29:00 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

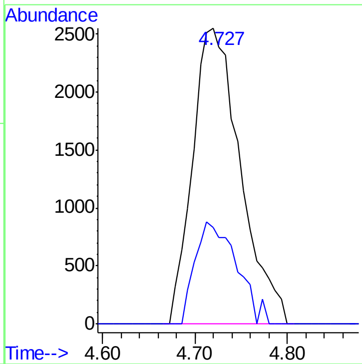


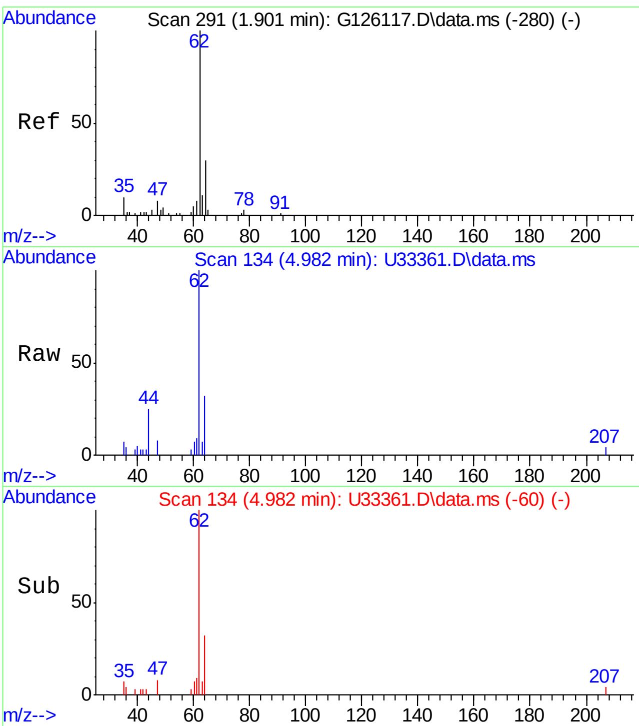


#6
chloromethane
Concen: 1.46 ppb
RT: 4.727 min   Scan# 96
Delta R.T.   -0.014 min
Lab File: U33361.D
Acq: 28 Oct 2015   6:04 pm

Tgt Ion: 50 Resp: 9149

Ion	Ratio	Lower	Upper
50	100		
52	31.2	2.6	62.6

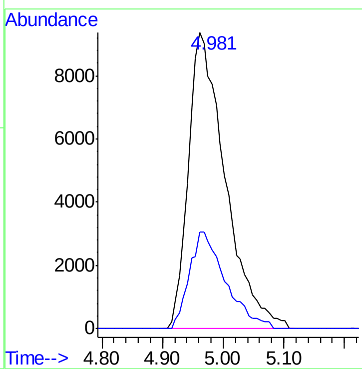


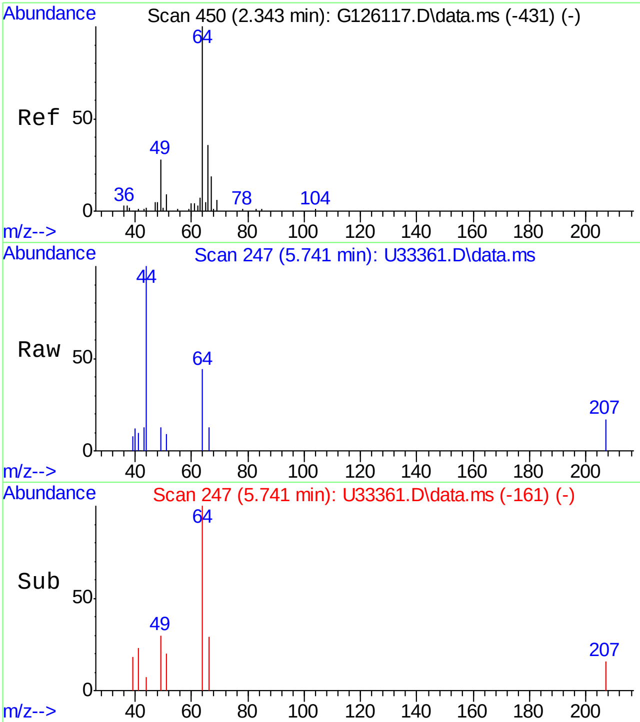


#7
vinyl chloride
Concen: 7.04 ppb
RT: 4.981 min   Scan# 134
Delta R.T.   -0.002 min
Lab File: U33361.D
Acq: 28 Oct 2015   6:04 pm

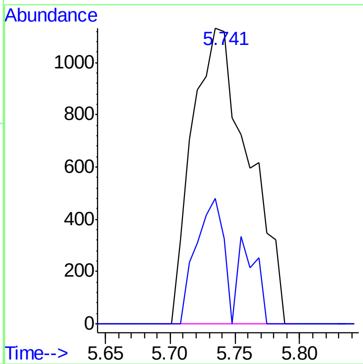
Tgt Ion: 62 Resp: 39451

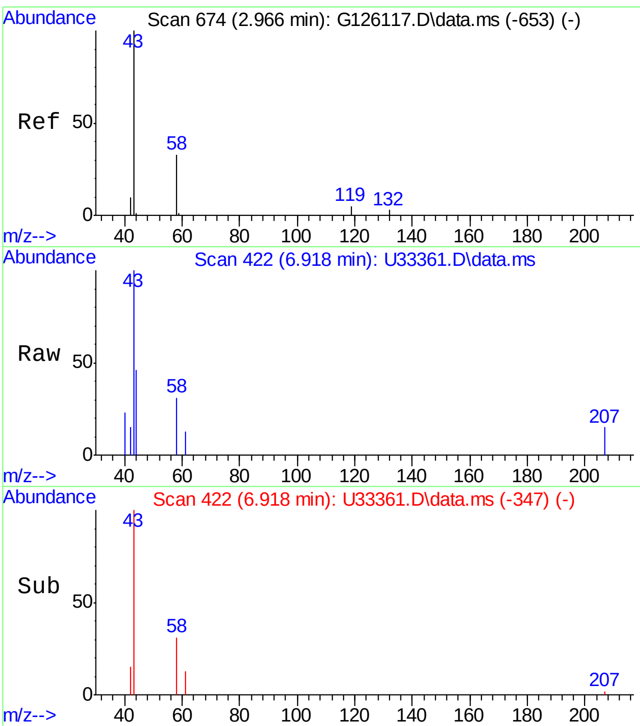
Ion	Ratio	Lower	Upper
62	100		
64	32.2	1.8	61.8



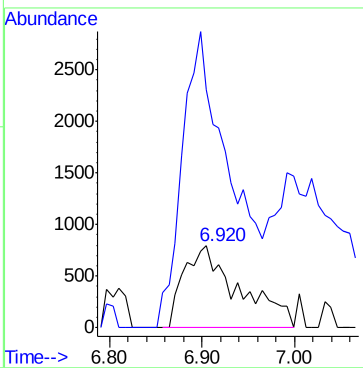


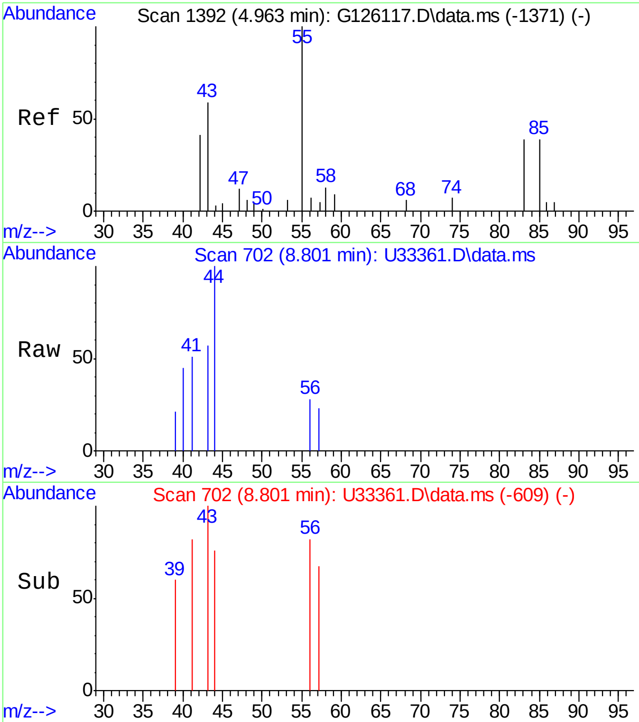

```
#9
chloroethane
Concen:     1.27 ppb
RT:    5.741 min   Scan# 247
Delta R.T.   -0.005 min
Lab File:    U33361.D
Acq: 28 Oct 2015    6:04 pm

Tgt Ion: 64 Resp:     3437
Ion  Ratio   Lower   Upper
 64   100
 66    29.2    0.1    60.1
```






```
#16
acetone
Concen:     6.32 ppb
RT:    6.920 min   Scan# 422
Delta R.T.   0.006 min
Lab File:    U33361.D
Acq: 28 Oct 2015    6:04 pm

Tgt Ion: 58 Resp:     3262
Ion  Ratio   Lower   Upper
 58   100
 43     0.0   278.8   338.8#
```

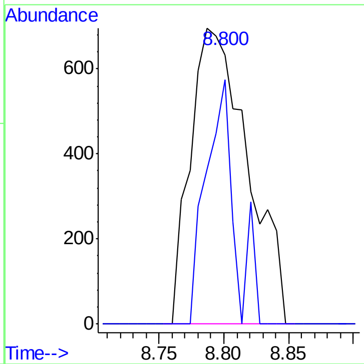


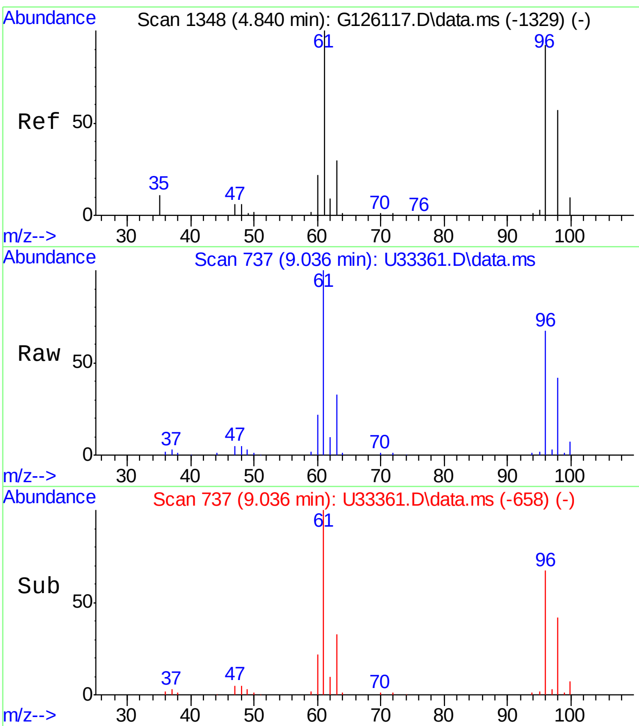


#35
isobutyl alcohol
Concen: 6.66 ppb
RT: 8.800 min Scan# 702
Delta R.T. 0.037 min
Lab File: U33361.D
Acq: 28 Oct 2015 6:04 pm

Tgt Ion: 43 Resp: 2138

Ion	Ratio	Lower	Upper
43	100		
41	90.9	109.9	169.9#

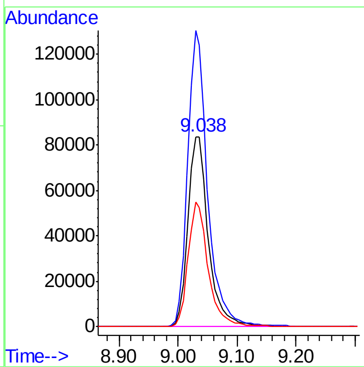


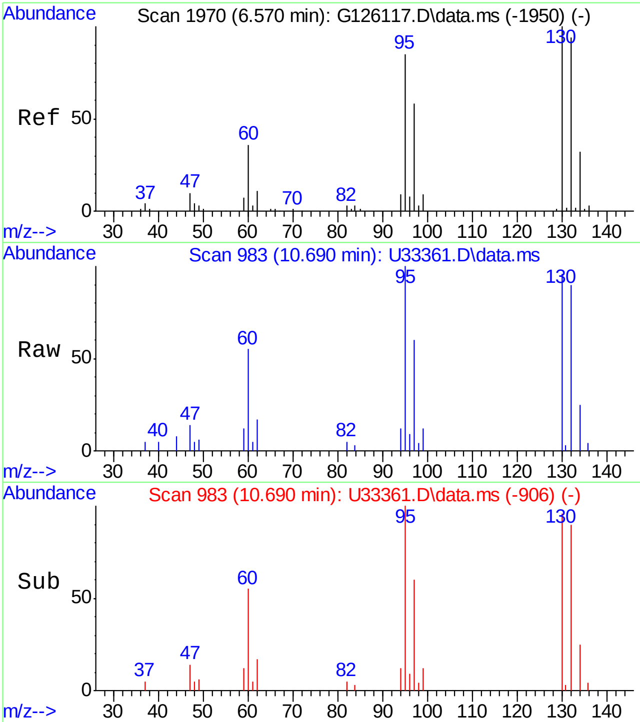


#37
cis-1,2-dichloroethene
Concen: 43.17 ppb
RT: 9.038 min Scan# 737
Delta R.T. 0.001 min
Lab File: U33361.D
Acq: 28 Oct 2015 6:04 pm

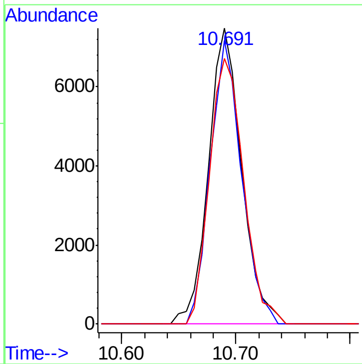
Tgt Ion: 96 Resp: 199071

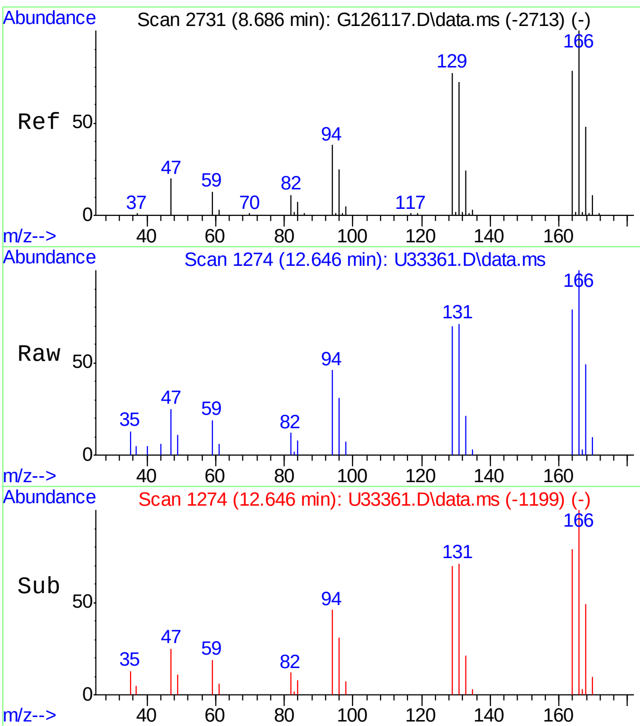
Ion	Ratio	Lower	Upper
96	100		
61	148.8	126.3	186.3
98	63.1	36.2	96.2



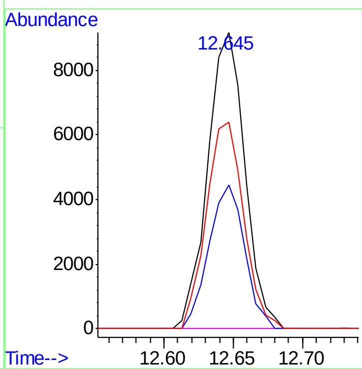


```
#51
trichloroethene
Concen:     3.40 ppb
RT:   10.691 min   Scan# 983
Delta R.T.   0.000 min
Lab File:    U33361.D
Acq: 28 Oct 2015    6:04 pm

Tgt Ion: 95 Resp:    15005
Ion   Ratio   Lower   Upper
 95   100
130    95.9    58.8   118.8
132    89.9    62.5   122.5
```





```
#67
tetrachloroethene
Concen:      5.02 ppb
RT:   12.645 min   Scan# 1274
Delta R.T.   0.000 min
Lab File:    U33361.D
Acq: 28 Oct 2015    6:04 pm

Tgt Ion:166 Resp:    17211
Ion   Ratio   Lower   Upper
166   100
168    48.5    19.2    79.2
129    69.8    43.8   103.8
```



Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33365.D
Acq On    : 28 Oct 2015   7:53 pm
Operator  : andrewd1
Sample    : mc42178-11
Misc      : ms35525,msu1363,,,,5,5
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 29 08:35:01 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	7.502	65	235983	500.00 ppb	0.03
4) pentafluorobenzene	9.495	168	376852	50.00 ppb	0.00
43) 1,4-difluorobenzene	10.389	114	598010	50.00 ppb	0.00
66) chlorobenzene-d5	13.596	82	330717	50.00 ppb	0.00
80) 1,4-dichlorobenzene-d4	16.173	152	440025	50.00 ppb	0.00
System Monitoring Compounds					
40) dibromofluoromethane (s)	9.561	113	245420	52.65 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 105.30%		
60) toluene-d8 (s)	11.994	98	685892	47.90 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 95.80%		
82) bromofluorobenzene (s)	14.874	95	319950	46.99 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 93.98%		
Target Compounds					Qvalue
7) vinyl chloride	4.979	62	3941	0.66 ppb	93
16) acetone	6.926	58	6809	12.36 ppb #	33
30) 2-butanone	8.978	72	7567	13.68 ppb #	1
37) cis-1,2-dichloroethene	9.036	96	3137	0.64 ppb	81
62) toluene	12.070	92	4058	0.46 ppb	94
74) ethylbenzene	13.685	91	4802	0.27 ppb	94
75) m,p-xylene	13.811	106	20988	3.06 ppb	91
76) o-xylene	14.258	106	10306	1.35 ppb	91
89) 1,3,5-trimethylbenzene	15.269	105	4105	0.21 ppb	98
91) 1,2,4-trimethylbenzene	15.708	105	7522	0.34 ppb	90

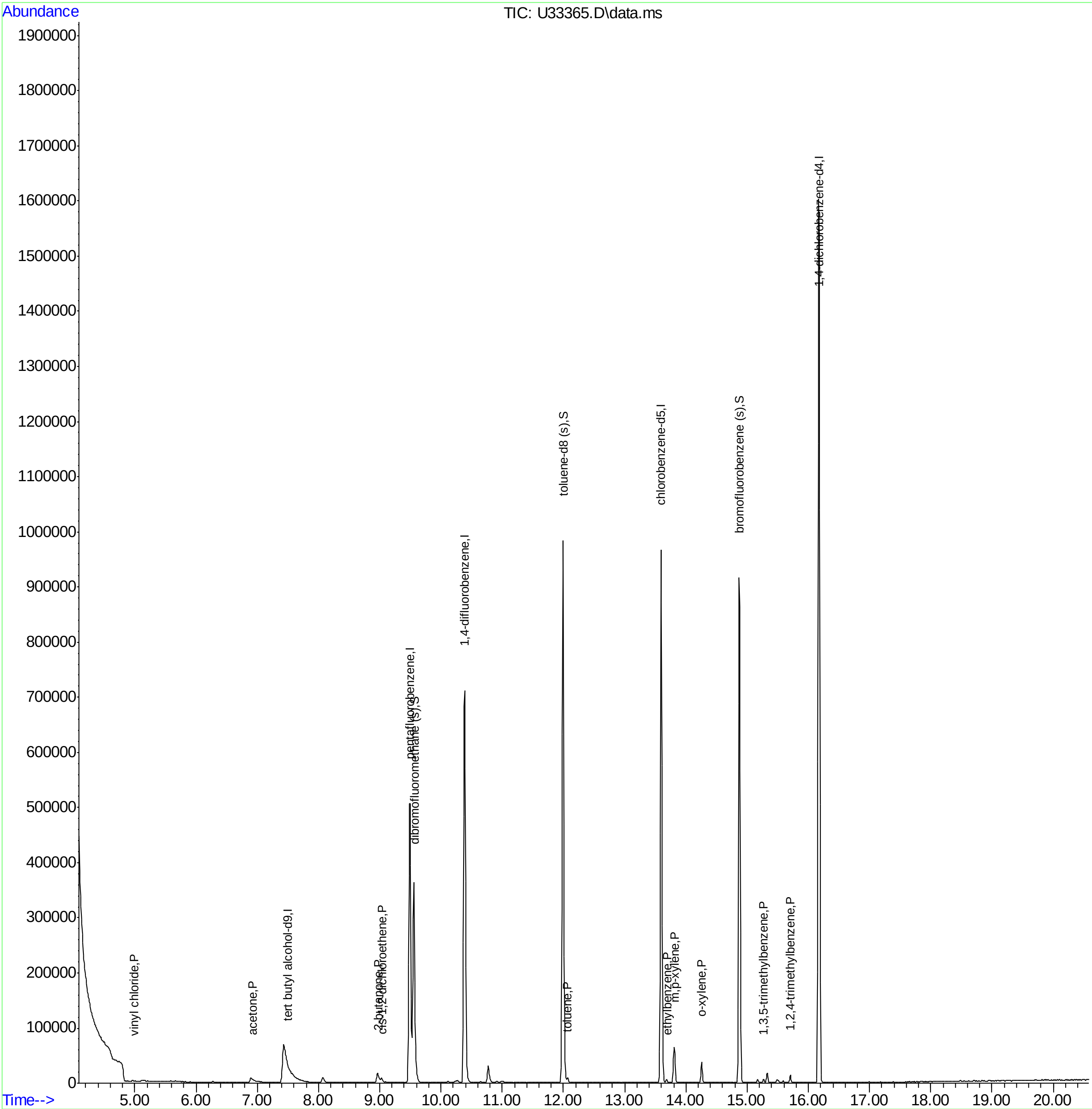
(#) = qualifier out of range (m) = manual integration (+) = signals summed

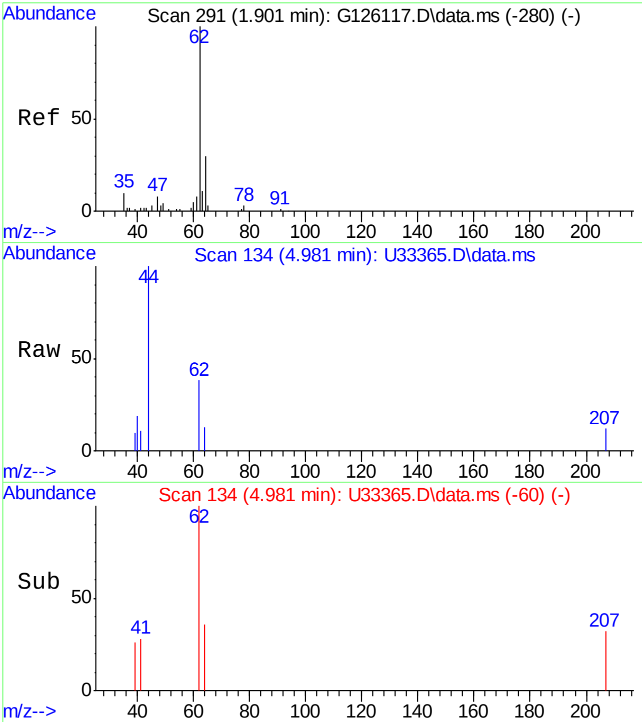
7.1.11

7

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33365.D
Acq On    : 28 Oct 2015   7:53 pm
Operator  : andrewd1
Sample    : mc42178-11
Misc      : ms35525,msu1363,,,,5,5
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 29 08:35:01 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

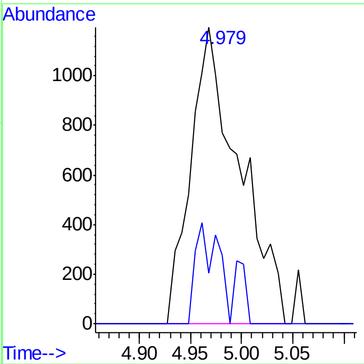


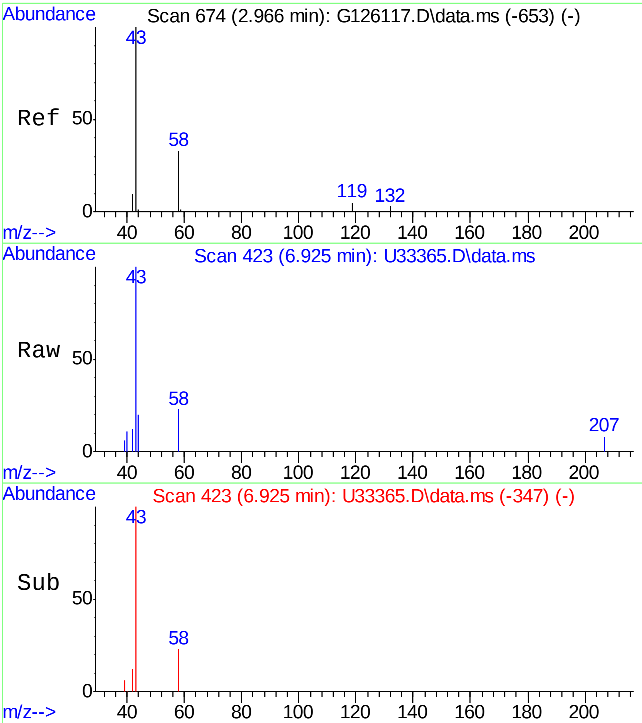


#7
vinyl chloride
Concen: 0.66 ppb
RT: 4.979 min Scan# 134
Delta R.T. -0.004 min
Lab File: U33365.D
Acq: 28 Oct 2015 7:53 pm

Tgt Ion: 62 Resp: 3941

Ion	Ratio	Lower	Upper
62	100		
64	35.7	1.8	61.8

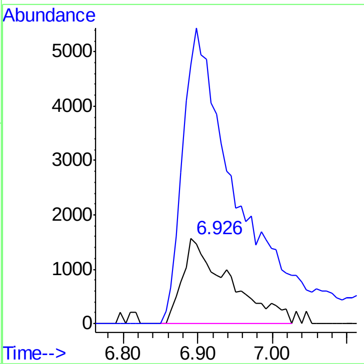




#16
acetone
Concen: 12.36 ppb
RT: 6.926 min Scan# 423
Delta R.T. 0.012 min
Lab File: U33365.D
Acq: 28 Oct 2015 7:53 pm

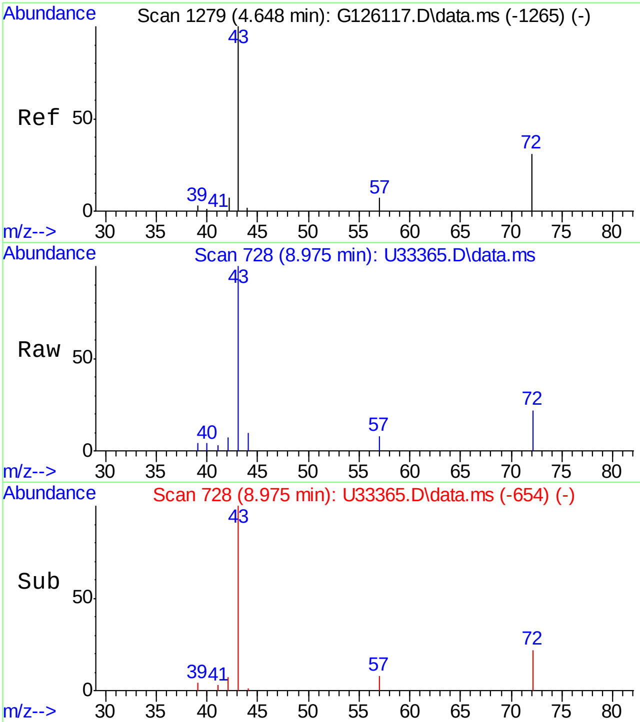
Tgt Ion: 58 Resp: 6809

Ion	Ratio	Lower	Upper
58	100		
43	443.7	278.8	338.8#



7.1.11

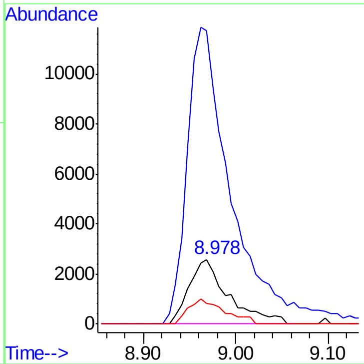
7

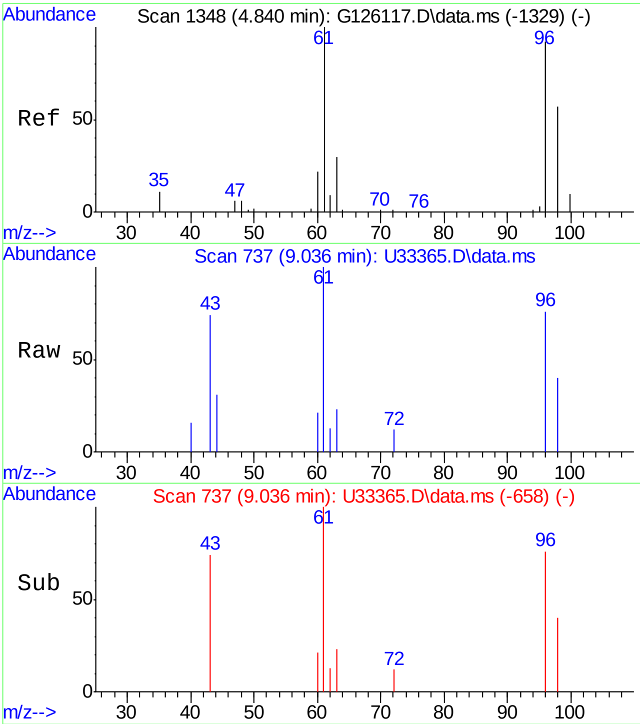


#30
2-butanone
Concen: 13.68 ppb
RT: 8.978 min Scan# 728
Delta R.T. 0.001 min
Lab File: U33365.D
Acq: 28 Oct 2015 7:53 pm

Tgt Ion: 72 Resp: 7567

Ion	Ratio	Lower	Upper
72	100		
43	527.4	1457.2	1517.2#
57	35.5	69.8	129.8#

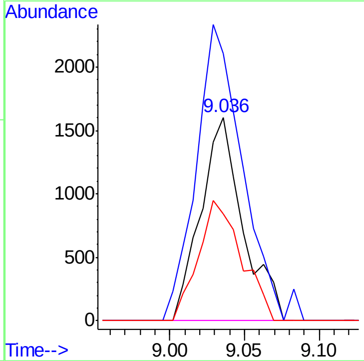


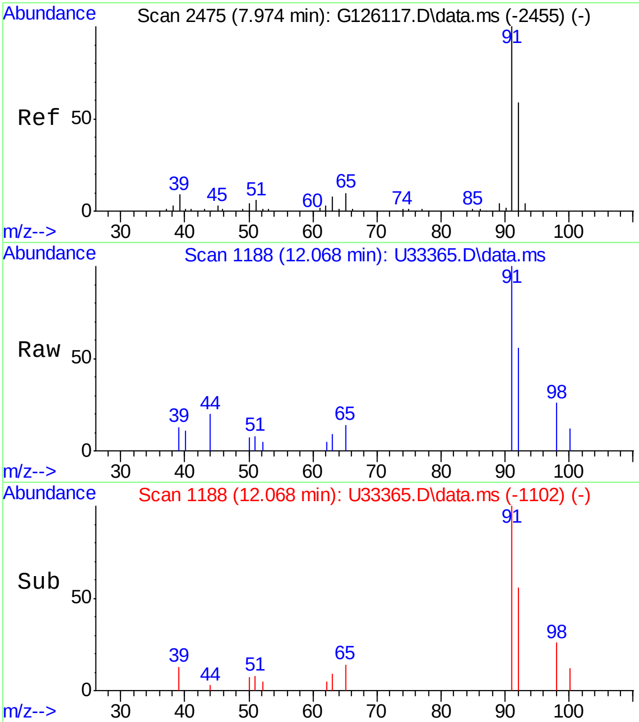


#37
cis-1,2-dichloroethene
Concen: 0.64 ppb
RT: 9.036 min Scan# 737
Delta R.T. -0.001 min
Lab File: U33365.D
Acq: 28 Oct 2015 7:53 pm

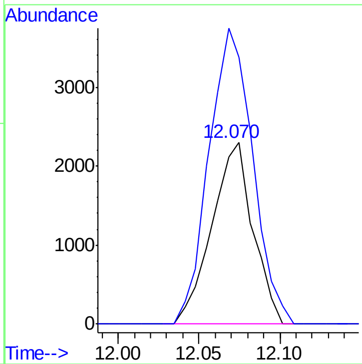
Tgt Ion: 96 Resp: 3137

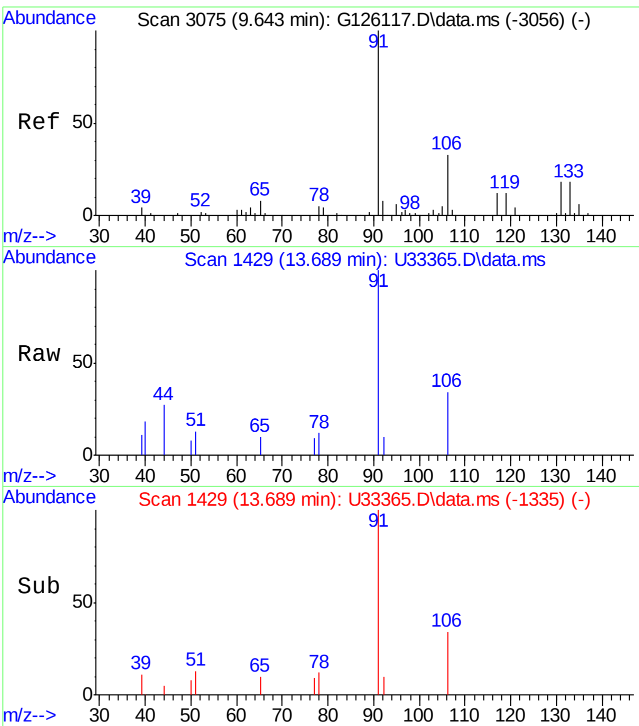
Ion	Ratio	Lower	Upper
96	100		
61	131.3	126.3	186.3
98	52.2	36.2	96.2



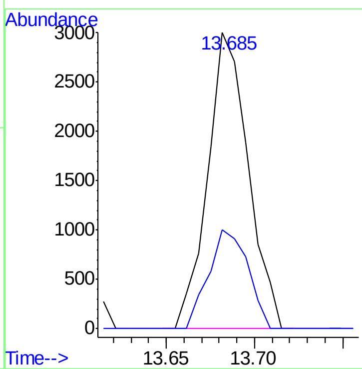


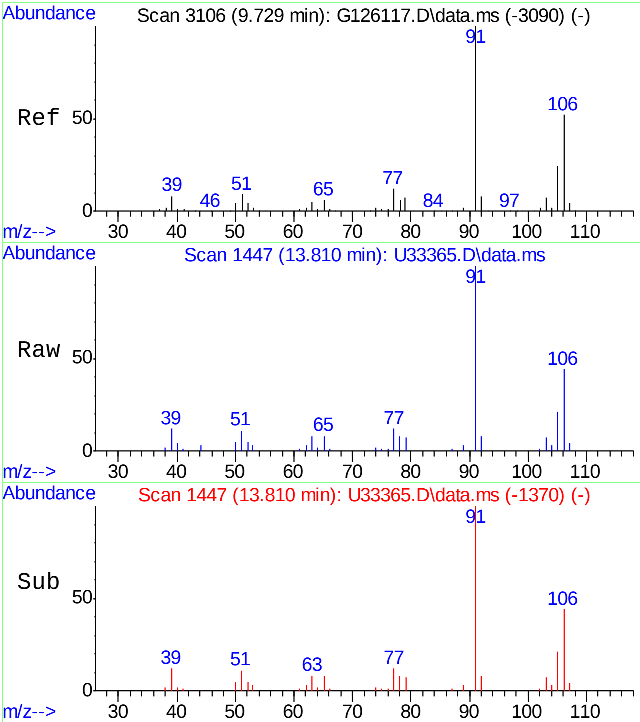

```
#62
toluene
Concen:    0.46 ppb
RT:   12.070 min   Scan# 1188
Delta R.T.   0.000 min
Lab File:    U33365.D
Acq: 28 Oct 2015    7:53 pm

Tgt Ion: 92 Resp:     4058
Ion   Ratio   Lower   Upper
 92   100
 91   177.5   139.2   199.2
```



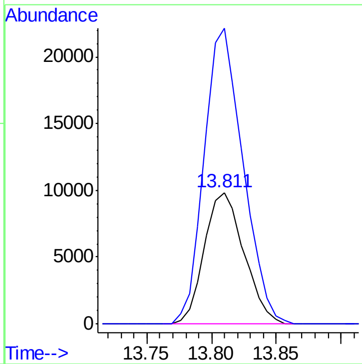


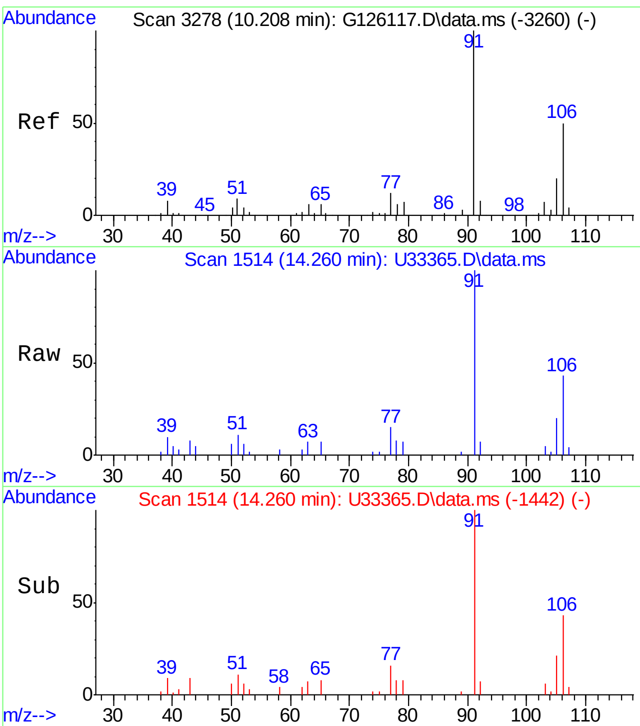

```
#74
ethylbenzene
Concen:    0.27 ppb
RT:   13.685 min   Scan# 1429
Delta R.T.  -0.001 min
Lab File:    U33365.D
Acq: 28 Oct 2015    7:53 pm

Tgt Ion: 91 Resp:     4802
Ion   Ratio   Lower   Upper
 91   100
106    33.5     0.1    60.1
```



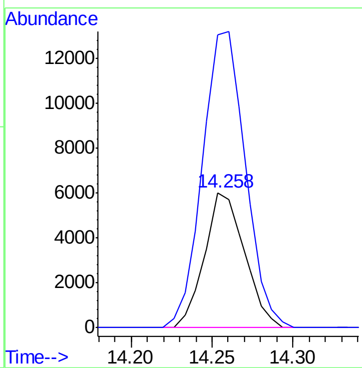


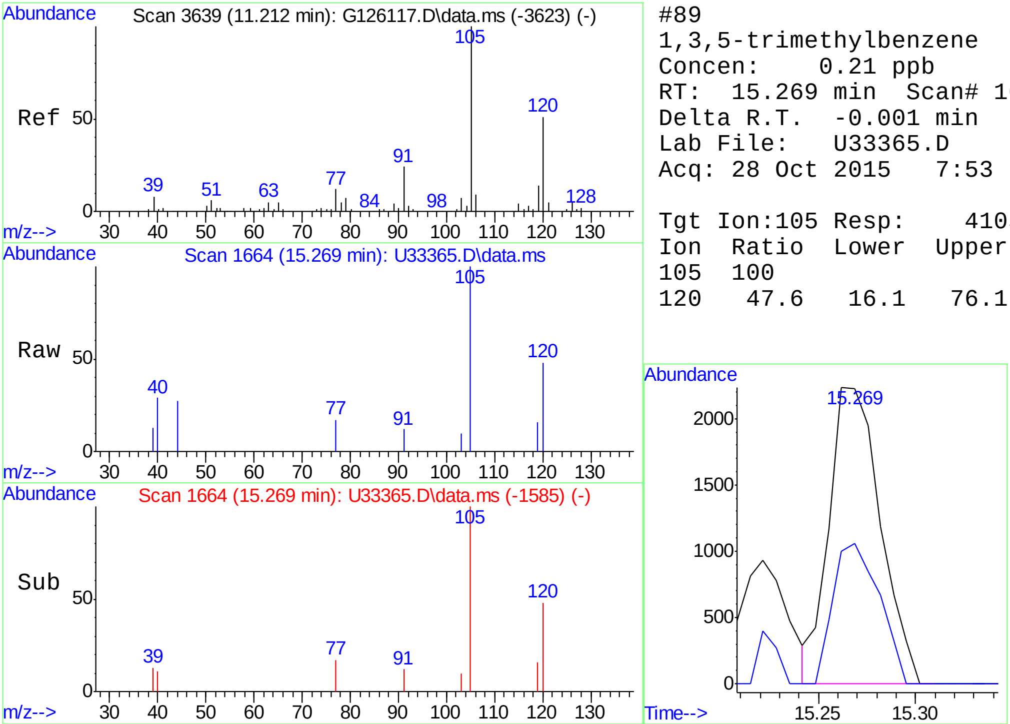

```
#75
m,p-xylene
Concen:     3.06 ppb
RT:   13.811 min   Scan# 1447
Delta R.T.   -0.004 min
Lab File:    U33365.D
Acq: 28 Oct 2015    7:53 pm

Tgt Ion:106 Resp:    20988
Ion  Ratio   Lower   Upper
106  100
 91  225.0   180.7   240.7
```






```
#76
o-xylene
Concen:     1.35 ppb
RT:   14.258 min   Scan# 1514
Delta R.T.   0.000 min
Lab File:    U33365.D
Acq: 28 Oct 2015    7:53 pm

Tgt Ion:106 Resp:    10306
Ion  Ratio   Lower   Upper
106  100
 91  232.4   188.5   248.5
```

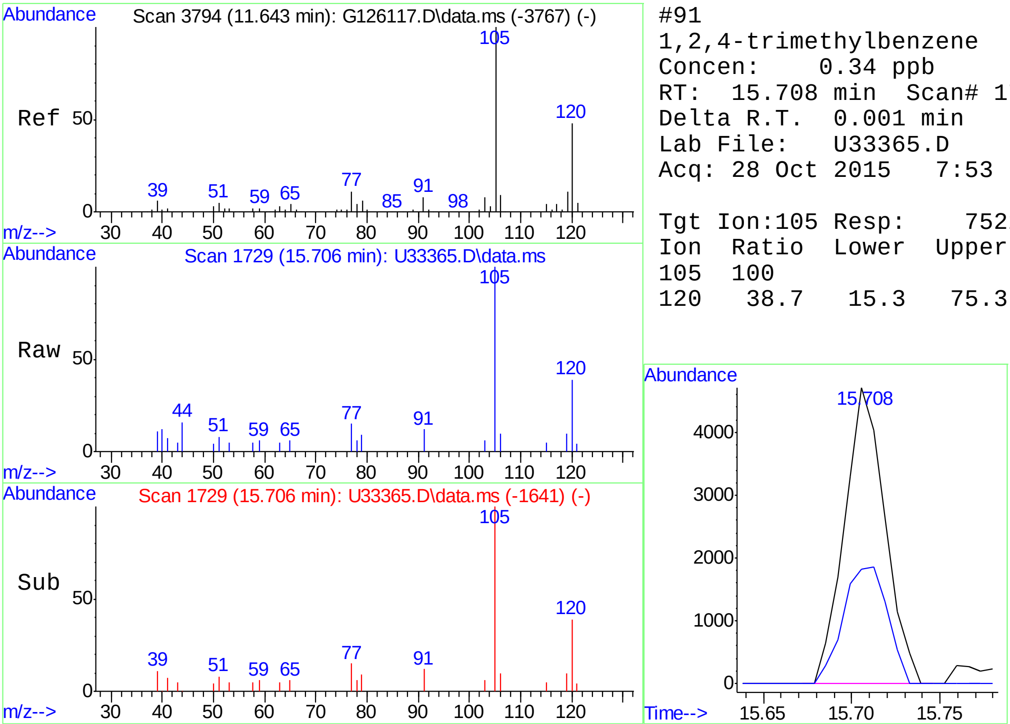




#89
1,3,5-trimethylbenzene
Concen: 0.21 ppb
RT: 15.269 min Scan# 1664
Delta R.T. -0.001 min
Lab File: U33365.D
Acq: 28 Oct 2015 7:53 pm

Tgt Ion:105 Resp: 4105

Ion	Ratio	Lower	Upper
105	100		
120	47.6	16.1	76.1



#91
1,2,4-trimethylbenzene
Concen: 0.34 ppb
RT: 15.708 min Scan# 1729
Delta R.T. 0.001 min
Lab File: U33365.D
Acq: 28 Oct 2015 7:53 pm

Tgt Ion:105 Resp: 7522

Ion	Ratio	Lower	Upper
105	100		
120	38.7	15.3	75.3

7.1.11

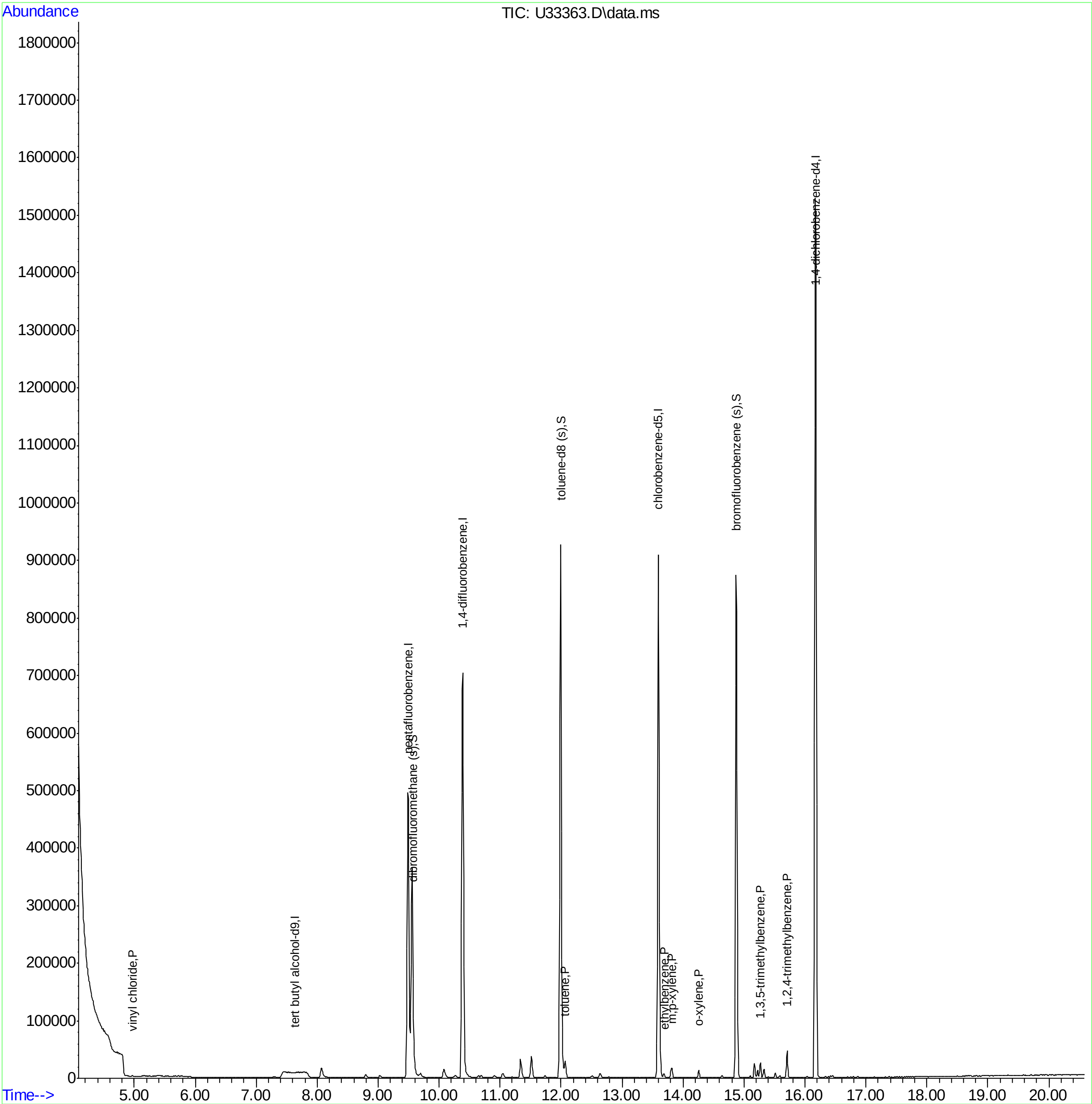
7

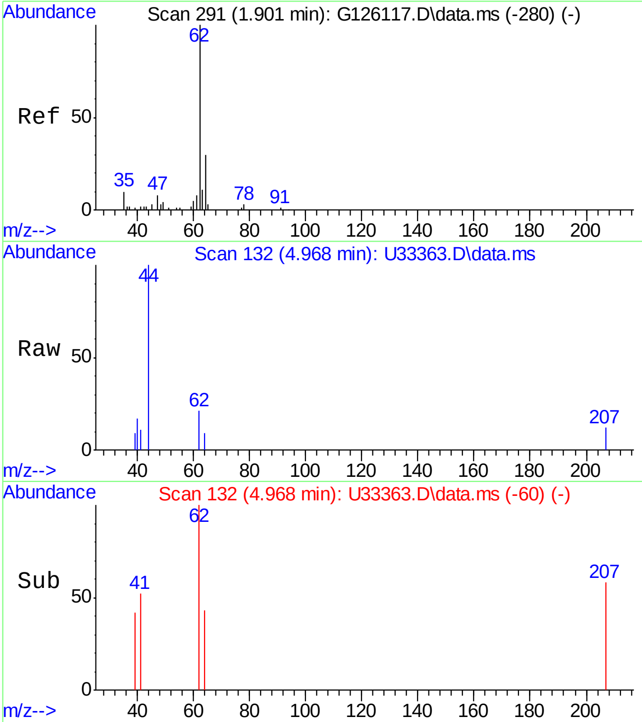
Quantitation Report   (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33363.D
Acq On    : 28 Oct 2015   6:59 pm
Operator  : andrewd1
Sample    : mc42178-12
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 29 08:33:18 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

        Compound                   R.T. QIon  Response  Conc Units Dev(Min)
 --------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9        7.633   65    119434   500.00 ppb      0.16
   4) pentafluorobenzene           9.495  168    367296    50.00 ppb      0.00
  43) 1,4-difluorobenzene         10.390  114    594617    50.00 ppb      0.00
  66) chlorobenzene-d5            13.596   82    318588    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4      16.173  152    426037    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)     9.565  113    250654    55.17 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery   =  110.34%
  60) toluene-d8 (s)              11.994   98    661686    46.47 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery   =   92.94%
  82) bromofluorobenzene (s)      14.874   95    309448    46.94 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery   =   93.88%

 Target Compounds                                                 Qvalue
   7) vinyl chloride               4.971   62      2159     0.37 ppb        80
  62) toluene                     12.070   92     10079     1.14 ppb        95
  74) ethylbenzene                13.687   91      6732     0.39 ppb        95
  75) m,p-xylene                  13.814  106      6531     0.99 ppb  #     72
  76) o-xylene                    14.258  106      3671     0.50 ppb        96
  89) 1,3,5-trimethylbenzene      15.268  105     16033     0.83 ppb        96
  91) 1,2,4-trimethylbenzene      15.708  105     28514     1.35 ppb        92
 --------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

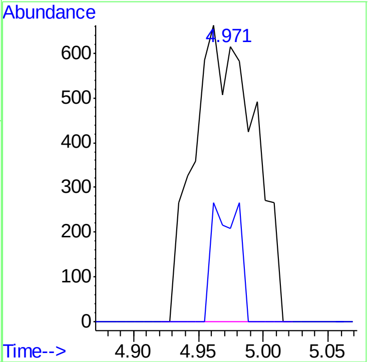
Quantitation Report (QT Reviewed)

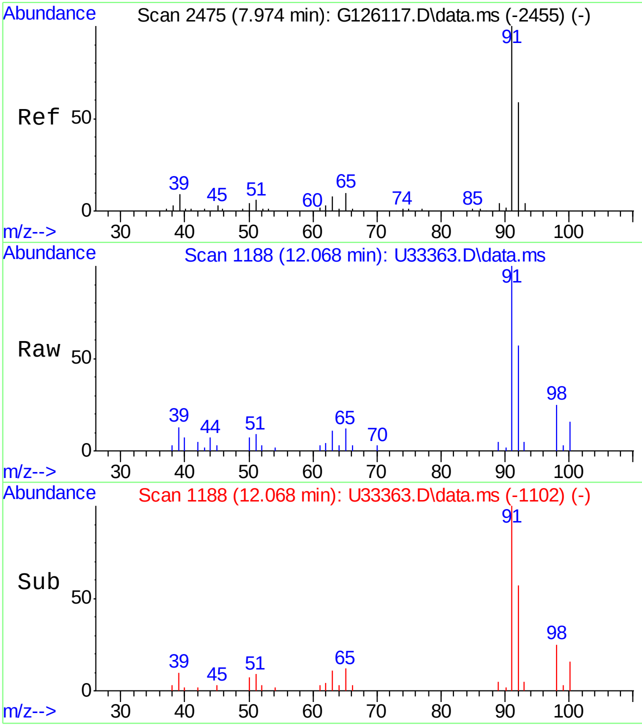
```
Data Path : R:\1\data\U151028\
Data File : U33363.D
Acq On    : 28 Oct 2015   6:59 pm
Operator  : andrewd1
Sample    : mc42178-12
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 29 08:33:18 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



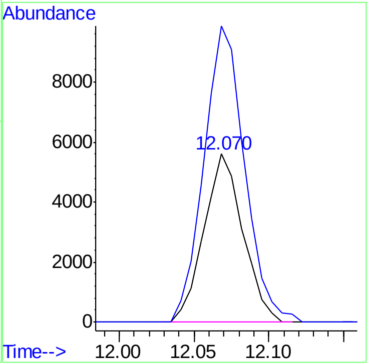


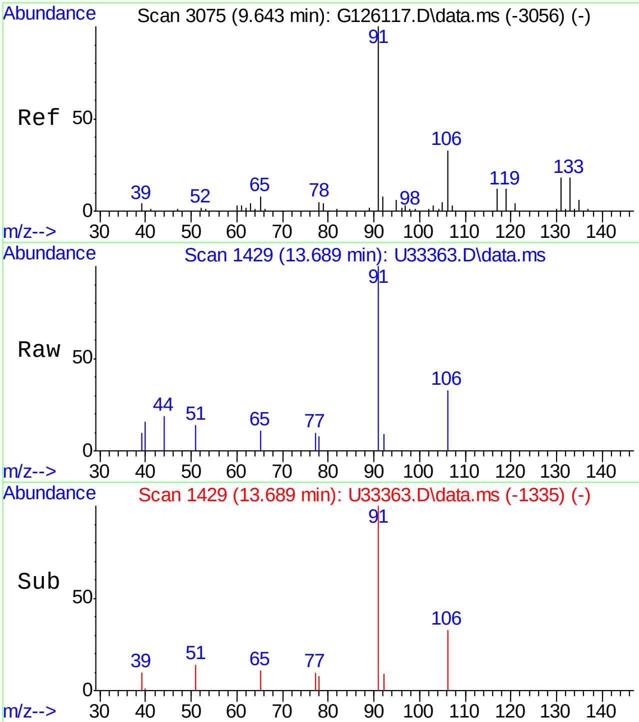

```
#7
vinyl chloride
Concen:     0.37 ppb
RT:    4.971 min   Scan# 132
Delta R.T.   -0.012 min
Lab File:    U33363.D
Acq: 28 Oct 2015    6:59 pm

Tgt Ion: 62 Resp:     2159
Ion  Ratio   Lower   Upper
 62  100
 64   42.7     1.8    61.8
```






```
#62
toluene
Concen:     1.14 ppb
RT:   12.070 min   Scan# 1188
Delta R.T.   0.000 min
Lab File:    U33363.D
Acq: 28 Oct 2015    6:59 pm

Tgt Ion: 92 Resp:    10079
Ion  Ratio   Lower   Upper
 92  100
 91  176.3   139.2   199.2
```

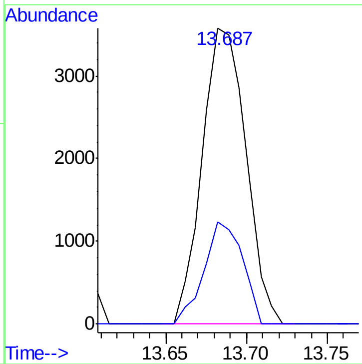


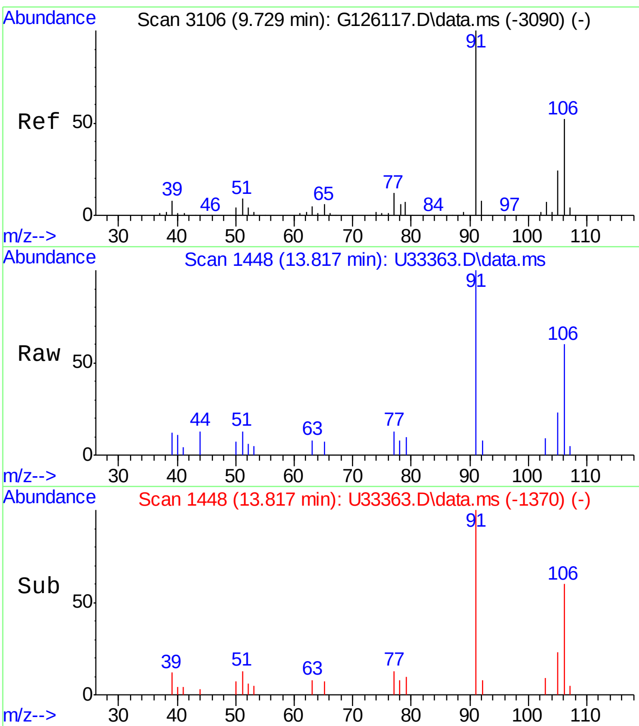


#74
ethylbenzene
Concen: 0.39 ppb
RT: 13.687 min Scan# 1429
Delta R.T. 0.001 min
Lab File: U33363.D
Acq: 28 Oct 2015 6:59 pm

Tgt Ion: 91 Resp: 6732

Ion	Ratio	Lower	Upper
91	100		
106	32.6	0.1	60.1

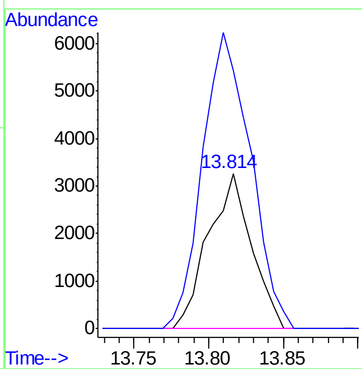


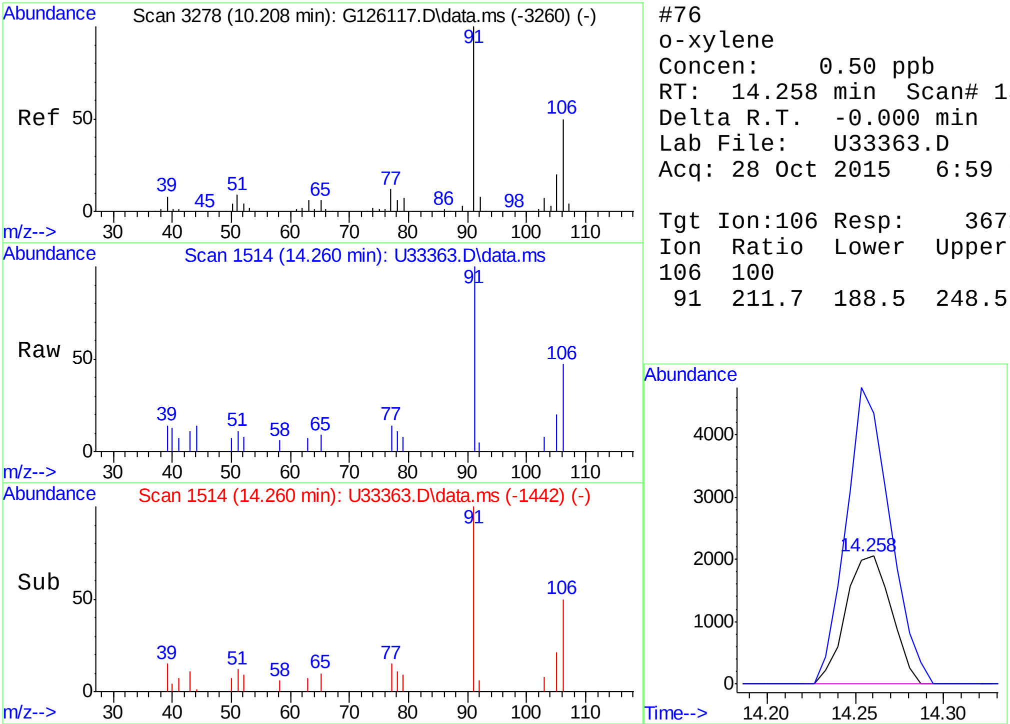


#75
m,p-xylene
Concen: 0.99 ppb
RT: 13.814 min Scan# 1448
Delta R.T. -0.001 min
Lab File: U33363.D
Acq: 28 Oct 2015 6:59 pm

Tgt Ion:106 Resp: 6531

Ion	Ratio	Lower	Upper
106	100		
91	166.5	180.7	240.7#

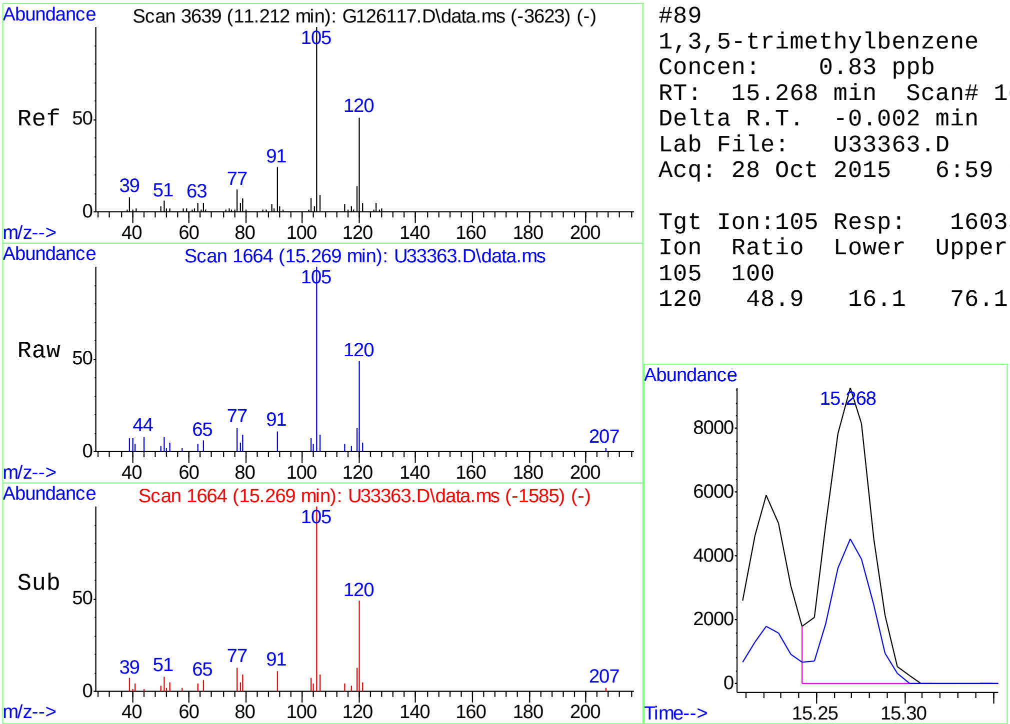




#76
o-xylene
Concen: 0.50 ppb
RT: 14.258 min Scan# 1514
Delta R.T. -0.000 min
Lab File: U33363.D
Acq: 28 Oct 2015 6:59 pm

Tgt Ion:106 Resp: 3671

Ion	Ratio	Lower	Upper
106	100		
91	211.7	188.5	248.5

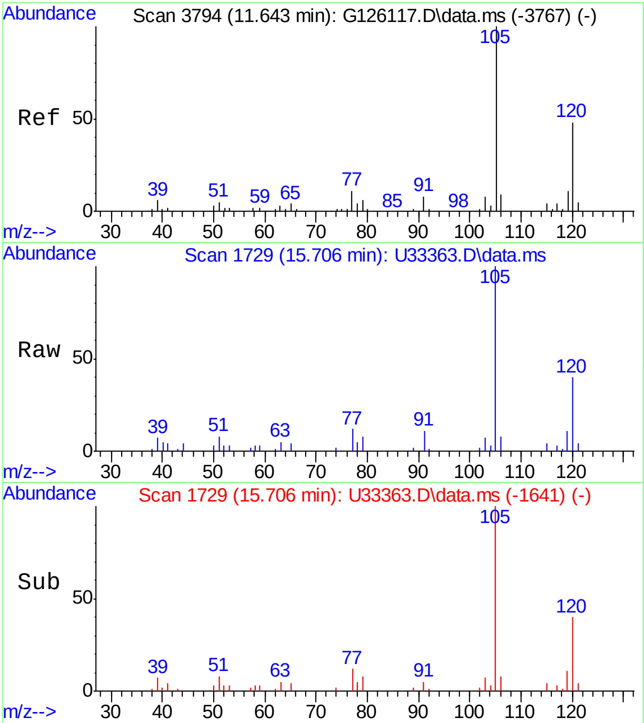


#89
1,3,5-trimethylbenzene
Concen: 0.83 ppb
RT: 15.268 min Scan# 1664
Delta R.T. -0.002 min
Lab File: U33363.D
Acq: 28 Oct 2015 6:59 pm

Tgt Ion:105 Resp: 16033

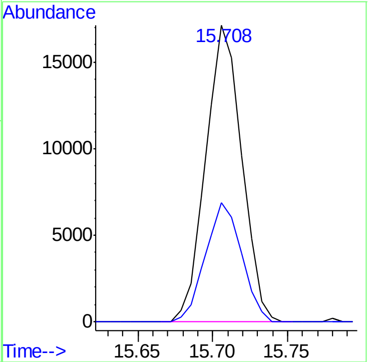
Ion	Ratio	Lower	Upper
105	100		
120	48.9	16.1	76.1

7.1.12
7



#91
1,2,4-trimethylbenzene
Concen: 1.35 ppb
RT: 15.708 min   Scan# 1729
Delta R.T. 0.001 min
Lab File: U33363.D
Acq: 28 Oct 2015   6:59 pm

Tgt Ion:105 Resp: 28514
Ion Ratio Lower Upper
105 100
120   40.3   15.3   75.3



Quantitation Report (QT Reviewed)

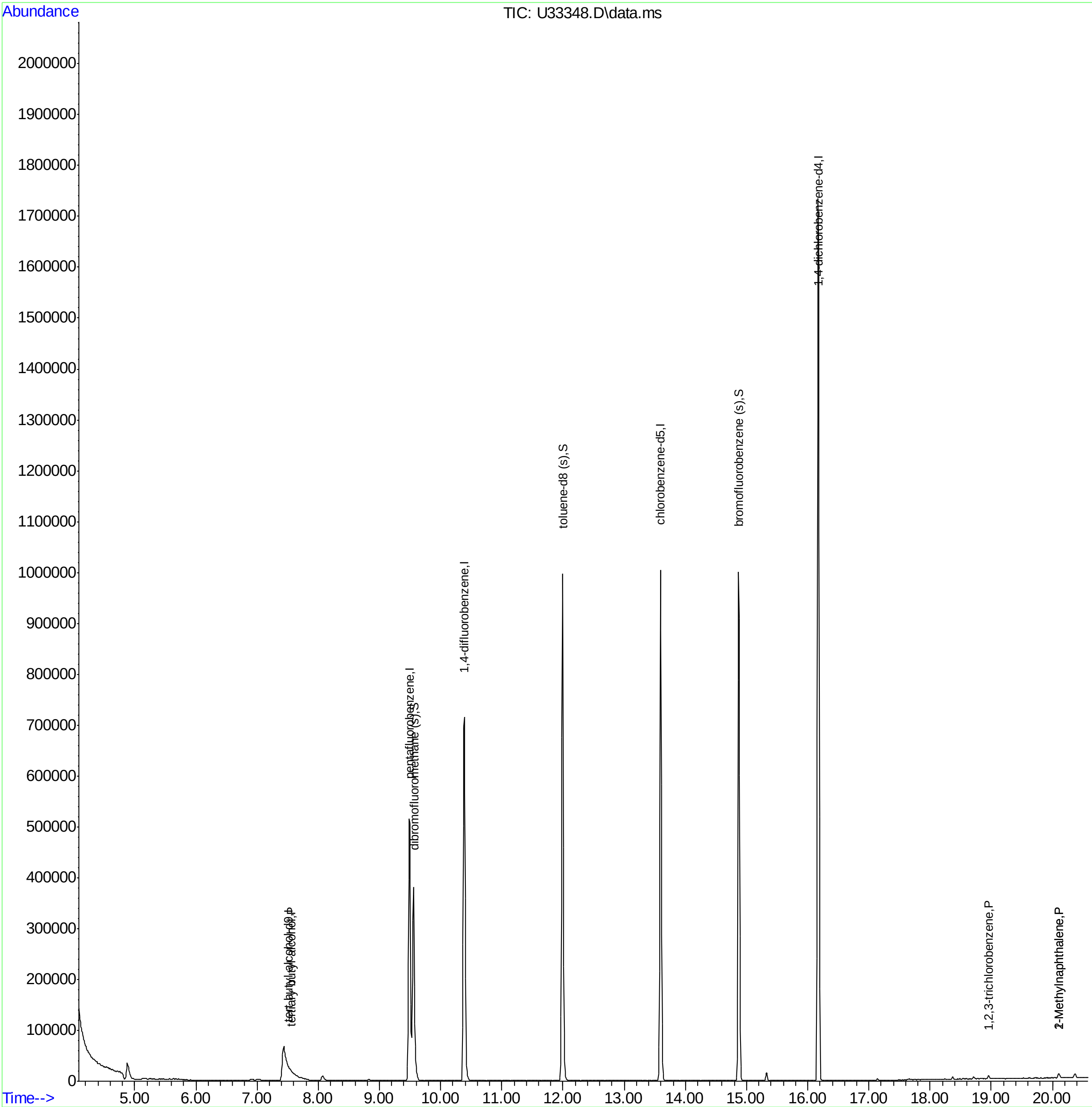
```
Data Path : R:\1\data\U151028\
Data File : U33348.D
Acq On    : 28 Oct 2015  12:12 pm
Operator  : andrewd1
Sample    : mc42178-13
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 28 13:00:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	7.514	65	250928	500.00 ppb	0.04
4) pentafluorobenzene	9.495	168	386014	50.00 ppb	0.00
43) 1,4-difluorobenzene	10.388	114	608776	50.00 ppb	0.00
66) chlorobenzene-d5	13.595	82	347713	50.00 ppb	0.00
80) 1,4-dichlorobenzene-d4	16.173	152	485978	50.00 ppb	0.00
System Monitoring Compounds					
40) dibromofluoromethane (s)	9.561	113	257877	54.01 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	108.02%	
60) toluene-d8 (s)	11.993	98	706482	48.46 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	96.92%	
82) bromofluorobenzene (s)	14.873	95	354350	47.12 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	94.24%	
Target Compounds					Qvalue
2) tertiary butyl alcohol	7.558	59	2721	13.57 ppb	62
6) chloromethane	4.729	50	3304	Below Cal	90
103) 2-Methylnaphthalene	20.106	142	6165	0.44 ppb	94
104) 1-Methylnaphthalene	20.106	142	6165	0.60 ppb	97
105) 1,2,3-trichlorobenzene	18.958	180	2684	0.24 ppb	93

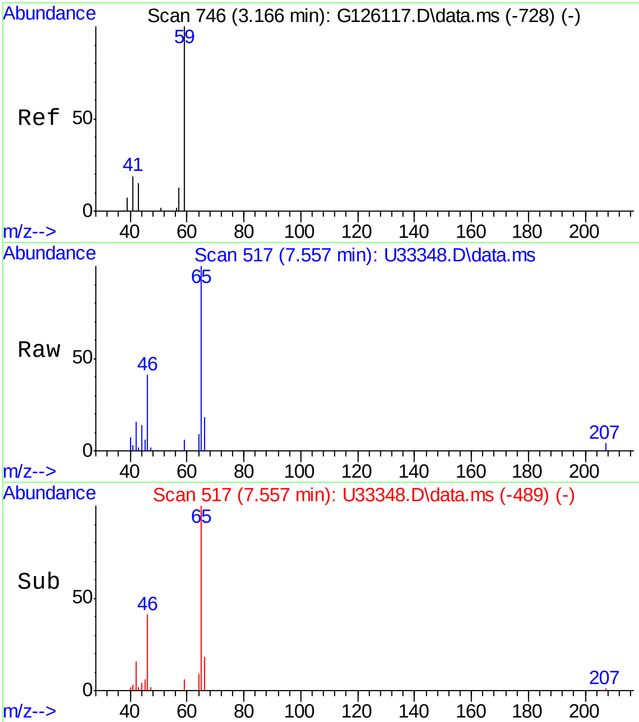
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33348.D
Acq On    : 28 Oct 2015  12:12 pm
Operator  : andrewd1
Sample    : mc42178-13
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 28 13:00:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



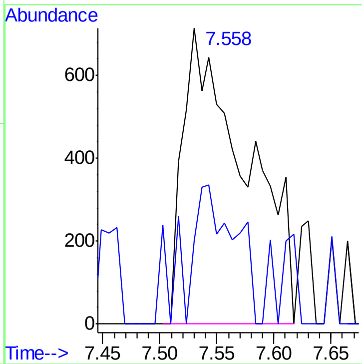
U151027.m Wed Oct 28 13:00:25 2015 Page: 2

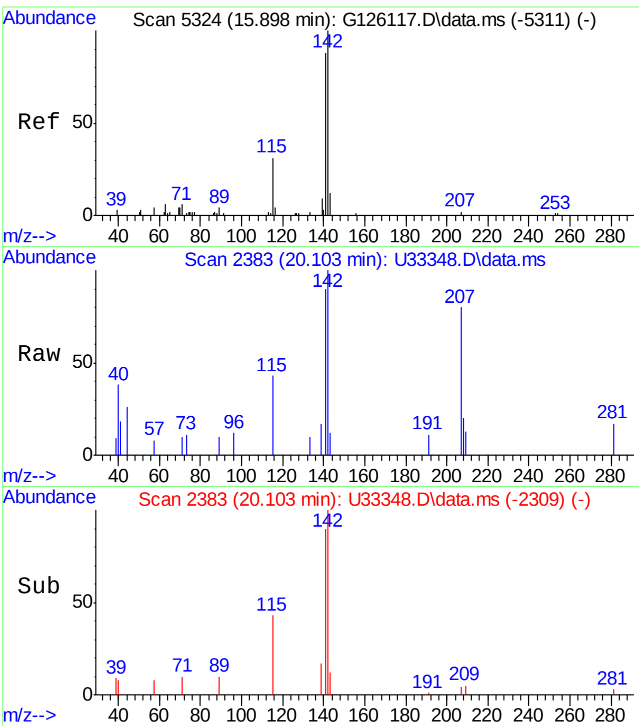


#2
tertiary butyl alcohol
Concen: 13.57 ppb
RT: 7.558 min Scan# 517
Delta R.T. -0.009 min
Lab File: U33348.D
Acq: 28 Oct 2015 12:12 pm

Tgt Ion: 59 Resp: 2721

Ion	Ratio	Lower	Upper
59	100		
41	5.3	0.0	53.9

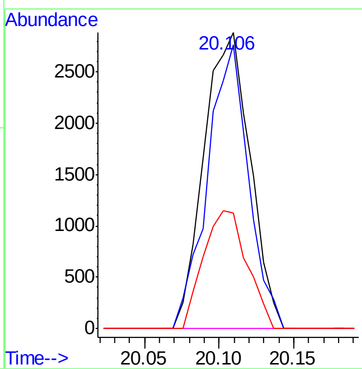




#103
2-Methylnaphthalene
Concen: 0.44 ppb
RT: 20.106 min Scan# 2383
Delta R.T. -0.002 min
Lab File: U33348.D
Acq: 28 Oct 2015 12:12 pm

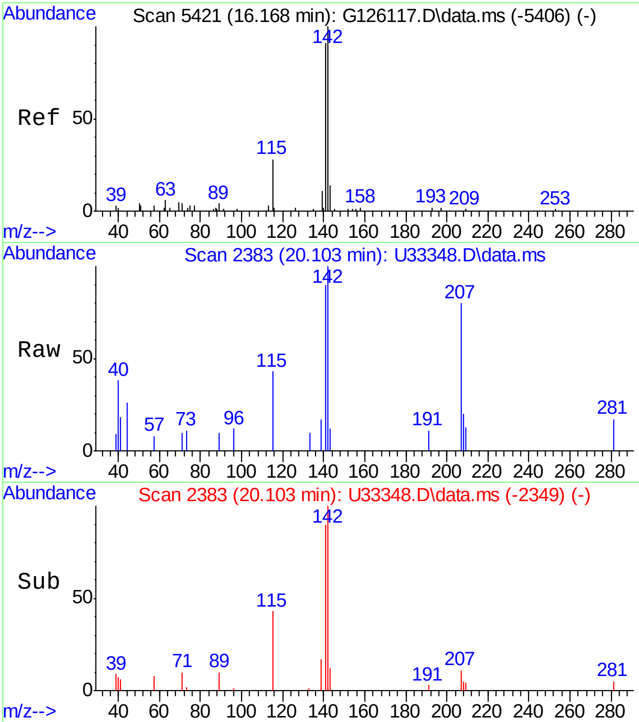
Tgt Ion:142 Resp: 6165

Ion	Ratio	Lower	Upper
142	100		
141	90.3	67.9	107.9
115	43.0	15.5	55.5



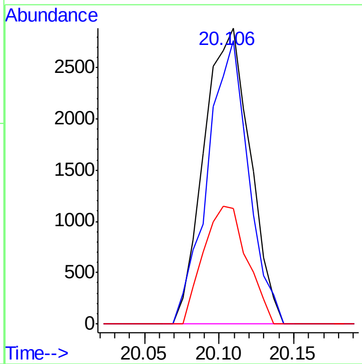
7.1.13

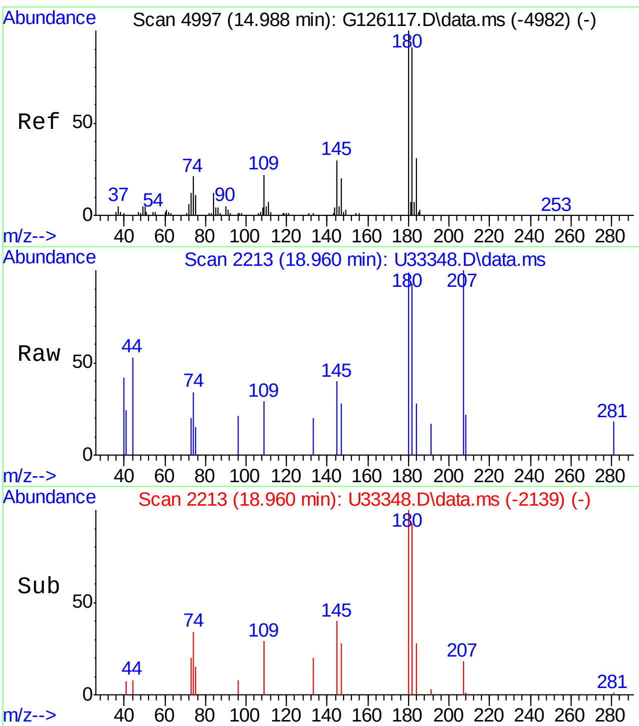
7



#104
1-Methylnaphthalene
Concen: 0.60 ppb
RT: 20.106 min Scan# 2383
Delta R.T. -0.266 min
Lab File: U33348.D
Acq: 28 Oct 2015 12:12 pm

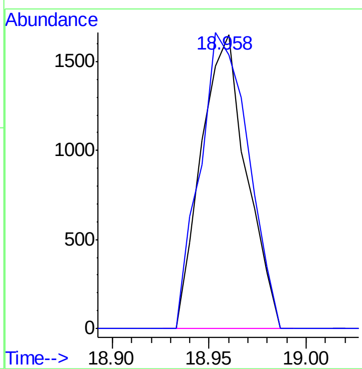
Tgt Ion:142	Resp:		6165
Ion	Ratio	Lower	Upper
142	100		
141	90.3	72.6	108.8
115	43.0	29.2	43.8





#105
1,2,3-trichlorobenzene
Concen: 0.24 ppb
RT: 18.958 min Scan# 2213
Delta R.T. -0.001 min
Lab File: U33348.D
Acq: 28 Oct 2015 12:12 pm

Tgt Ion:180	Resp:		2684
Ion	Ratio	Lower	Upper
180	100		
182	93.2	70.3	130.3

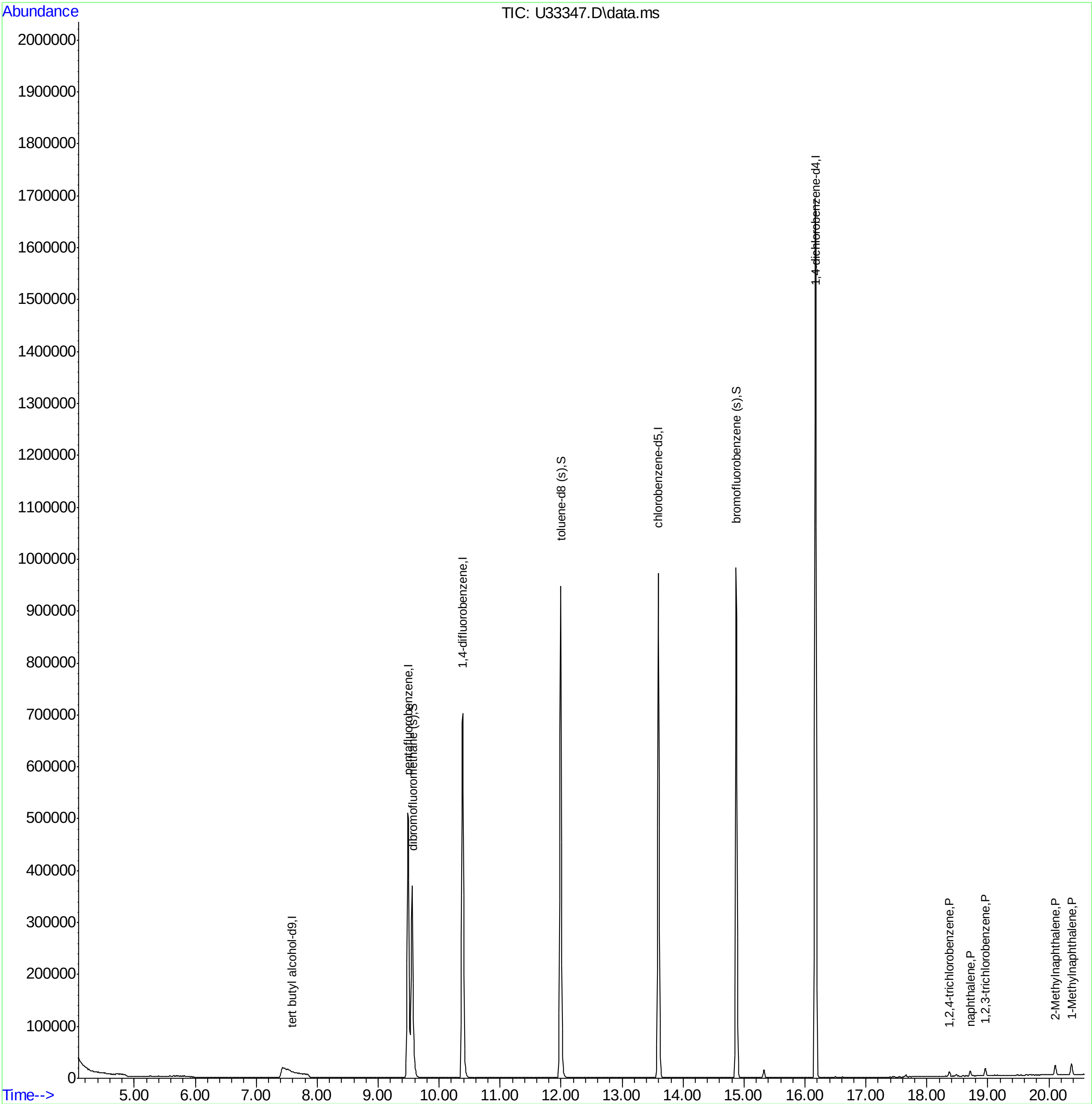


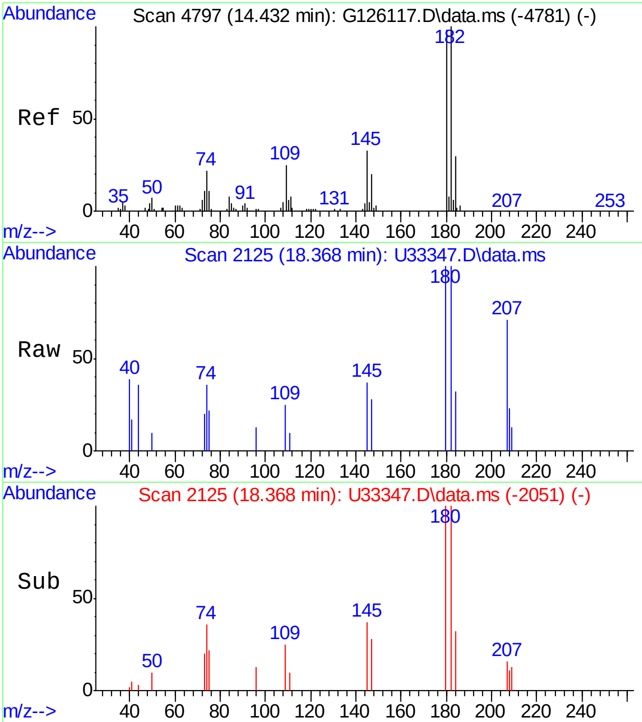
Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33347.D
Acq On    : 28 Oct 2015  11:44 am
Operator  : andrewd1
Sample    : mb
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 5   Sample Multiplier: 1

Quant Time: Oct 28 12:20:33 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

       Compound                   R.T. QIon  Response  Conc Units Dev(Min)
 --------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9      7.586   65   156049   500.00 ppb      0.12
   4) pentafluorobenzene         9.495  168   384269    50.00 ppb      0.00
  43) 1,4-difluorobenzene       10.389  114   605566    50.00 ppb      0.00
  66) chlorobenzene-d5          13.596   82   337192    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4    16.173  152   474254    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)   9.562  113   253182    53.26 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =  106.52%
  60) toluene-d8 (s)            11.994   98   692240    47.74 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =   95.48%
  82) bromofluorobenzene (s)    14.874   95   341497    46.54 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130    Recovery    =   93.08%

 Target Compounds                                                Qvalue
 100) 1,2,4-trichlorobenzene    18.368  180     3605     0.29 ppb       99
 102) naphthalene               18.711  128     9723     0.37 ppb      100
 103) 2-Methylnaphthalene       20.106  142    12836     0.94 ppb       98
 104) 1-Methylnaphthalene       20.371  142    12736     1.27 ppb       98
 105) 1,2,3-trichlorobenzene    18.957  180     6044     0.56 ppb      100
 --------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33347.D
Acq On    : 28 Oct 2015  11:44 am
Operator  : andrewd1
Sample    : mb
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 5   Sample Multiplier: 1

Quant Time: Oct 28 12:20:33 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

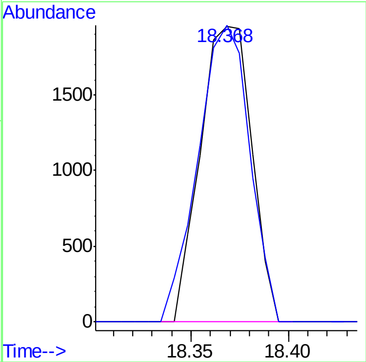


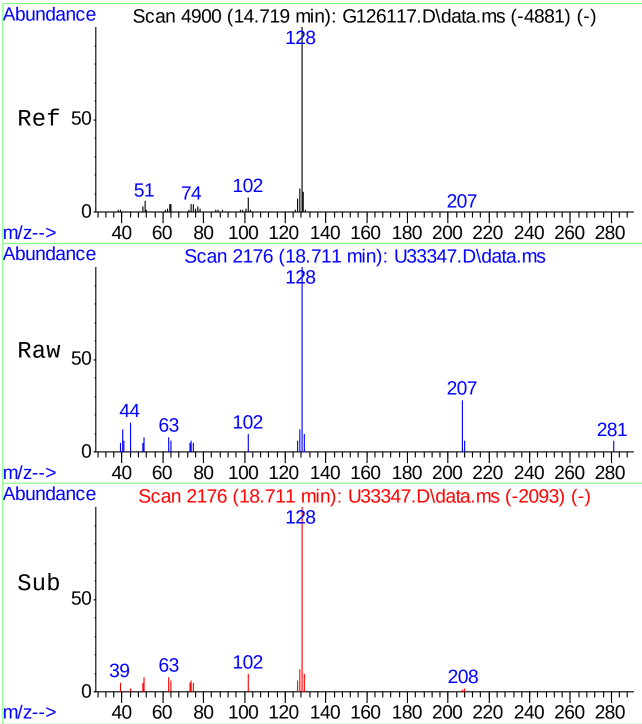


#100
1,2,4-trichlorobenzene
Concen: 0.29 ppb
RT: 18.368 min Scan# 2125
Delta R.T. -0.000 min
Lab File: U33347.D
Acq: 28 Oct 2015 11:44 am

Tgt Ion:180 Resp: 3605

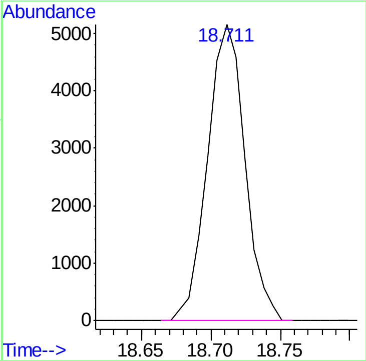
Ion	Ratio	Lower	Upper
180	100		
182	100.4	71.6	131.6



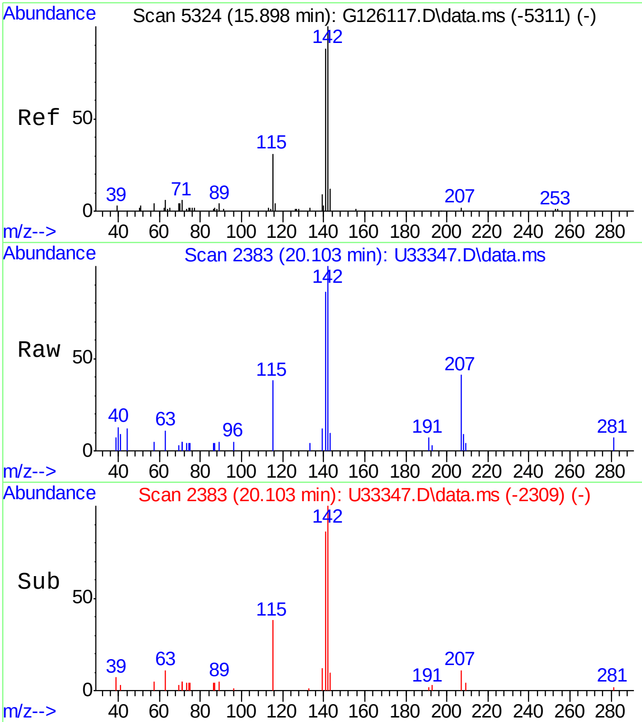


#102
naphthalene
Concen: 0.37 ppb
RT: 18.711 min Scan# 2176
Delta R.T. -0.001 min
Lab File: U33347.D
Acq: 28 Oct 2015 11:44 am

Tgt Ion:128 Resp: 9723

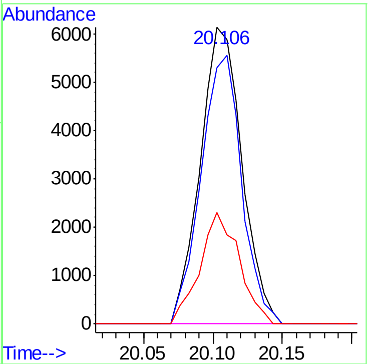


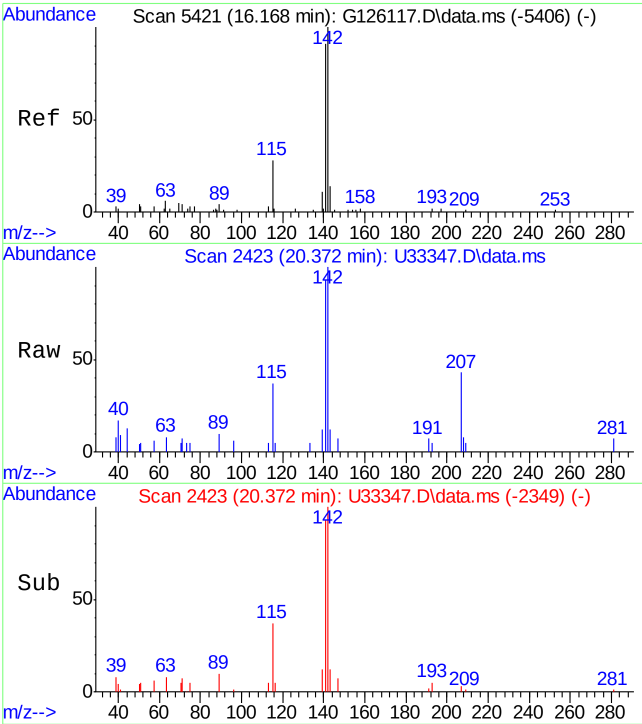
U33347.D U151027.m Wed Oct 28 12:20:45 2015 Page 3



#103
2-Methylnaphthalene
Concen: 0.94 ppb
RT: 20.106 min Scan# 2383
Delta R.T. -0.002 min
Lab File: U33347.D
Acq: 28 Oct 2015 11:44 am

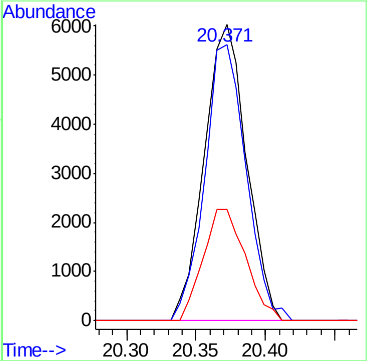
Tgt Ion:142	Resp:		12836
Ion	Ratio	Lower	Upper
142	100		
141	86.3	67.9	107.9
115	37.7	15.5	55.5

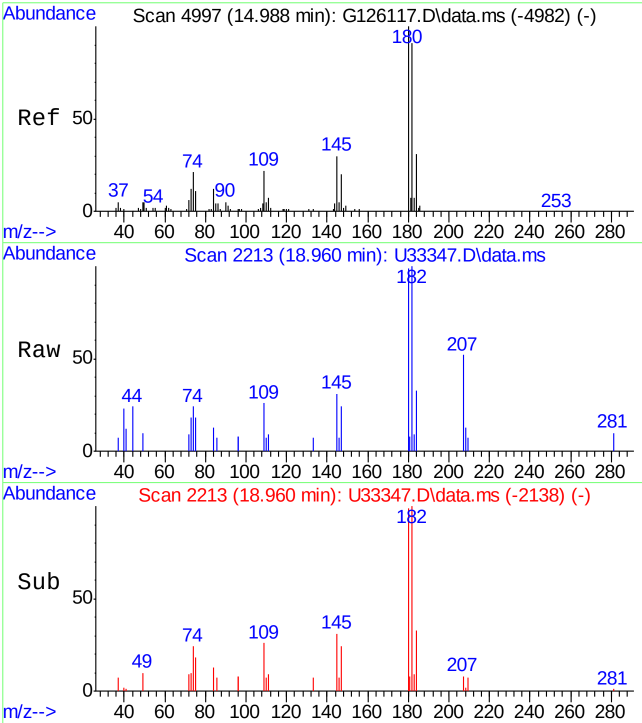




#104
1-Methylnaphthalene
Concen: 1.27 ppb
RT: 20.371 min Scan# 2423
Delta R.T. -0.001 min
Lab File: U33347.D
Acq: 28 Oct 2015 11:44 am

Tgt Ion:142	Resp:		12736
Ion	Ratio	Lower	Upper
142	100		
141	93.4	72.6	108.8
115	37.4	29.2	43.8

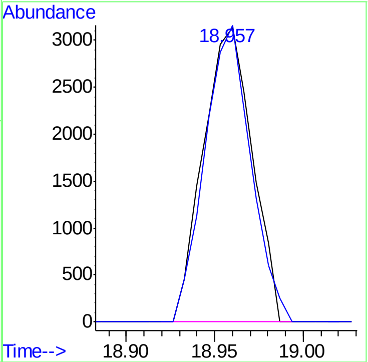




#105
1,2,3-trichlorobenzene
Concen: 0.56 ppb
RT: 18.957 min   Scan# 2213
Delta R.T. -0.002 min
Lab File: U33347.D
Acq: 28 Oct 2015 11:44 am

Tgt Ion:180 Resp: 6044

Ion	Ratio	Lower	Upper
180	100		
182	100.6	70.3	130.3



Manual Integrations
APPROVED
(compounds with "m" flag)
Sona Liskova
10/29/15 14:38

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33344.D
Acq On    : 28 Oct 2015  10:24 am
Operator  : andrewd1
Sample    : bs
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Oct 28 10:47:21 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	7.517	65	274838	500.00 ppb	0.05
4) pentafluorobenzene	9.494	168	408129	50.00 ppb	0.00
43) 1,4-difluorobenzene	10.387	114	671920	50.00 ppb	0.00
66) chlorobenzene-d5	13.595	82	365182	50.00 ppb	0.00
80) 1,4-dichlorobenzene-d4	16.172	152	477779	50.00 ppb	0.00
System Monitoring Compounds					
40) dibromofluoromethane (s)	9.559	113	267029	52.89 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 105.78%		
60) toluene-d8 (s)	11.993	98	777664	48.33 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 96.66%		
82) bromofluorobenzene (s)	14.873	95	342850	46.38 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 92.76%		

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) tertiary butyl alcohol	7.608	59	289429	520.89 ppb		63
5) dichlorodifluoromethane	4.364	85	494445	55.45 ppb		99
6) chloromethane	4.741	50	290836	59.91 ppb		99
7) vinyl chloride	4.988	62	376725	58.15 ppb		99
8) bromomethane	5.594	96	211524	56.47 ppb		97
9) chloroethane	5.751	64	199595	63.98 ppb		98
10) ethyl ether	6.513	59	185305	47.74 ppb		94
11) acetonitrile	7.366	41	394618	48.47 ppb	#	12
12) trichlorofluoromethane	6.176	101	579669	60.30 ppb		99
13) freon-113	6.899	101	306871	51.36 ppb		97
15) 1,1-dichloroethene	6.907	96	224589	48.91 ppb		97
16) acetone	6.949	58	27518	46.14 ppb	#	75
17) Methyl Acetate	6.950	43	98501	49.97 ppb	#	72
18) methylene chloride	7.531	84	268509	49.48 ppb		86
19) methyl tert butyl ether	7.835	73	756772	53.00 ppb		91
20) acrylonitrile	7.807	53	101726	47.76 ppb		86
21) allyl chloride	7.366	41	397003	47.49 ppb		79
22) trans-1,2-dichloroethene	7.879	96	218756	45.57 ppb		93
23) iodomethane	7.158	142	440839	49.19 ppb		90
24) carbon disulfide	7.294	76	740427m	43.67 ppb		
25) propionitrile	8.482	54	17719	48.43 ppb		100
26) vinyl acetate	8.310	43	479382m	71.23 ppb		
27) chloroprene	8.484	53	399934	49.92 ppb		99
28) di-isopropyl ether	8.345	45	873940	53.26 ppb		95
29) methacrylonitrile	9.226	41	158376	49.22 ppb		95
30) 2-butanone	8.990	72	30634	51.14 ppb	#	1
32) Hexane	8.175	41	237335	44.69 ppb	#	74
33) 1,1-dichloroethane	8.399	63	468427	49.63 ppb		97
34) tert-butyl ethyl ether	8.764	59	826878	50.63 ppb		92
35) isobutyl alcohol	8.764	43	92931	250.37 ppb	#	68
36) 2,2-dichloropropane	9.077	77	407279	53.04 ppb		98
37) cis-1,2-dichloroethene	9.037	96	284029	53.29 ppb		95
38) bromochloromethane	9.318	128	148578	57.61 ppb	#	78
39) chloroform	9.378	83	499457	53.02 ppb		97

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33344.D
Acq On : 28 Oct 2015 10:24 am
Operator : andrewd1
Sample : bs
Misc : ms35520,msu1363,,,,5,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 28 10:47:21 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) Tetrahydrofuran	9.349	42	82552	48.84 ppb	92
42) 1,1,1-trichloroethane	9.637	97	461020	54.97 ppb	98
44) Cyclohexane	9.744	56	454811	44.84 ppb #	89
45) carbon tetrachloride	9.819	117	389063	53.61 ppb	98
46) 1,1-dichloropropene	9.784	75	343253	50.93 ppb	99
47) benzene	10.024	78	894557	49.26 ppb	99
48) 1,2-dichloroethane	10.048	62	403652	53.37 ppb	98
49) tert-amyl methyl ether	10.064	73	746297	48.79 ppb	97
50) heptane	10.064	43	291288	44.57 ppb	99
51) trichloroethene	10.692	95	257694	54.36 ppb	97
52) 1,2-dichloropropane	10.982	63	233427	50.55 ppb	99
53) dibromomethane	11.093	93	156509	50.91 ppb	96
54) bromodichloromethane	11.226	83	336276	51.47 ppb	97
55) Methylcyclohexane	10.986	83	423648	48.65 ppb	89
56) 2-chloroethyl vinyl ether	11.440	63	96740	40.35 ppb	99
57) methyl methacrylate	10.902	69	107991	41.44 ppb	94
59) cis-1,3-dichloropropene	11.676	75	317371	47.73 ppb	98
61) 4-methyl-2-pentanone	11.761	43	252967	49.88 ppb	97
62) toluene	12.070	92	482182	48.42 ppb	97
63) trans-1,3-dichloropropene	12.249	75	241831	44.05 ppb	92
64) 1,1,2-trichloroethane	12.489	83	141218	45.99 ppb	100
65) ethyl methacrylate	12.214	69	214160	44.62 ppb	88
67) tetrachloroethene	12.645	166	216484	51.51 ppb	97
68) 1,3-dichloropropane	12.682	76	270404	48.75 ppb	95
69) dibromochloromethane	12.951	129	201627	50.01 ppb	98
70) 1,2-dibromoethane	13.129	107	164642	46.61 ppb	98
71) 2-hexanone	12.638	43	142882	46.01 ppb #	23
72) chlorobenzene	13.631	112	539856	49.09 ppb	100
73) 1,1,1,2-tetrachloroethane	13.697	131	265208	55.83 ppb	96
74) ethylbenzene	13.686	91	996439	50.60 ppb	98
75) m,p-xylene	13.814	106	761882	100.73 ppb	100
76) o-xylene	14.257	106	440456	52.38 ppb	100
77) styrene	14.271	104	606359	48.34 ppb	89
78) bromoform	14.544	173	138304	45.28 ppb	97
79) trans-1,4-dichloro-2-b...	14.676	53	76483	48.42 ppb #	1
81) isopropylbenzene	14.638	105	1264240	53.83 ppb	99
83) bromobenzene	15.084	156	288134	47.98 ppb	98
84) 1,1,2,2-tetrachloroethane	14.946	83	284848	49.83 ppb	99
85) 1,2,3-trichloropropane	15.060	75	279043m	48.43 ppb	
86) n-propylbenzene	15.100	91	1419723	50.51 ppb	98
87) 2-chlorotoluene	15.258	91	1043323	51.56 ppb	97
88) 4-chlorotoluene	15.381	91	859876	48.21 ppb	100
89) 1,3,5-trimethylbenzene	15.269	105	1238175	57.09 ppb	98
90) tert-butylbenzene	15.651	91	776624	57.37 ppb	97
91) 1,2,4-trimethylbenzene	15.707	105	1250467	52.68 ppb	98
92) sec-butylbenzene	15.895	105	1609705	56.84 ppb	99
93) 1,3-dichlorobenzene	16.095	146	665620	49.81 ppb	99
94) p-isopropyltoluene	16.037	119	1390935	56.05 ppb	99
95) 1,4-dichlorobenzene	16.202	146	679986	50.00 ppb	99
96) 1,2-dichlorobenzene	16.616	146	757953	52.22 ppb	97

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33344.D
Acq On : 28 Oct 2015 10:24 am
Operator : andrewd1
Sample : bs
Misc : ms35520,msu1363,,,,5,1
ALS Vial : 2 Sample Multiplier: 1

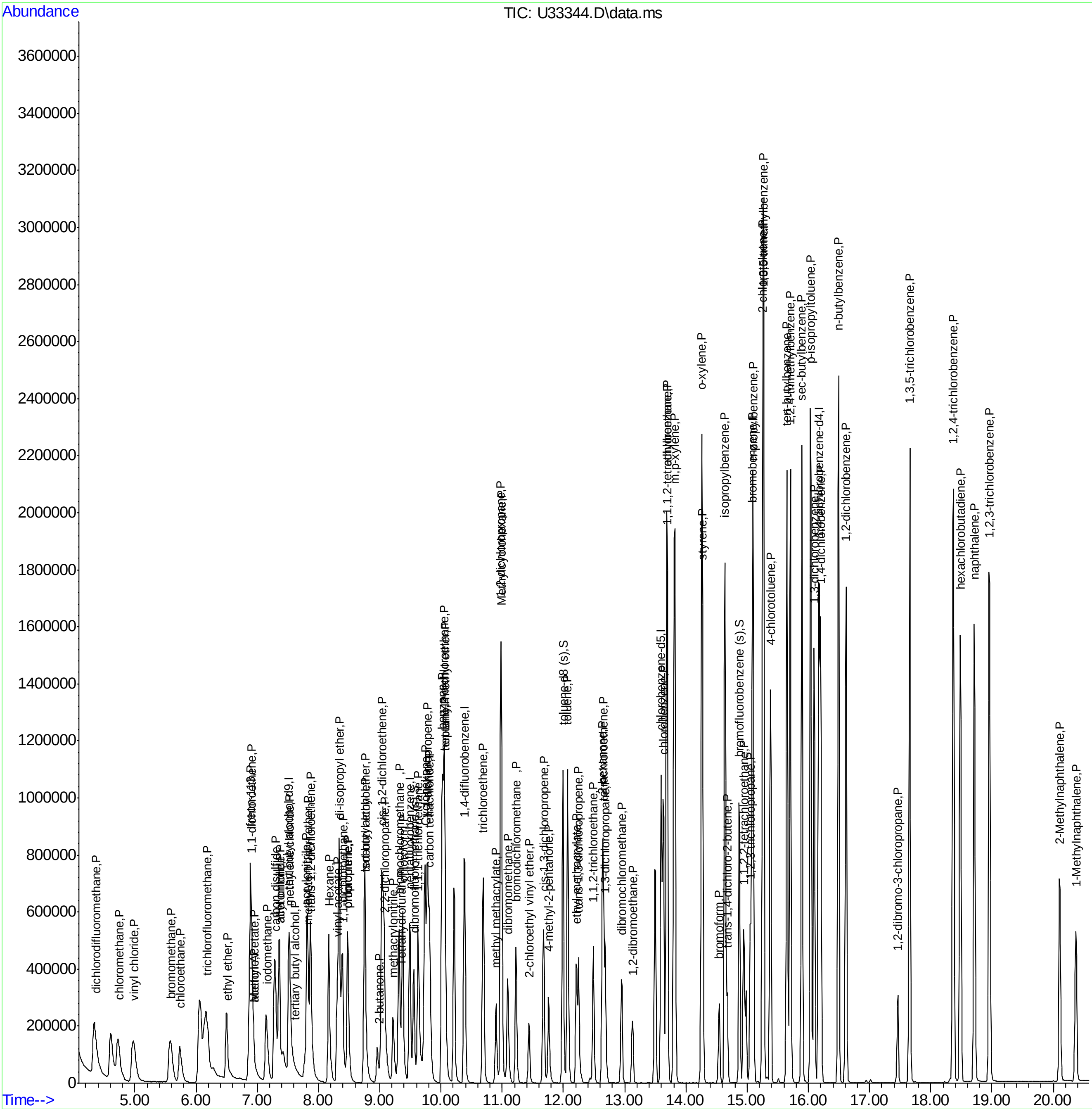
Quant Time: Oct 28 10:47:21 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
97) n-butylbenzene	16.493	91	1448141	55.75	ppb	99
98) 1,2-dibromo-3-chloropr...	17.460	75	80241	54.03	ppb	92
99) 1,3,5-trichlorobenzene	17.655	180	731927	54.58	ppb	100
100) 1,2,4-trichlorobenzene	18.368	180	719094	58.40	ppb	96
101) hexachlorobutadiene	18.483	225	335548	57.30	ppb	97
102) naphthalene	18.711	128	1440510	54.43	ppb	100
103) 2-Methylnaphthalene	20.107	142	430380	31.14	ppb	96
104) 1-Methylnaphthalene	20.372	142	330013	32.59	ppb	99
105) 1,2,3-trichlorobenzene	18.958	180	649125	59.76	ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

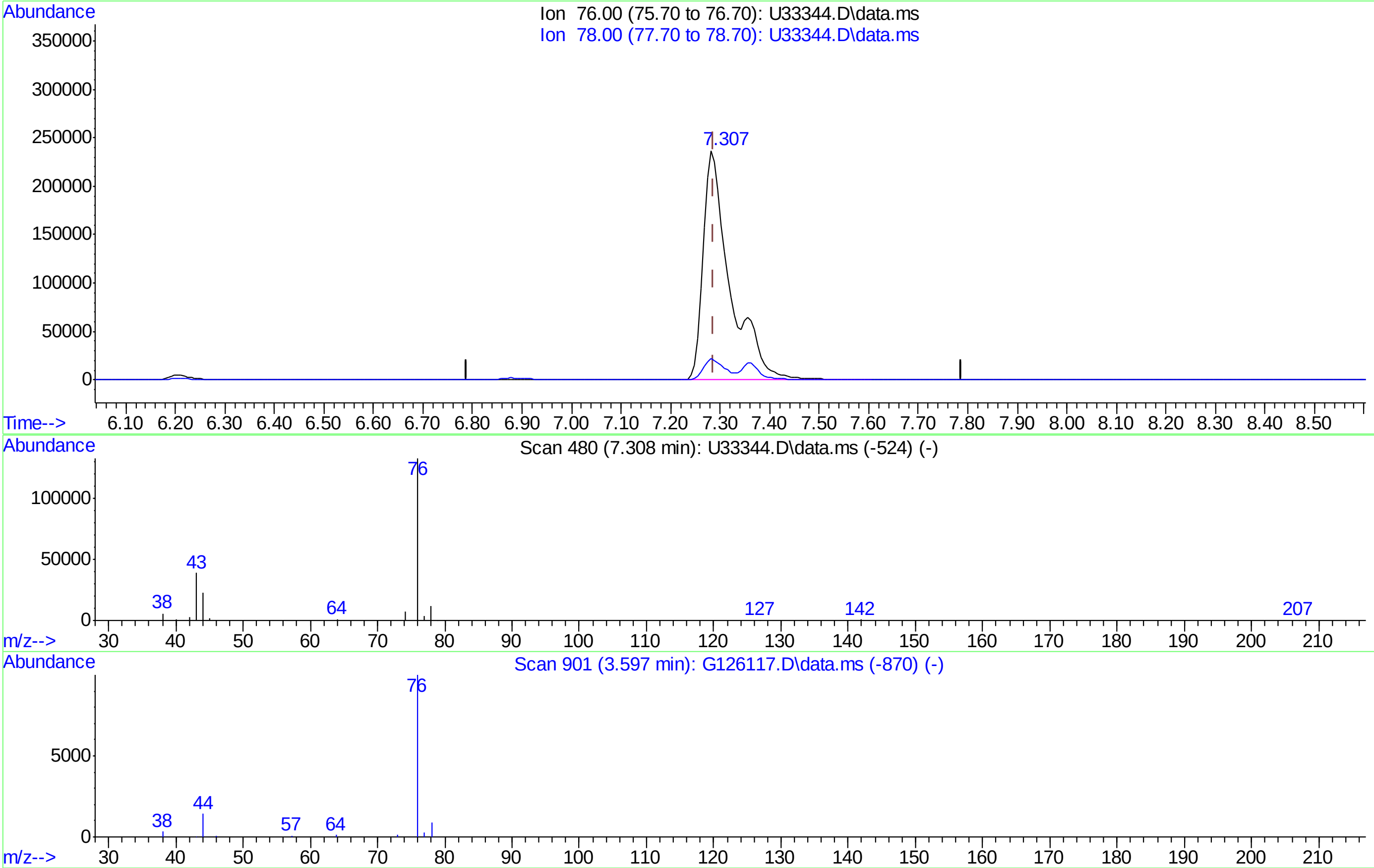
```
Data Path : R:\1\data\U151028\
Data File : U33344.D
Acq On    : 28 Oct 2015   10:24 am
Operator  : andrewd1
Sample    : bs
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Oct 28 10:47:21 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



U151027.m Wed Oct 28 11:41:06 2015 Page: 4

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33344.D
Acq On    : 28 Oct 2015  10:24 am
Operator  : andrewd1
Sample    : bs
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Oct 28 10:46:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

TIC: U33344.D\data.ms

(24) carbon disulfide (P)

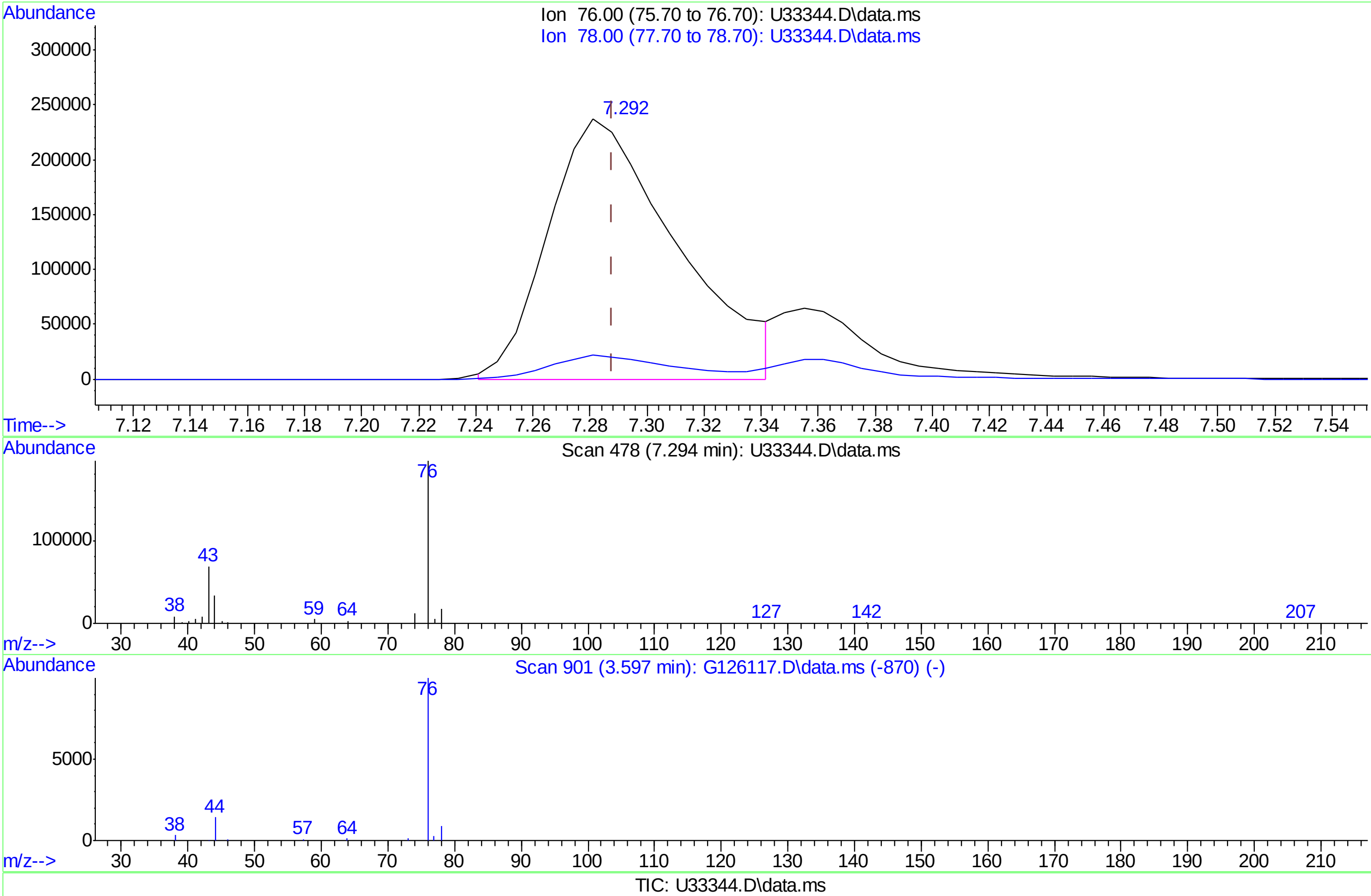
7.307min (+ 0.019) 53.05 ppb

response 899507

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.14
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33344.D
Acq On    : 28 Oct 2015  10:24 am
Operator  : andrewd1
Sample    : bs
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Oct 28 10:46:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

(24) carbon disulfide (P)

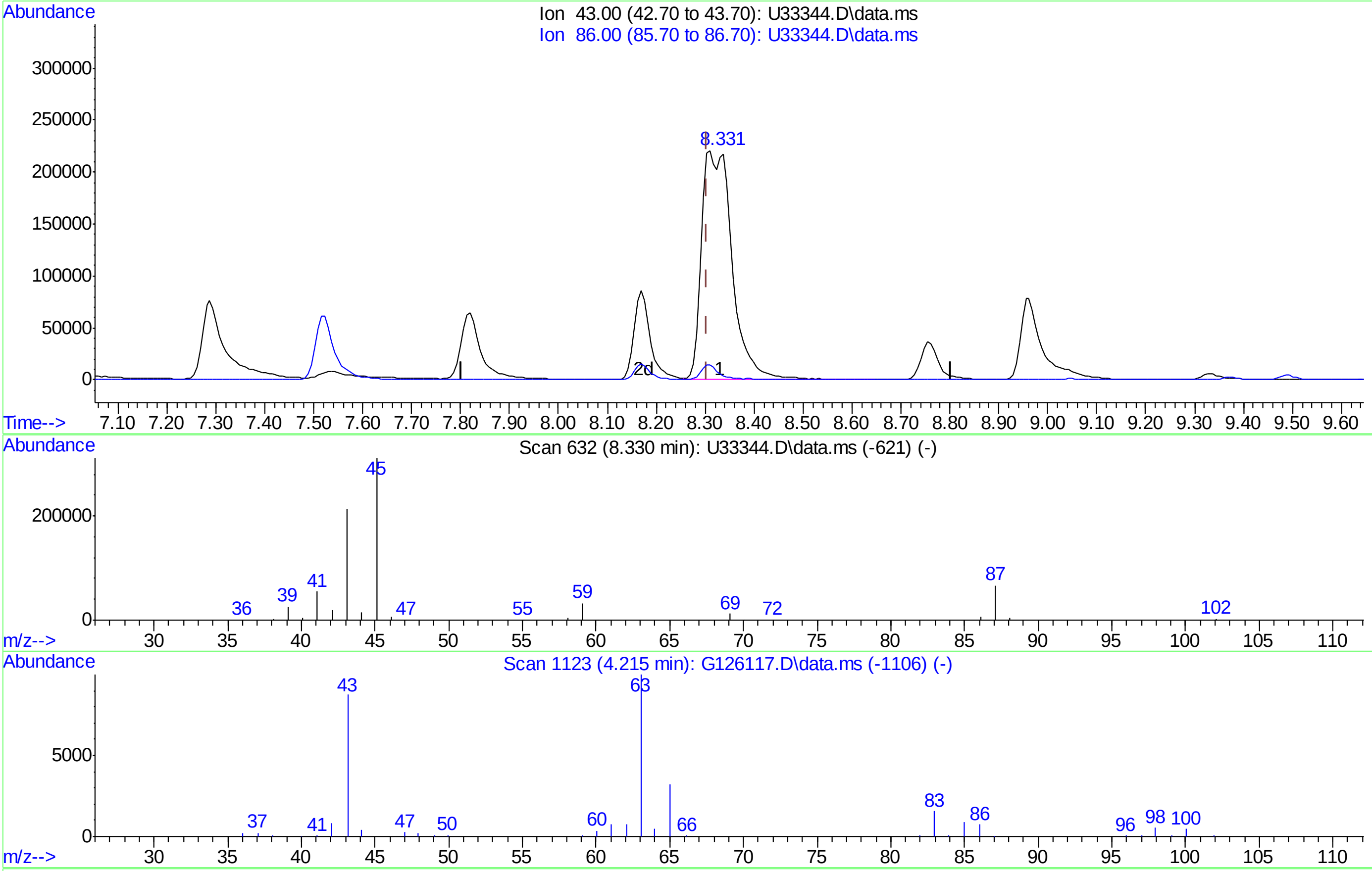
7.294min (+ 0.006) 43.67 ppb m

response 740427

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.20
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33344.D
Acq On    : 28 Oct 2015  10:24 am
Operator  : andrewd1
Sample    : bs
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Oct 28 10:46:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33344.D\data.ms

(26) vinyl acetate (P)

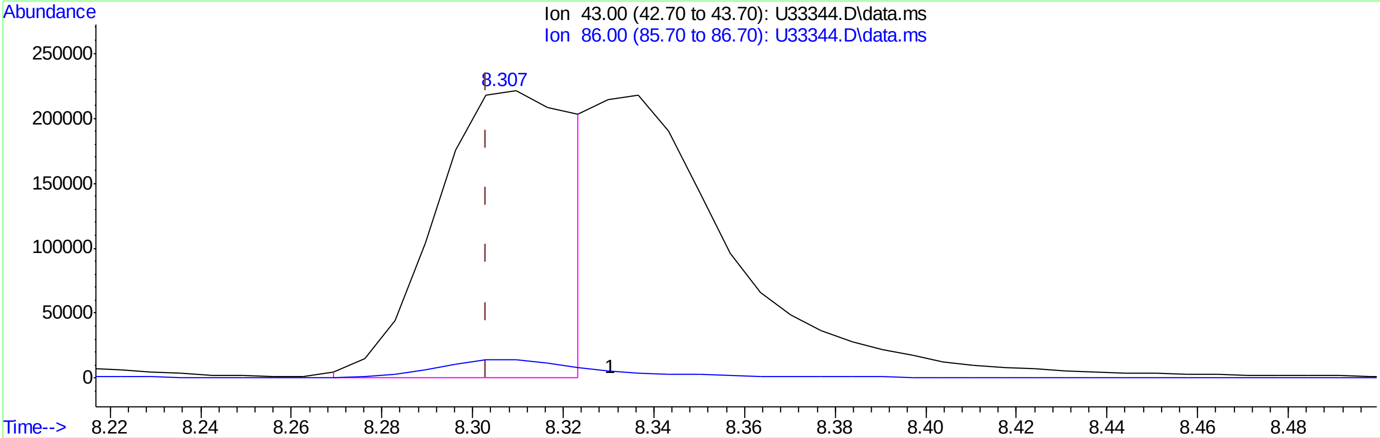
8.331min (+ 0.027) 141.28 ppb

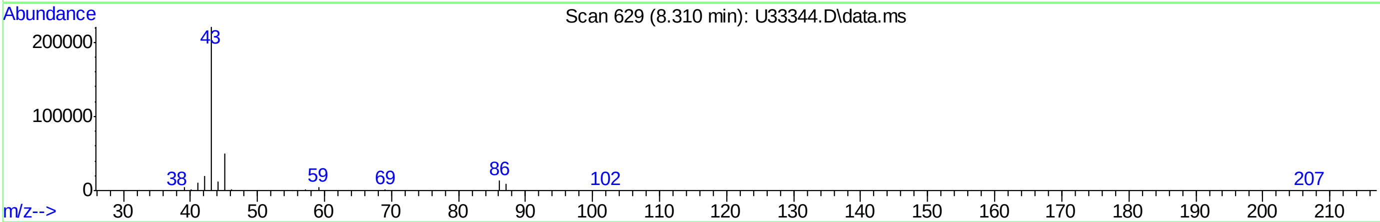
response 950817

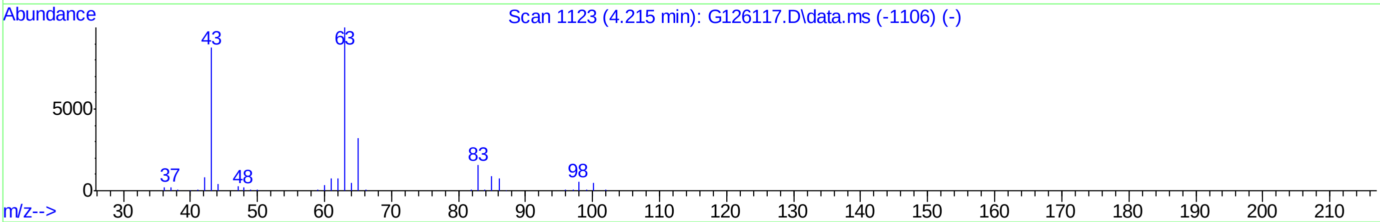
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.69
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33344.D
Acq On    : 28 Oct 2015  10:24 am
Operator  : andrewd1
Sample    : bs
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Oct 28 10:46:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```





TIC: U33344.D\data.ms

(26) vinyl acetate (P)

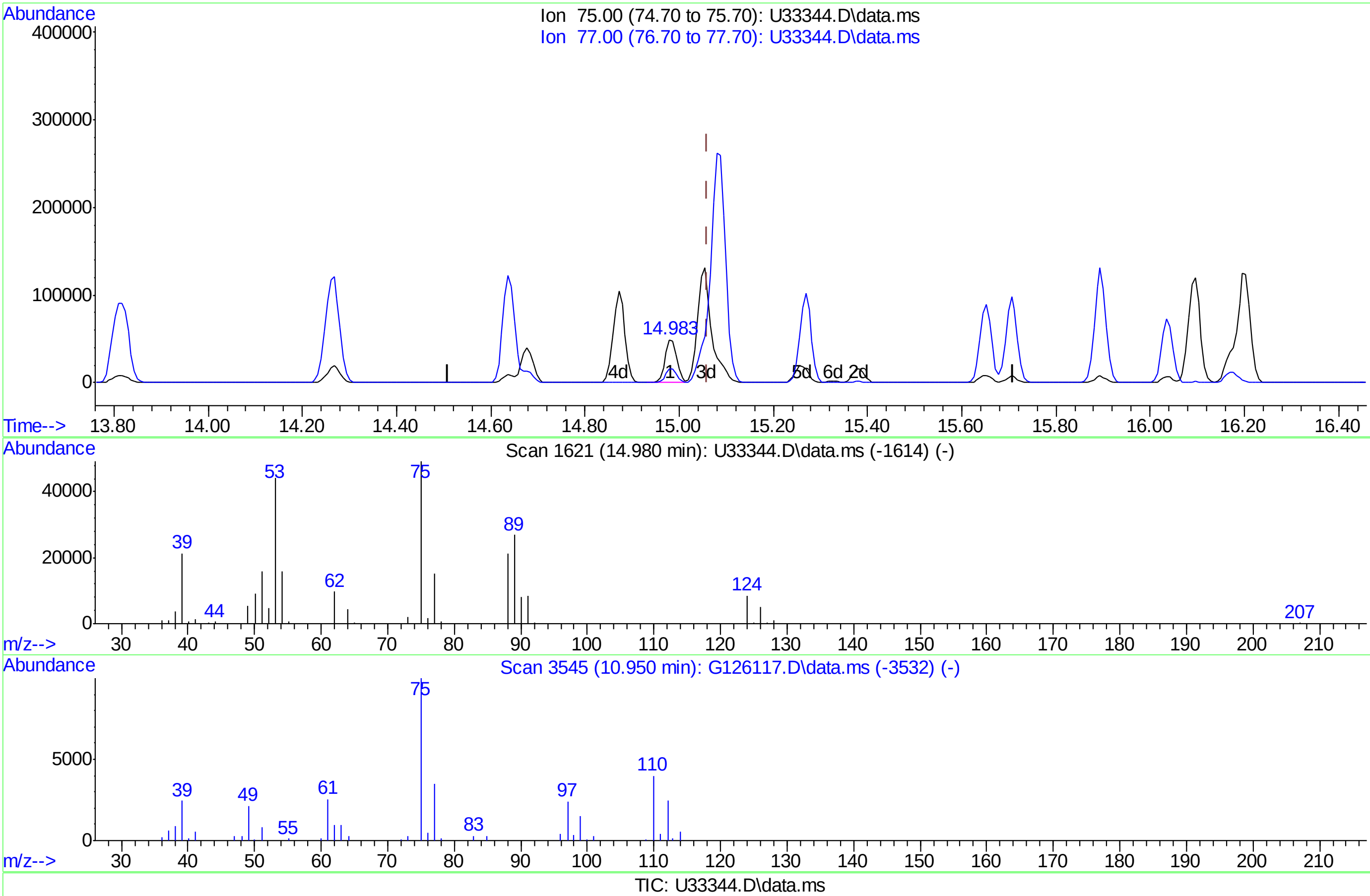
8.310min (+ 0.007) 71.23 ppb m

response 479382

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33344.D
Acq On    : 28 Oct 2015  10:24 am
Operator  : andrewd1
Sample    : bs
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Oct 28 10:46:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(85) 1,2,3-trichloropropane (P)

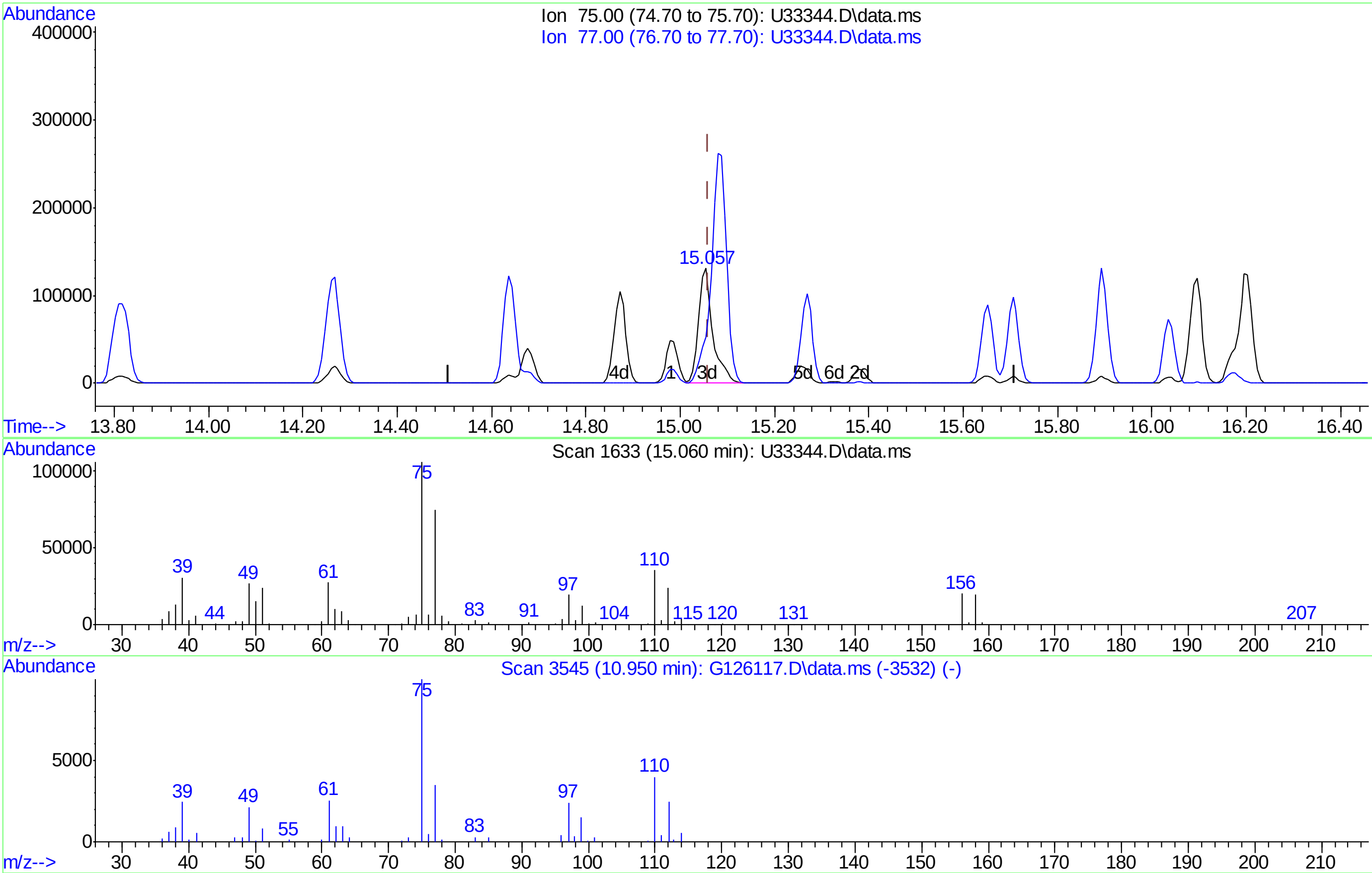
14.983min (-0.077) 14.73 ppb

response 84889

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	31.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33344.D
Acq On    : 28 Oct 2015  10:24 am
Operator  : andrewd1
Sample    : bs
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 2   Sample Multiplier: 1

Quant Time: Oct 28 10:46:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

TIC: U33344.D\data.ms

(85) 1,2,3-trichloropropane (P)

15.060min (+ 0.000) 48.43 ppb m

response 279043

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	70.29#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 14:38

7.4.1

7

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On : 28 Oct 2015 9:15 pm
Operator : andrewd1
Sample : mc42178-3ms
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 29 08:41:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	7.493	65	349866	500.00 ppb	0.02
4) pentafluorobenzene	9.495	168	443790	50.00 ppb	0.00
43) 1,4-difluorobenzene	10.389	114	733748	50.00 ppb	0.00
66) chlorobenzene-d5	13.596	82	387227	50.00 ppb	0.00
80) 1,4-dichlorobenzene-d4	16.173	152	510575	50.00 ppb	0.00

System Monitoring Compounds

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
40) dibromofluoromethane (s)	9.561	113	297864	54.26 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	108.52%	
60) toluene-d8 (s)	11.994	98	833917	47.46 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	94.92%	
82) bromofluorobenzene (s)	14.874	95	366130	46.34 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	92.68%	

Target Compounds

Compound	R.T.	QIon	Response	Conc Units		Qvalue
2) tertiary butyl alcohol	7.582	59	358475	507.03 ppb		88
5) dichlorodifluoromethane	4.362	85	489472	50.48 ppb		100
6) chloromethane	4.736	50	266015	50.28 ppb		97
7) vinyl chloride	4.983	62	400978	56.92 ppb		100
8) bromomethane	5.591	96	219899	53.99 ppb		98
9) chloroethane	5.750	64	204043	60.15 ppb		98
10) ethyl ether	6.513	59	212115	50.26 ppb		88
11) acetonitrile	7.367	41	417857	47.20 ppb	#	13
12) trichlorofluoromethane	6.177	101	582830	55.76 ppb		96
13) freon-113	6.898	101	328972	50.63 ppb		98
15) 1,1-dichloroethene	6.912	96	255549	51.19 ppb		94
16) acetone	6.941	58	34242	52.80 ppb	#	76
17) Methyl Acetate	6.946	43	121830	56.73 ppb	#	67
18) methylene chloride	7.533	84	301263	51.06 ppb		86
19) methyl tert butyl ether	7.840	73	873751	56.28 ppb		92
20) acrylonitrile	7.804	53	129924	56.09 ppb		91
21) allyl chloride	7.368	41	425580	46.82 ppb		70
22) trans-1,2-dichloroethene	7.881	96	245570	47.04 ppb		89
23) iodomethane	7.161	142	490804	50.36 ppb		92
24) carbon disulfide	7.295	76	748021m	40.57 ppb		
25) propionitrile	8.483	54	19229	48.33 ppb		100
26) vinyl acetate	8.310	43	508910m	69.54 ppb		
27) chloroprene	8.485	53	426887	49.00 ppb		95
28) di-isopropyl ether	8.348	45	965262	54.10 ppb		93
29) methacrylonitrile	9.226	41	186308	53.25 ppb		94
30) 2-butanone	8.985	72	35686	54.79 ppb	#	1
32) Hexane	8.177	41	238282	41.26 ppb	#	73
33) 1,1-dichloroethane	8.400	63	517966	50.47 ppb		98
34) tert-butyl ethyl ether	8.766	59	930886	52.42 ppb		91
35) isobutyl alcohol	8.766	43	100395	248.75 ppb	#	71
36) 2,2-dichloropropane	9.074	77	387343	46.39 ppb		98
37) cis-1,2-dichloroethene	9.039	96	320880	55.37 ppb		95
38) bromochloromethane	9.319	128	162113	57.81 ppb	#	74
39) chloroform	9.380	83	545830	53.28 ppb		98

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On : 28 Oct 2015 9:15 pm
Operator : andrewd1
Sample : mc42178-3ms
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 29 08:41:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
41)	Tetrahydrofuran	9.343	42	96794	52.67	ppb		93
42)	1,1,1-trichloroethane	9.637	97	483478	53.02	ppb		98
44)	Cyclohexane	9.745	56	492703	44.49	ppb	#	91
45)	carbon tetrachloride	9.820	117	402404	50.77	ppb		100
46)	1,1-dichloropropene	9.786	75	377260	51.26	ppb		98
47)	benzene	10.026	78	999702	50.41	ppb		99
48)	1,2-dichloroethane	10.048	62	432723	52.39	ppb		99
49)	tert-amyl methyl ether	10.066	73	861049	51.55	ppb		95
50)	heptane	10.219	43	339727m	47.60	ppb		
51)	trichloroethene	10.693	95	270905	52.31	ppb		97
52)	1,2-dichloropropane	10.983	63	259549	51.47	ppb		100
53)	dibromomethane	11.093	93	175374	52.24	ppb		94
54)	bromodichloromethane	11.227	83	361854	50.72	ppb		97
55)	Methylcyclohexane	10.987	83	457640	48.13	ppb		89
57)	methyl methacrylate	10.902	69	121280	42.62	ppb		87
59)	cis-1,3-dichloropropene	11.677	75	344289	47.41	ppb		100
61)	4-methyl-2-pentanone	11.761	43	302438	54.61	ppb		97
62)	toluene	12.071	92	532316	48.95	ppb		98
63)	trans-1,3-dichloropropene	12.250	75	257894	43.02	ppb		95
64)	1,1,2-trichloroethane	12.490	83	157249	46.90	ppb		99
65)	ethyl methacrylate	12.214	69	242325	46.24	ppb		84
67)	tetrachloroethene	12.646	166	242660	54.45	ppb		97
68)	1,3-dichloropropane	12.683	76	298033	50.67	ppb		94
69)	dibromochloromethane	12.952	129	218737	51.16	ppb		97
70)	1,2-dibromoethane	13.129	107	184722	49.32	ppb		96
71)	2-hexanone	12.639	43	160633	48.78	ppb	#	21
72)	chlorobenzene	13.632	112	591649	50.73	ppb		98
73)	1,1,1,2-tetrachloroethane	13.698	131	292888	58.15	ppb		98
74)	ethylbenzene	13.686	91	1075474	51.50	ppb		98
75)	m,p-xylene	13.815	106	821569	102.44	ppb		100
76)	o-xylene	14.258	106	484380	54.32	ppb		100
77)	styrene	14.272	104	637606	47.93	ppb		90
78)	bromoform	14.545	173	150674	46.52	ppb		100
79)	trans-1,4-dichloro-2-b...	14.677	53	81075m	48.40	ppb		
81)	isopropylbenzene	14.639	105	1364309	54.36	ppb		100
83)	bromobenzene	15.085	156	315859	49.22	ppb		97
84)	1,1,2,2-tetrachloroethane	14.946	83	355456	58.19	ppb		98
85)	1,2,3-trichloropropane	15.060	75	311722m	50.63	ppb		
86)	n-propylbenzene	15.100	91	1523323	50.71	ppb		99
87)	2-chlorotoluene	15.259	91	1119345	51.77	ppb		96
88)	4-chlorotoluene	15.382	91	923874	48.47	ppb		99
89)	1,3,5-trimethylbenzene	15.270	105	1346532	58.10	ppb		100
90)	tert-butylbenzene	15.652	91	824470	56.99	ppb		98
91)	1,2,4-trimethylbenzene	15.707	105	1345050	53.03	ppb		99
92)	sec-butylbenzene	15.895	105	1745836	57.68	ppb		99
93)	1,3-dichlorobenzene	16.096	146	721419	50.52	ppb		99
94)	p-isopropyltoluene	16.038	119	1501486	56.61	ppb		98
95)	1,4-dichlorobenzene	16.202	146	734906	50.56	ppb		99
96)	1,2-dichlorobenzene	16.616	146	830300	53.53	ppb		96
97)	n-butylbenzene	16.493	91	1529235	55.09	ppb		98

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:41:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

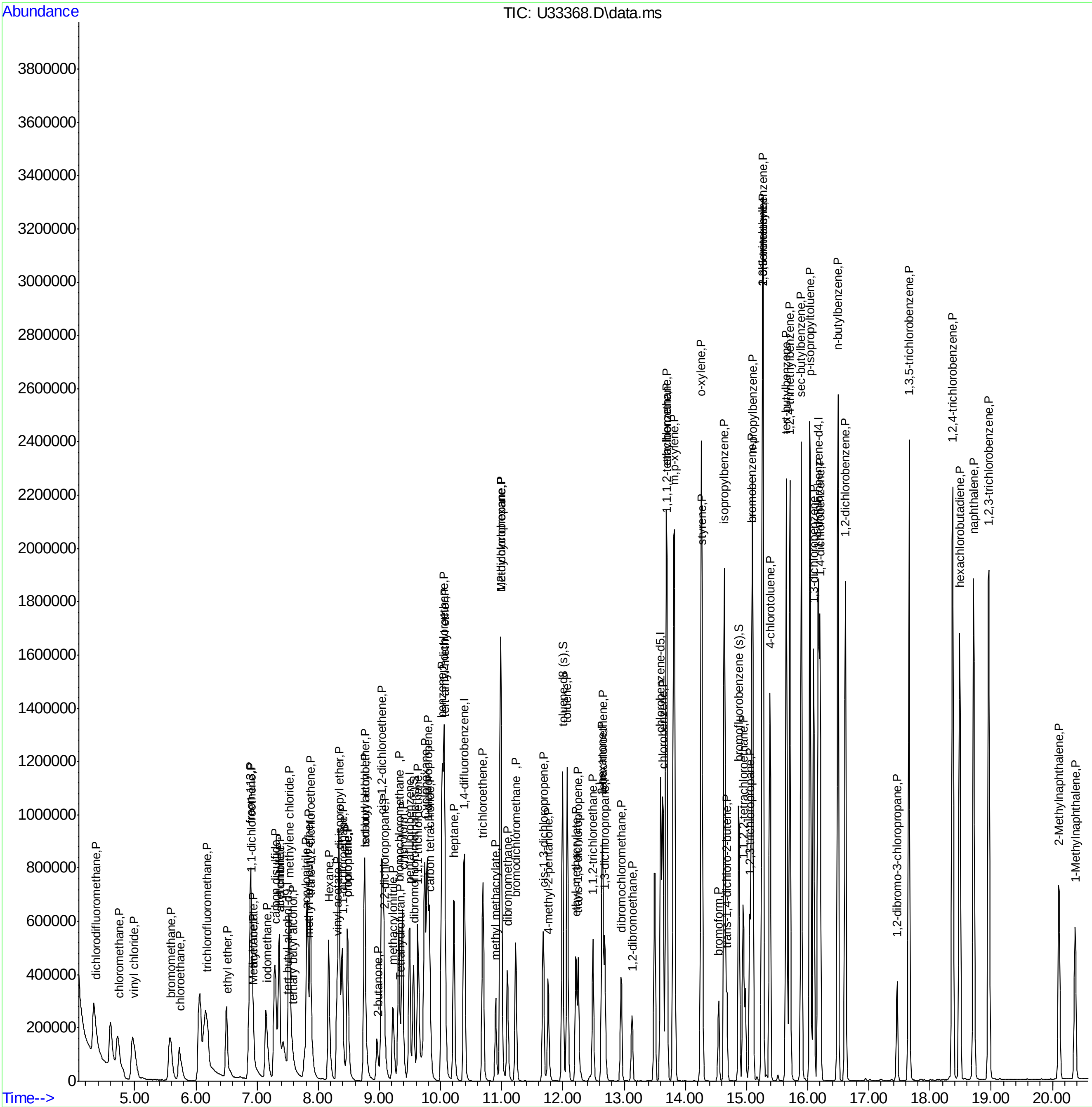
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
98)	1,2-dibromo-3-chloropr...	17.460	75	97379	61.35	ppb	91
99)	1,3,5-trichlorobenzene	17.656	180	792800	55.32	ppb	99
100)	1,2,4-trichlorobenzene	18.369	180	780054	59.28	ppb	96
101)	hexachlorobutadiene	18.484	225	359078	57.37	ppb	99
102)	naphthalene	18.712	128	1679621	59.39	ppb	100
103)	2-Methylnaphthalene	20.108	142	459445	31.11	ppb	98
104)	1-Methylnaphthalene	20.372	142	350372	32.38	ppb	98
105)	1,2,3-trichlorobenzene	18.959	180	713013	61.42	ppb	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.1
7

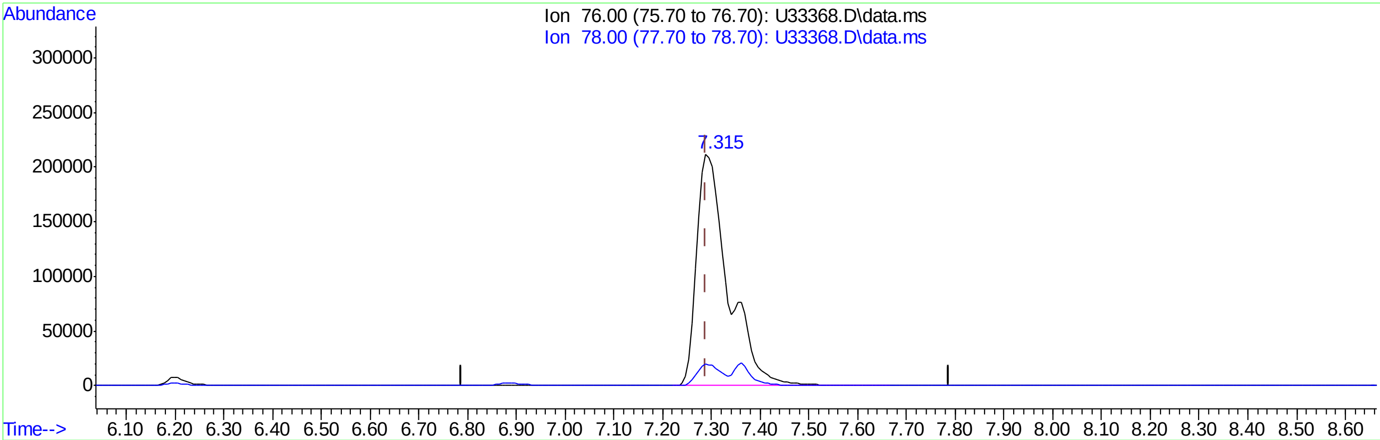
Quantitation Report (QT Reviewed)

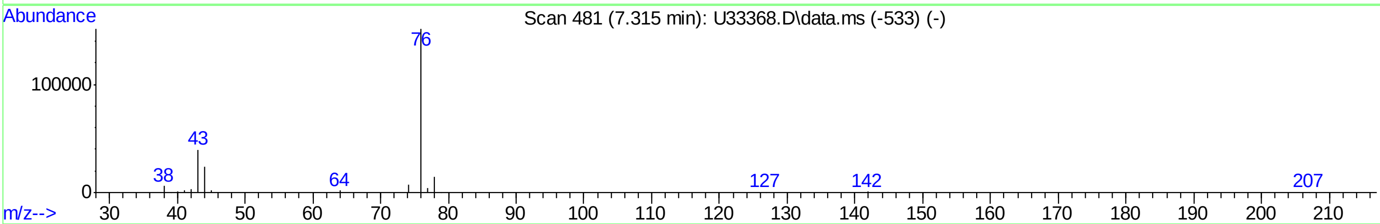
```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:41:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

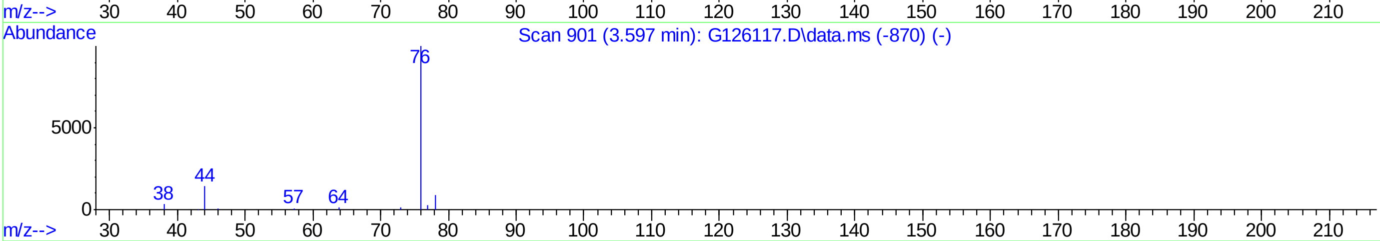


Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:40:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```







TIC: U33368.D\data.ms

(24) carbon disulfide (P)

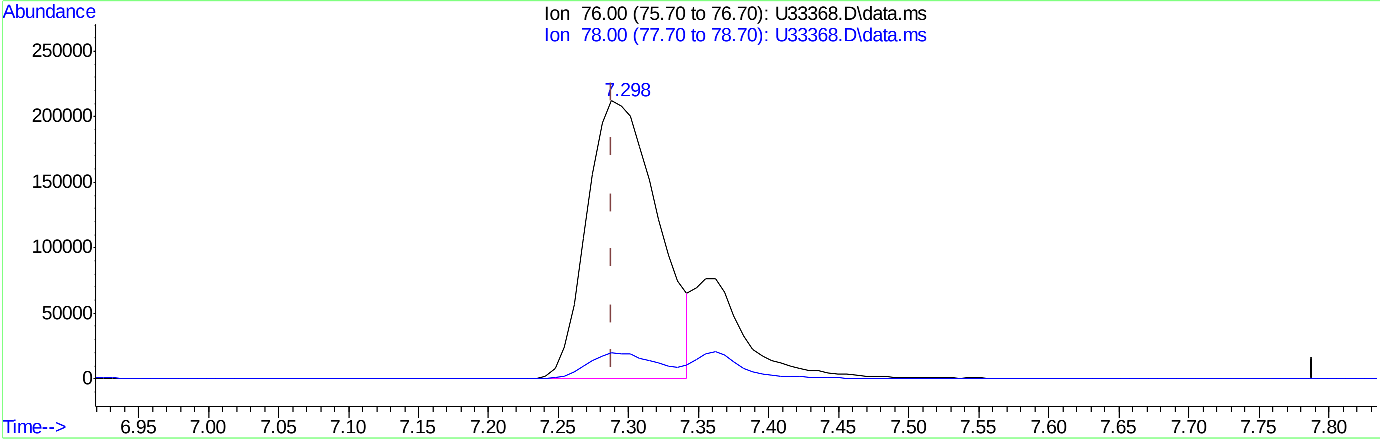
7.315min (+ 0.027) 51.52 ppb

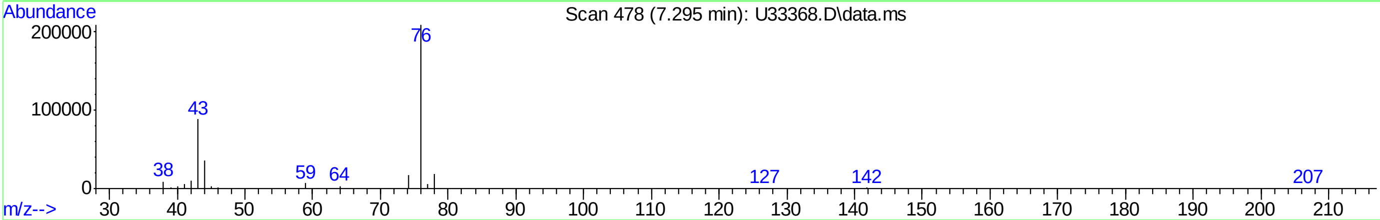
response 949911

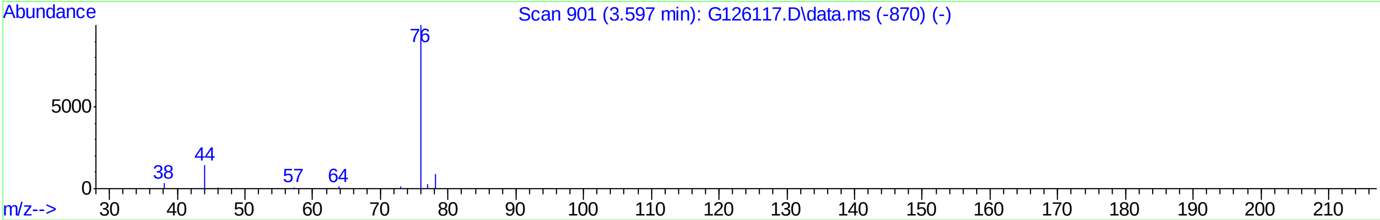
Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.37
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:40:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```





TIC: U33368.D\data.ms

(24) carbon disulfide (P)

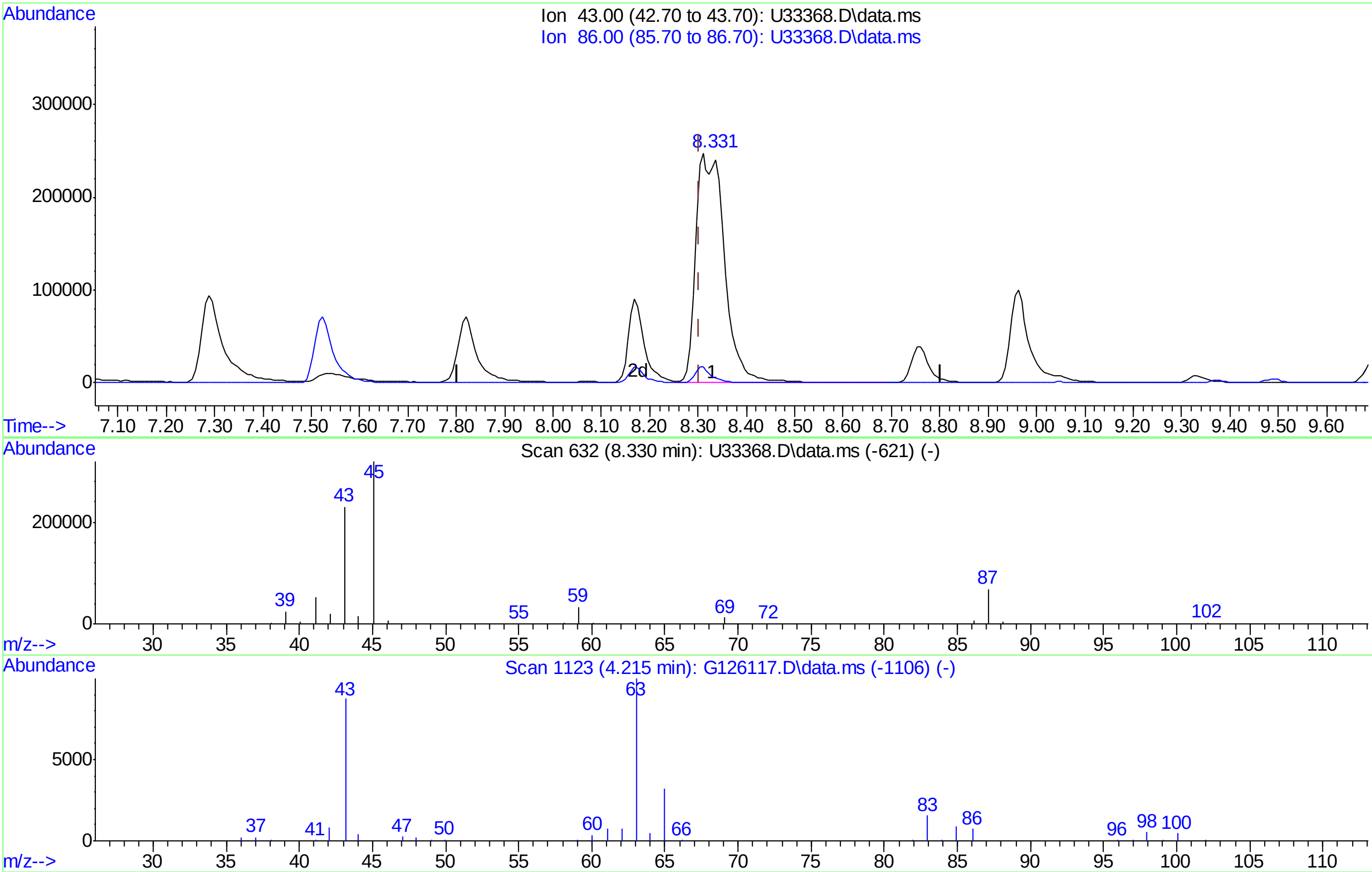
7.295min (+ 0.007) 40.57 ppb m

response 748021

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.02
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:40:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33368.D\data.ms

(26) vinyl acetate (P)

8.331min (+ 0.028) 140.28 ppb

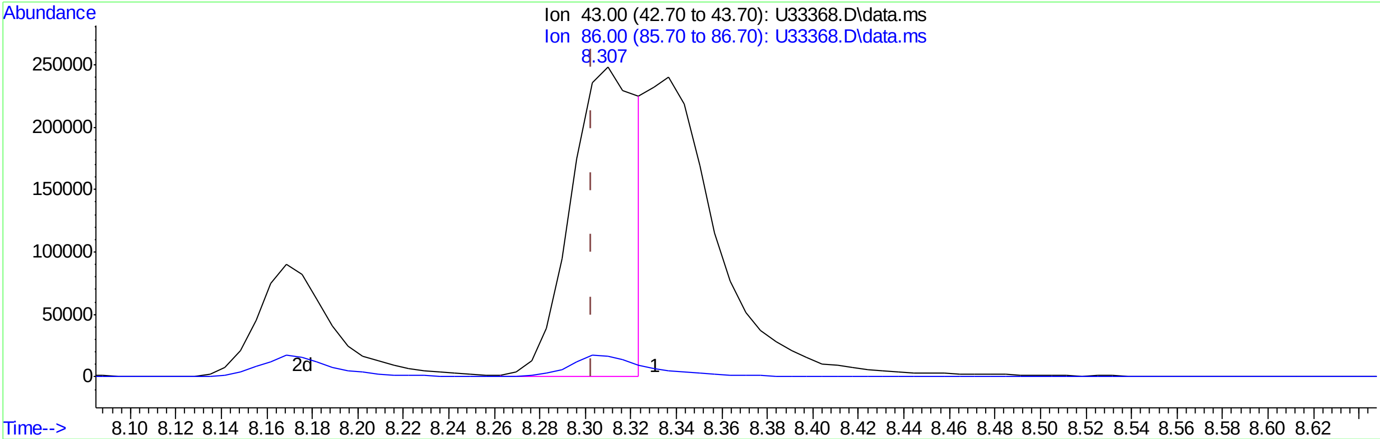
response 1026610

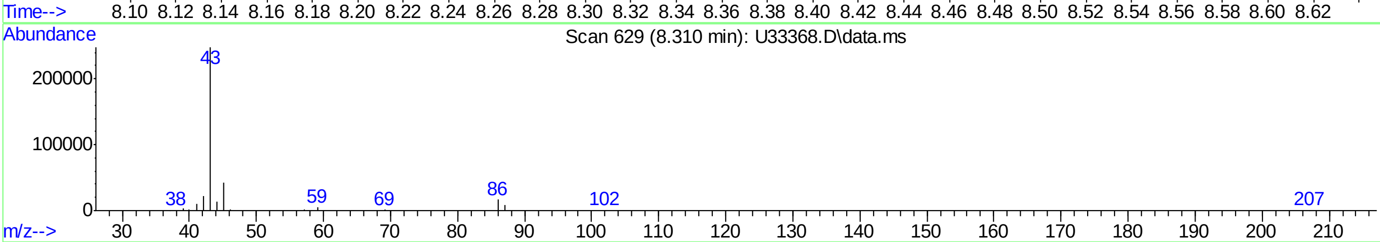
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.85
0.00	0.00	0.00
0.00	0.00	0.00

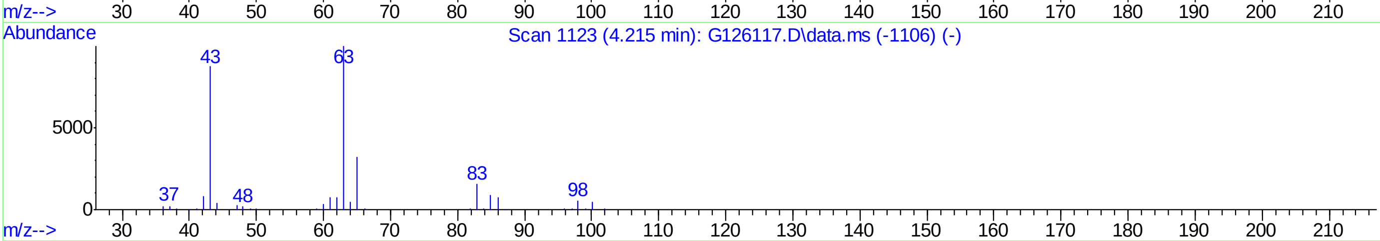
U33368.D edits: vinyl acetate

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:40:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```





TIC: U33368.D\data.ms

(26) vinyl acetate (P)

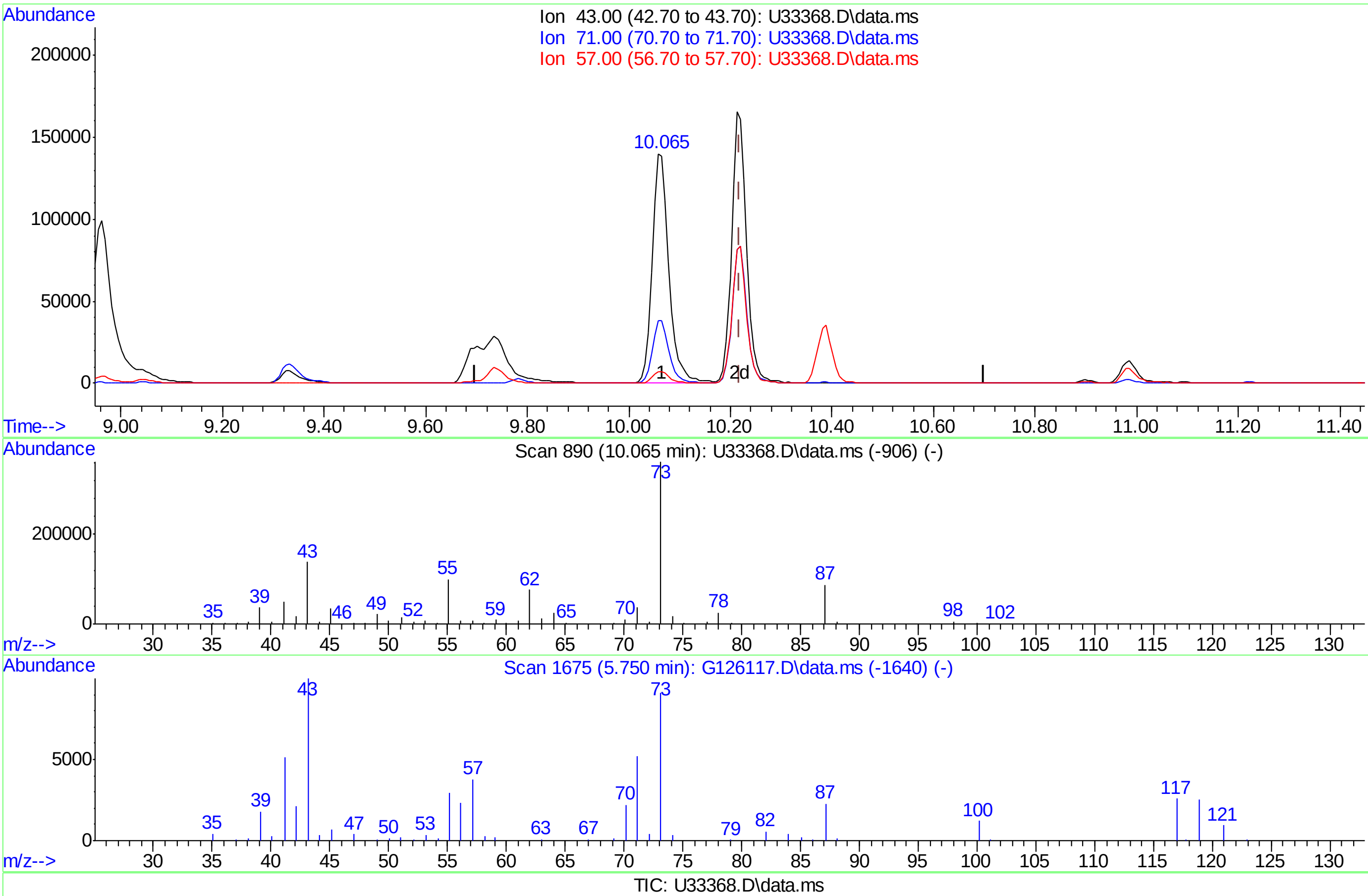
8.310min (+ 0.007) 69.54 ppb m

response 508910

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.83
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:40:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

(50) heptane (P)

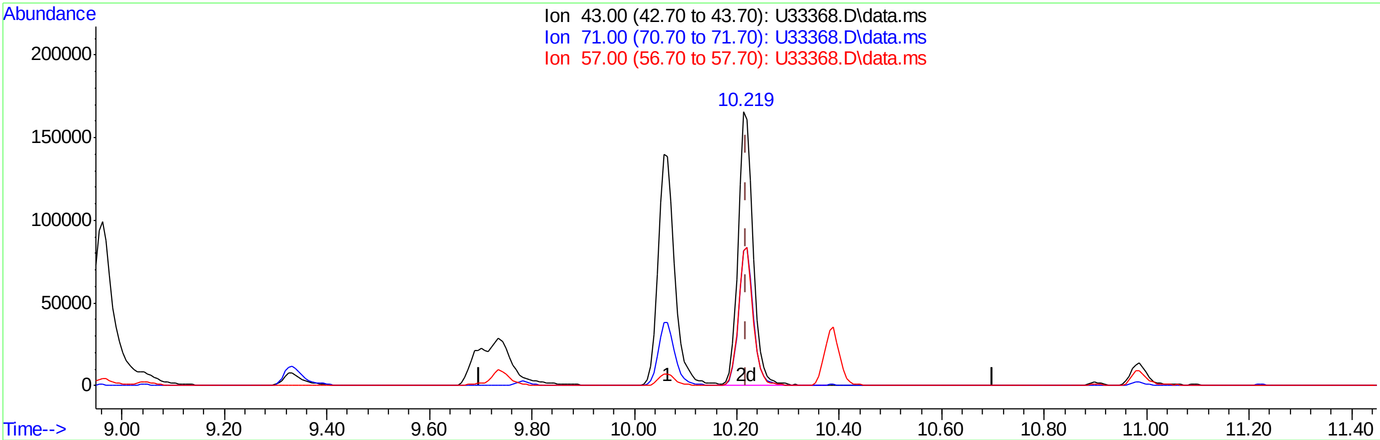
10.065min (-0.154) 45.77 ppb

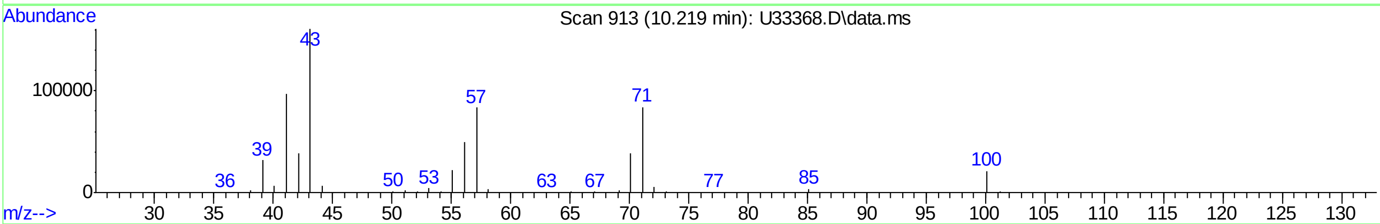
response 326701

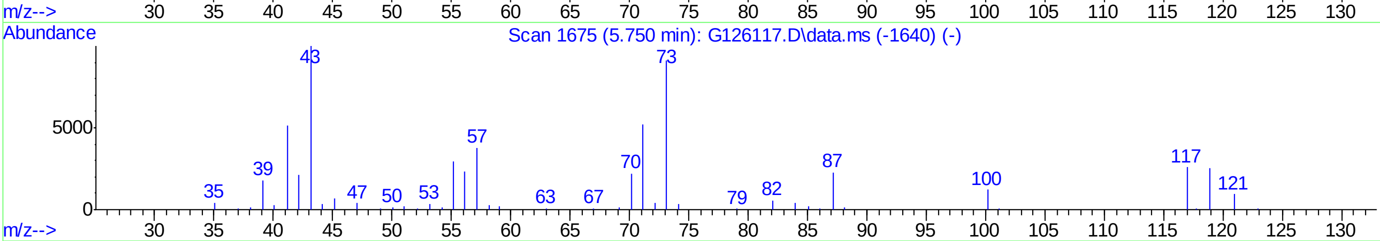
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	27.51
57.00	5.80	5.31
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:40:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```







TIC: U33368.D\data.ms

(50) heptane (P)

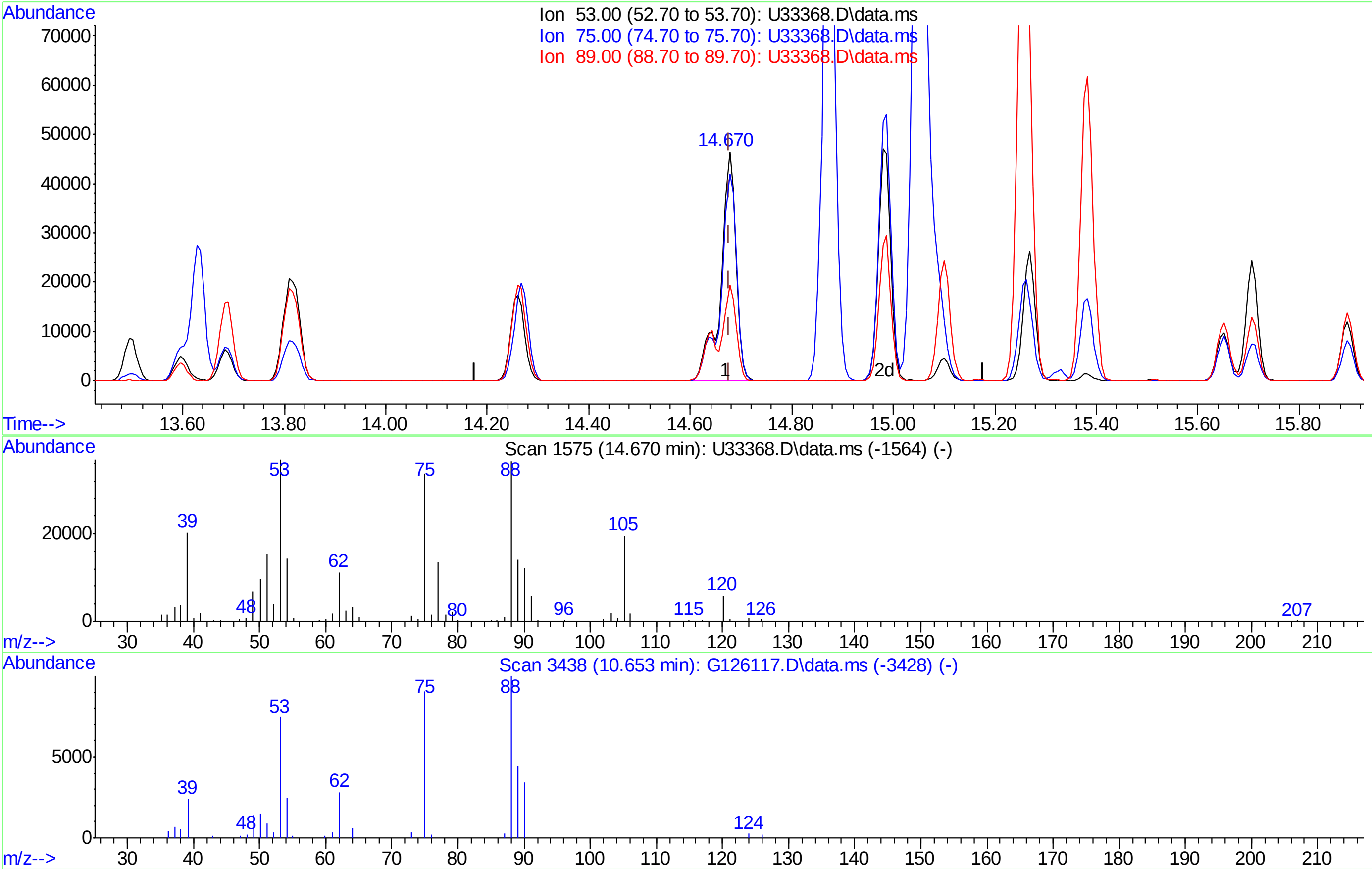
10.219min (+ 0.000) 47.60 ppb m

response 339727

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	52.17
57.00	5.80	52.03#
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:40:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33368.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

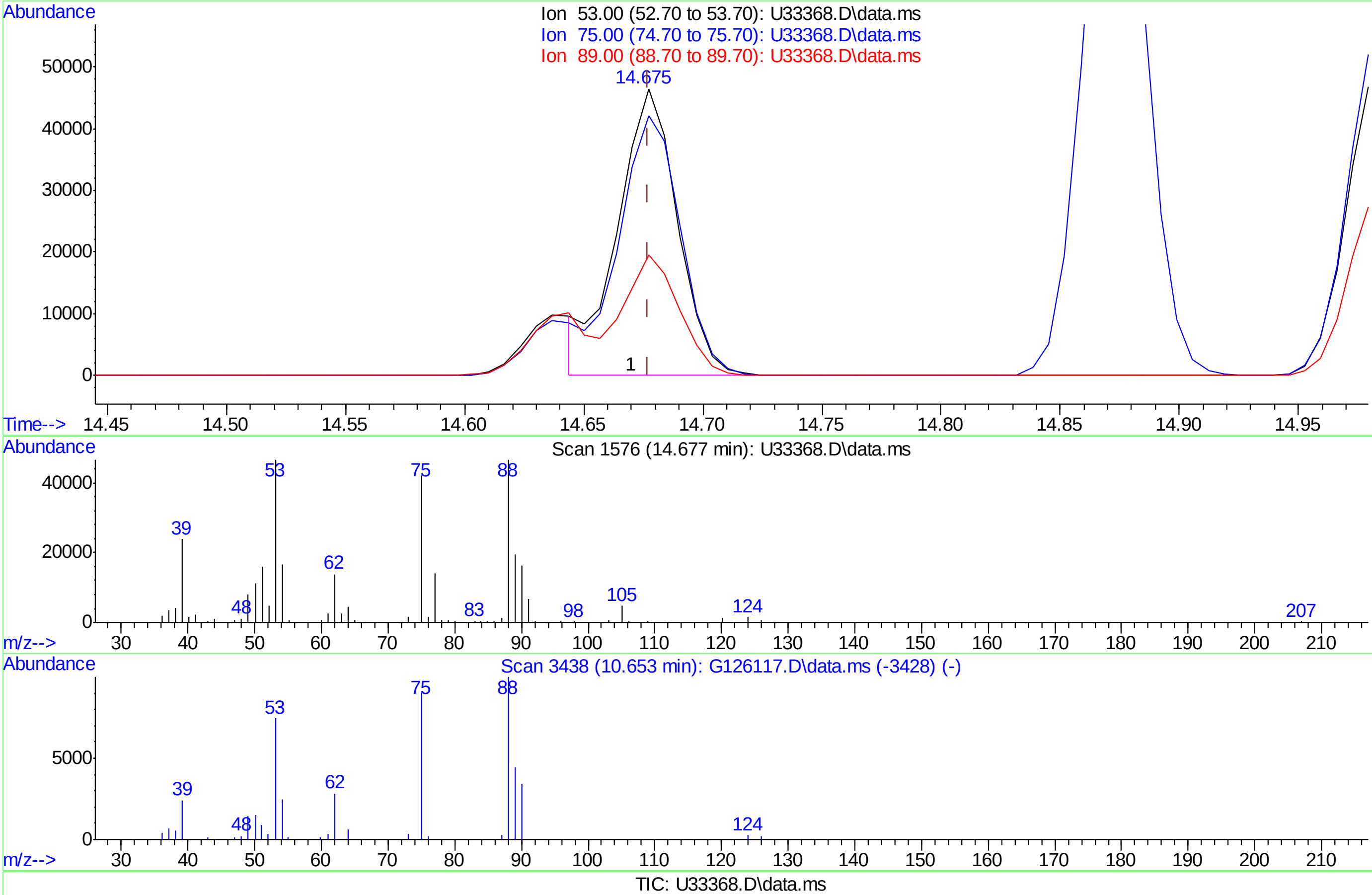
14.670min (-0.007) 56.76 ppb

response 95064

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	91.46#
89.00	64.60	38.11
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:40:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(79) trans-1,4-dichloro-2-butene (P)

14.677min (+ 0.000) 48.40 ppb m

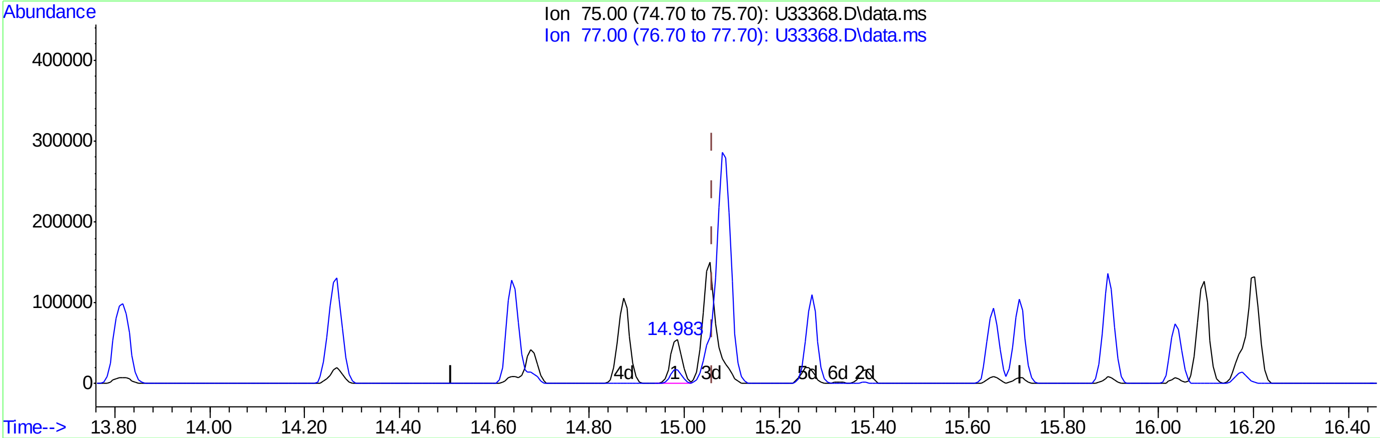
response 81075

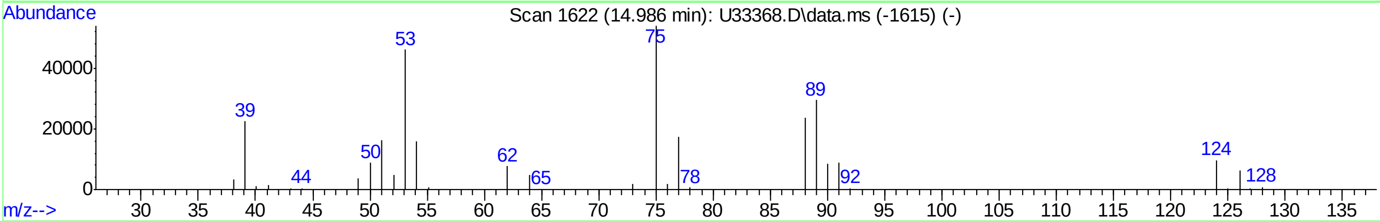
Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	90.41#
89.00	64.60	41.99
0.00	0.00	0.00

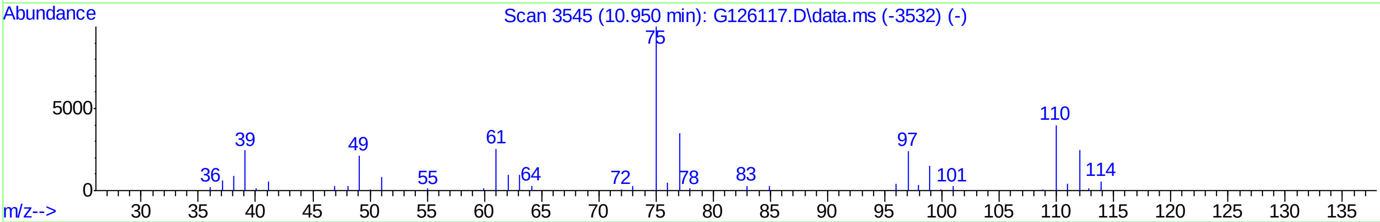
Quantitation Report (Qedit)

Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On : 28 Oct 2015 9:15 pm
Operator : andrewd1
Sample : mc42178-3ms
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 29 08:40:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration







TIC: U33368.D\data.ms

(85) 1,2,3-trichloropropane (P)

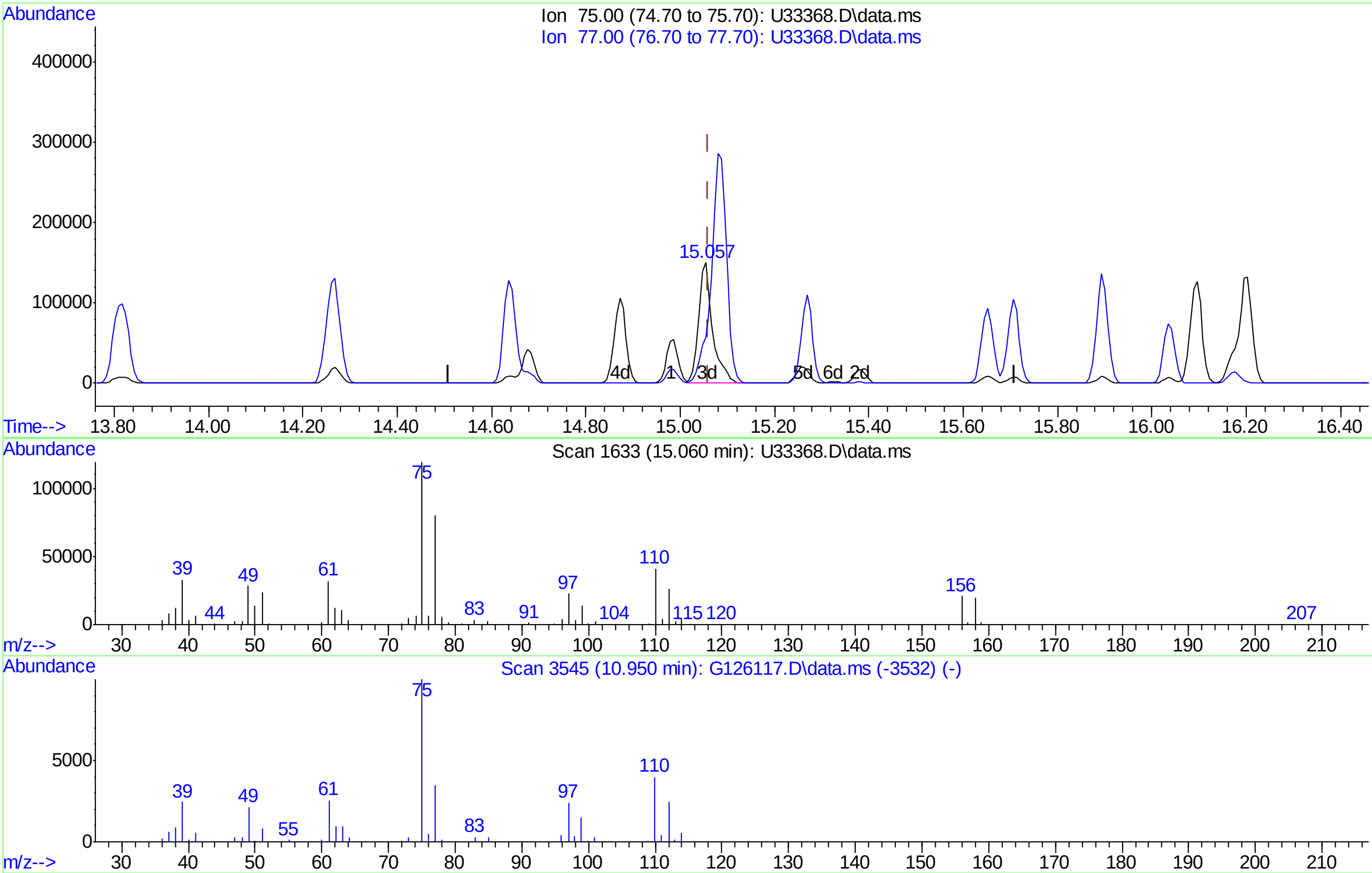
14.983min (-0.077) 15.23 ppb

response 93770

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	31.93
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33368.D
Acq On    : 28 Oct 2015   9:15 pm
Operator  : andrewd1
Sample    : mc42178-3ms
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 29 08:40:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

TIC: U33368.D\data.ms

(85) 1,2,3-trichloropropane (P)

15.060min (+ 0.000) 50.63 ppb m

response 311722

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	66.81#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 14:38

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On : 28 Oct 2015 9:42 pm
Operator : andrewd1
Sample : mc42178-3msd
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 29 08:43:46 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.585	65	314562	500.00	ppb	0.12
4) pentafluorobenzene	9.495	168	464160	50.00	ppb	0.00
43) 1,4-difluorobenzene	10.388	114	773559	50.00	ppb	0.00
66) chlorobenzene-d5	13.595	82	432631	50.00	ppb	0.00
80) 1,4-dichlorobenzene-d4	16.173	152	529180	50.00	ppb	0.00

System Monitoring Compounds

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
40) dibromofluoromethane (s)	9.561	113	302326	52.65	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 105.30%			
60) toluene-d8 (s)	11.993	98	911528	49.21	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.42%			
82) bromofluorobenzene (s)	14.874	95	405456	49.52	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.04%			

Target Compounds

Compound	R.T.	QIon	Response	Conc	Units		Qvalue
2) tertiary butyl alcohol	7.680	59	344074	540.72	ppb		61
5) dichlorodifluoromethane	4.366	85	496747	48.98	ppb		98
6) chloromethane	4.739	50	295305	53.41	ppb		99
7) vinyl chloride	4.988	62	408828	55.48	ppb		99
8) bromomethane	5.596	96	232981	54.69	ppb		99
9) chloroethane	5.751	64	205925	58.04	ppb		99
10) ethyl ether	6.516	59	225177	51.01	ppb		93
11) acetonitrile	7.369	41	480750	51.93	ppb	#	14
12) trichlorofluoromethane	6.179	101	589656	53.93	ppb		98
13) freon-113	6.900	101	337362	49.64	ppb		97
15) 1,1-dichloroethene	6.910	96	256324	49.09	ppb		95
16) acetone	7.002	58	38270	56.42	ppb	#	84
17) Methyl Acetate	6.984	43	105960	47.31	ppb	#	68
18) methylene chloride	7.534	84	311587	50.49	ppb		86
19) methyl tert butyl ether	7.842	73	933566	57.49	ppb		92
20) acrylonitrile	7.828	53	146878	60.63	ppb		82
21) allyl chloride	7.369	41	480750	50.57	ppb		75
22) trans-1,2-dichloroethene	7.880	96	251498	46.07	ppb		90
23) iodomethane	7.161	142	503322	49.38	ppb		94
24) carbon disulfide	7.295	76	784206m	40.66	ppb		
25) propionitrile	8.482	54	19297	46.38	ppb		100
26) vinyl acetate	8.310	43	548283m	71.63	ppb		
27) chloroprene	8.484	53	433919	47.62	ppb		94
28) di-isopropyl ether	8.348	45	1020992	54.71	ppb		96
29) methacrylonitrile	9.230	41	209248	57.18	ppb		93
30) 2-butanone	9.005	72	43668	64.10	ppb	#	1
32) Hexane	8.176	41	244173	40.43	ppb	#	67
33) 1,1-dichloroethane	8.400	63	533119	49.66	ppb		97
34) tert-butyl ethyl ether	8.767	59	977791	52.64	ppb		92
35) isobutyl alcohol	8.766	43	104725	248.09	ppb	#	72
36) 2,2-dichloropropane	9.075	77	407038	46.61	ppb		96
37) cis-1,2-dichloroethene	9.039	96	330272	54.49	ppb		95
38) bromochloromethane	9.321	128	168323	57.39	ppb	#	76
39) chloroform	9.380	83	564992	52.73	ppb		96

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On : 28 Oct 2015 9:42 pm
Operator : andrewd1
Sample : mc42178-3msd
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 29 08:43:46 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) Tetrahydrofuran	9.363	42	116343	60.53 ppb	73
42) 1,1,1-trichloroethane	9.637	97	500635	52.49 ppb	99
44) Cyclohexane	9.745	56	503559	43.13 ppb #	91
45) carbon tetrachloride	9.820	117	416129	49.80 ppb	99
46) 1,1-dichloropropene	9.785	75	382303	49.27 ppb	99
47) benzene	10.025	78	1050154	50.23 ppb	99
48) 1,2-dichloroethane	10.050	62	461509	53.00 ppb	99
49) tert-amyl methyl ether	10.067	73	910604	51.71 ppb	96
50) heptane	10.219	43	364982m	48.50 ppb	
51) trichloroethene	10.692	95	279970	51.27 ppb	93
52) 1,2-dichloropropane	10.983	63	285624	53.73 ppb	99
53) dibromomethane	11.094	93	190799	53.91 ppb	95
54) bromodichloromethane	11.227	83	392616	52.20 ppb	95
55) Methylcyclohexane	10.987	83	471917	47.08 ppb	89
56) 2-chloroethyl vinyl ether	11.676	63	2240	2.03 ppb	49
57) methyl methacrylate	10.903	69	168568	56.18 ppb	90
59) cis-1,3-dichloropropene	11.677	75	402413	52.57 ppb	99
61) 4-methyl-2-pentanone	11.764	43	379277	64.96 ppb	96
62) toluene	12.070	92	587319	51.23 ppb	97
63) trans-1,3-dichloropropene	12.250	75	328019	51.90 ppb	92
64) 1,1,2-trichloroethane	12.490	83	194449	55.01 ppb	98
65) ethyl methacrylate	12.216	69	329755	59.68 ppb	83
67) tetrachloroethene	12.646	166	267024	53.63 ppb	97
68) 1,3-dichloropropane	12.683	76	379200	57.70 ppb	95
69) dibromochloromethane	12.952	129	260619	54.56 ppb	97
70) 1,2-dibromoethane	13.129	107	232275	55.51 ppb	96
71) 2-hexanone	12.640	43	245877	66.83 ppb #	16
72) chlorobenzene	13.632	112	674709	51.78 ppb	98
73) 1,1,1,2-tetrachloroethane	13.698	131	308614	54.84 ppb	97
74) ethylbenzene	13.686	91	1197047	51.31 ppb	98
75) m,p-xylene	13.815	106	909430	101.49 ppb	97
76) o-xylene	14.258	106	513900	51.58 ppb	99
77) styrene	14.271	104	728783	49.04 ppb	90
78) bromoform	14.545	173	180932	50.00 ppb	100
79) trans-1,4-dichloro-2-b...	14.677	53	98819m	52.81 ppb	
81) isopropylbenzene	14.639	105	1441975	55.43 ppb	100
83) bromobenzene	15.085	156	352003	52.93 ppb	96
84) 1,1,2,2-tetrachloroethane	14.946	83	402730	63.61 ppb	99
85) 1,2,3-trichloropropane	15.057	75	365757	57.32 ppb	47
86) n-propylbenzene	15.100	91	1629730	52.35 ppb	99
87) 2-chlorotoluene	15.259	91	1186411	52.94 ppb	96
88) 4-chlorotoluene	15.382	91	1001268	50.69 ppb	98
89) 1,3,5-trimethylbenzene	15.270	105	1404621	58.48 ppb	98
90) tert-butylbenzene	15.651	91	852650	56.87 ppb	100
91) 1,2,4-trimethylbenzene	15.707	105	1408225	53.56 ppb	98
92) sec-butylbenzene	15.895	105	1814284	57.84 ppb	98
93) 1,3-dichlorobenzene	16.096	146	757804	51.20 ppb	98
94) p-isopropyltoluene	16.038	119	1569880	57.11 ppb	99
95) 1,4-dichlorobenzene	16.202	146	779192	51.73 ppb	99
96) 1,2-dichlorobenzene	16.616	146	864690	53.79 ppb	96

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On : 28 Oct 2015 9:42 pm
Operator : andrewd1
Sample : mc42178-3msd
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 29 08:43:46 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
97) n-butylbenzene	16.493	91	1565949	54.43 ppb	99
98) 1,2-dibromo-3-chloropr...	17.460	75	100019	60.80 ppb	92
99) 1,3,5-trichlorobenzene	17.656	180	803413	54.09 ppb	97
100) 1,2,4-trichlorobenzene	18.368	180	795924	58.36 ppb	98
101) hexachlorobutadiene	18.483	225	363083	55.97 ppb	97
102) naphthalene	18.712	128	1700335	58.00 ppb	100
103) 2-Methylnaphthalene	20.107	142	511483	33.42 ppb	97
104) 1-Methylnaphthalene	20.372	142	389416	34.72 ppb	98
105) 1,2,3-trichlorobenzene	18.958	180	733507	60.97 ppb	98

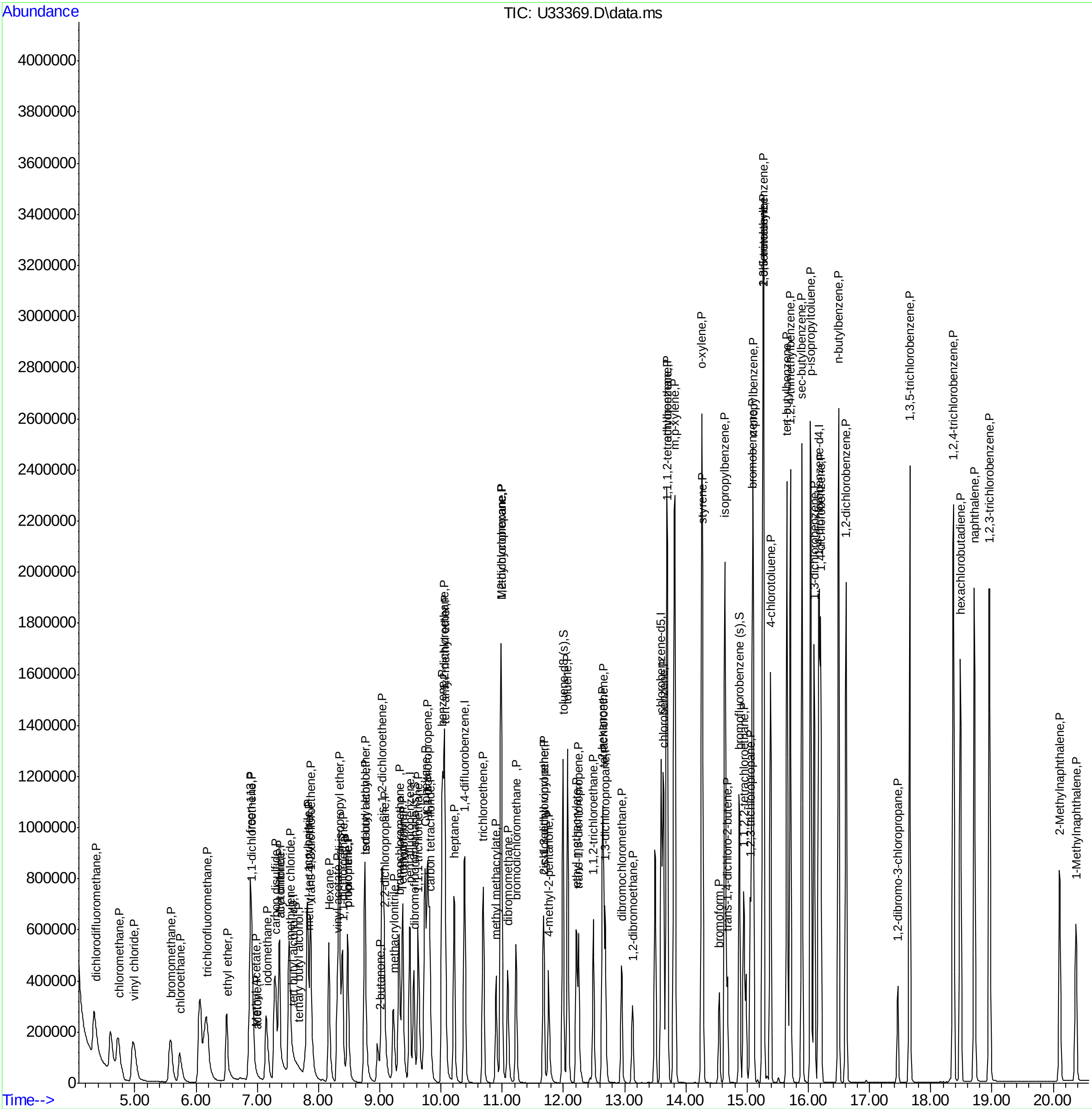
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.4.2

7

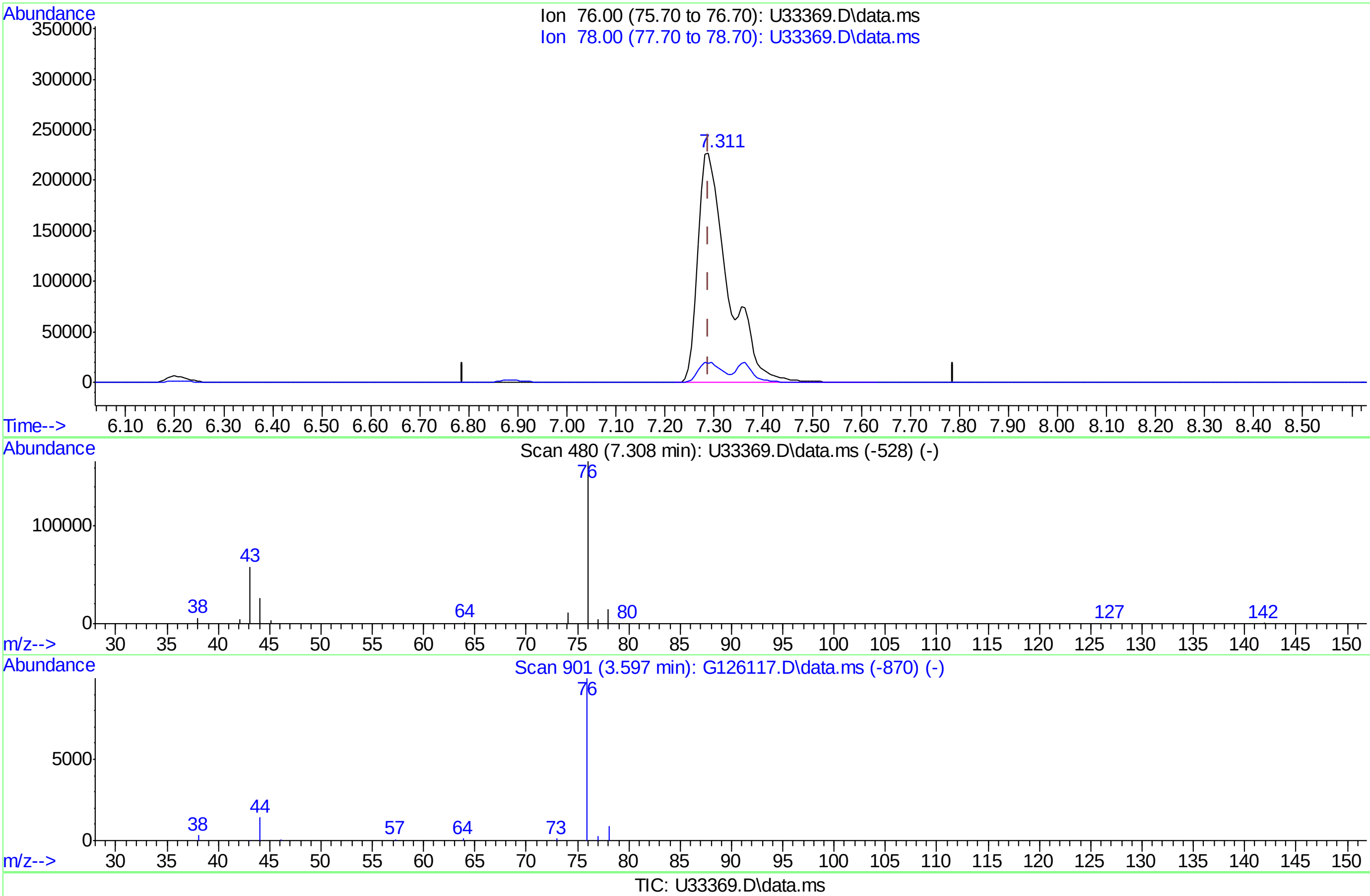
Quantitation Report   (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On    : 28 Oct 2015   9:42 pm
Operator  : andrewd1
Sample    : mc42178-3msd
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 15   Sample Multiplier: 1

Quant Time: Oct 29 08:43:46 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On    : 28 Oct 2015   9:42 pm
Operator  : andrewd1
Sample    : mc42178-3msd
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 15   Sample Multiplier: 1

Quant Time: Oct 29 08:42:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(24) carbon disulfide (P)

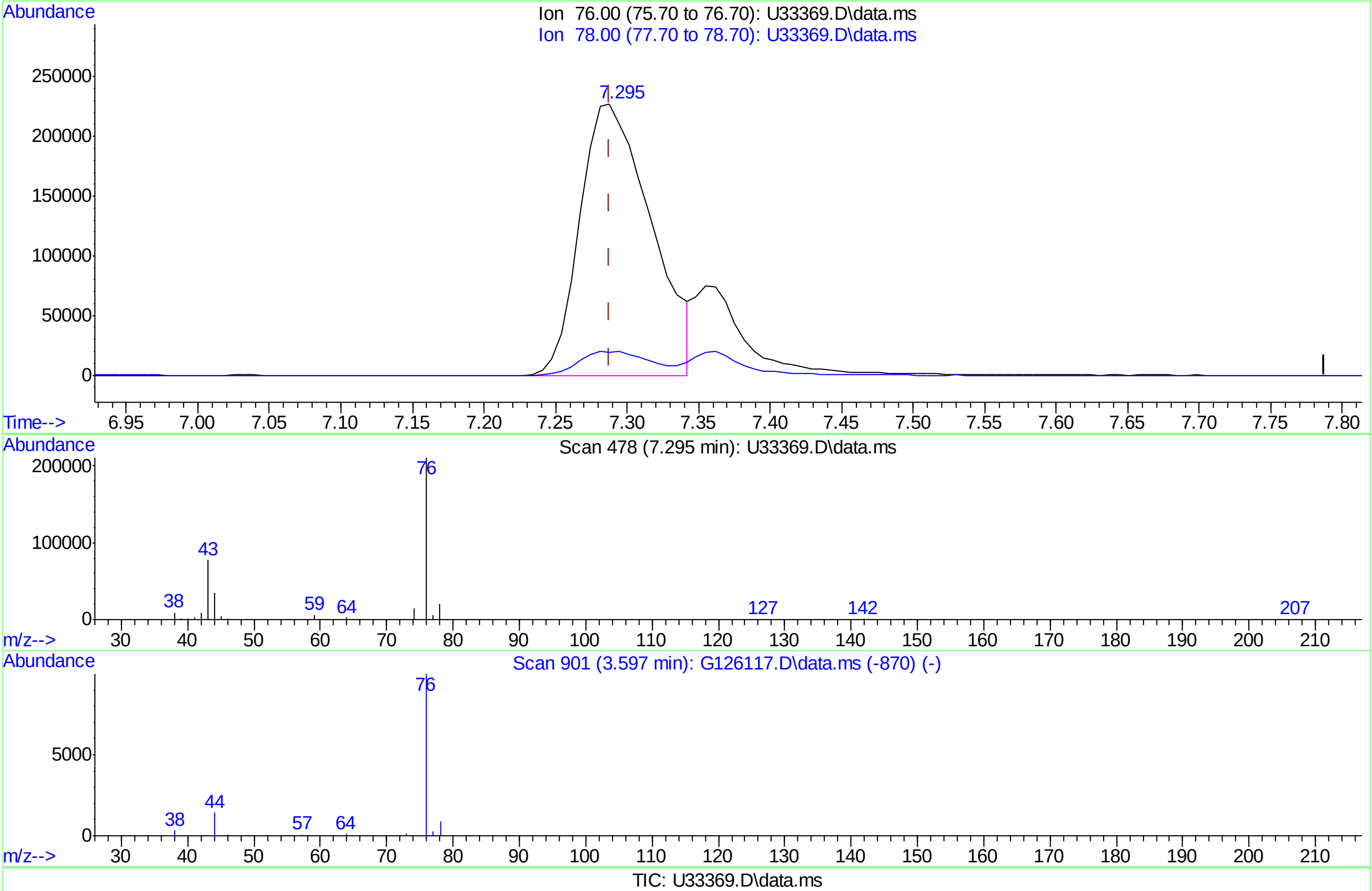
7.311min (+ 0.023) 50.41 ppb

response 972122

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.16
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On    : 28 Oct 2015   9:42 pm
Operator  : andrewd1
Sample    : mc42178-3msd
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 15   Sample Multiplier: 1

Quant Time: Oct 29 08:42:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

(24) carbon disulfide (P)

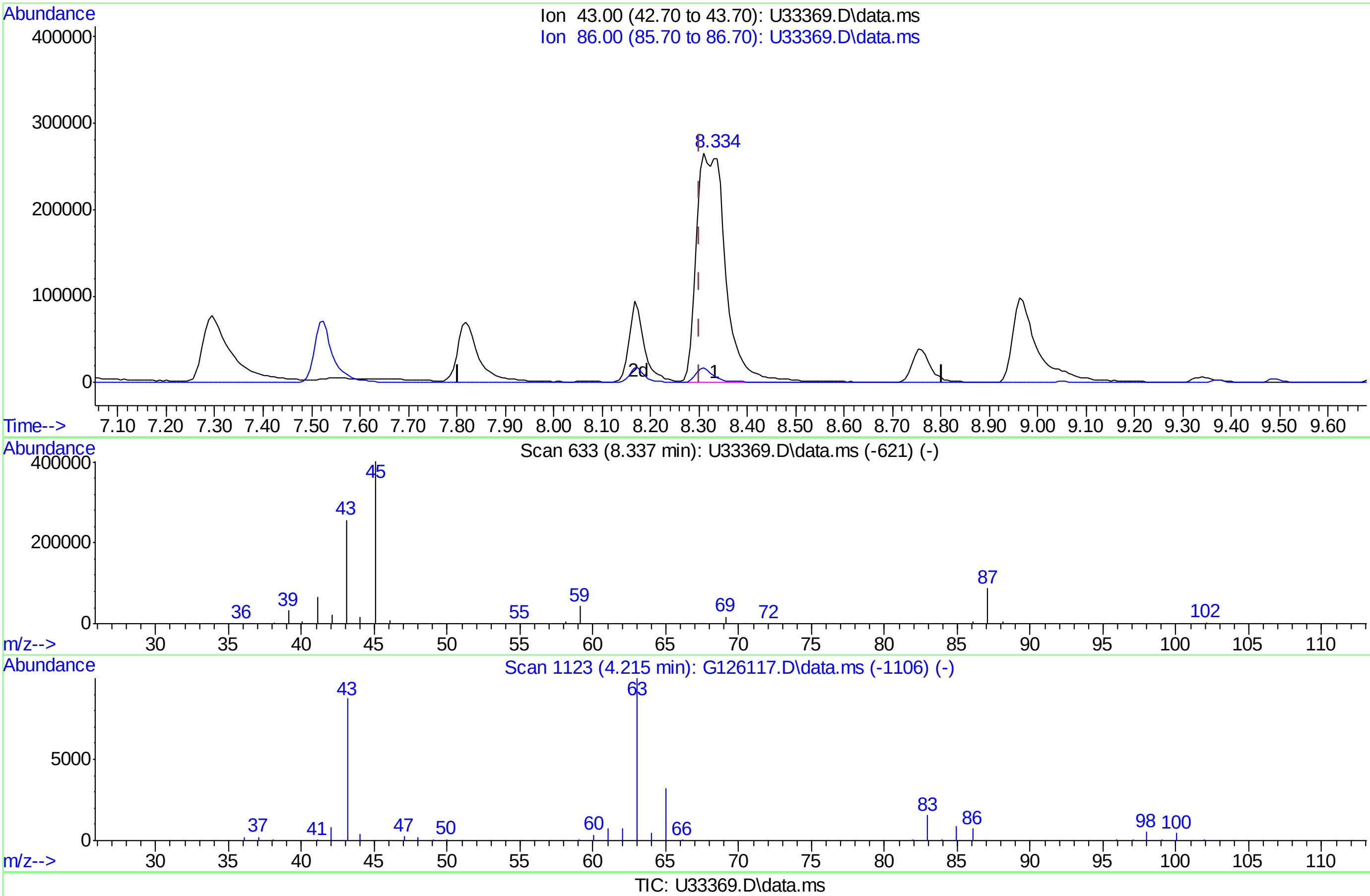
7.295min (+ 0.007) 40.66 ppb m

response 784206

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.43
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On    : 28 Oct 2015   9:42 pm
Operator  : andrewd1
Sample    : mc42178-3msd
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 15   Sample Multiplier: 1

Quant Time: Oct 29 08:42:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(26) vinyl acetate (P)

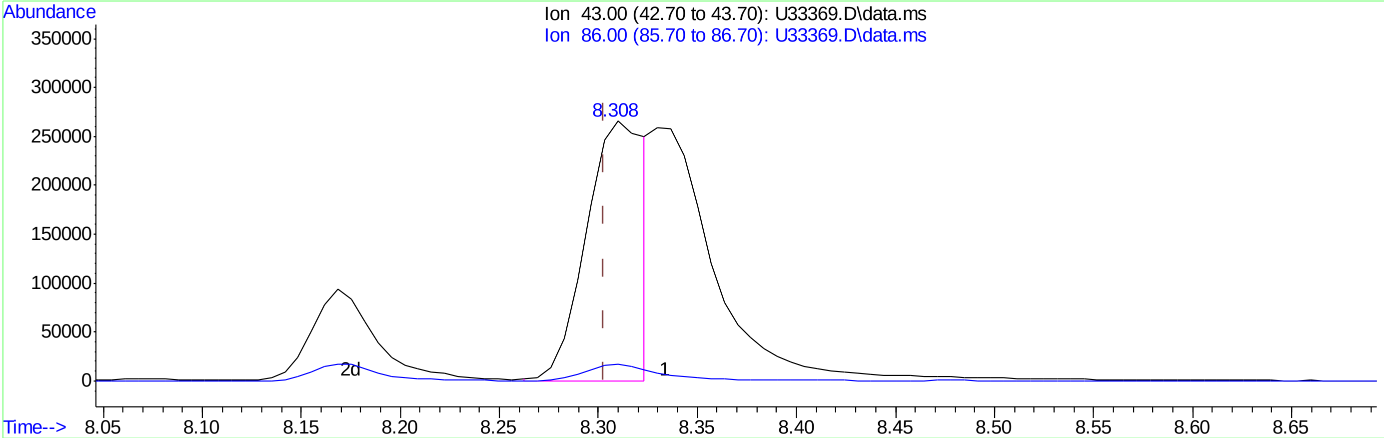
8.334min (+ 0.031) 147.53 ppb

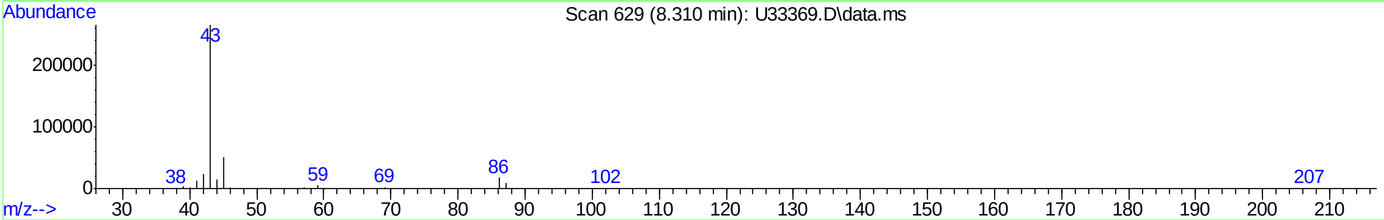
response 1129213

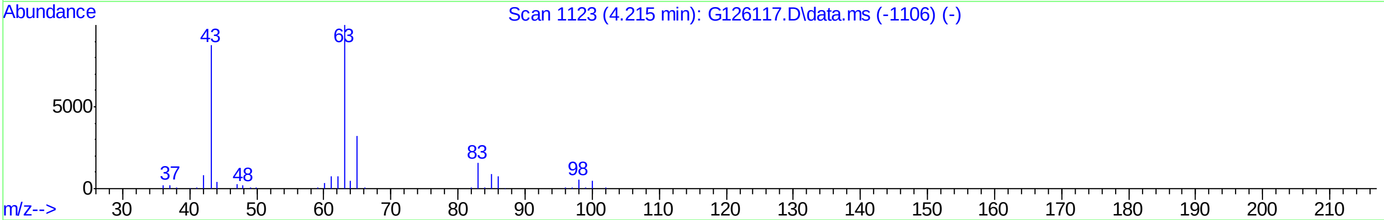
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On    : 28 Oct 2015   9:42 pm
Operator  : andrewd1
Sample    : mc42178-3msd
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 15   Sample Multiplier: 1

Quant Time: Oct 29 08:42:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```





TIC: U33369.D\data.ms

(26) vinyl acetate (P)

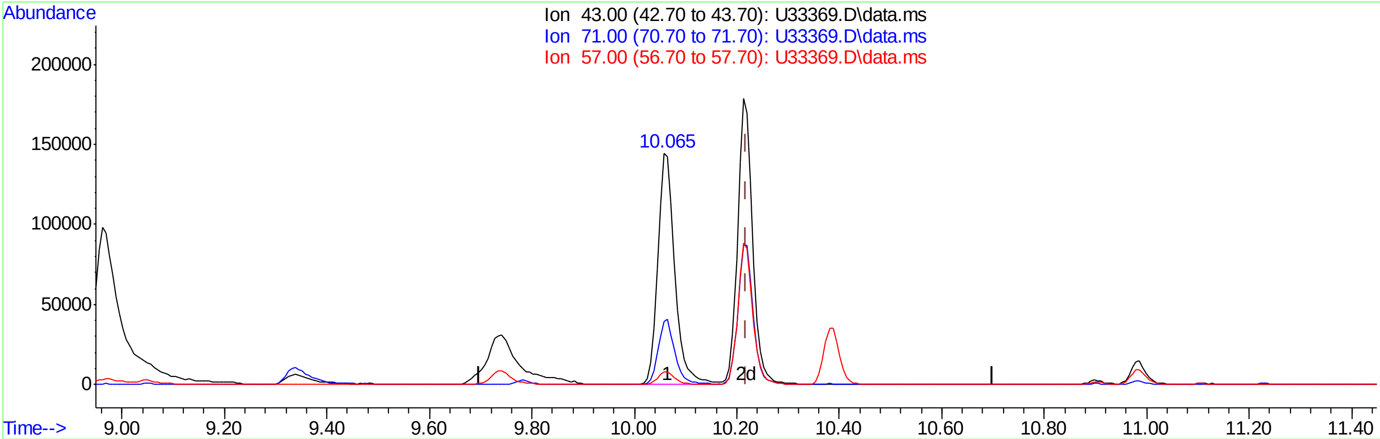
8.310min (+ 0.007) 71.63 ppb m

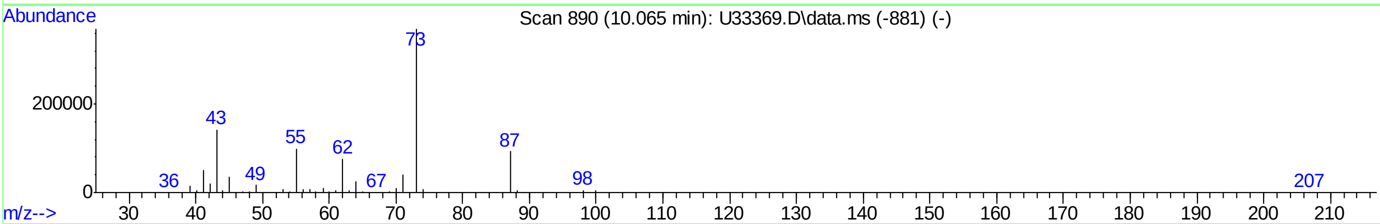
response 548283

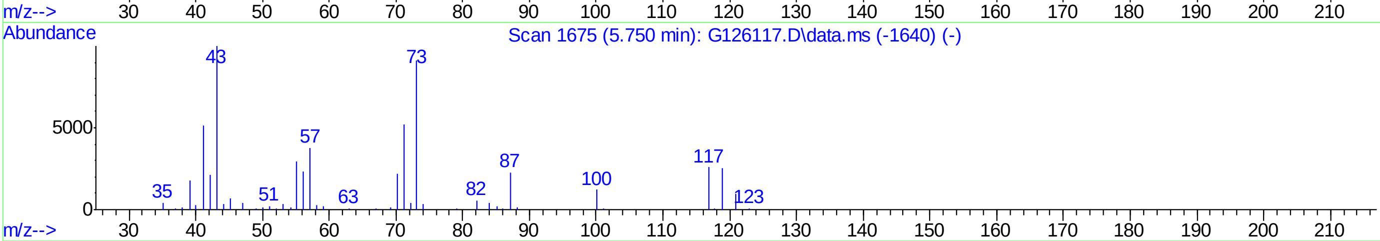
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On    : 28 Oct 2015   9:42 pm
Operator  : andrewd1
Sample    : mc42178-3msd
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 15   Sample Multiplier: 1

Quant Time: Oct 29 08:42:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```





TIC: U33369.D\data.ms

(50) heptane (P)

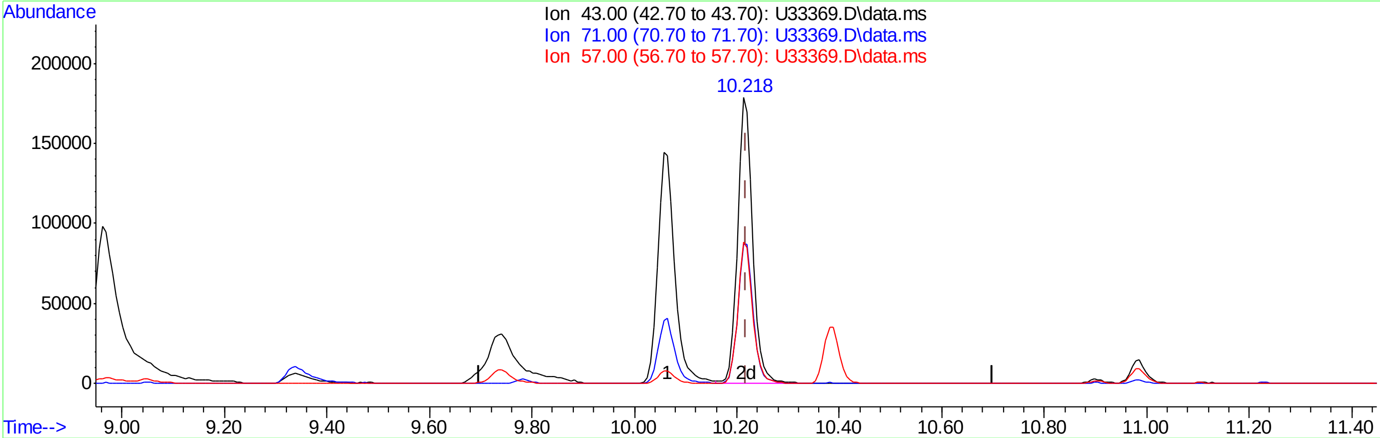
10.065min (-0.154) 45.24 ppb

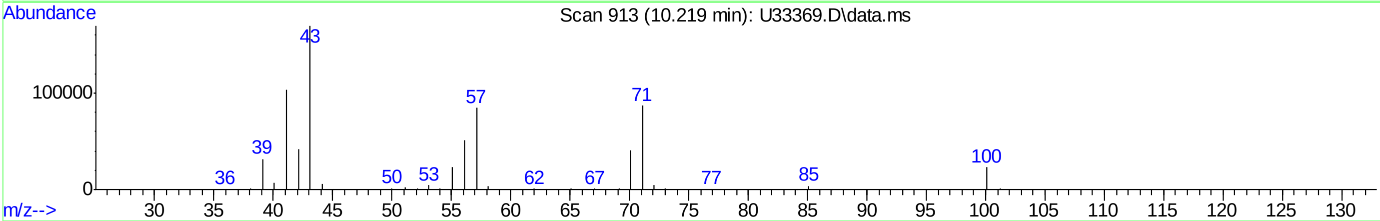
response 340420

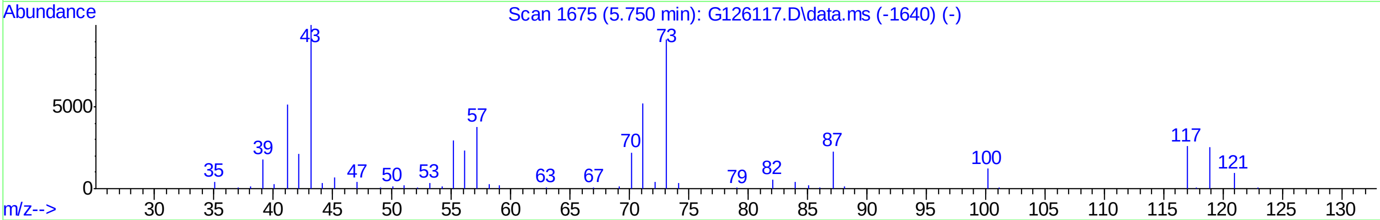
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	28.77
57.00	5.80	5.83
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On    : 28 Oct 2015   9:42 pm
Operator  : andrewd1
Sample    : mc42178-3msd
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 15   Sample Multiplier: 1

Quant Time: Oct 29 08:42:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```





TIC: U33369.D\data.ms

(50) heptane (P)

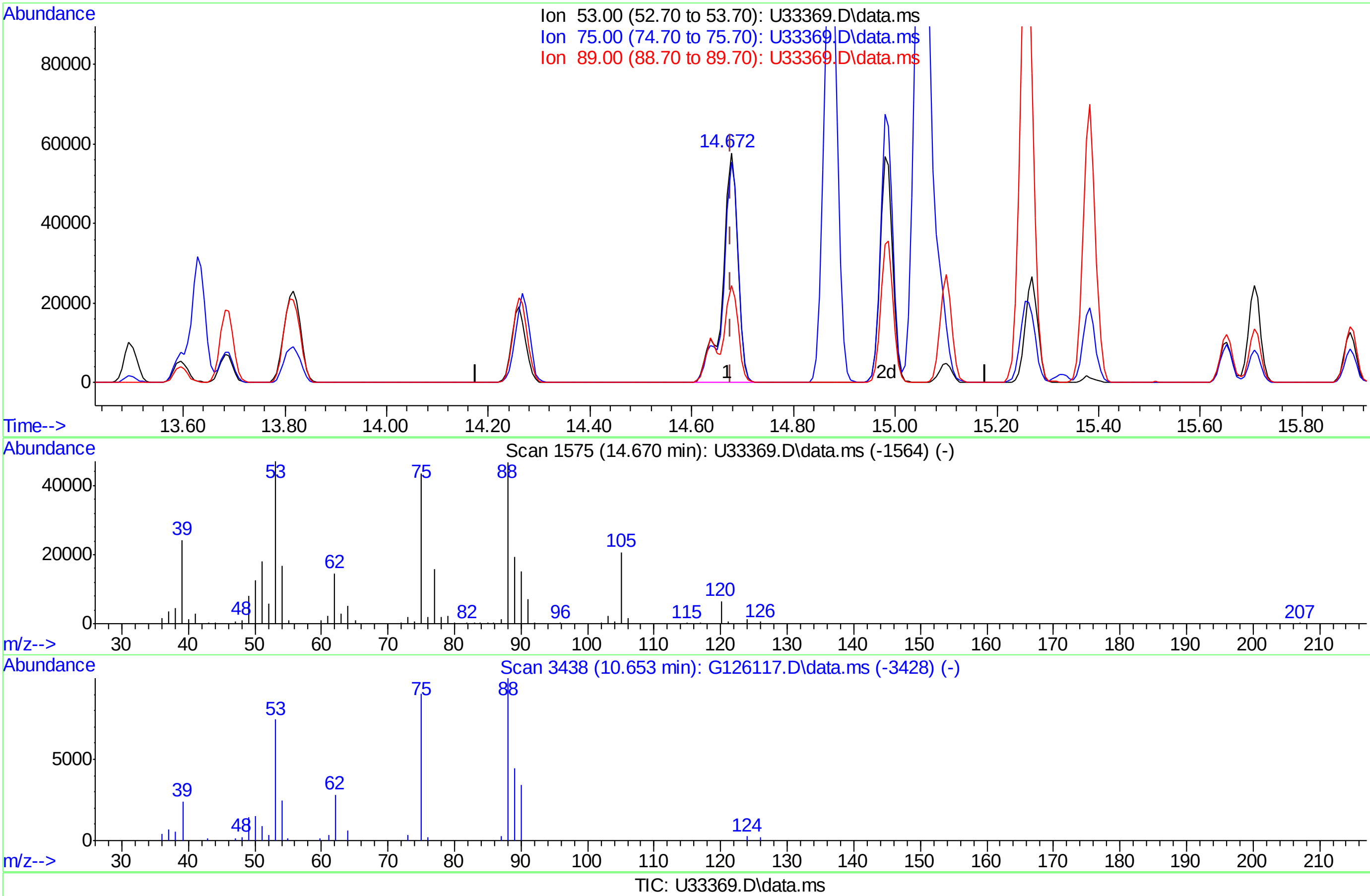
10.219min (+ 0.000) 48.50 ppb m

response 364982

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	51.15
57.00	5.80	49.94#
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On    : 28 Oct 2015   9:42 pm
Operator  : andrewd1
Sample    : mc42178-3msd
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 15   Sample Multiplier: 1

Quant Time: Oct 29 08:42:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

(79) **trans-1,4-dichloro-2-butene (P)**

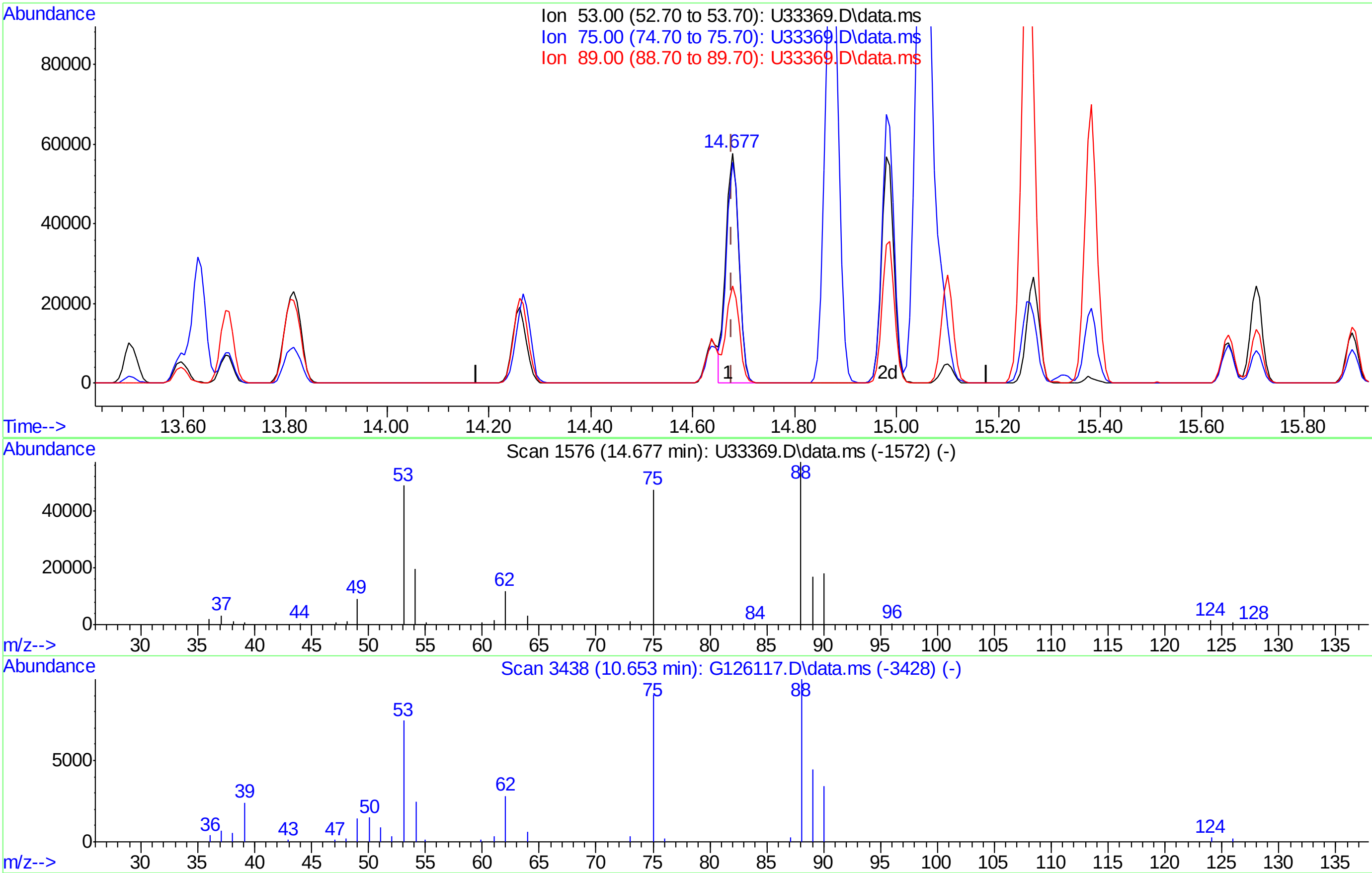
14.672min (-0.005) 62.69 ppb

response 117310

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	92.45#
89.00	64.60	41.32
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33369.D
Acq On    : 28 Oct 2015   9:42 pm
Operator  : andrewd1
Sample    : mc42178-3msd
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 15   Sample Multiplier: 1

Quant Time: Oct 29 08:42:15 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33369.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

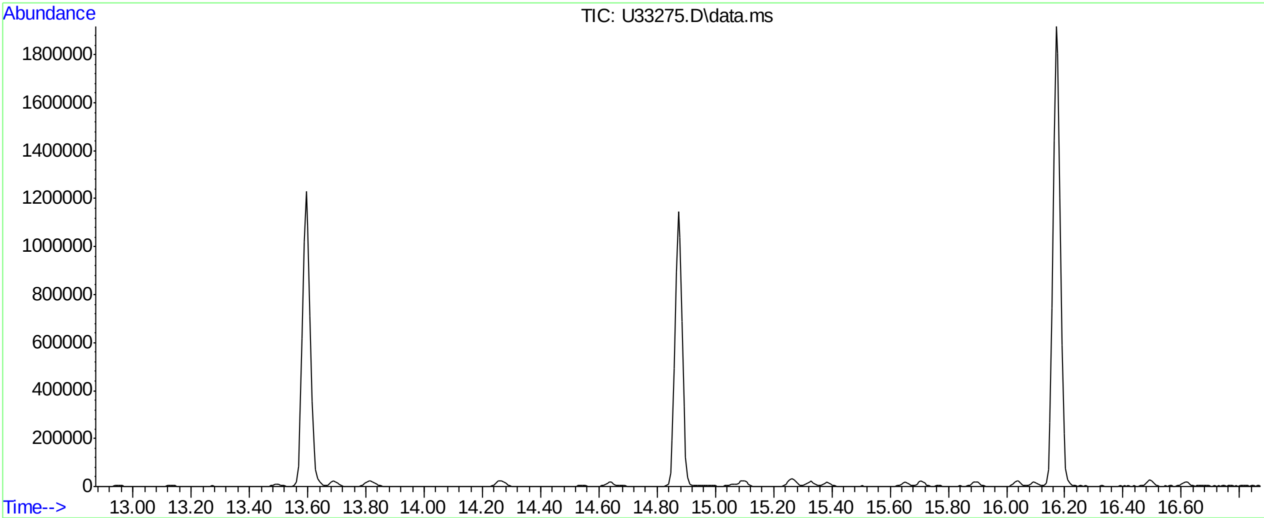
14.677min (0.000) 52.81 ppb m

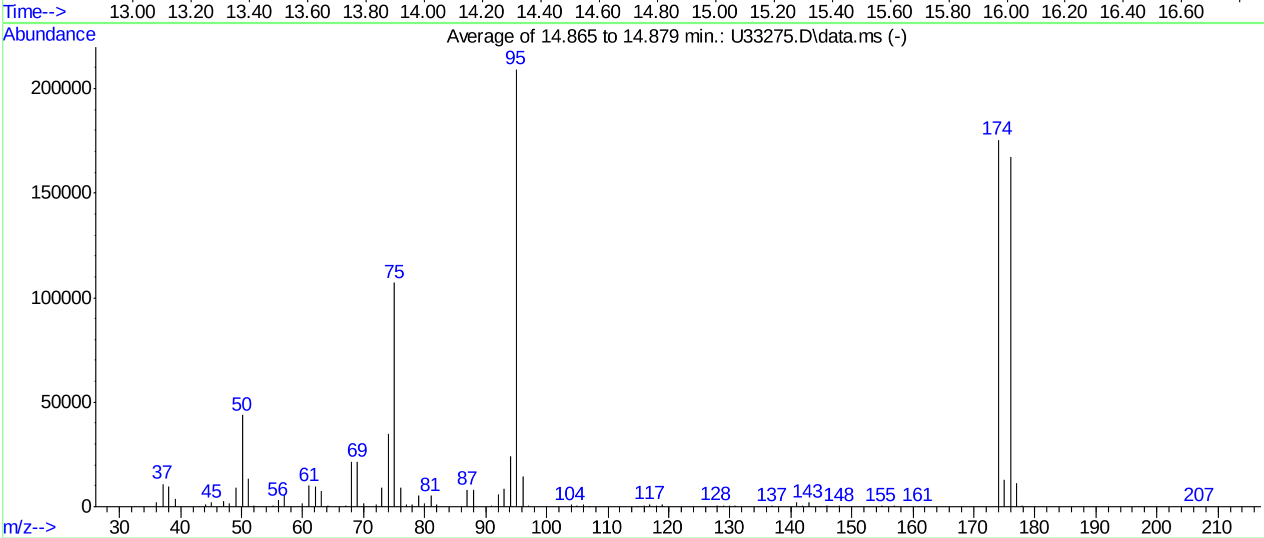
response 98819

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	96.18#
89.00	64.60	42.22
0.00	0.00	0.00

SW-846 Method 8260

```
Data File : R:\1\data\U151026\U33275.D              Vial: 5
Acq On    : 26 Oct 2015   6:12 pm               Operator: andrewd1
Sample    : bfb                                 Inst    : MSU
Misc      : ms34382,msu1360,,,,5,1              Multiplr: 1.00
MS Integration Params: RTEINT.P

Method    : R:\1\methods\U151027.m (RTE Integrator)
Title     : SW-846 Method 8260
```





Spectrum Information: Average of 14.865 to 14.879 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.9	43851	PASS
75	95	30	60	51.2	107181	PASS
95	95	100	100	100.0	209387	PASS
96	95	5	9	6.8	14330	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	150	83.8	175552	PASS
175	174	5	9	7.3	12789	PASS
176	174	95	101	95.4	167403	PASS
177	176	5	9	6.6	11035	PASS

U33275.D   U151027.m   Tue Oct 27 10:37:34 2015

Average of 14.865 to 14.879 min.: U33275.D\data.ms
ic1360-0.5
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	2096	50.10	43851	64.05	644	78.00	830
37.10	10946	51.10	13209	67.10	464	79.00	5288
38.10	9554	52.05	705	68.00	21205	80.00	1534
39.10	3726	55.05	571	69.00	21717	81.00	5256
41.00	81	56.00	2990	70.05	1577	81.95	1042
43.00	157	57.05	5755	72.00	976	86.05	180
44.05	1015	58.05	202	73.00	8973	87.00	8248
45.05	1988	60.00	1895	74.00	34896	88.00	8194
47.05	2850	61.05	9982	75.05	107181	90.95	796
48.05	1438	62.05	9515	76.10	9167	92.00	5729
49.10	9133	63.05	7334	77.05	1331	93.00	8864

Average of 14.865 to 14.879 min.: U33275.D\data.ms
ic1360-0.5
Modified:subtracted

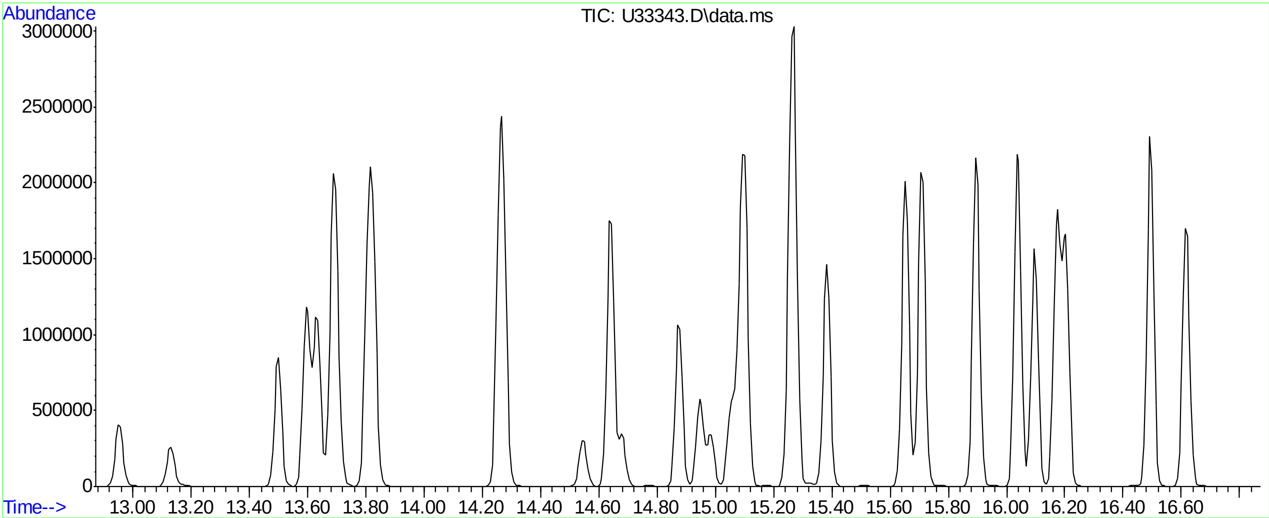
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
94.05	24213	117.90	792	144.90	85	174.00	175552
95.00	209387	118.95	979	145.90	307	175.00	12789
96.10	14330	127.90	747	147.00	80	176.00	167403
97.05	455	128.95	353	147.95	478	177.00	11035
103.95	912	129.95	746	148.90	69	177.95	316
104.95	322	130.90	325	150.00	83	207.05	275
105.95	845	134.80	239	152.90	69		
107.00	166	136.95	367	154.90	538		
114.90	176	140.95	2027	156.95	364		
115.90	605	141.90	324	158.90	206		
116.95	1115	142.90	2122	160.90	211		

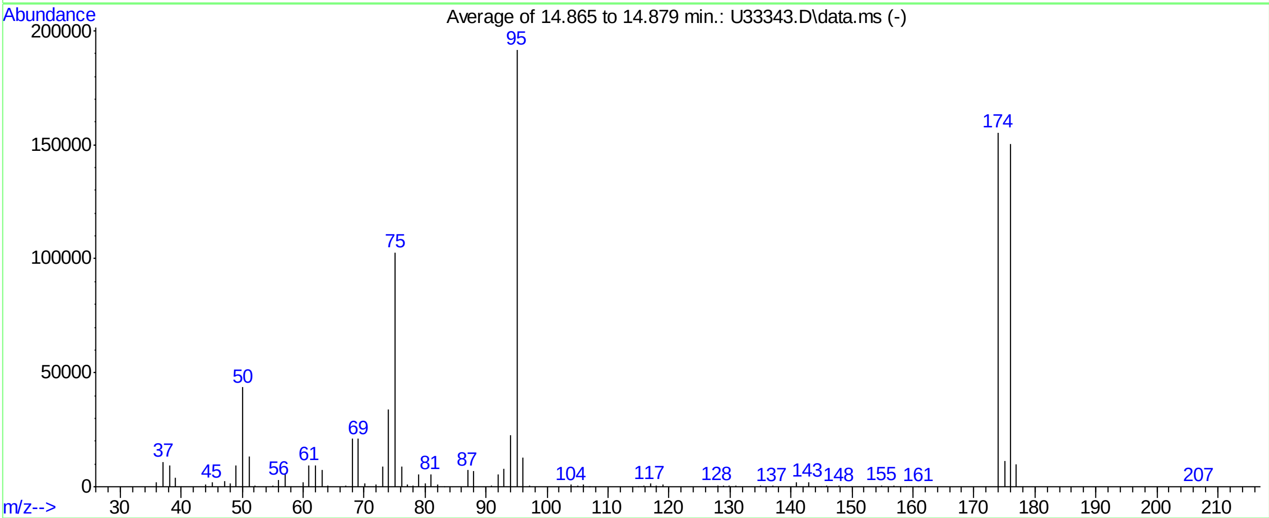
U151027.m Tue Oct 27 10:22:17 2015 Page: 0

SW-846 Method 8260

Data File : R:\1\data\U151028\U33343.D Vial: 1
Acq On : 28 Oct 2015 9:56 am Operator: andrewd1
Sample : bfb Inst : MSU
Misc : ms35520,msu1363,,,,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : R:\1\methods\U151027.m (RTE Integrator)
Title : SW-846 Method 8260





Spectrum Information: Average of 14.865 to 14.879 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.8	43699	PASS
75	95	30	60	53.6	102800	PASS
95	95	100	100	100.0	191808	PASS
96	95	5	9	6.8	13016	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	150	81.0	155411	PASS
175	174	5	9	7.4	11437	PASS
176	174	95	101	96.8	150395	PASS
177	176	5	9	6.7	10078	PASS

U33343.D U151027.m Thu Oct 29 09:56:37 2015

Average of 14.865 to 14.879 min.: U33343.D\data.ms
cc1360-50
Modified:subtracted

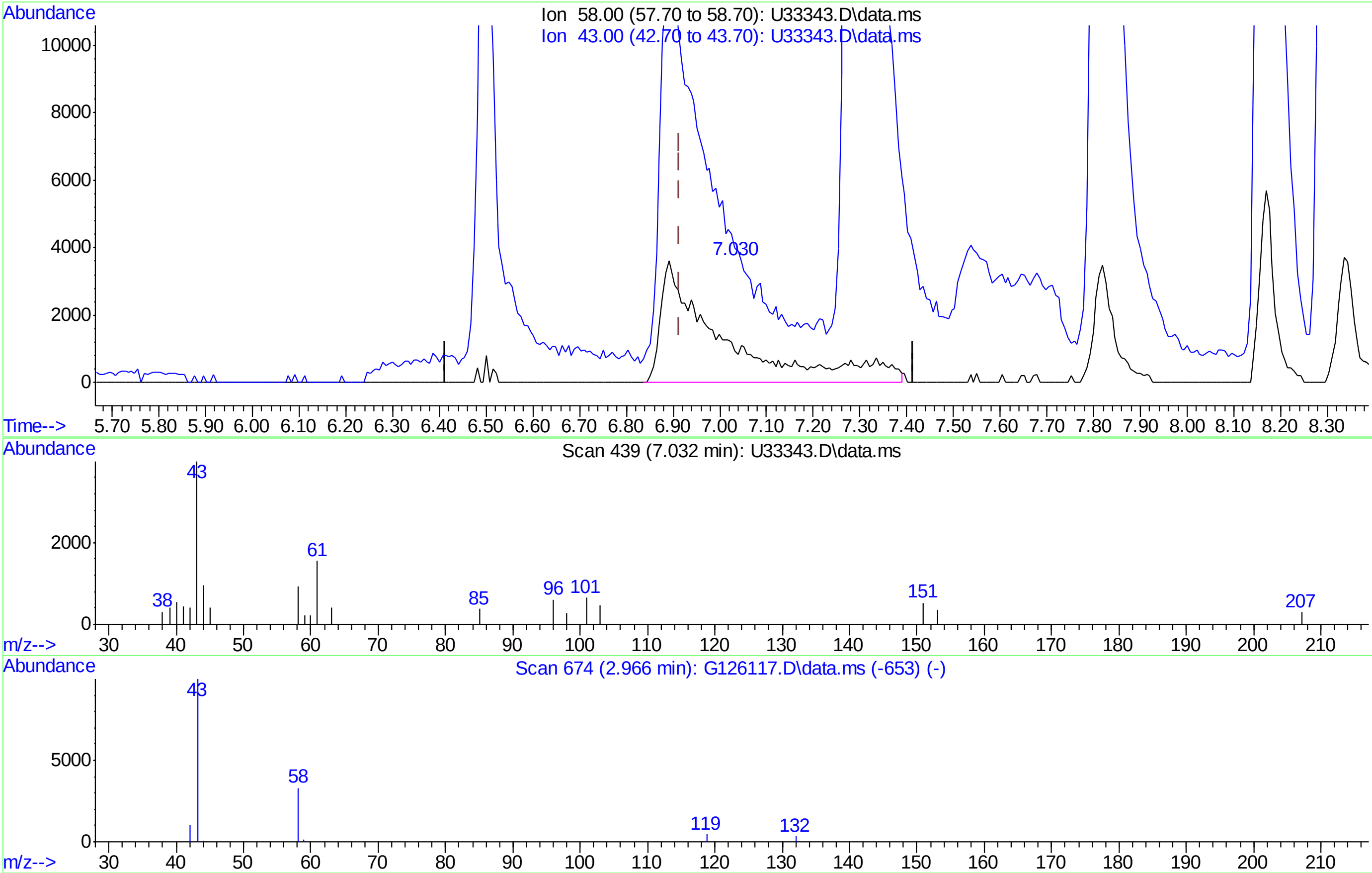
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	1950	51.10	13311	67.05	531	79.00	5284
37.10	10832	52.05	592	68.00	21011	80.00	1517
38.10	9426	55.05	586	69.05	21016	80.95	5557
39.10	3842	56.05	3054	70.05	1554	82.00	1202
40.00	8	57.10	5646	72.00	1149	83.10	84
44.00	1119	58.00	199	73.00	8871	87.00	7336
45.10	1912	60.05	1801	74.05	34024	88.00	7000
47.10	2441	61.00	9492	75.10	102800	90.95	736
48.05	1262	62.10	9194	76.10	8801	92.00	5342
49.05	9217	63.10	7333	77.05	997	93.00	8069
50.10	43699	64.10	713	78.05	695	94.05	22512

Average of 14.865 to 14.879 min.: U33343.D\data.ms
cc1360-50
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
95.10	191808	117.90	756	144.90	91	175.00	11437
96.10	13016	118.95	1001	145.90	274	176.00	150395
97.05	414	127.95	696	147.90	480	177.00	10078
103.95	809	128.95	344	148.90	72	177.95	254
104.95	288	129.95	680	149.90	160	207.00	45
105.95	799	130.95	356	154.95	521		
106.80	86	135.00	328	156.95	405		
107.00	71	136.95	384	158.90	192		
114.95	146	140.95	2146	160.95	239		
115.90	634	141.95	165	172.00	73		
116.95	1251	142.90	2151	174.00	155411		

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:24:22 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33343.D\data.ms

(16) acetone (P)

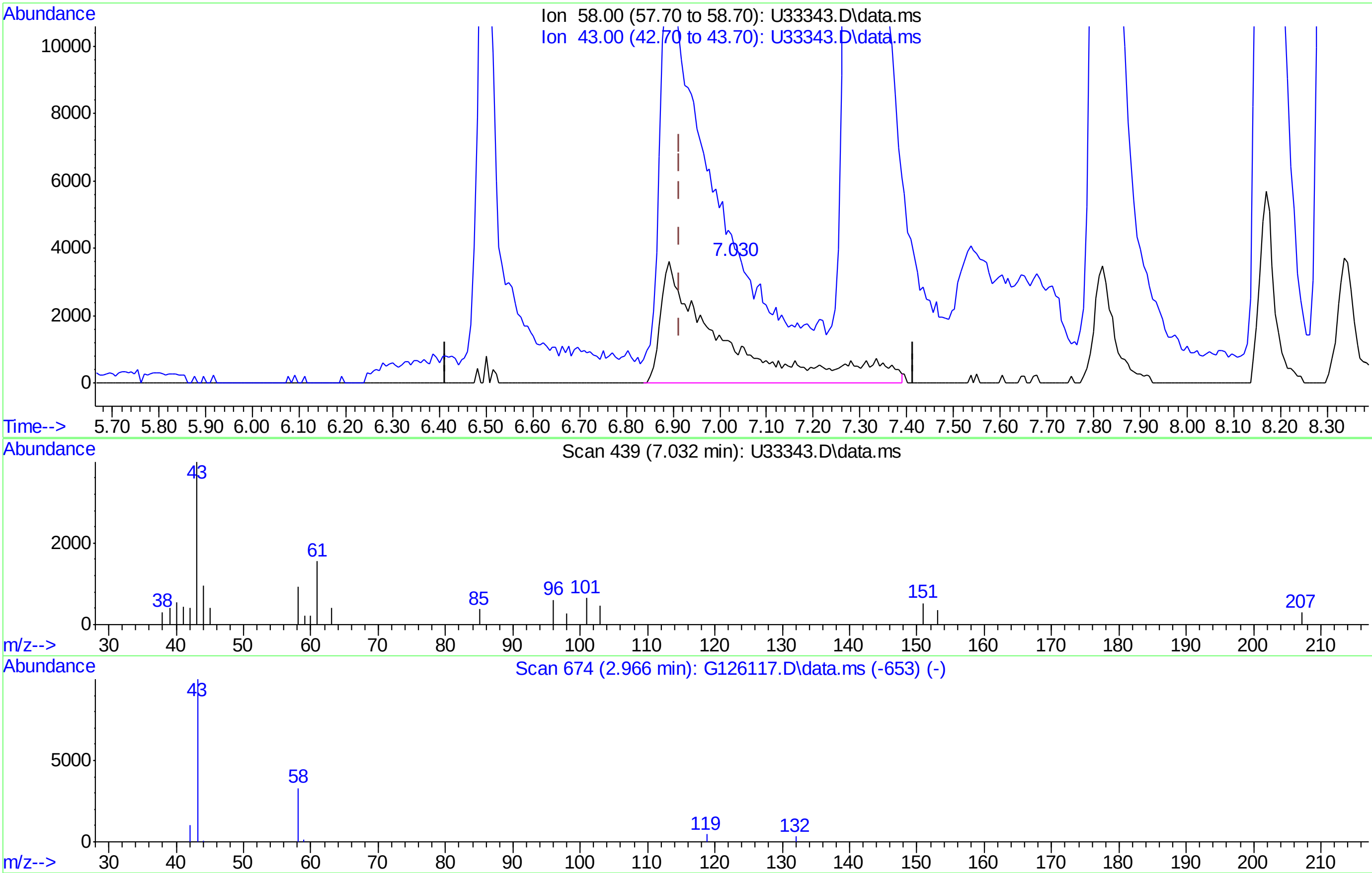
7.030min (+ 0.116) 60.84 ppb

response 33065

Ion	Exp%	Act%
58.00	100.00	100.00
43.00	308.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33343.D\data.ms

(16) acetone (P)

7.030min (+ 0.116) 60.84 ppb

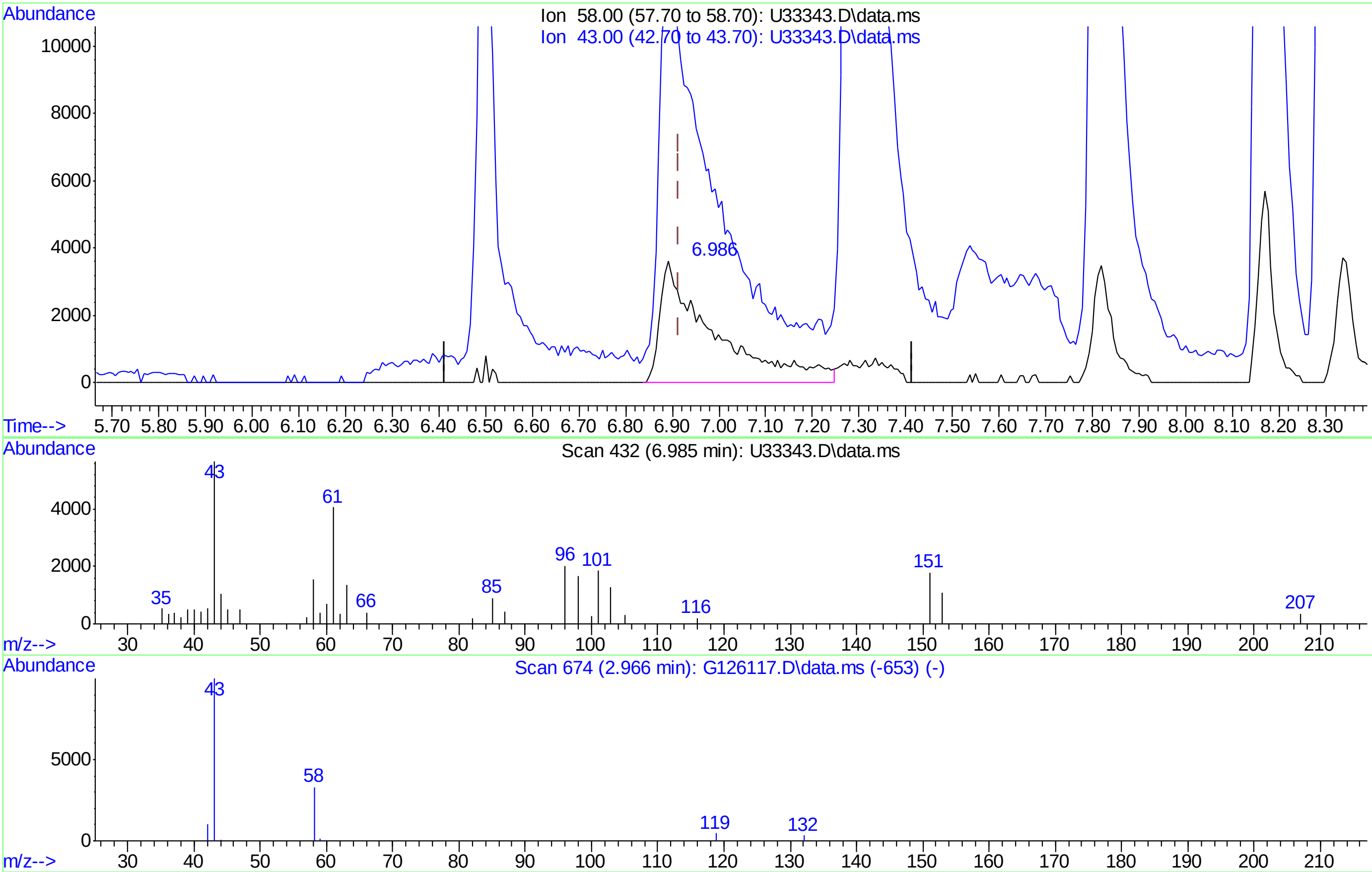
response 33065

Ion	Exp%	Act%
58.00	100.00	100.00
43.00	308.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

U33343.D edits: acetone

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(16) acetone (P)

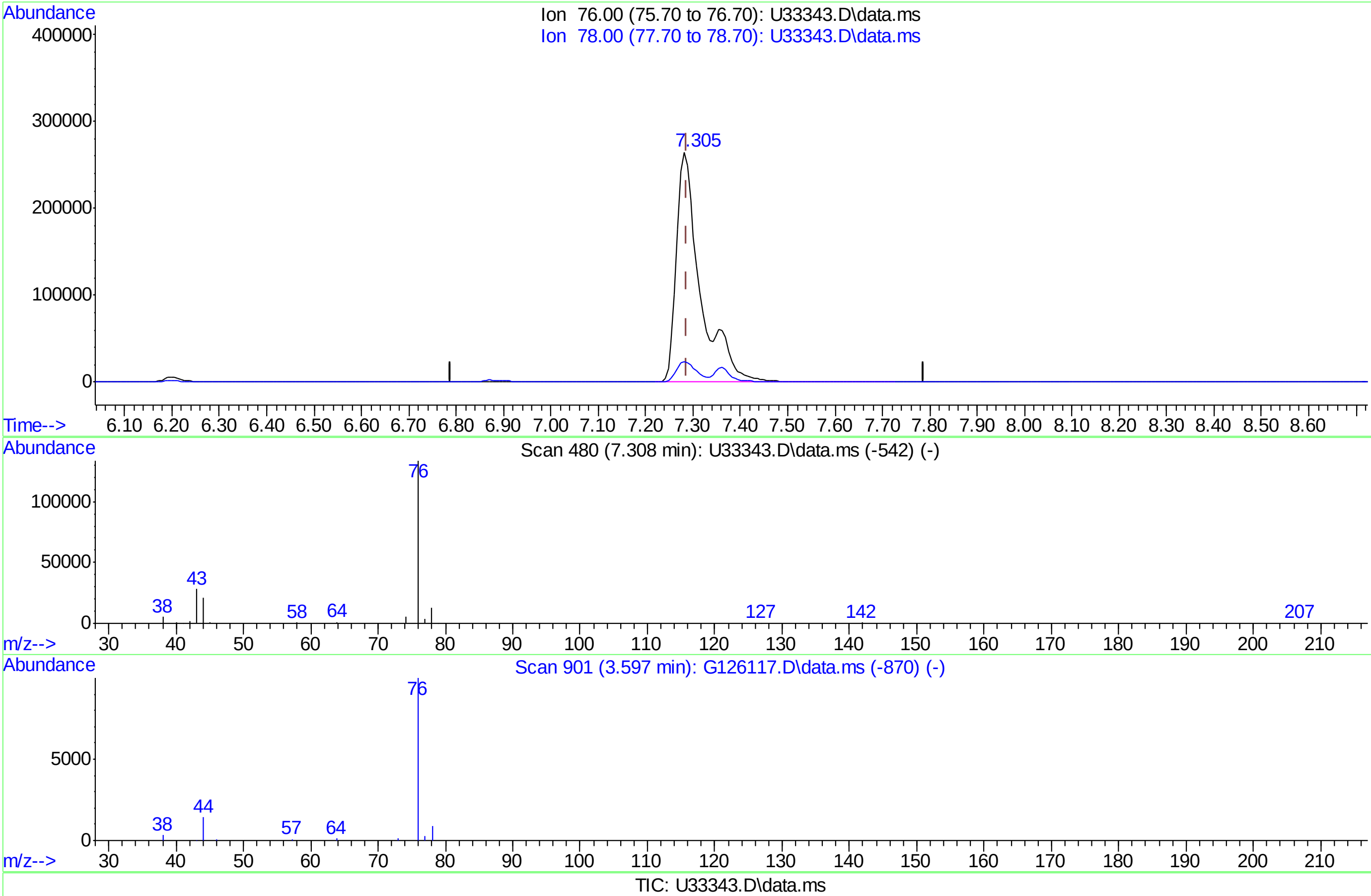
6.985min (+ 0.071) 52.86 ppb m

response 28730

Ion	Exp%	Act%
58.00	100.00	100.00
43.00	308.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(24) carbon disulfide (P)

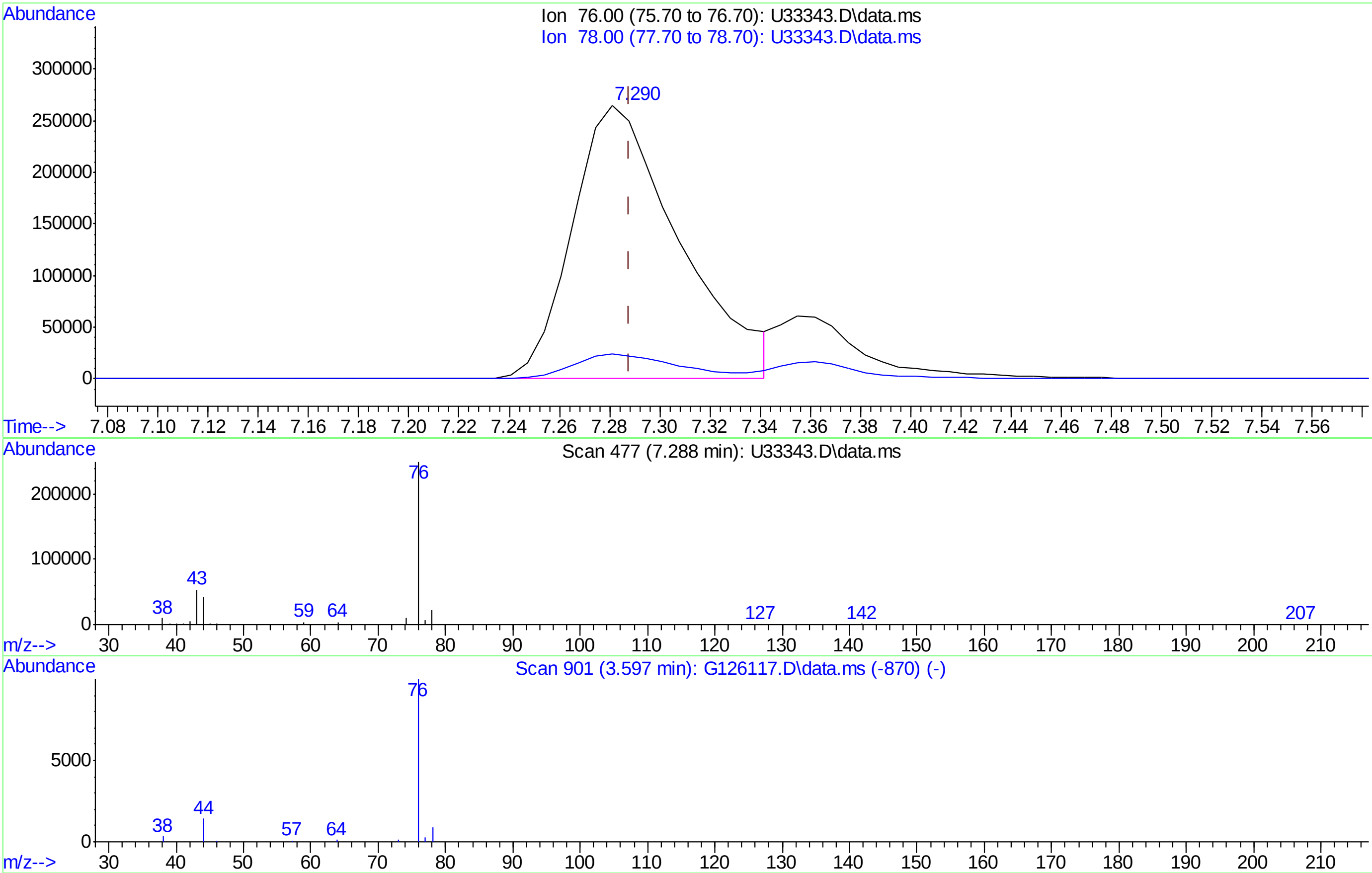
7.305min (+ 0.017) 60.67 ppb

response 937350

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.64
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33343.D\data.ms

(24) carbon disulfide (P)

7.288min (-0.000) 50.73 ppb m

response 783866

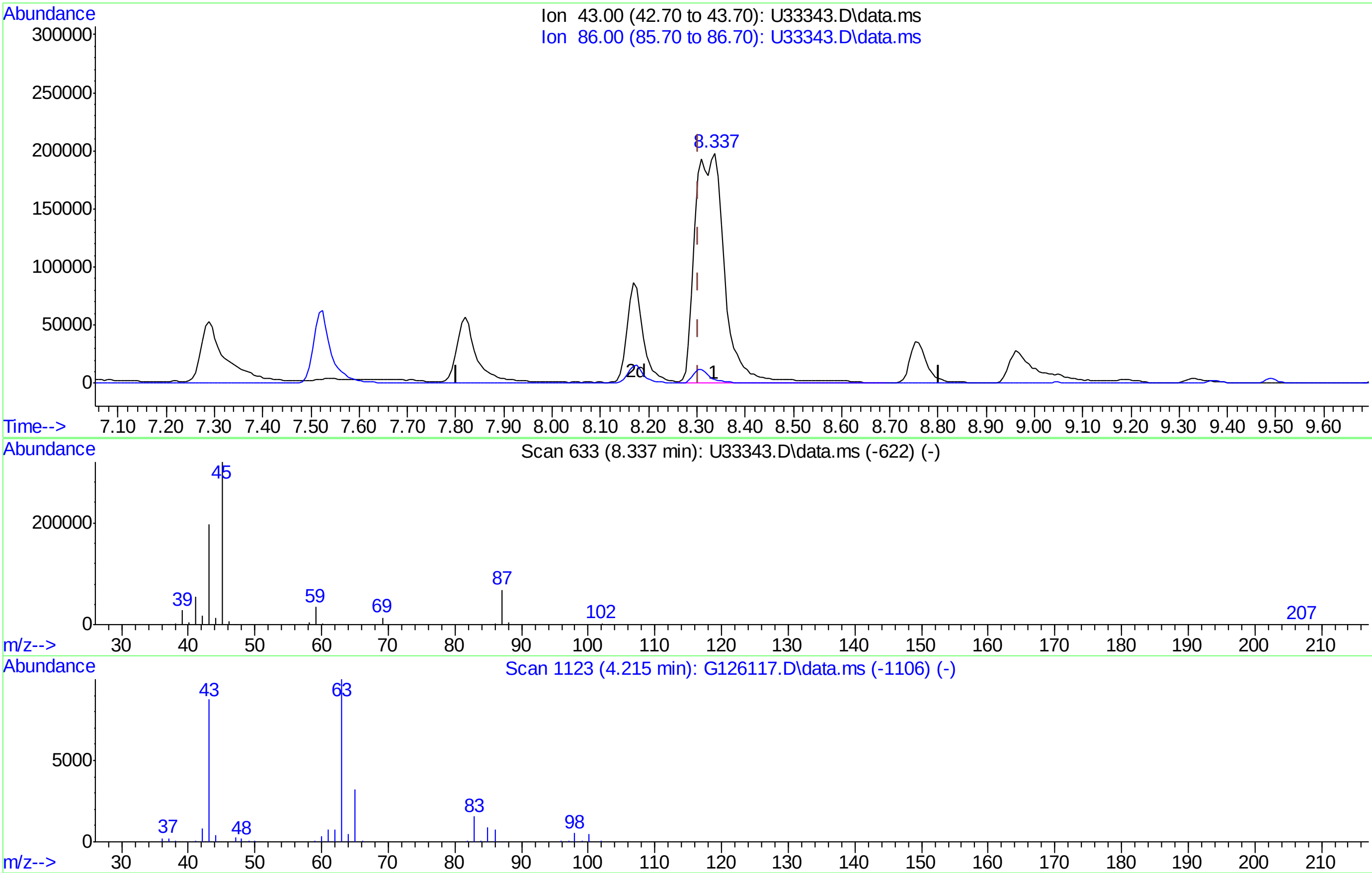
Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	8.82
0.00	0.00	0.00
0.00	0.00	0.00

7.5.2.5 7

U33343.D edits: carbon disulfide

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33343.D\data.ms

(26) vinyl acetate (P)

8.337min (+ 0.034) 138.47 ppb

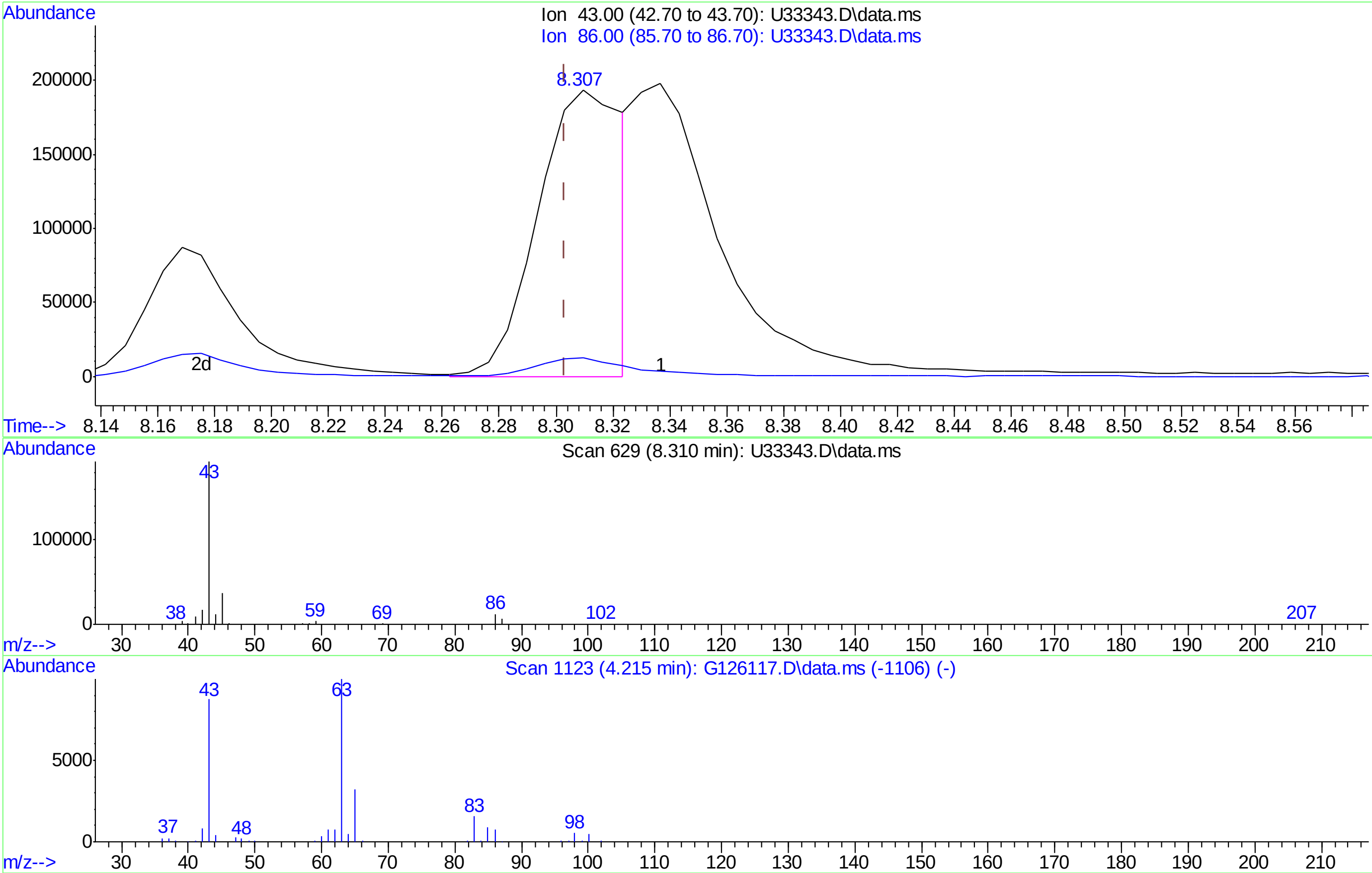
response 849141

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	1.75
0.00	0.00	0.00
0.00	0.00	0.00

7.5.2.6
7

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

TIC: U33343.D\data.ms

(26) vinyl acetate (P)

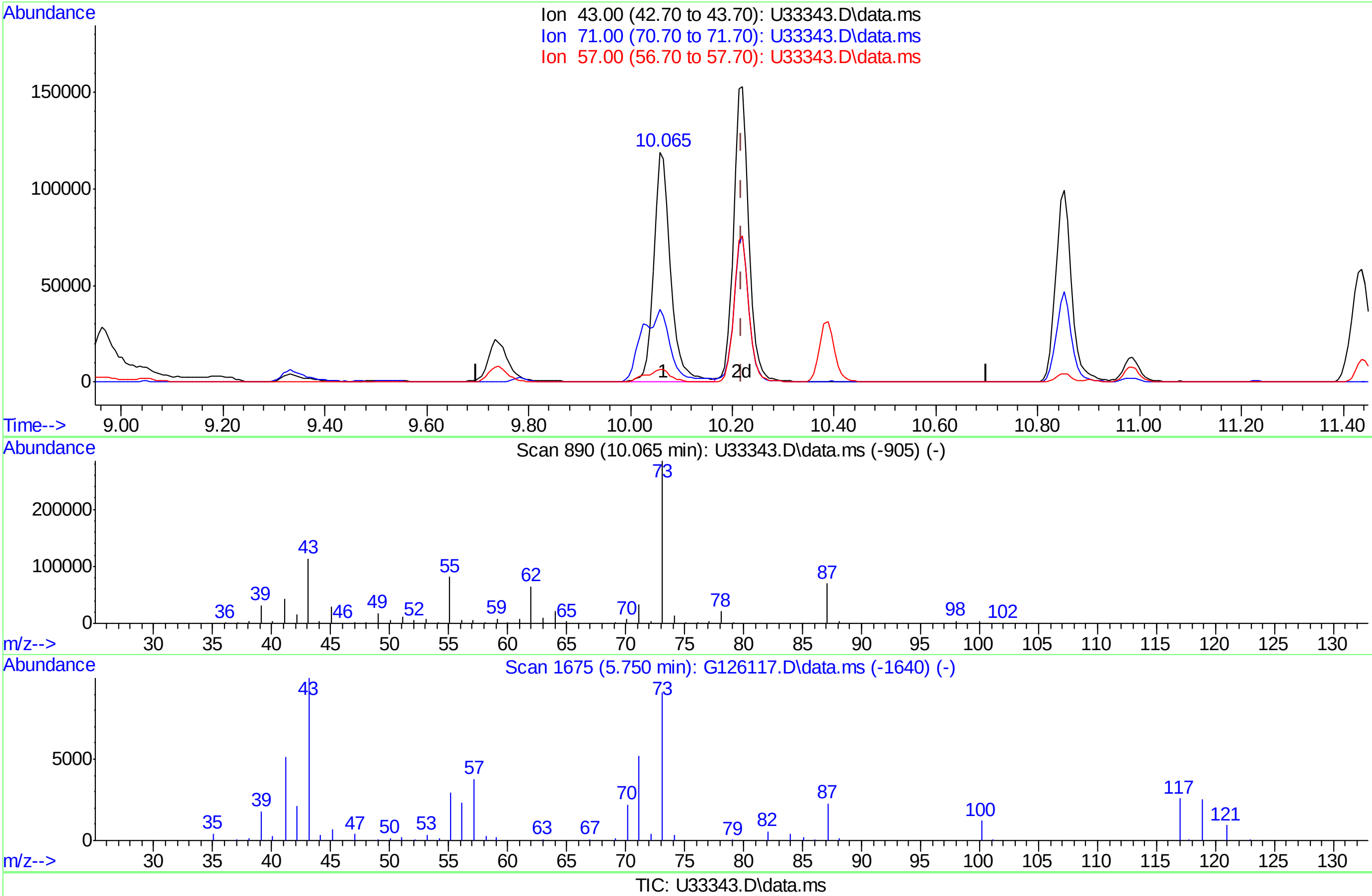
8.310min (+ 0.007) 65.23 ppb m

response 400013

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.36
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

(50) heptane (P)

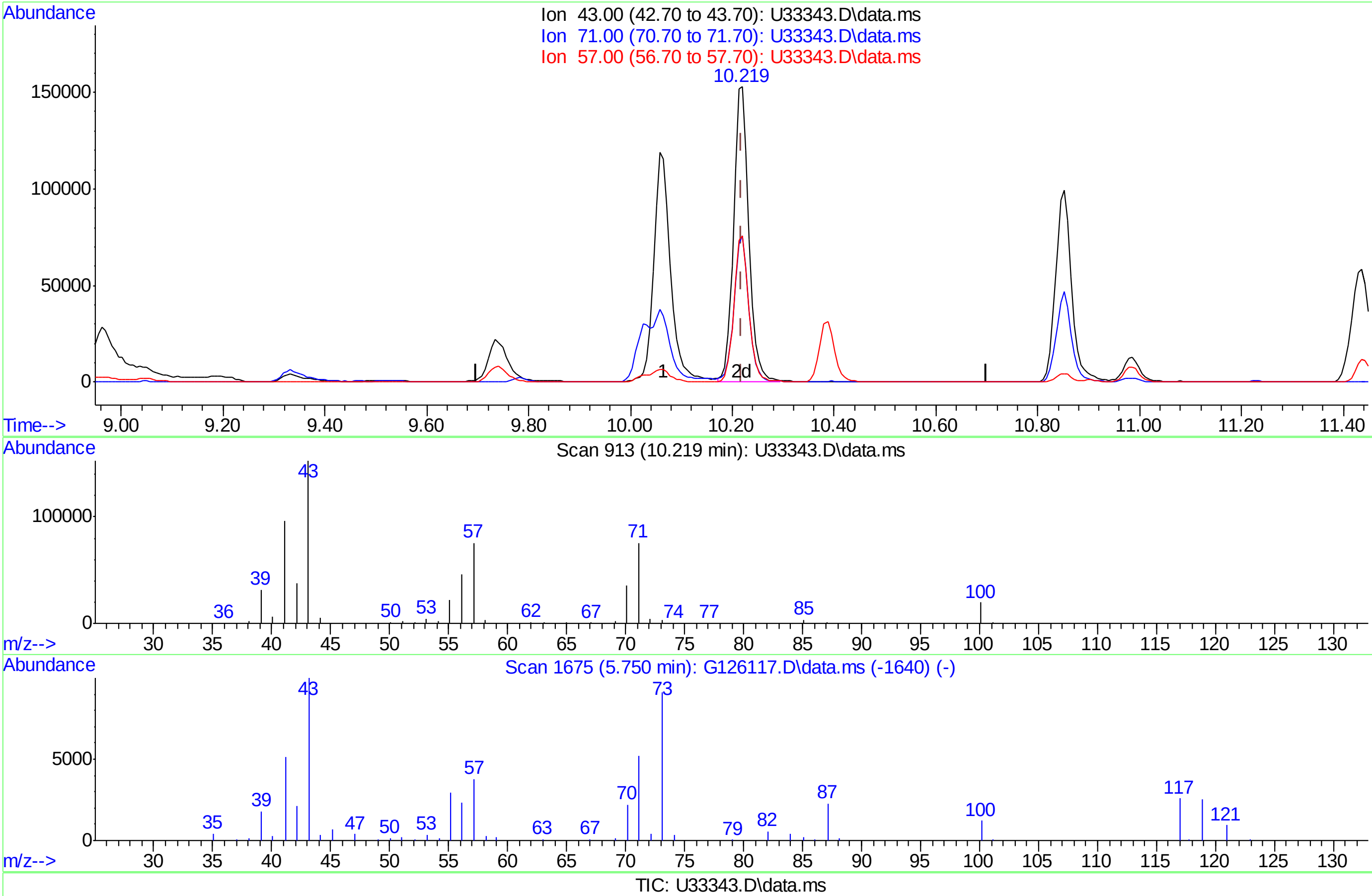
10.065min (-0.154) 45.89 ppb

response 280673

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	29.89
57.00	5.80	5.92
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(50) heptane (P)

10.219min (+ 0.000) 52.20 ppb m

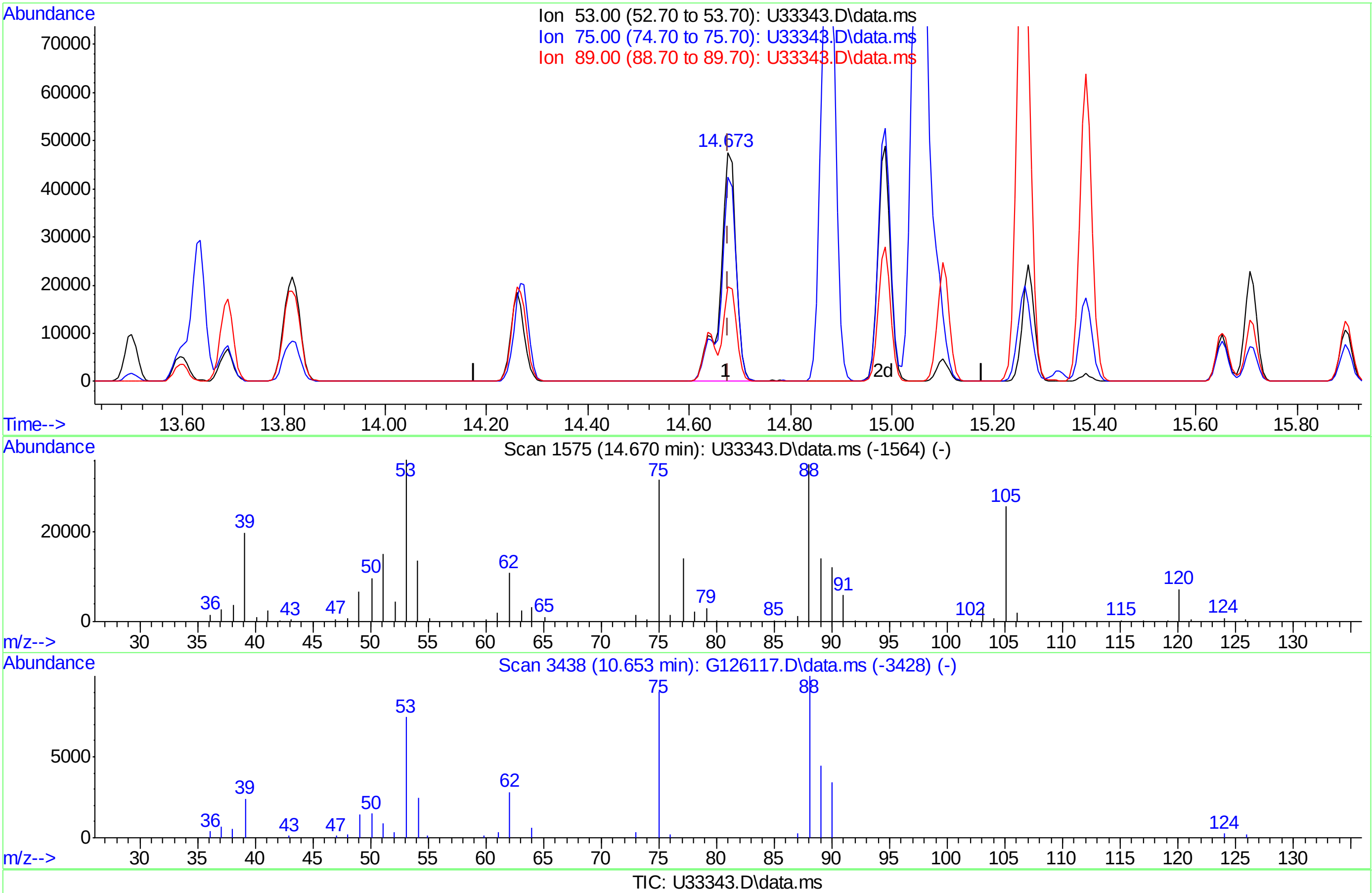
response 319226

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	49.58
57.00	5.80	49.63#
0.00	0.00	0.00

U33343.D edits: heptane

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(79) trans-1,4-dichloro-2-butene (P)

14.673min (-0.004) 56.49 ppb

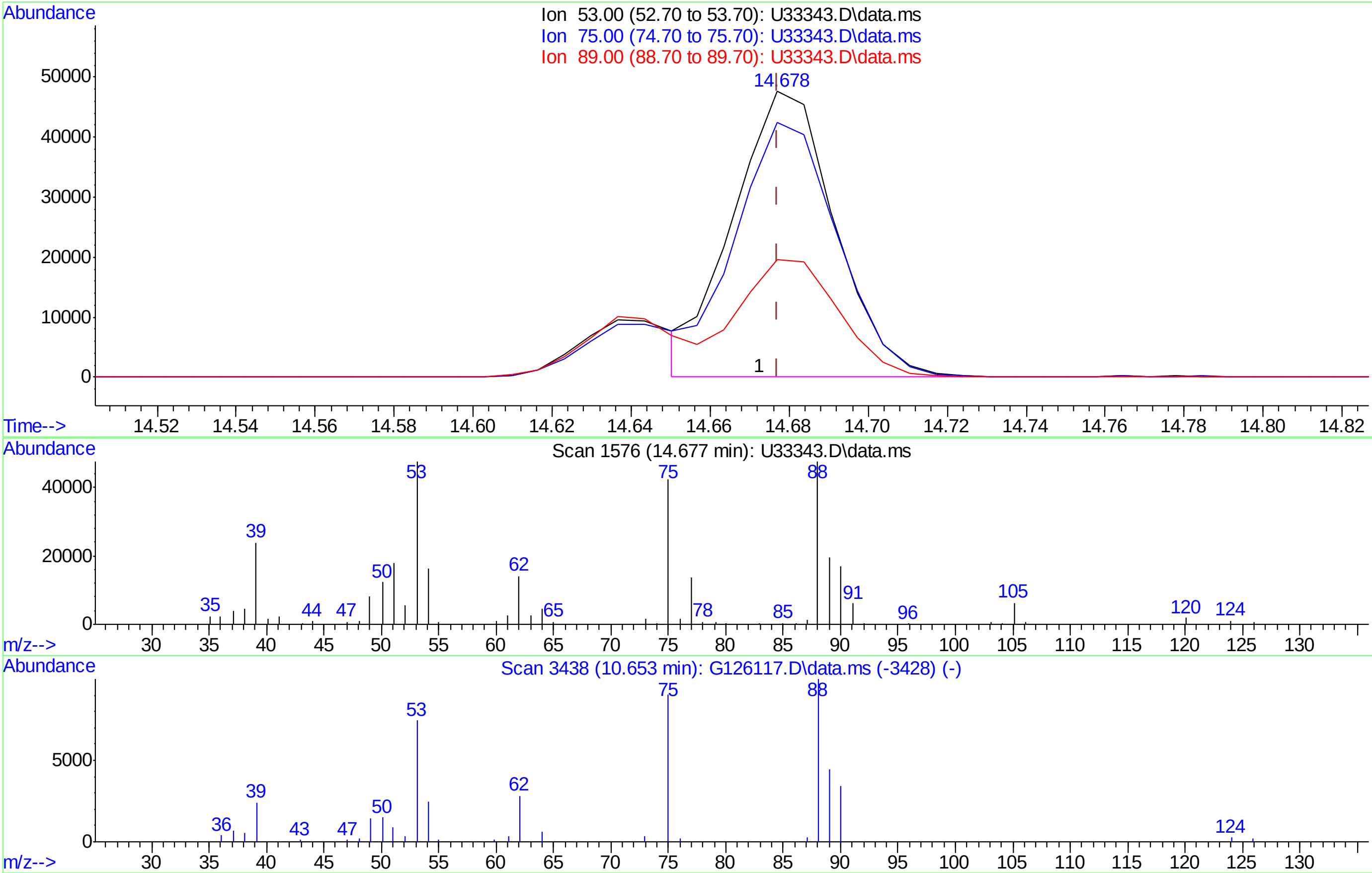
response 100625

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	87.41#
89.00	64.60	39.29
0.00	0.00	0.00

U33343.D edits: trans-1,4-dichloro-2-butene

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33343.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

14.677min (-0.000) 47.67 ppb m

response 84921

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	88.99#
89.00	64.60	41.21
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33275.D
Acq On : 26 Oct 2015 6:12 pm
Operator : andrewd1
Sample : ic1360-0.5
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 27 08:41:27 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:37:32 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.588	65	195187	500.00 ppb		0.12
4) pentafluorobenzene	9.494	168	499911	50.00 ppb		0.00
43) 1,4-difluorobenzene	10.388	114	781678	50.00 ppb		0.00
66) chlorobenzene-d5	13.596	82	429896	50.00 ppb		0.00
80) 1,4-dichlorobenzene-d4	16.173	152	546375	50.00 ppb		0.00
System Monitoring Compounds						
40) dibromofluoromethane (s)	9.562	113	308972	50.60 ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.20%			
60) toluene-d8 (s)	11.993	98	908504	48.37 ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 96.74%			
82) bromofluorobenzene (s)	14.874	95	413214	50.14 ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 100.28%			
Target Compounds						Qvalue
5) dichlorodifluoromethane	4.353	85	5970	0.53 ppb		89
6) chloromethane	4.725	50	5075	0.72 ppb		93
7) vinyl chloride	4.972	62	4273	0.51 ppb		83
8) bromomethane	5.581	96	3037	0.65 ppb		90
9) chloroethane	5.737	64	2305	0.57 ppb		71
12) trichlorofluoromethane	6.158	101	6412	0.52 ppb		98
15) 1,1-dichloroethene	6.903	96	2568	0.43 ppb		98
18) methylene chloride	7.525	84	3449	0.51 ppb		90
19) methyl tert butyl ether	7.832	73	8457	0.47 ppb		93
22) trans-1,2-dichloroethene	7.875	96	2982	0.49 ppb	#	72
23) iodomethane	7.150	142	5389	0.47 ppb		88
27) chloroprene	8.481	53	4439	0.42 ppb		97
28) di-isopropyl ether	8.345	45	9833	0.47 ppb		94
33) 1,1-dichloroethane	8.396	63	5379	0.45 ppb		94
34) tert-butyl ethyl ether	8.763	59	9177	0.44 ppb		95
36) 2,2-dichloropropane	9.069	77	4700	0.48 ppb		97
37) cis-1,2-dichloroethene	9.034	96	3178	0.48 ppb		85
39) chloroform	9.377	83	5512	0.46 ppb		96
42) 1,1,1-trichloroethane	9.631	97	4391	0.40 ppb		86
45) carbon tetrachloride	9.816	117	3331	0.37 ppb		82
46) 1,1-dichloropropene	9.782	75	3332	0.41 ppb		97
47) benzene	10.023	78	10951	0.52 ppb		85
49) tert-amyl methyl ether	10.066	73	8763	0.48 ppb		94
51) trichloroethene	10.692	95	411947	68.89 ppb		98
55) Methylcyclohexane	10.984	83	4498	0.42 ppb	#	79
59) cis-1,3-dichloropropene	11.676	75	3677	0.45 ppb		98
61) 4-methyl-2-pentanone	11.774	43	3585	0.62 ppb		83
62) toluene	12.070	92	5571	0.47 ppb		97
63) trans-1,3-dichloropropene	12.251	75	3076	0.44 ppb		84
65) ethyl methacrylate	12.214	69	2665	0.47 ppb		73
67) tetrachloroethene	12.644	166	2283	0.43 ppb		87
68) 1,3-dichloropropane	12.683	76	3172	0.47 ppb		87
69) dibromochloromethane	12.951	129	2042	0.39 ppb		98
72) chlorobenzene	13.632	112	6244	0.46 ppb		96

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33275.D
Acq On : 26 Oct 2015 6:12 pm
Operator : andrewd1
Sample : ic1360-0.5
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 27 08:41:27 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:37:32 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
73) 1,1,1,2-tetrachloroethane	13.698	131	2629	0.44 ppb		76
74) ethylbenzene	13.686	91	11439	0.48 ppb		88
75) m,p-xylene	13.815	106	8933	0.98 ppb		95
76) o-xylene	14.258	106	4349	0.41 ppb		92
77) styrene	14.272	104	6852	0.45 ppb		95
81) isopropylbenzene	14.638	105	13086	0.45 ppb		95
83) bromobenzene	15.086	156	3302	0.47 ppb		94
84) 1,1,2,2-tetrachloroethane	14.948	83	3419	0.51 ppb		91
85) 1,2,3-trichloropropane	15.057	75	3309	0.50 ppb	#	35
86) n-propylbenzene	15.100	91	15687	0.46 ppb		96
87) 2-chlorotoluene	15.258	91	11984	0.50 ppb		96
88) 4-chlorotoluene	15.382	91	10085	0.49 ppb		99
89) 1,3,5-trimethylbenzene	15.269	105	11861	0.43 ppb		99
90) tert-butylbenzene	15.652	91	6810	0.40 ppb	#	76
91) 1,2,4-trimethylbenzene	15.707	105	13637	0.47 ppb		97
92) sec-butylbenzene	15.895	105	15510	0.42 ppb		96
93) 1,3-dichlorobenzene	16.095	146	8050	0.51 ppb		93
94) p-isopropyltoluene	16.037	119	13978	0.44 ppb		97
95) 1,4-dichlorobenzene	16.202	146	8091	0.51 ppb		97
96) 1,2-dichlorobenzene	16.616	146	8285	0.47 ppb		90
97) n-butylbenzene	16.494	91	15475	0.48 ppb		99
99) 1,3,5-trichlorobenzene	17.656	180	8916	0.53 ppb		95
100) 1,2,4-trichlorobenzene	18.368	180	8496	0.53 ppb		95
101) hexachlorobutadiene	18.483	225	3779	0.52 ppb		87
102) naphthalene	18.712	128	17557	0.51 ppb		100
103) 2-Methylnaphthalene	20.106	142	8991	0.47 ppb		96
104) 1-Methylnaphthalene	20.371	142	8228	0.58 ppb		88
105) 1,2,3-trichlorobenzene	18.958	180	7810	0.56 ppb		99

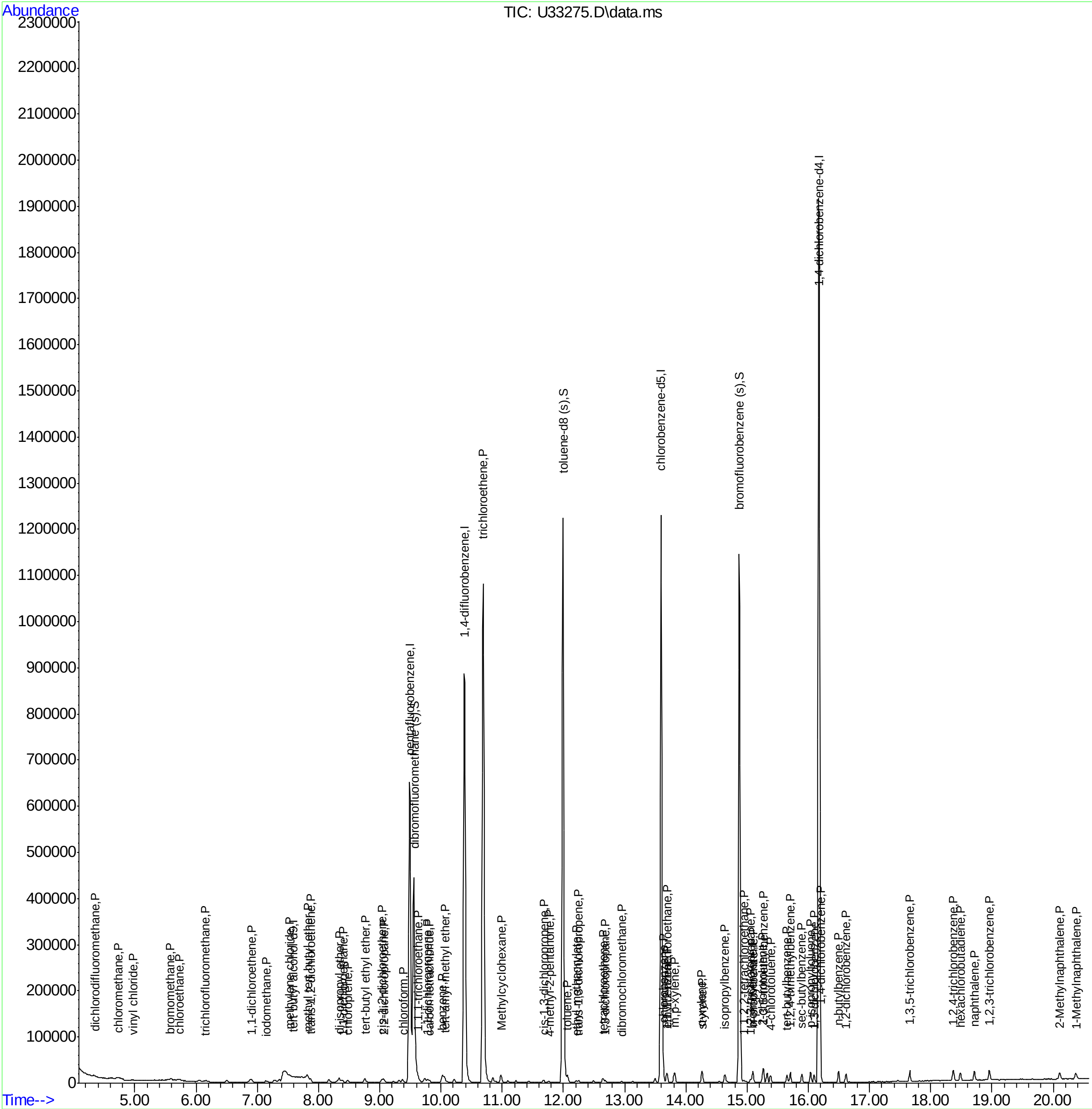
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.1

7

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33275.D
Acq On    : 26 Oct 2015   6:12 pm
Operator  : andrewd1
Sample    : ic1360-0.5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 5   Sample Multiplier: 1

Quant Time: Oct 27 08:41:27 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:37:32 2015
Response via : Initial Calibration
```



Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 15:45

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33276.D
Acq On : 26 Oct 2015 6:39 pm
Operator : andrewd1
Sample : ic1360-1
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 27 08:45:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:42:15 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.485	65	347544	500.00	ppb	0.01
4) pentafluorobenzene	9.495	168	501340	50.00	ppb	0.00
43) 1,4-difluorobenzene	10.388	114	746146	50.00	ppb	0.00
66) chlorobenzene-d5	13.595	82	392684	50.00	ppb	0.00
80) 1,4-dichlorobenzene-d4	16.173	152	579714	50.00	ppb	0.00
System Monitoring Compounds						
40) dibromofluoromethane (s)	9.560	113	312378	50.71	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 101.42%			
60) toluene-d8 (s)	11.993	98	831056	47.12	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 94.24%			
82) bromofluorobenzene (s)	14.874	95	414500	47.34	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 94.68%			

Target Compounds	R.T.	QIon	Response	Conc	Units		Qvalue
3) Ethanol	6.358	45	5833	108.19	ppb	#	66
5) dichlorodifluoromethane	4.361	85	11760	1.01	ppb		89
6) chloromethane	4.732	50	9984	1.16	ppb		97
7) vinyl chloride	4.980	62	8049	0.95	ppb		70
8) bromomethane	5.585	96	5548	1.03	ppb		84
9) chloroethane	5.744	64	4828	1.19	ppb		82
10) ethyl ether	6.504	59	4757	0.96	ppb		90
12) trichlorofluoromethane	6.161	101	12253	0.97	ppb		83
13) freon-113	6.892	101	7222	0.93	ppb		97
15) 1,1-dichloroethene	6.904	96	6221	1.12	ppb		95
18) methylene chloride	7.527	84	7695	1.13	ppb	#	78
19) methyl tert butyl ether	7.828	73	17948	1.02	ppb		89
20) acrylonitrile	7.787	53	2764	1.06	ppb		78
22) trans-1,2-dichloroethene	7.878	96	6558	1.09	ppb		90
23) iodomethane	7.154	142	11939	1.07	ppb		93
24) carbon disulfide	7.288	76	23763m	1.12	ppb		
26) vinyl acetate	8.303	43	8323m	0.97	ppb		
27) chloroprene	8.482	53	10660	1.10	ppb		98
28) di-isopropyl ether	8.345	45	21574	1.06	ppb		96
29) methacrylonitrile	9.225	41	4095	1.08	ppb		95
32) Hexane	8.177	41	7736	1.17	ppb	#	77
33) 1,1-dichloroethane	8.396	63	12932	1.14	ppb		98
34) tert-butyl ethyl ether	8.763	59	20377	1.03	ppb		88
35) isobutyl alcohol	8.761	43	2787	6.09	ppb	#	42
36) 2,2-dichloropropane	9.071	77	10194	1.06	ppb		90
37) cis-1,2-dichloroethene	9.037	96	7236	1.11	ppb		88
38) bromochloromethane	9.315	128	3333	1.01	ppb	#	77
39) chloroform	9.377	83	12465	1.08	ppb		95
41) Tetrahydrofuran	9.339	42	3011	1.46	ppb		93
42) 1,1,1-trichloroethane	9.634	97	10641	1.07	ppb		89
44) Cyclohexane	9.741	56	11812	1.01	ppb		92
45) carbon tetrachloride	9.818	117	8782	1.18	ppb		98
46) 1,1-dichloropropene	9.784	75	8452	1.20	ppb		95
47) benzene	10.025	78	23276	1.13	ppb		98

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33276.D
Acq On : 26 Oct 2015 6:39 pm
Operator : andrewd1
Sample : ic1360-1
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 27 08:45:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:42:15 2015
Response via : Initial Calibration

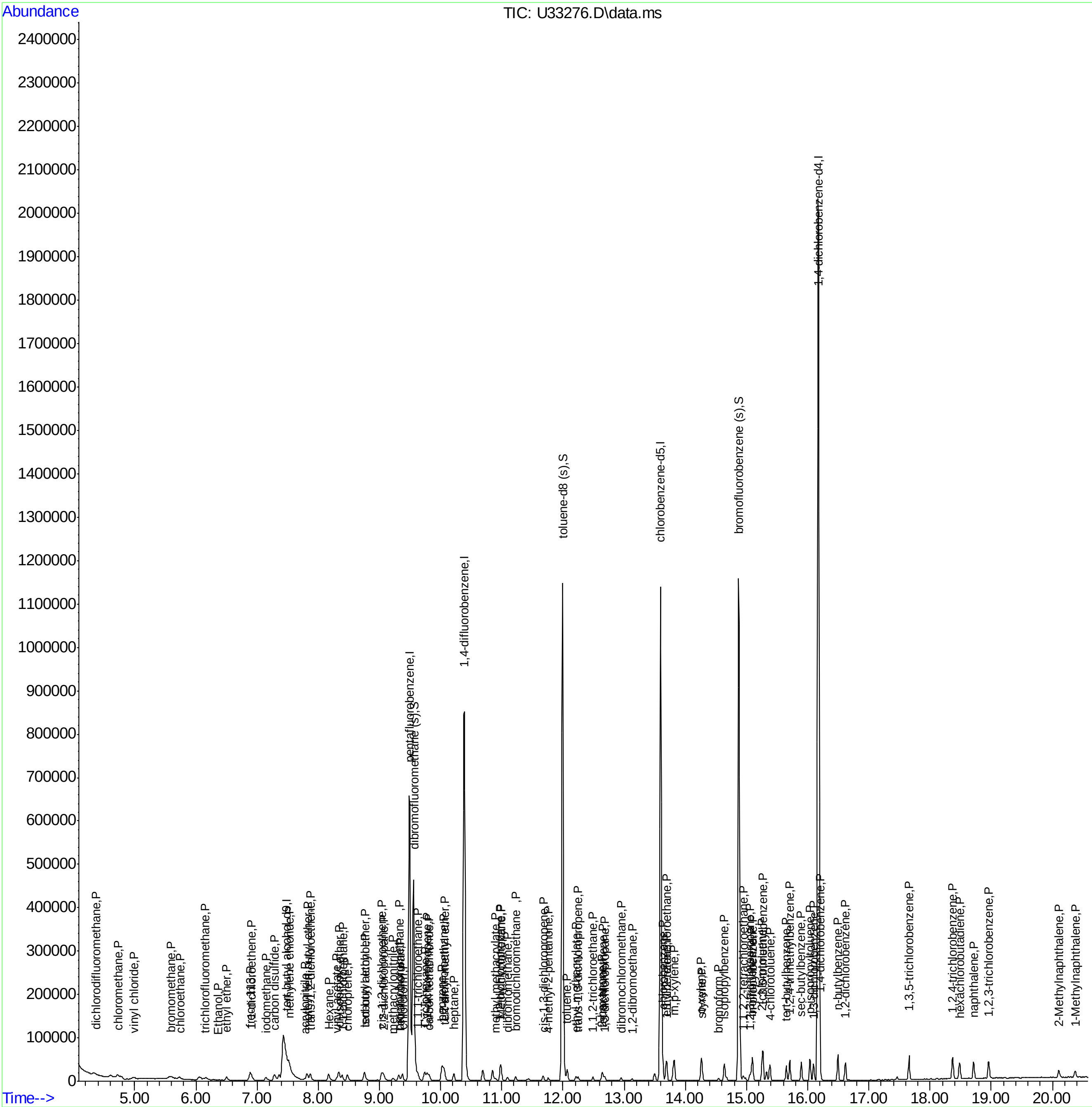
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
48) 1,2-dichloroethane	10.046	62	9048	1.06 ppb	99
49) tert-amyl methyl ether	10.063	73	18153	1.06 ppb	96
50) heptane	10.219	43	8295m	1.12 ppb	
52) 1,2-dichloropropane	10.981	63	5195	0.98 ppb	91
53) dibromomethane	11.091	93	3463	0.99 ppb	88
54) bromodichloromethane	11.226	83	7200	0.96 ppb	94
55) Methylcyclohexane	10.985	83	10495	1.12 ppb	90
57) methyl methacrylate	10.900	69	2286	0.78 ppb #	78
59) cis-1,3-dichloropropene	11.676	75	6494	0.88 ppb	91
61) 4-methyl-2-pentanone	11.762	43	5654	0.92 ppb	98
62) toluene	12.070	92	11077	1.00 ppb	98
63) trans-1,3-dichloropropene	12.249	75	5505	0.87 ppb	91
64) 1,1,2-trichloroethane	12.489	83	3107	0.90 ppb	89
65) ethyl methacrylate	12.213	69	4819	0.92 ppb	92
67) tetrachloroethene	12.645	166	4877	1.08 ppb	85
68) 1,3-dichloropropane	12.683	76	5962	0.99 ppb	87
69) dibromochloromethane	12.951	129	4012	0.95 ppb	87
70) 1,2-dibromoethane	13.128	107	3537	0.89 ppb	97
71) 2-hexanone	12.639	43	4013	1.21 ppb	33
72) chlorobenzene	13.631	112	12795	1.08 ppb	95
73) 1,1,1,2-tetrachloroethane	13.697	131	5427	1.06 ppb	97
74) ethylbenzene	13.686	91	24458	1.14 ppb	98
75) m,p-xylene	13.814	106	18578	2.25 ppb	90
76) o-xylene	14.258	106	10313	1.18 ppb	99
77) styrene	14.271	104	14762	1.11 ppb	89
78) bromoform	14.543	173	3093	0.89 ppb	99
81) isopropylbenzene	14.639	105	27344	0.93 ppb	100
83) bromobenzene	15.086	156	7499	1.04 ppb	98
84) 1,1,2,2-tetrachloroethane	14.946	83	6475	0.90 ppb	100
85) 1,2,3-trichloropropane	15.057	75	7357	1.04 ppb	93
86) n-propylbenzene	15.100	91	35301	1.01 ppb	96
87) 2-chlorotoluene	15.258	91	25669	1.00 ppb	99
88) 4-chlorotoluene	15.382	91	22783	1.05 ppb	96
89) 1,3,5-trimethylbenzene	15.270	105	25640	0.94 ppb	99
90) tert-butylbenzene	15.651	91	12843	0.71 ppb	96
91) 1,2,4-trimethylbenzene	15.707	105	29347	0.98 ppb	95
92) sec-butylbenzene	15.895	105	32733	0.91 ppb	99
93) 1,3-dichlorobenzene	16.095	146	17222	1.02 ppb	97
94) p-isopropyltoluene	16.038	119	29778	0.94 ppb	97
95) 1,4-dichlorobenzene	16.202	146	17626	1.03 ppb	96
96) 1,2-dichlorobenzene	16.616	146	19457	1.07 ppb	95
97) n-butylbenzene	16.493	91	34627	1.03 ppb	99
99) 1,3,5-trichlorobenzene	17.656	180	18659	1.04 ppb	95
100) 1,2,4-trichlorobenzene	18.368	180	16714	0.99 ppb	96
101) hexachlorobutadiene	18.483	225	8218	1.04 ppb	100
102) naphthalene	18.711	128	34225	0.93 ppb	100
103) 2-Methylnaphthalene	20.107	142	10382	0.51 ppb	91
104) 1-Methylnaphthalene	20.371	142	9139	0.61 ppb	98
105) 1,2,3-trichlorobenzene	18.958	180	14831	1.00 ppb	92

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33276.D
Acq On    : 26 Oct 2015   6:39 pm
Operator  : andrewd1
Sample    : ic1360-1
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 27 08:45:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:42:15 2015
Response via : Initial Calibration

        Compound                   R.T. QIon  Response  Conc Units Dev(Min)
 ------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

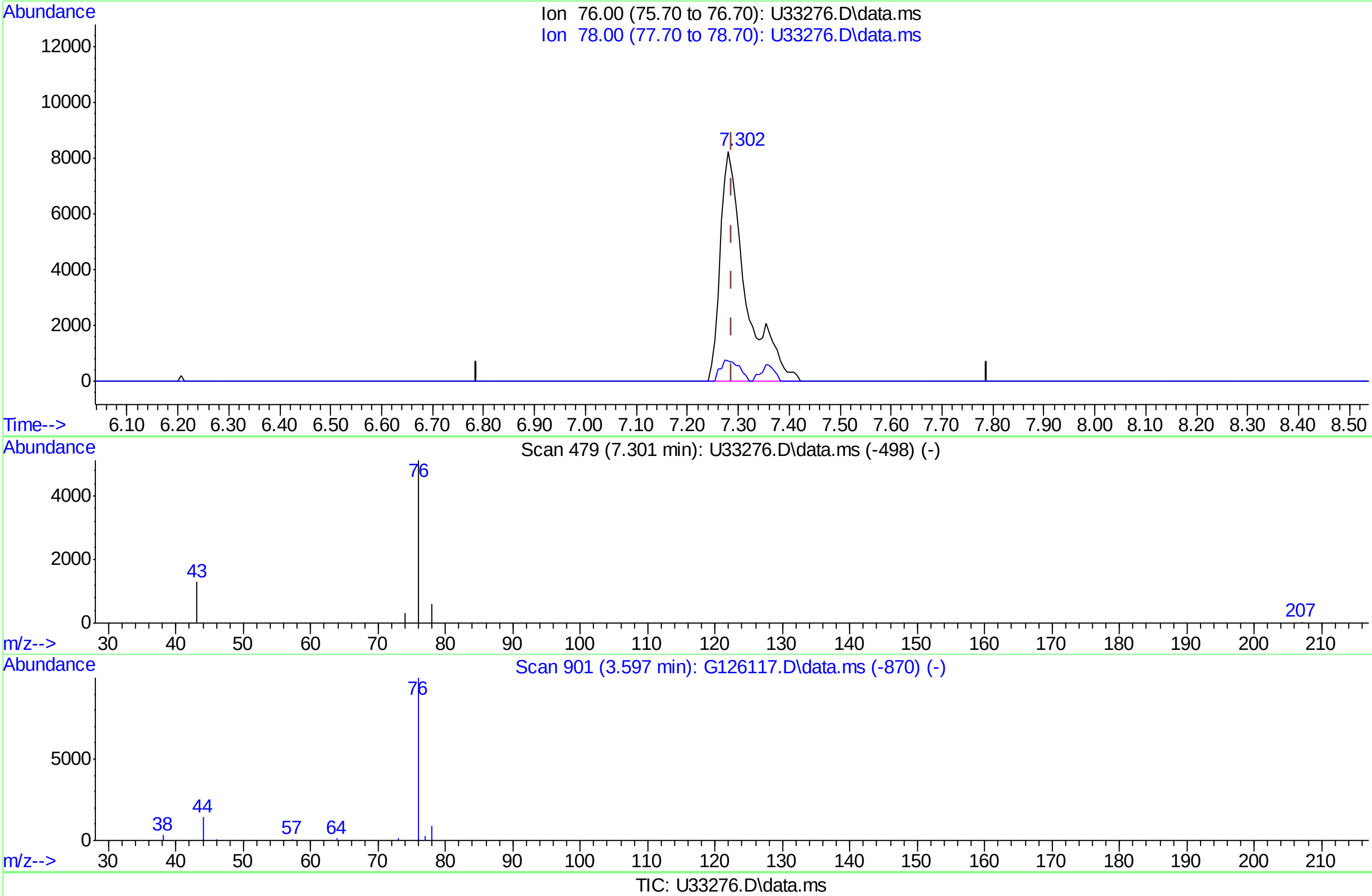
Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33276.D
Acq On    : 26 Oct 2015   6:39 pm
Operator  : andrewd1
Sample    : ic1360-1
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 27 08:45:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:42:15 2015
Response via : Initial Calibration
```



Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33276.D
Acq On    : 26 Oct 2015   6:39 pm
Operator  : andrewd1
Sample    : ic1360-1
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 27 08:42:33 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:42:15 2015
Response via : Initial Calibration
```

(24) carbon disulfide (P)

7.302min (+ 0.014) 1.31 ppb

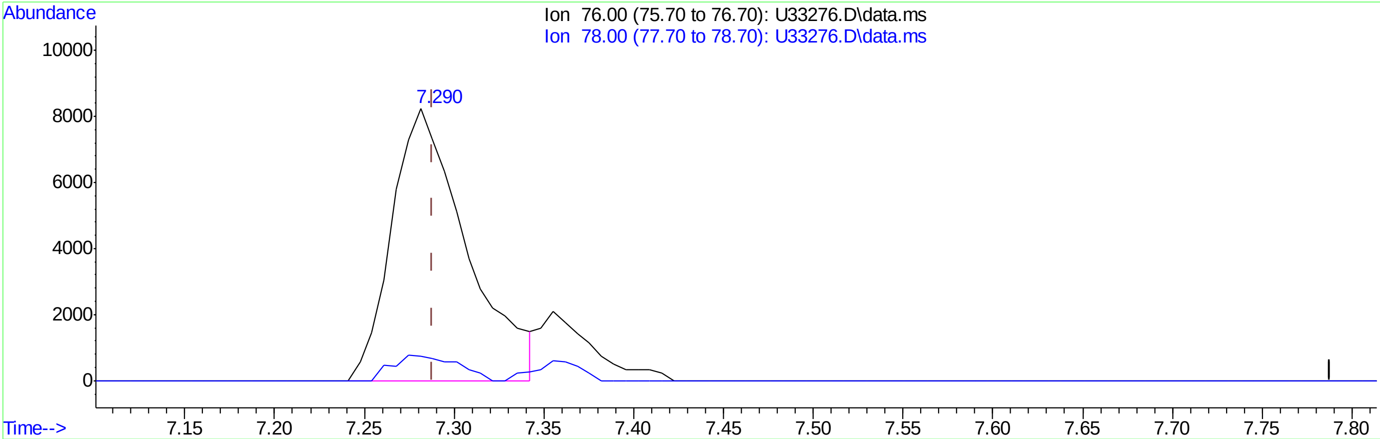
response 27957

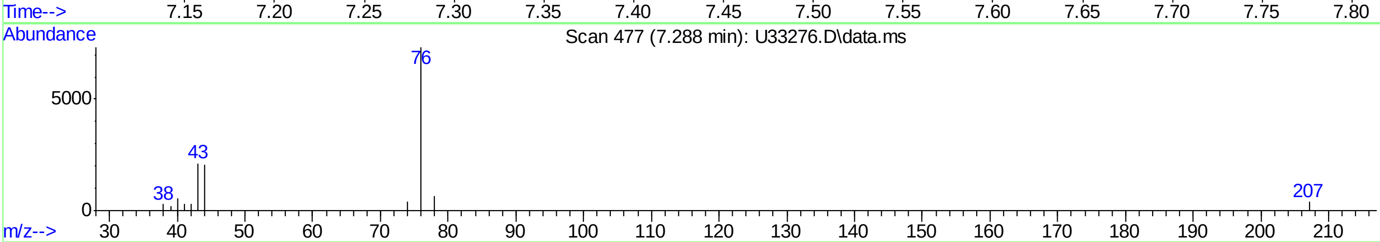
Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	11.39
0.00	0.00	0.00
0.00	0.00	0.00

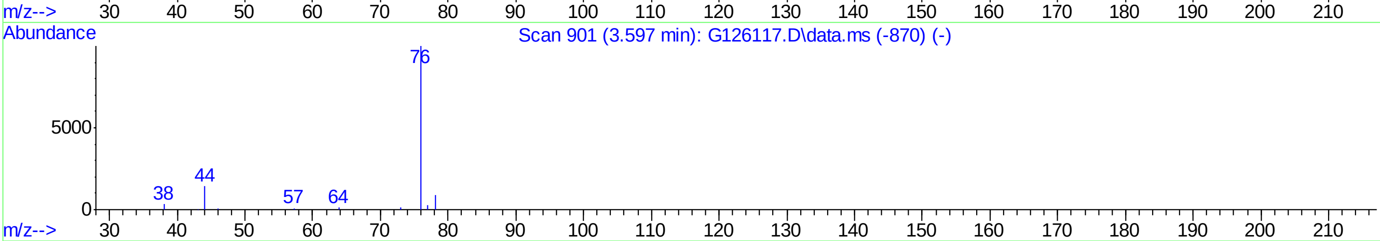
Quantitation Report (Qedit)

Data Path : R:\1\data\U151026\
Data File : U33276.D
Acq On : 26 Oct 2015 6:39 pm
Operator : andrewd1
Sample : ic1360-1
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 27 08:42:33 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:42:15 2015
Response via : Initial Calibration







TIC: U33276.D\data.ms

(24) carbon disulfide (P)

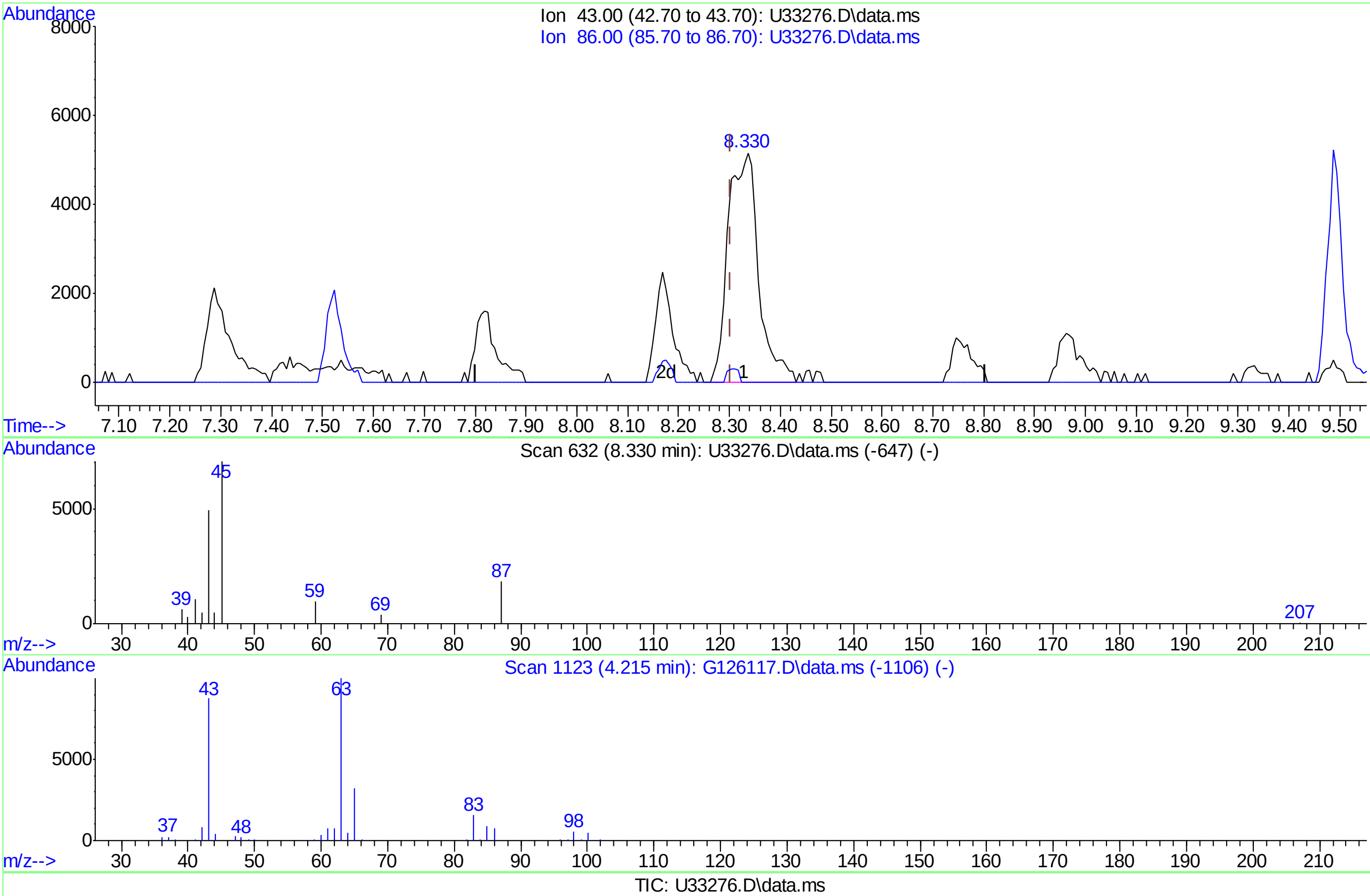
7.288min (+ 0.000) 1.12 ppb m

response 23763

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33276.D
Acq On    : 26 Oct 2015   6:39 pm
Operator  : andrewd1
Sample    : ic1360-1
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 27 08:42:33 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:42:15 2015
Response via : Initial Calibration
```



(26) vinyl acetate (P)

8.330min (+ 0.027) 2.49 ppb

response 21363

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	0.00
0.00	0.00	0.00
0.00	0.00	0.00

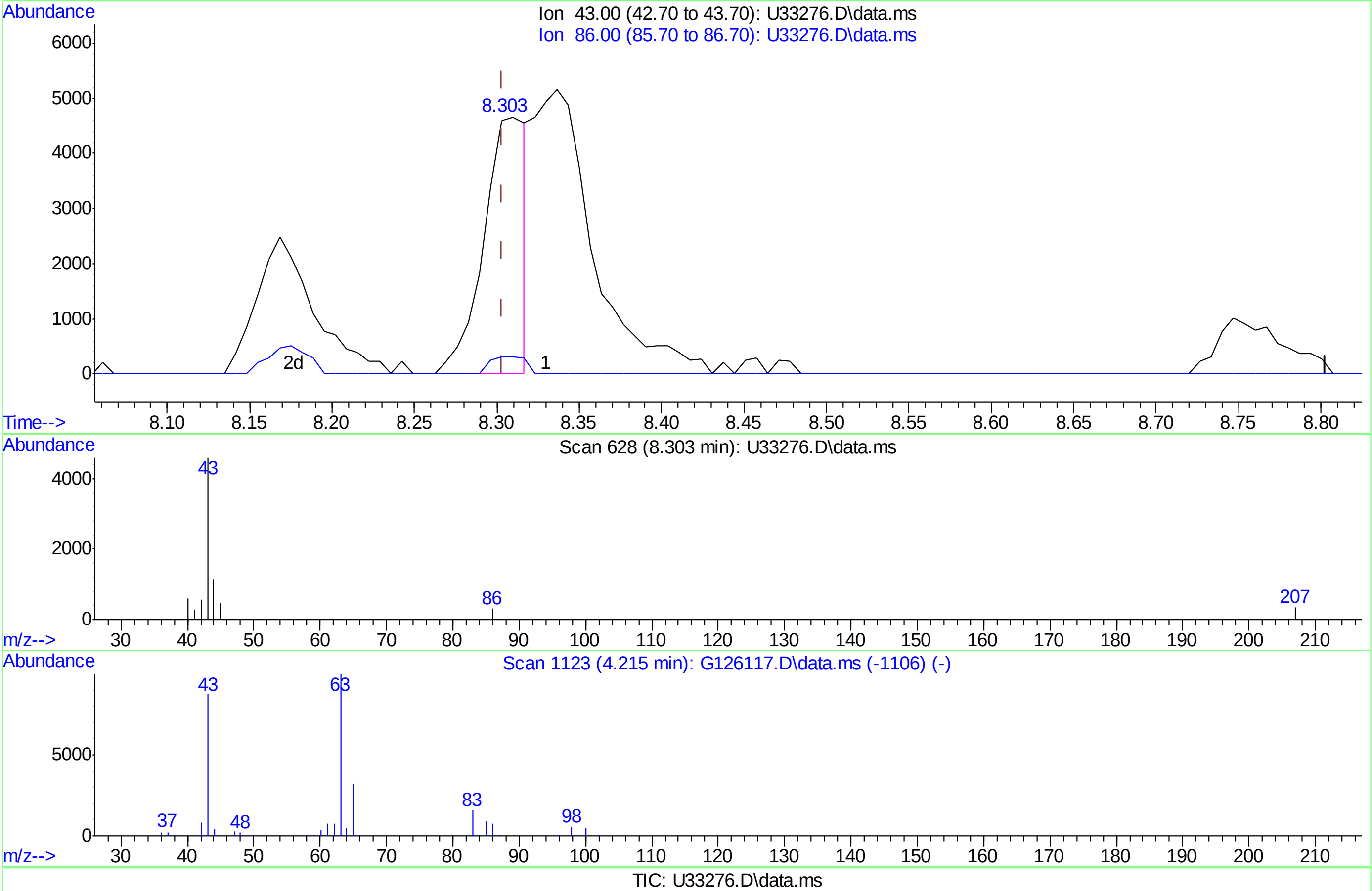
7.6.2.3

7

U33276.D edits: vinyl acetate

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33276.D
Acq On    : 26 Oct 2015   6:39 pm
Operator  : andrewd1
Sample    : ic1360-1
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 27 08:42:33 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:42:15 2015
Response via : Initial Calibration
```

(26) vinyl acetate (P)

8.303min (+ 0.000) 0.97 ppb m

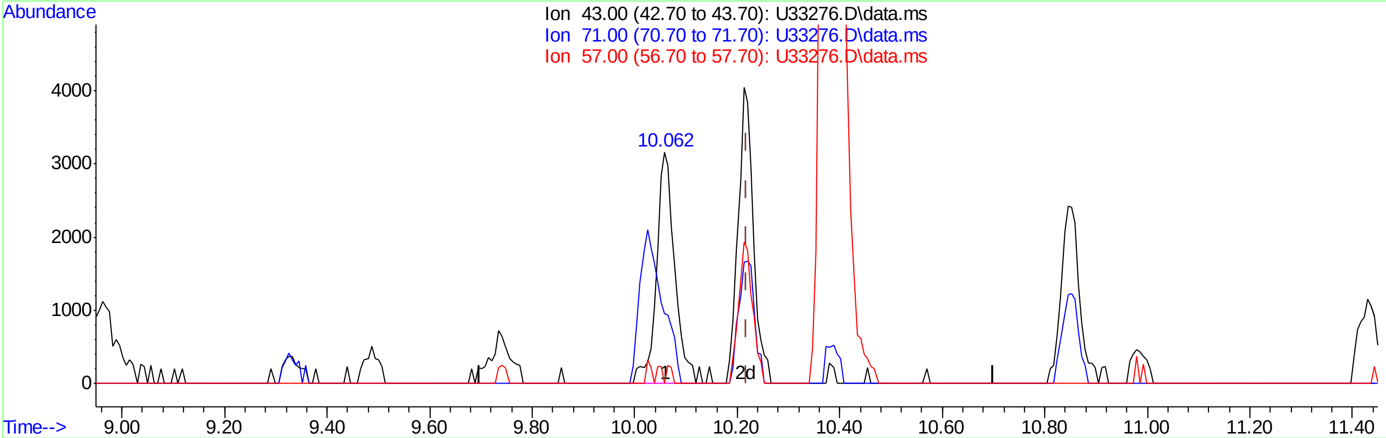
response 8323

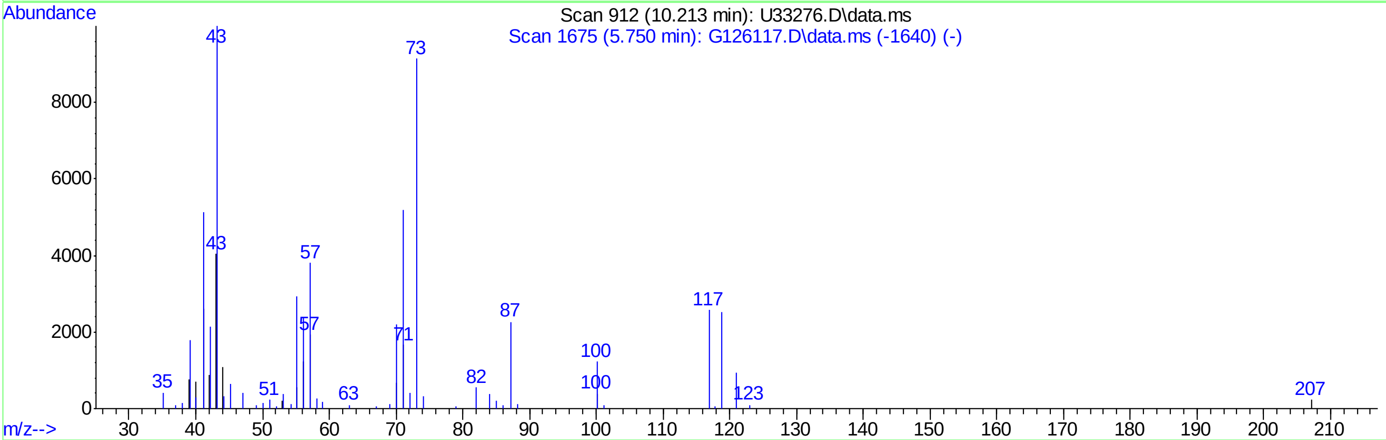
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.66
0.00	0.00	0.00
0.00	0.00	0.00

U33276.D edits: vinyl acetate

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33276.D
Acq On    : 26 Oct 2015   6:39 pm
Operator  : andrewd1
Sample    : ic1360-1
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 27 08:42:33 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:42:15 2015
Response via : Initial Calibration
```





TIC: U33276.D\data.ms

(50) heptane (P)

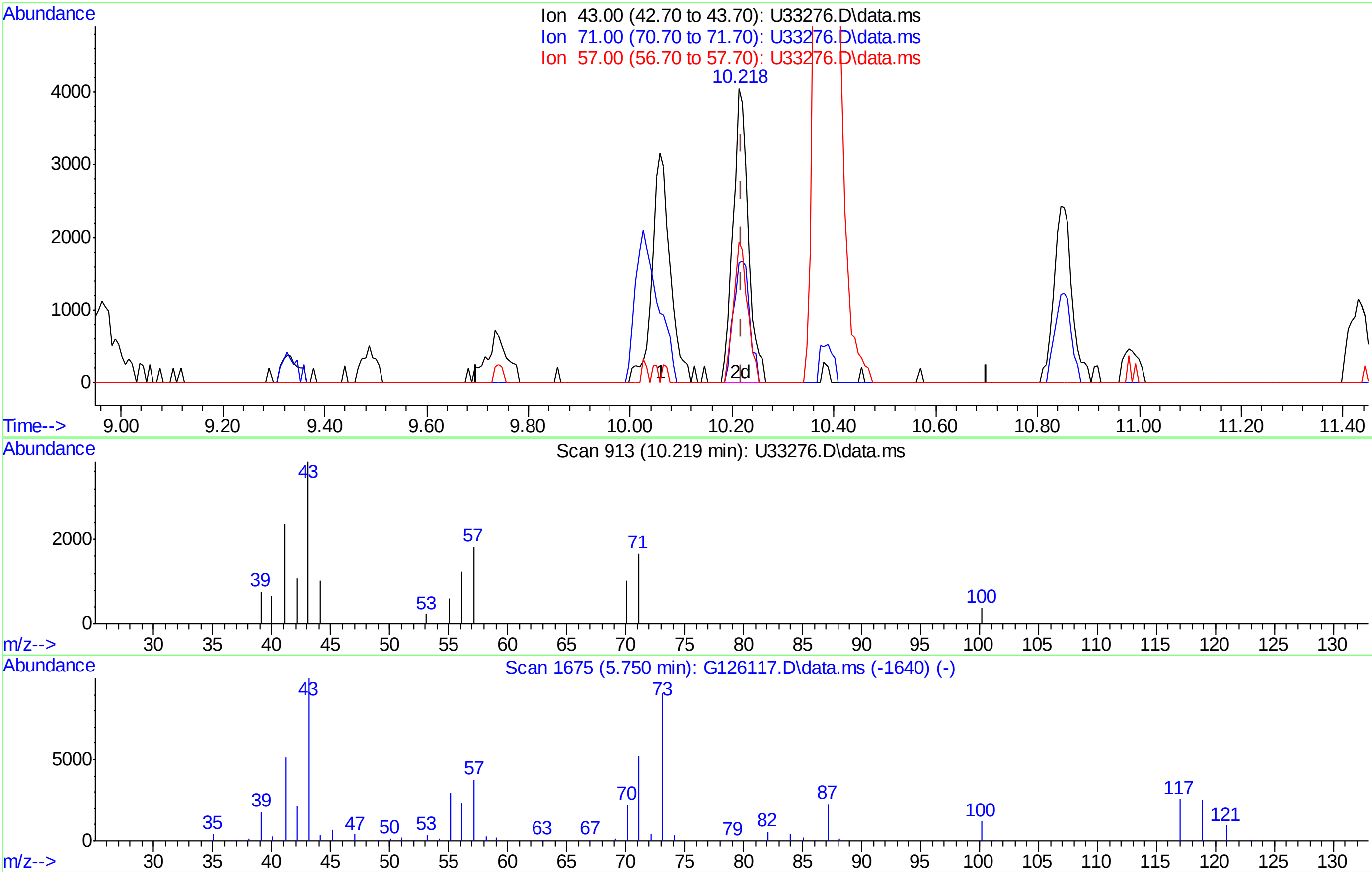
10.062min (-0.158) 1.09 ppb

response 8018

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	31.55
57.00	5.80	8.18
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33276.D
Acq On    : 26 Oct 2015   6:39 pm
Operator  : andrewd1
Sample    : ic1360-1
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Oct 27 08:42:33 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:42:15 2015
Response via : Initial Calibration
```

TIC: U33276.D\data.ms

(50) heptane (P)

10.219min (+ 0.000) 1.12 ppb m

response 8295

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	43.44
57.00	5.80	47.39#
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 15:45

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33277.D
Acq On    : 26 Oct 2015   7:06 pm
Operator  : andrewd1
Sample    : ic1360-2
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Time: Oct 27 08:48:16 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:46:12 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	7.630	65	159344	500.00 ppb	0.16
4) pentafluorobenzene	9.495	168	491070	50.00 ppb	0.00
43) 1,4-difluorobenzene	10.390	114	787024	50.00 ppb	0.00
66) chlorobenzene-d5	13.597	82	446027	50.00 ppb	0.00
80) 1,4-dichlorobenzene-d4	16.173	152	529682	50.00 ppb	0.00
System Monitoring Compounds					
40) dibromofluoromethane (s)	9.565	113	296892	48.97 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.94%		
60) toluene-d8 (s)	11.995	98	959246	52.58 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 105.16%		
82) bromofluorobenzene (s)	14.875	95	420353	53.49 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 106.98%		

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) tertiary butyl alcohol	7.623	59	2898	8.83 ppb		96
5) dichlorodifluoromethane	4.358	85	21353	1.86 ppb		99
6) chloromethane	4.725	50	15649	1.76 ppb		94
7) vinyl chloride	4.977	62	14184	1.73 ppb		85
8) bromomethane	5.582	96	9716	1.82 ppb		83
9) chloroethane	5.739	64	6938	1.60 ppb		84
10) ethyl ether	6.510	59	7426	1.56 ppb		84
11) acetonitrile	7.378	41	19969	2.01 ppb	#	9
12) trichlorofluoromethane	6.159	101	21447	1.75 ppb		98
13) freon-113	6.890	101	12105	1.65 ppb		88
15) 1,1-dichloroethene	6.902	96	9437	1.67 ppb		90
18) methylene chloride	7.529	84	10899	1.56 ppb		88
19) methyl tert butyl ether	7.851	73	29639	1.71 ppb		91
20) acrylonitrile	7.817	53	2795	1.10 ppb		94
22) trans-1,2-dichloroethene	7.878	96	9852	1.62 ppb		94
23) iodomethane	7.153	142	18076	1.62 ppb		98
24) carbon disulfide	7.288	76	35294m	1.60 ppb		
26) vinyl acetate	8.310	43	14656m	1.77 ppb		
27) chloroprene	8.482	53	15275	1.56 ppb		96
28) di-isopropyl ether	8.348	45	33925	1.67 ppb		90
29) methacrylonitrile	9.239	41	6427	1.66 ppb		95
32) Hexane	8.177	41	12015	1.71 ppb	#	69
33) 1,1-dichloroethane	8.399	63	19076	1.64 ppb		99
34) tert-butyl ethyl ether	8.769	59	32659	1.67 ppb		91
35) isobutyl alcohol	8.758	43	3702	7.45 ppb		79
36) 2,2-dichloropropane	9.071	77	15931	1.65 ppb		98
37) cis-1,2-dichloroethene	9.037	96	10752	1.62 ppb		91
38) bromochloromethane	9.318	128	4701	1.44 ppb	#	72
39) chloroform	9.378	83	18332	1.58 ppb		100
42) 1,1,1-trichloroethane	9.633	97	16510	1.66 ppb		94
44) Cyclohexane	9.741	56	19567	1.58 ppb		88
45) carbon tetrachloride	9.817	117	13536	1.63 ppb		97
46) 1,1-dichloropropene	9.784	75	13239	1.67 ppb		95
47) benzene	10.025	78	37132	1.64 ppb		97

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33277.D
Acq On : 26 Oct 2015 7:06 pm
Operator : andrewd1
Sample : ic1360-2
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 27 08:48:16 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:46:12 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
48) 1,2-dichloroethane	10.052	62	14987	1.62 ppb		98
49) tert-amyl methyl ether	10.074	73	30473	1.66 ppb		94
50) heptane	10.218	43	14347	1.73 ppb	#	40
52) 1,2-dichloropropane	10.984	63	9746	1.76 ppb		91
53) dibromomethane	11.096	93	5615	1.53 ppb		93
54) bromodichloromethane	11.229	83	12229	1.58 ppb		96
55) Methylcyclohexane	10.985	83	17209	1.67 ppb		87
56) 2-chloroethyl vinyl ether	11.447	63	5533	2.25 ppb		94
57) methyl methacrylate	10.907	69	5062	1.64 ppb	#	77
59) cis-1,3-dichloropropene	11.679	75	13928	1.86 ppb		95
61) 4-methyl-2-pentanone	11.776	43	10566	1.67 ppb		87
62) toluene	12.071	92	20775	1.78 ppb		98
63) trans-1,3-dichloropropene	12.253	75	11933	1.88 ppb		88
64) 1,1,2-trichloroethane	12.495	83	6511	1.88 ppb		93
65) ethyl methacrylate	12.219	69	9876	1.83 ppb		82
67) tetrachloroethene	12.646	166	9148	1.74 ppb		96
68) 1,3-dichloropropane	12.687	76	12967	1.91 ppb		95
69) dibromochloromethane	12.954	129	7898	1.67 ppb		95
70) 1,2-dibromoethane	13.133	107	7862	1.85 ppb		92
71) 2-hexanone	12.648	43	7074	1.88 ppb		33
72) chlorobenzene	13.632	112	23501	1.70 ppb		85
73) 1,1,1,2-tetrachloroethane	13.698	131	9083	1.53 ppb		94
74) ethylbenzene	13.686	91	40667	1.60 ppb		99
75) m,p-xylene	13.816	106	31087	3.18 ppb		97
76) o-xylene	14.258	106	16694	1.58 ppb		95
77) styrene	14.272	104	25021	1.60 ppb		90
78) bromoform	14.547	173	5179	1.39 ppb		84
79) trans-1,4-dichloro-2-b...	14.678	53	2642	1.31 ppb	#	1
81) isopropylbenzene	14.639	105	45243	1.73 ppb		100
83) bromobenzene	15.086	156	11806	1.77 ppb		91
84) 1,1,2,2-tetrachloroethane	14.947	83	11482	1.81 ppb		92
85) 1,2,3-trichloropropane	15.060	75	11420	1.75 ppb		56
86) n-propylbenzene	15.100	91	54525	1.71 ppb		97
87) 2-chlorotoluene	15.259	91	39514	1.69 ppb		99
88) 4-chlorotoluene	15.382	91	34645	1.72 ppb		99
89) 1,3,5-trimethylbenzene	15.270	105	41122	1.69 ppb		95
90) tert-butylbenzene	15.651	91	24222	1.47 ppb		96
91) 1,2,4-trimethylbenzene	15.708	105	44859	1.65 ppb		99
92) sec-butylbenzene	15.895	105	53756	1.68 ppb		97
93) 1,3-dichlorobenzene	16.096	146	25867	1.67 ppb		96
94) p-isopropyltoluene	16.038	119	45979	1.62 ppb		96
95) 1,4-dichlorobenzene	16.203	146	26761	1.70 ppb		99
96) 1,2-dichlorobenzene	16.616	146	28201	1.66 ppb		95
97) n-butylbenzene	16.494	91	48446	1.56 ppb		96
98) 1,2-dibromo-3-chloropr...	17.461	75	2439	1.28 ppb		84
99) 1,3,5-trichlorobenzene	17.655	180	26085	1.56 ppb		100
100) 1,2,4-trichlorobenzene	18.368	180	24659	1.61 ppb		93
101) hexachlorobutadiene	18.483	225	11317	1.55 ppb		96
102) naphthalene	18.711	128	48020	1.46 ppb		100
103) 2-Methylnaphthalene	20.107	142	13703	0.73 ppb		97

Quantitation Report (QT Reviewed)

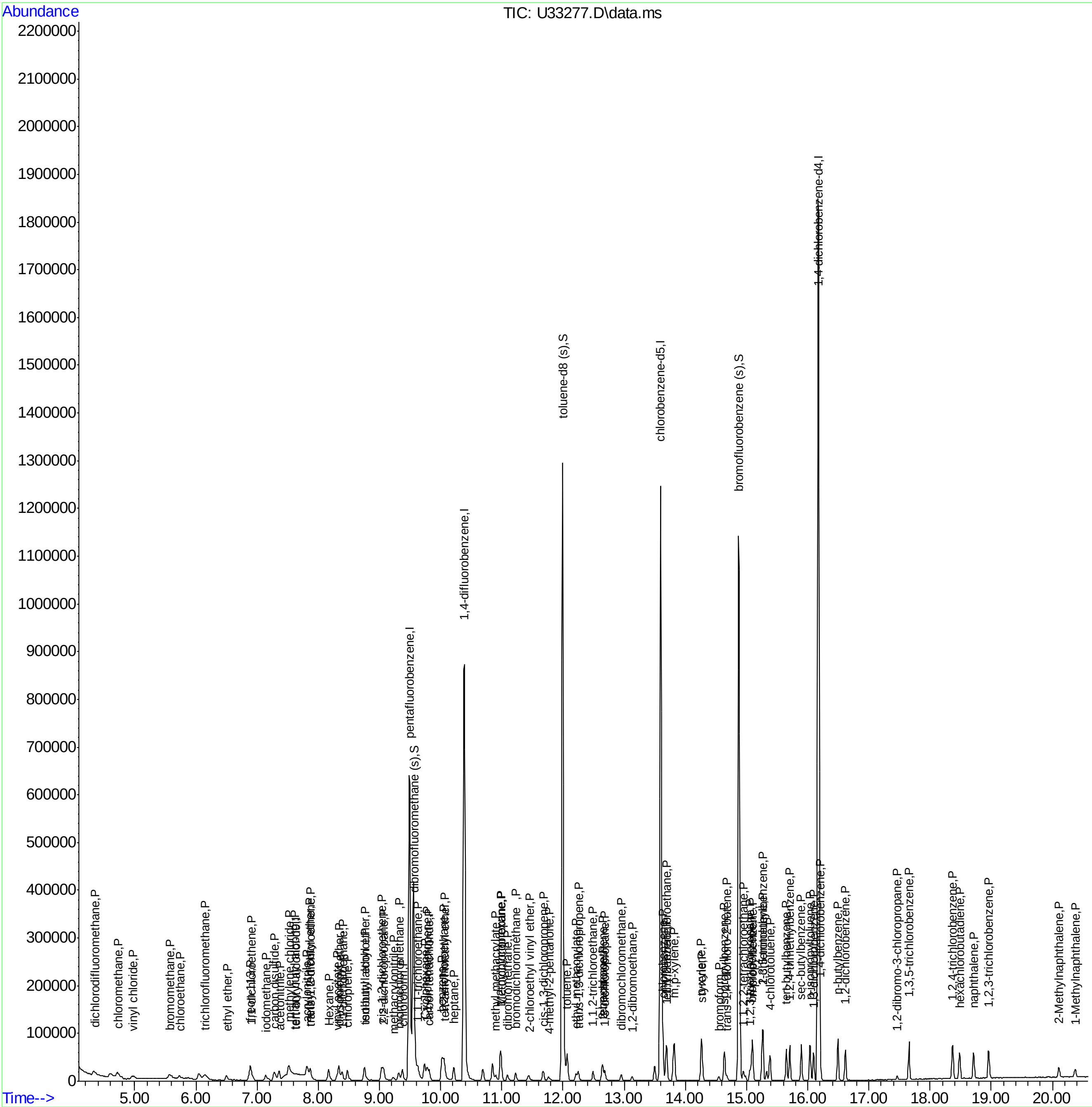
```
Data Path : R:\1\data\U151026\
Data File : U33277.D
Acq On    : 26 Oct 2015   7:06 pm
Operator  : andrewd1
Sample    : ic1360-2
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Time: Oct 27 08:48:16 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:46:12 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
104) 1-Methylnaphthalene	20.372	142	10496	0.77 ppb	96
105) 1,2,3-trichlorobenzene	18.958	180	21541	1.59 ppb	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

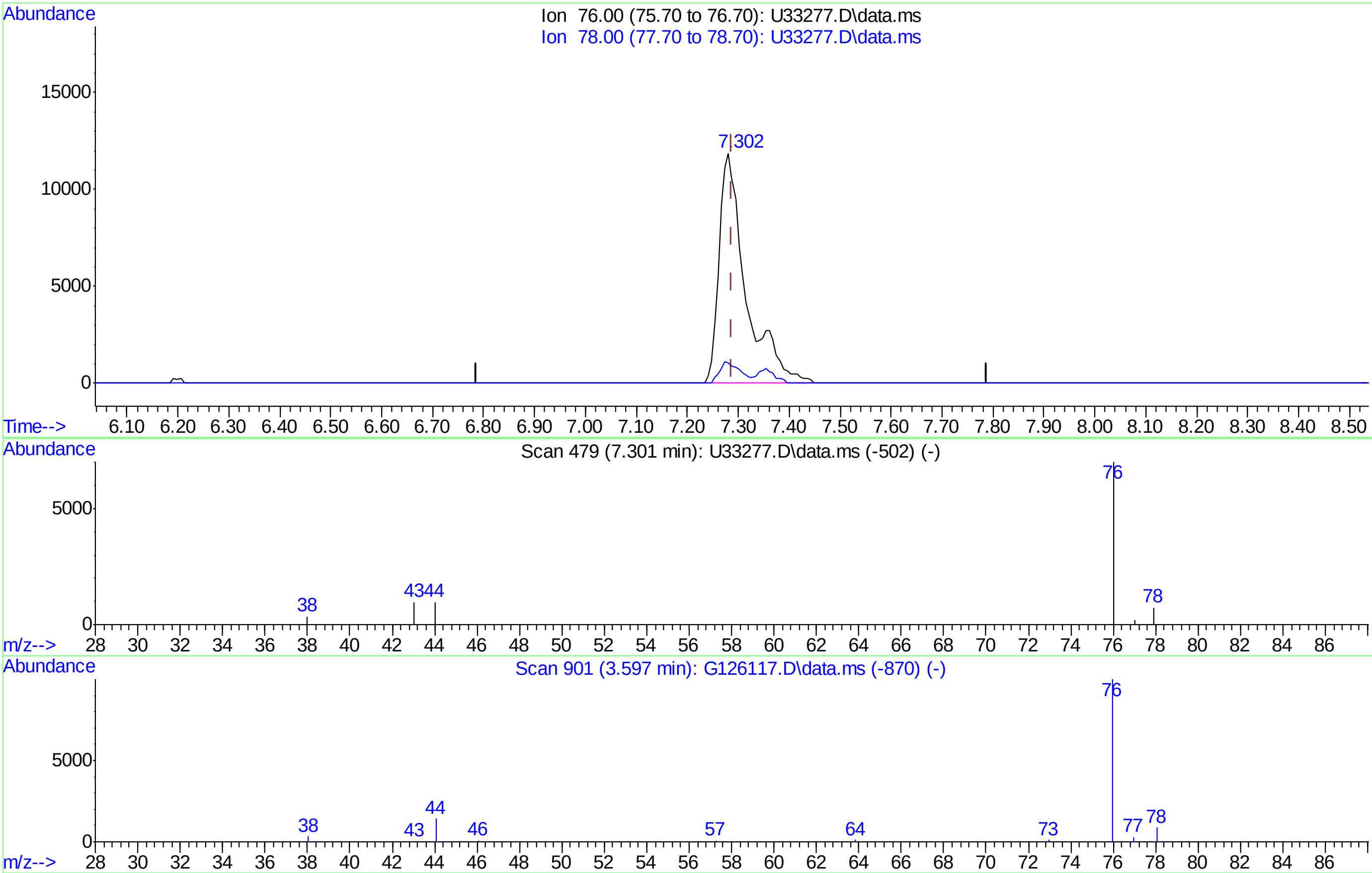
```
Data Path : R:\1\data\U151026\
Data File : U33277.D
Acq On    : 26 Oct 2015   7:06 pm
Operator  : andrewd1
Sample    : ic1360-2
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Time: Oct 27 08:48:16 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:46:12 2015
Response via : Initial Calibration
```



U151027.m Tue Oct 27 10:38:39 2015 Page: 4

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33277.D
Acq On    : 26 Oct 2015   7:06 pm
Operator  : andrewd1
Sample    : ic1360-2
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Time: Oct 27 08:46:48 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:46:12 2015
Response via : Initial Calibration
```



TIC: U33277.D\data.ms

(24) carbon disulfide (P)

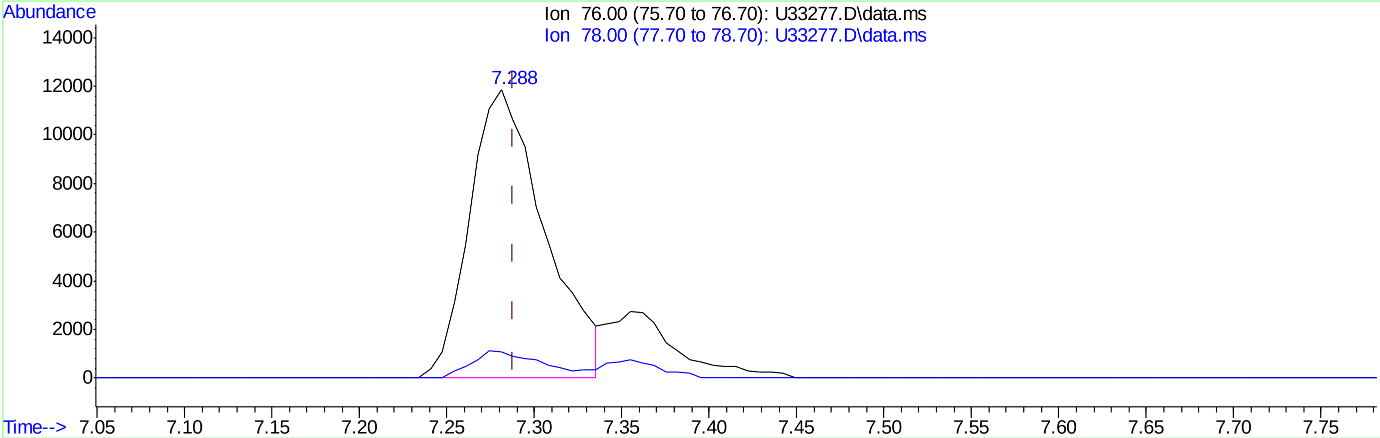
7.302min (+ 0.014) 1.94 ppb

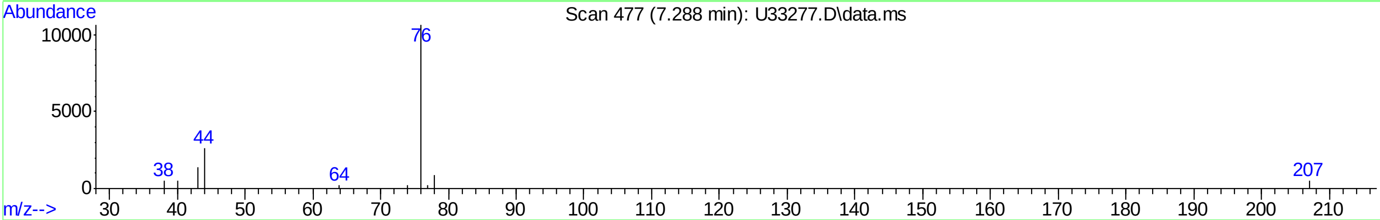
response 42781

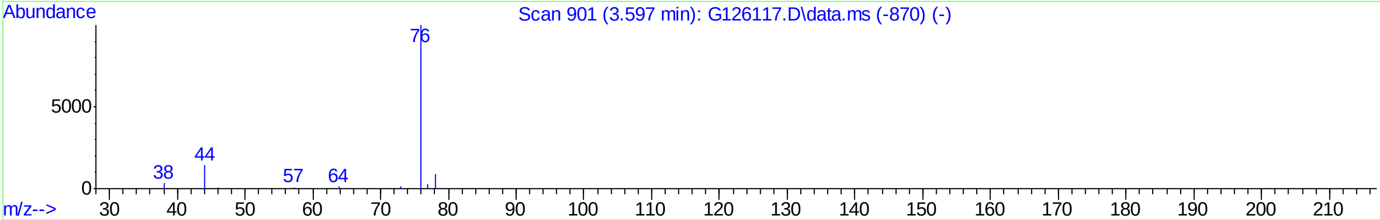
Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	10.49
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33277.D
Acq On    : 26 Oct 2015   7:06 pm
Operator  : andrewd1
Sample    : ic1360-2
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Time: Oct 27 08:46:48 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:46:12 2015
Response via : Initial Calibration
```





TIC: U33277.D\data.ms

(24) carbon disulfide (P)

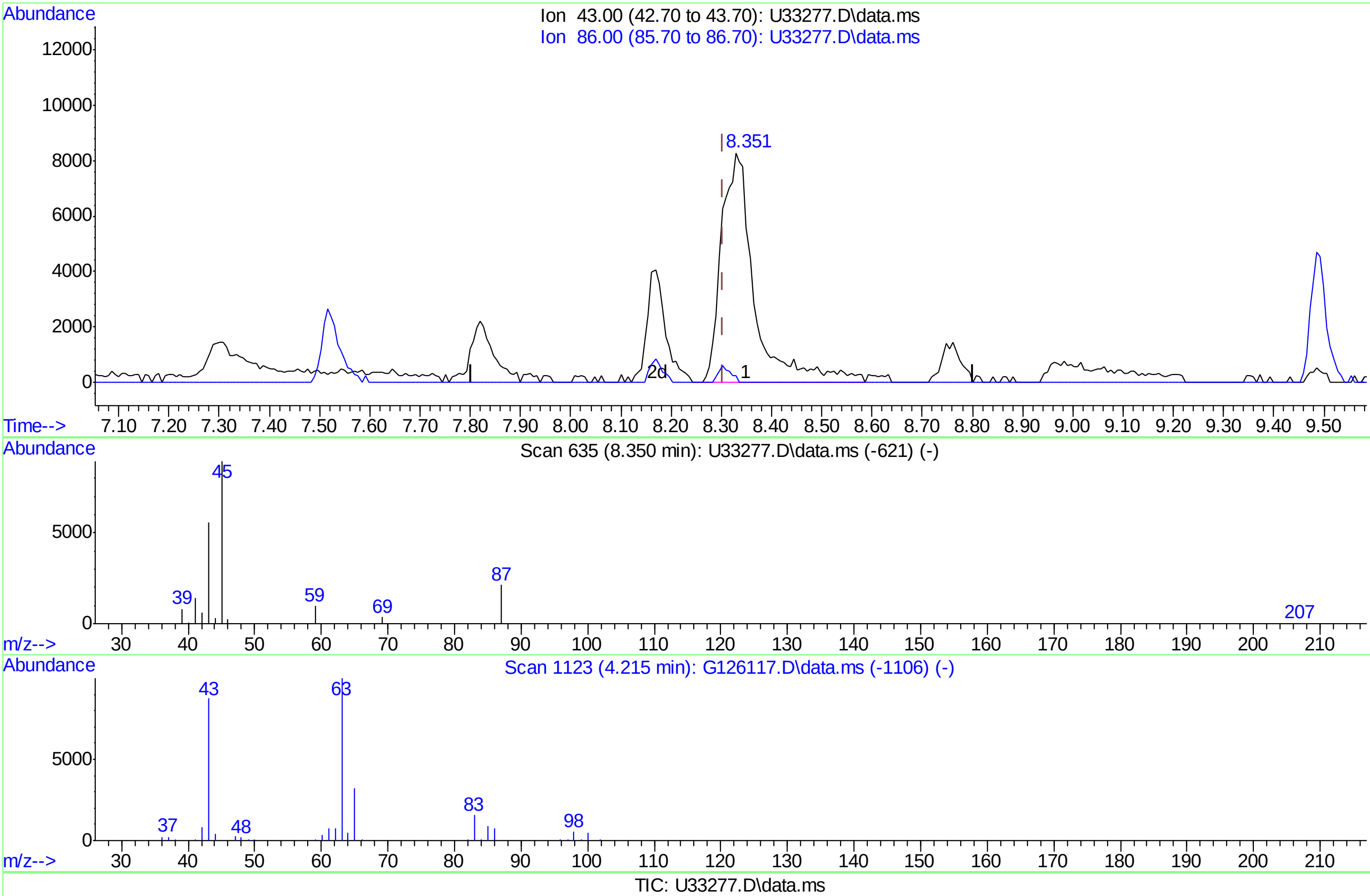
7.288min (-0.000) 1.60 ppb m

response 35294

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	8.20
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33277.D
Acq On    : 26 Oct 2015   7:06 pm
Operator  : andrewd1
Sample    : ic1360-2
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Time: Oct 27 08:46:48 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:46:12 2015
Response via : Initial Calibration
```



(26) vinyl acetate (P)

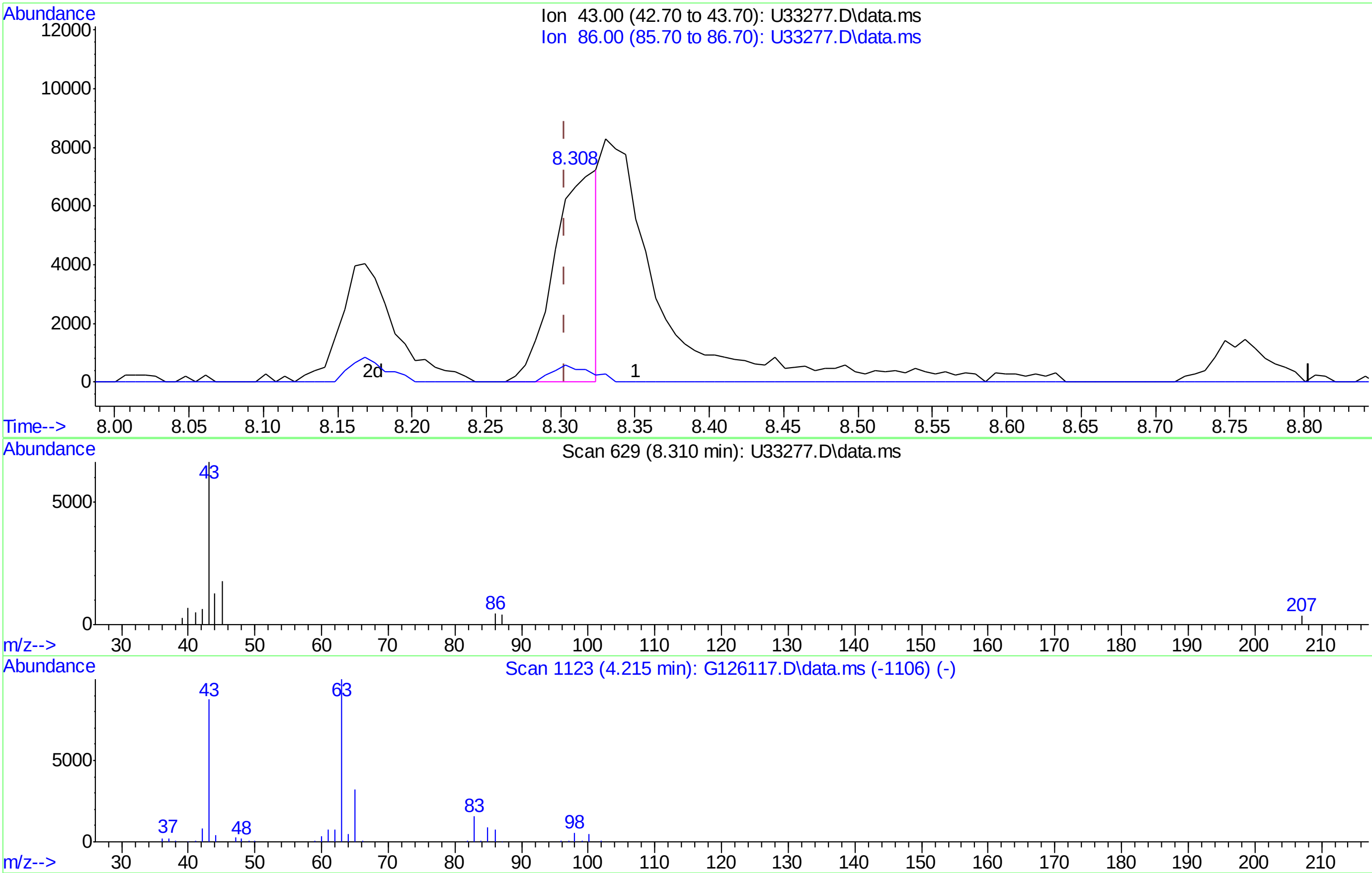
8.351min (+ 0.047) 4.55 ppb

response 37665

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33277.D
Acq On    : 26 Oct 2015   7:06 pm
Operator  : andrewd1
Sample    : ic1360-2
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 7   Sample Multiplier: 1

Quant Time: Oct 27 08:46:48 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:46:12 2015
Response via : Initial Calibration
```

TIC: U33277.D\data.ms

(26) vinyl acetate (P)

8.310min (+ 0.007) 1.77 ppb m

response 14656

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.56
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 15:45

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 09:50:38 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration

       Compound                       R.T. QIon  Response  Conc Units Dev(Min)
 ------------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9          7.537   65    282583   500.00 ppb      0.07
   4) pentafluorobenzene             9.493  168    464768    50.00 ppb      0.00
  43) 1,4-difluorobenzene           10.387  114    686082    50.00 ppb      0.00
  66) chlorobenzene-d5              13.595   82    359964    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4        16.173  152    537442    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)       9.559  113    305089    53.45 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery    =  106.90%
  60) toluene-d8 (s)                11.993   98    762101    47.31 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery    =   94.62%
  82) bromofluorobenzene (s)        14.873   95    380893    46.95 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery    =   93.90%

 Target Compounds                                                    Qvalue
   2) tertiary butyl alcohol         7.620   59     27847    66.38 ppb       55
   3) Ethanol                        6.363   45     12168   266.66 ppb       88
   5) dichlorodifluoromethane        4.357   85     59665     5.60 ppb       99
   6) chloromethane                  4.726   50     41166     5.04 ppb       99
   7) vinyl chloride                 4.975   62     40699     5.44 ppb       96
   8) bromomethane                   5.582   96     26108     5.30 ppb       93
   9) chloroethane                   5.740   64     20254     5.28 ppb       88
  10) ethyl ether                    6.510   59     23479     5.62 ppb       99
  11) acetonitrile                   7.365   41     48694     5.17 ppb  #    11
  12) trichlorofluoromethane         6.162  101     62433     5.55 ppb       93
  13) freon-113                      6.889  101     35600     5.44 ppb       99
  15) 1,1-dichloroethene             6.902   96     26687     5.21 ppb       96
  16) acetone                        6.920   58      2640     3.67 ppb  #     1
  17) Methyl Acetate                 6.960   43     14388     5.54 ppb  #    64
  18) methylene chloride             7.527   84     32316     5.18 ppb       90
  19) methyl tert butyl ether        7.834   73     83118     5.27 ppb       89
  20) acrylonitrile                  7.802   53     11164     4.63 ppb       79
  21) allyl chloride                 7.367   41     50519     5.23 ppb       76
  22) trans-1,2-dichloroethene       7.877   96     29079     5.31 ppb       91
  23) iodomethane                    7.151  142     52511     5.22 ppb       88
  24) carbon disulfide               7.288   76     99084m    5.08 ppb
  25) propionitrile                  8.478   54      1997m    4.53 ppb
  26) vinyl acetate                  8.310   43     44351m    5.89 ppb
  27) chloroprene                    8.482   53     47938     5.46 ppb       98
  28) di-isopropyl ether             8.344   45     98480     5.34 ppb       91
  29) methacrylonitrile              9.228   41     16920     4.90 ppb       97
  30) 2-butanone                     8.987   72      2805     4.14 ppb  #     1
  31) Ethyl Acetate                  8.174   43     26529     5.12 ppb  #     1
  32) Hexane                         8.176   41     31592     5.00 ppb  #    72
  33) 1,1-dichloroethane             8.397   63     58074     5.52 ppb       96
  34) tert-butyl ethyl ether         8.764   59     95167     5.37 ppb       93
  35) isobutyl alcohol               8.765   43     10976    25.50 ppb  #    65
  36) 2,2-dichloropropane            9.070   77     45191     5.18 ppb       96
  37) cis-1,2-dichloroethene         9.037   96     33611     5.62 ppb       91
```


7.6.4
7

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On : 26 Oct 2015 7:33 pm
Operator : andrewd1
Sample : ic1360-5
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 27 09:50:38 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
38) bromochloromethane	9.317	128	15728	5.63 ppb	#	76
39) chloroform	9.377	83	58209	5.60 ppb		94
41) Tetrahydrofuran	9.345	42	9407	4.93 ppb		94
42) 1,1,1-trichloroethane	9.633	97	49560	5.50 ppb		99
44) Cyclohexane	9.741	56	58153	5.79 ppb		96
45) carbon tetrachloride	9.817	117	40578	5.86 ppb		99
46) 1,1-dichloropropene	9.783	75	38636	5.83 ppb		99
47) benzene	10.024	78	101617	5.39 ppb		99
48) 1,2-dichloroethane	10.047	62	41694	5.51 ppb		98
49) tert-amyl methyl ether	10.063	73	84834	5.53 ppb		96
50) heptane	10.219	43	34439m	5.00 ppb		
52) 1,2-dichloropropane	10.981	63	24443	5.27 ppb		99
53) dibromomethane	11.092	93	16490	5.59 ppb		96
54) bromodichloromethane	11.226	83	32868	5.23 ppb		98
55) Methylcyclohexane	10.985	83	50672	5.90 ppb		87
56) 2-chloroethyl vinyl ether	11.439	63	8754	3.84 ppb		99
57) methyl methacrylate	10.902	69	9572	3.90 ppb		84
59) cis-1,3-dichloropropene	11.676	75	28098	4.38 ppb		100
61) 4-methyl-2-pentanone	11.765	43	24574	4.65 ppb		98
62) toluene	12.070	92	47606	4.82 ppb		100
63) trans-1,3-dichloropropene	12.250	75	23111	4.23 ppb		93
64) 1,1,2-trichloroethane	12.490	83	14076	4.76 ppb		98
65) ethyl methacrylate	12.214	69	21629	4.70 ppb		90
67) tetrachloroethene	12.645	166	21182	5.16 ppb		95
68) 1,3-dichloropropane	12.682	76	25117	4.63 ppb		93
69) dibromochloromethane	12.951	129	18827	5.14 ppb		97
70) 1,2-dibromoethane	13.129	107	16785	5.01 ppb		99
71) 2-hexanone	12.640	43	16746	5.52 ppb	#	17
72) chlorobenzene	13.631	112	55016	5.12 ppb		94
73) 1,1,1,2-tetrachloroethane	13.697	131	25800	5.71 ppb		97
74) ethylbenzene	13.686	91	102998	5.28 ppb		97
75) m,p-xylene	13.814	106	78760	10.52 ppb		98
76) o-xylene	14.258	106	47252	5.86 ppb		95
77) styrene	14.271	104	65107	5.43 ppb		90
78) bromoform	14.544	173	14058	5.19 ppb		99
79) trans-1,4-dichloro-2-b...	14.677	53	7392	5.48 ppb	#	1
81) isopropylbenzene	14.639	105	122921	4.78 ppb		99
83) bromobenzene	15.085	156	32891	5.00 ppb		94
84) 1,1,2,2-tetrachloroethane	14.946	83	28829	4.59 ppb		97
85) 1,2,3-trichloropropane	15.060	75	31214m	4.86 ppb		
86) n-propylbenzene	15.100	91	155351	4.98 ppb		98
87) 2-chlorotoluene	15.258	91	111293	4.88 ppb		95
88) 4-chlorotoluene	15.382	91	94511	4.80 ppb		97
89) 1,3,5-trimethylbenzene	15.269	105	115197	4.85 ppb		100
90) tert-butylbenzene	15.651	91	58719	3.51 ppb		95
91) 1,2,4-trimethylbenzene	15.707	105	128119	4.86 ppb		99
92) sec-butylbenzene	15.895	105	146548	4.71 ppb		99
93) 1,3-dichlorobenzene	16.096	146	75805	5.02 ppb		98
94) p-isopropyltoluene	16.037	119	131862	4.80 ppb		99
95) 1,4-dichlorobenzene	16.202	146	76573	4.97 ppb		98

Quantitation Report (QT Reviewed)

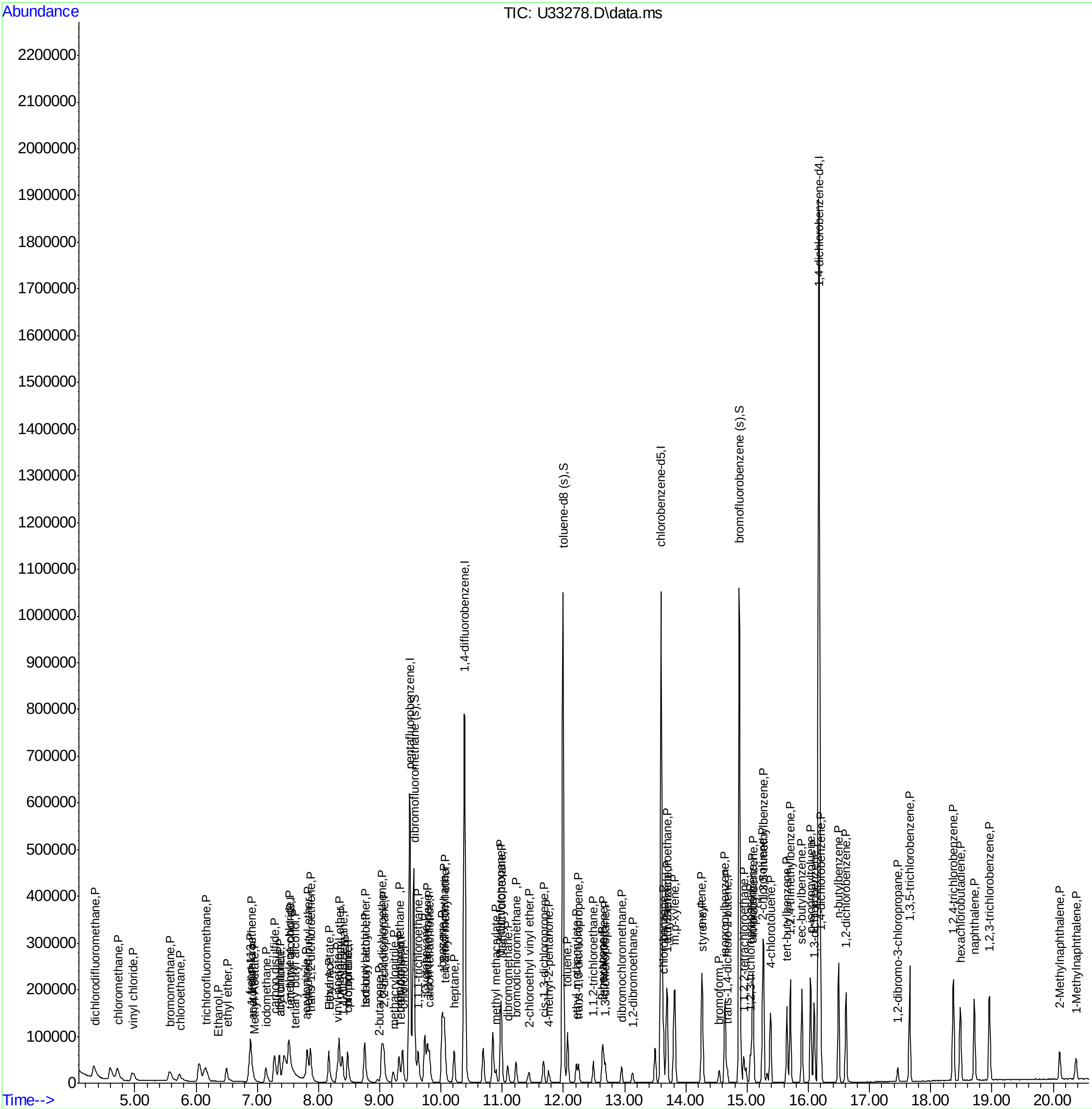
```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 09:50:38 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
96) 1,2-dichlorobenzene	16.616	146	84426	5.11 ppb	95
97) n-butylbenzene	16.493	91	148288	4.98 ppb	100
98) 1,2-dibromo-3-chloropr...	17.460	75	8195	5.16 ppb	85
99) 1,3,5-trichlorobenzene	17.655	180	83175	5.29 ppb	96
100) 1,2,4-trichlorobenzene	18.368	180	73903	5.08 ppb	94
101) hexachlorobutadiene	18.483	225	33606	4.81 ppb	98
102) naphthalene	18.711	128	151567	4.87 ppb	100
103) 2-Methylnaphthalene	20.107	142	37105	1.96 ppb	91
104) 1-Methylnaphthalene	20.371	142	28507	2.05 ppb	96
105) 1,2,3-trichlorobenzene	18.958	180	65567	5.11 ppb	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

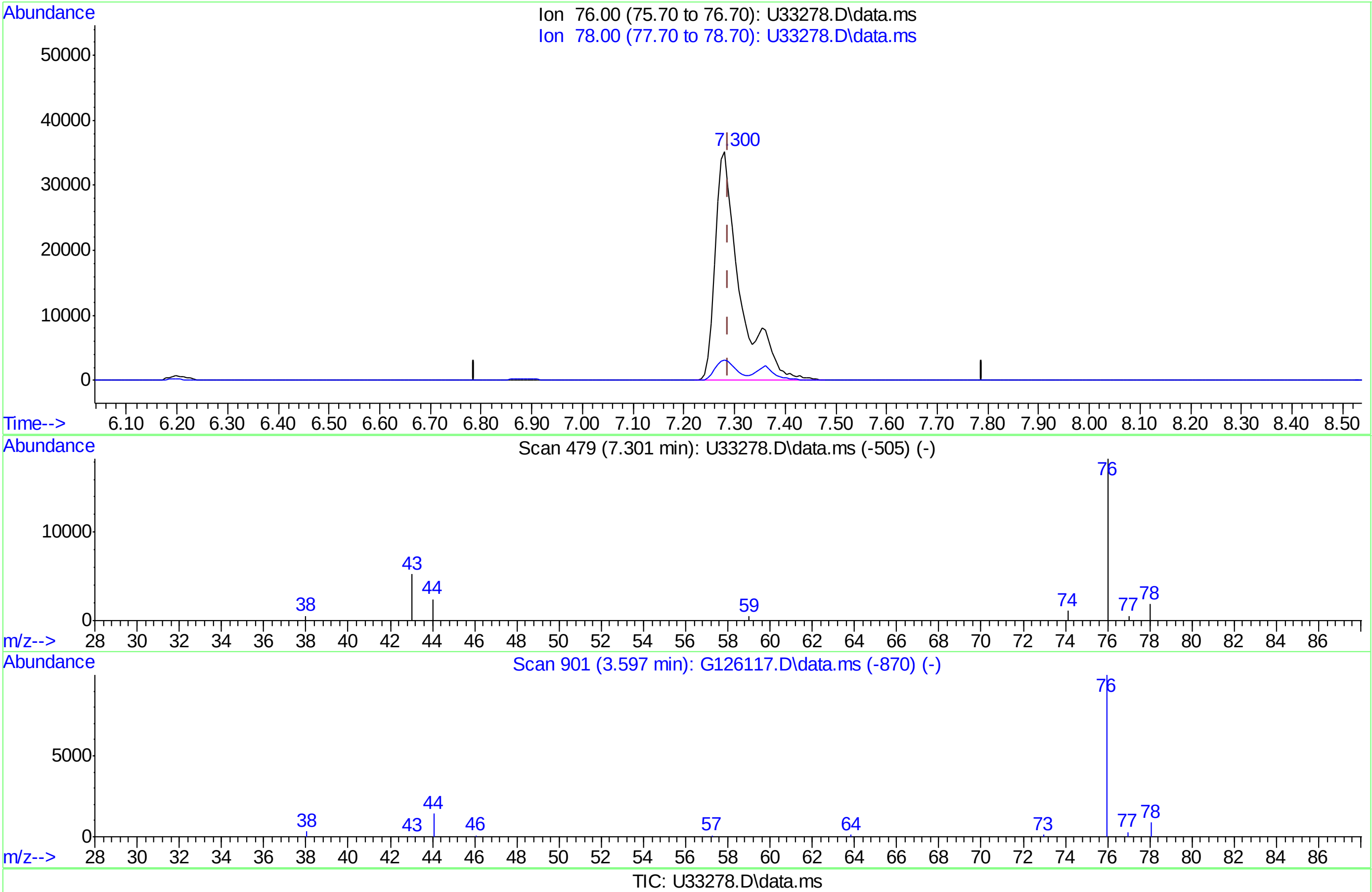
```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 09:50:38 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```



U151027.m Tue Oct 27 10:38:44 2015 Page: 4

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 08:50:07 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```

(24) carbon disulfide (P)

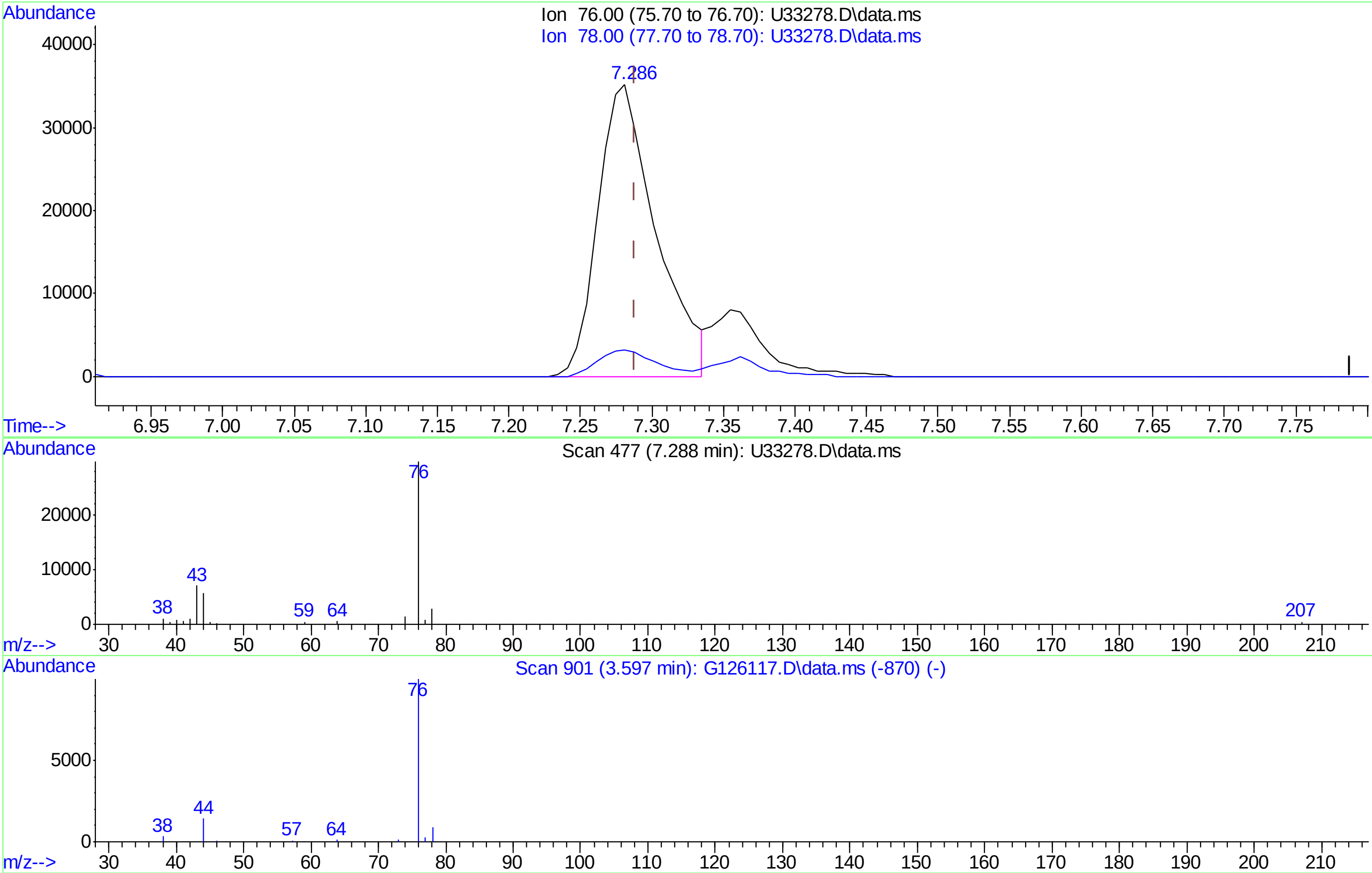
7.300min (+ 0.012) 6.13 ppb

response 119524

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.97
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 08:50:07 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```



TIC: U33278.D\data.ms

(24) carbon disulfide (P)

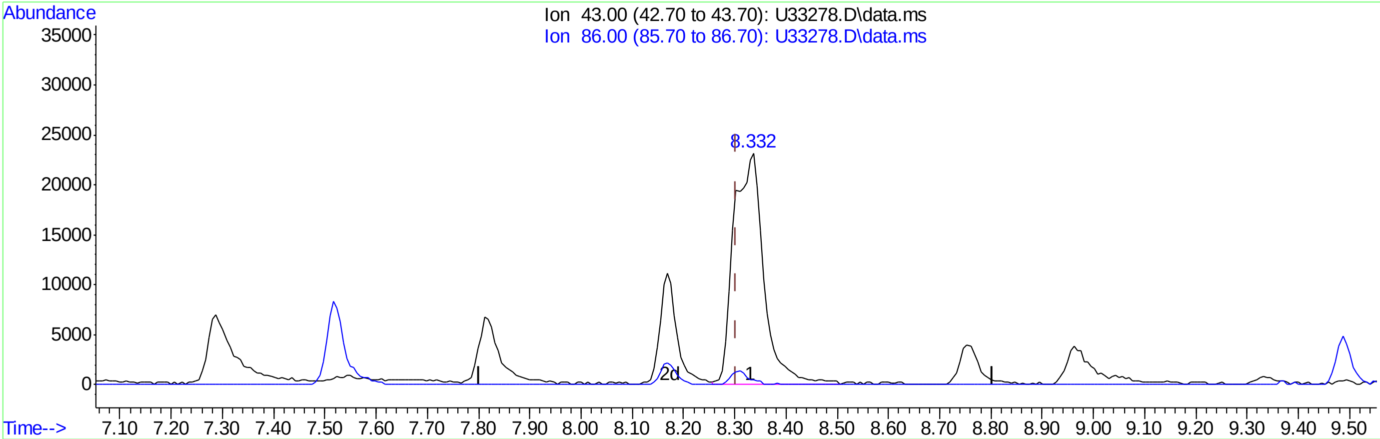
7.288min (-0.000) 5.08 ppb m

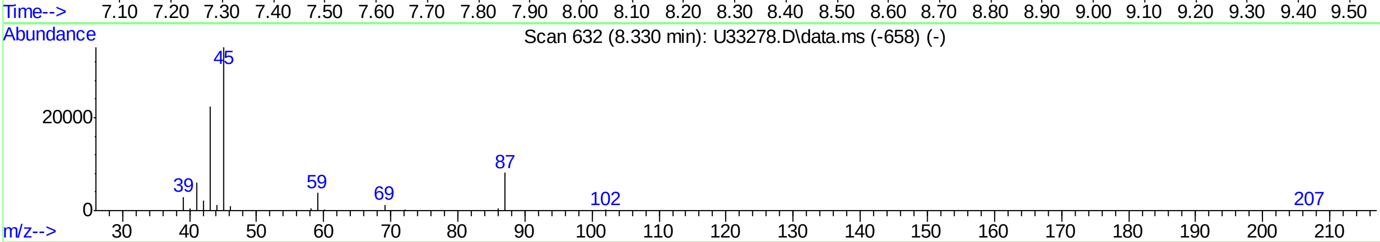
response 99084

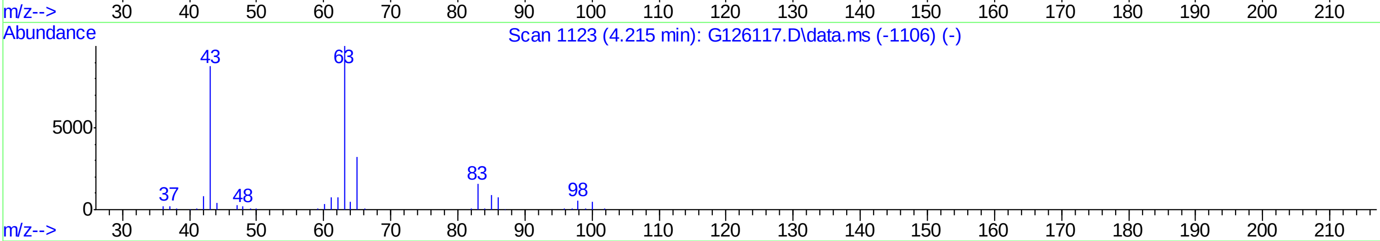
Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.94
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 08:50:07 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```







TIC: U33278.D\data.ms

(26) vinyl acetate (P)

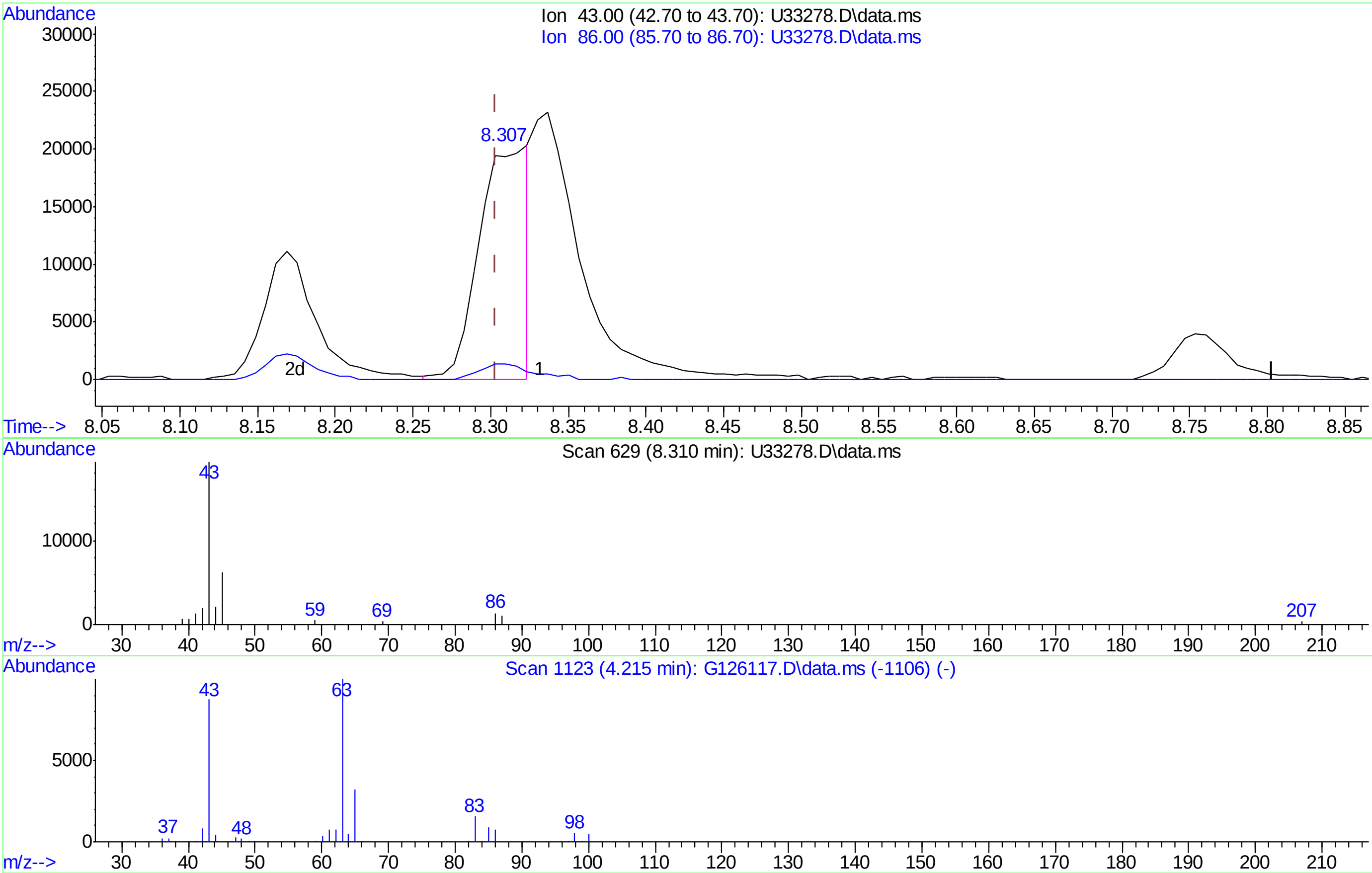
8.332min (+ 0.029) 12.51 ppb

response 94196

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.14
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 08:50:07 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```

TIC: U33278.D\data.ms

(26) vinyl acetate (P)

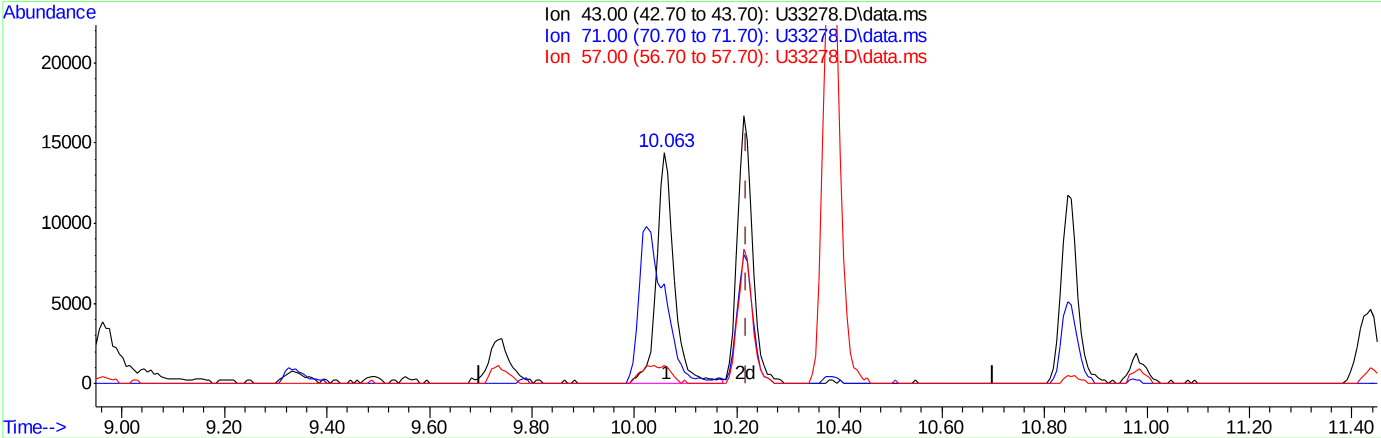
8.310min (+ 0.007) 5.89 ppb m

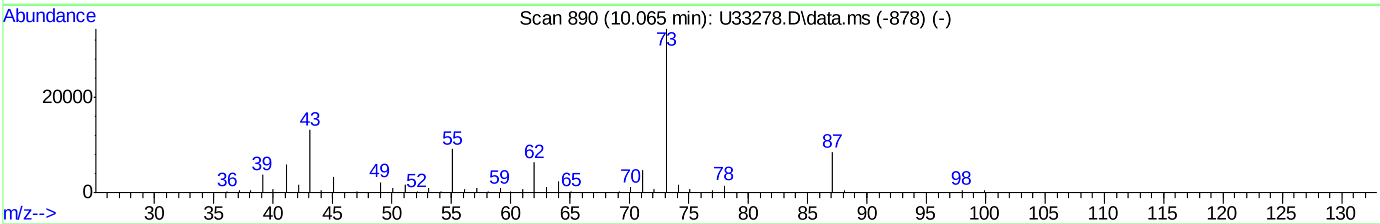
response 44351

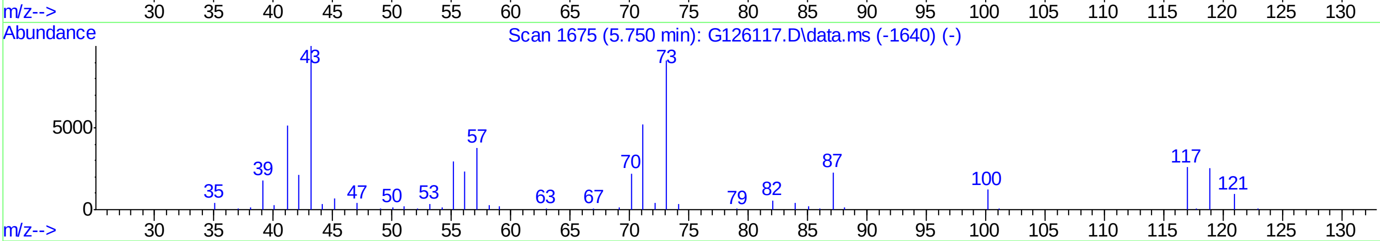
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.99
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 08:50:07 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```





TIC: U33278.D\data.ms

(50) heptane (P)

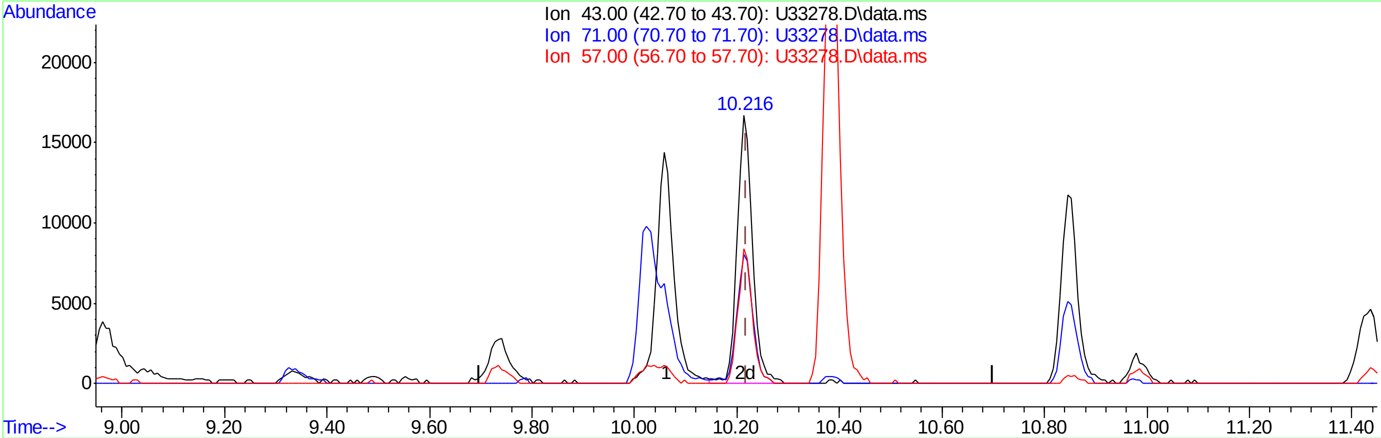
10.063min (-0.156) 5.08 ppb

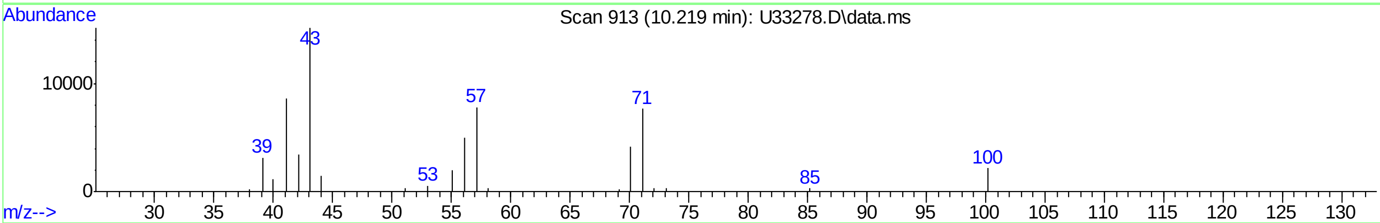
response 34996

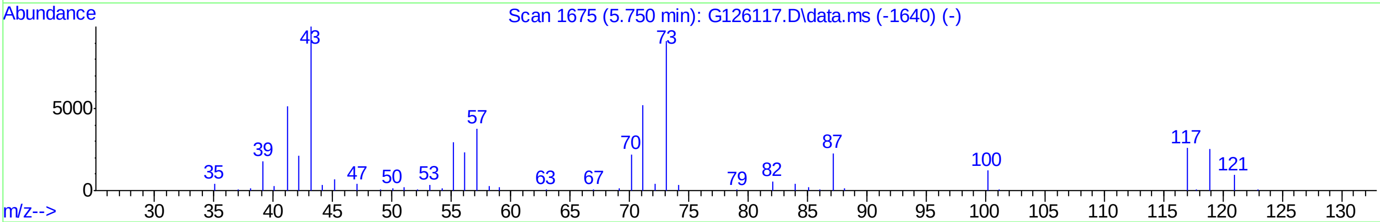
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	36.79
57.00	5.80	7.43
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 08:50:07 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```







TIC: U33278.D\data.ms

(50) heptane (P)

10.219min (-0.000) 5.00 ppb m

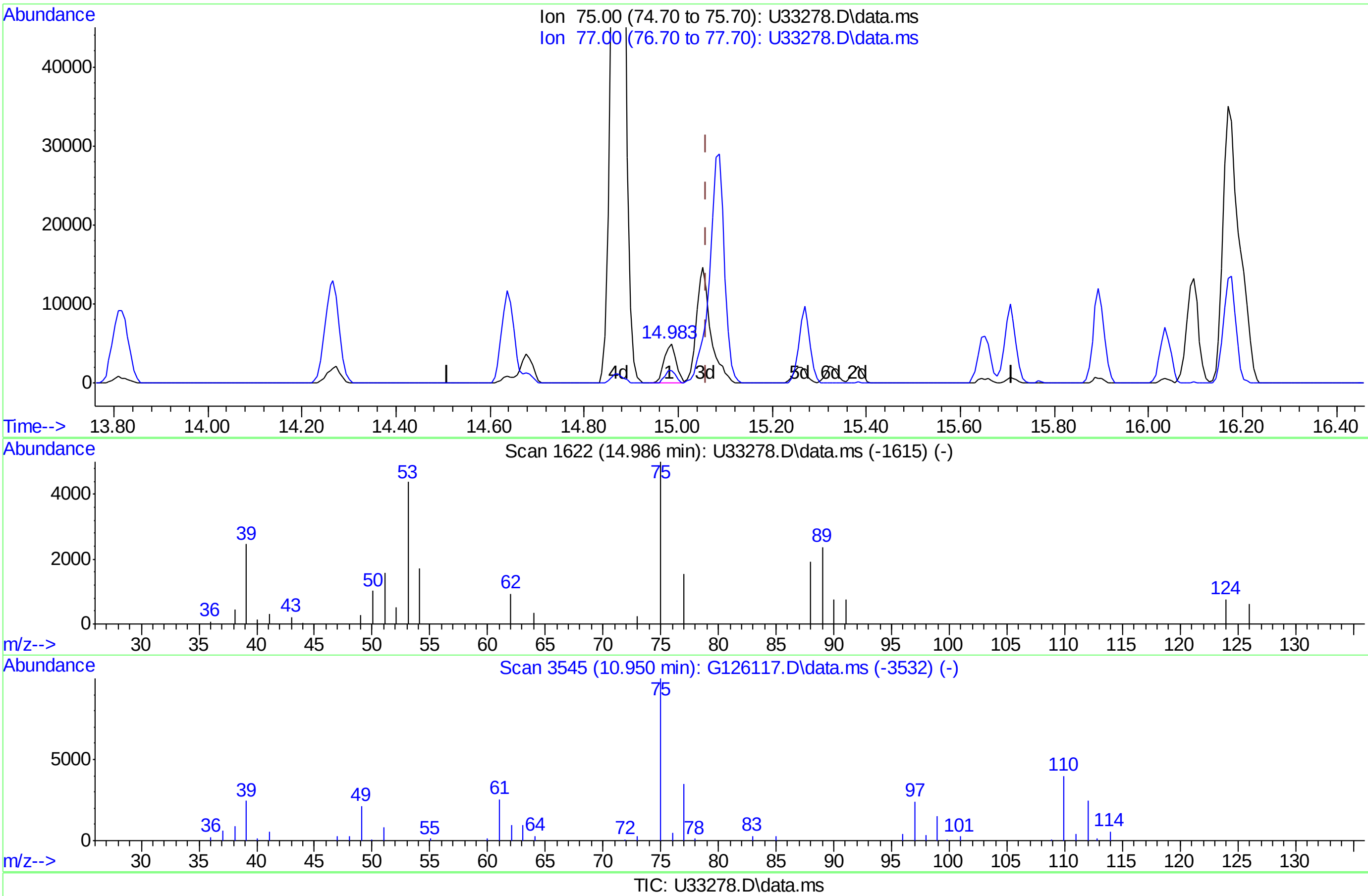
response 34439

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	50.54
57.00	5.80	51.46#
0.00	0.00	0.00

U33278.D edits: heptane

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 08:50:07 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```



(85) 1,2,3-trichloropropane (P)

14.983min (-0.077) 1.35 ppb

response 8688

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	30.51
0.00	0.00	0.00
0.00	0.00	0.00

7.6.4.7

7

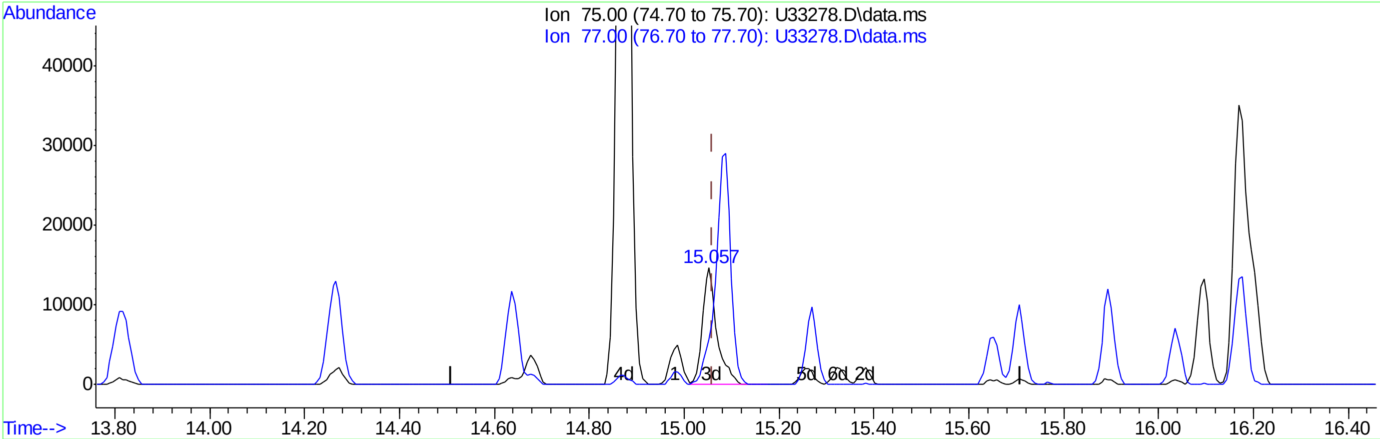
ACCUTEST

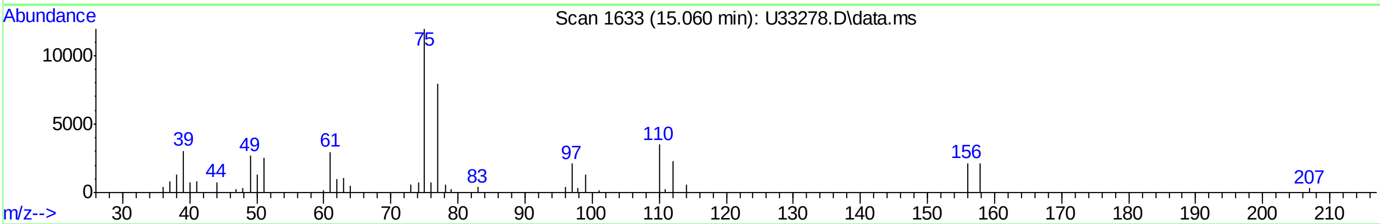
MC42178

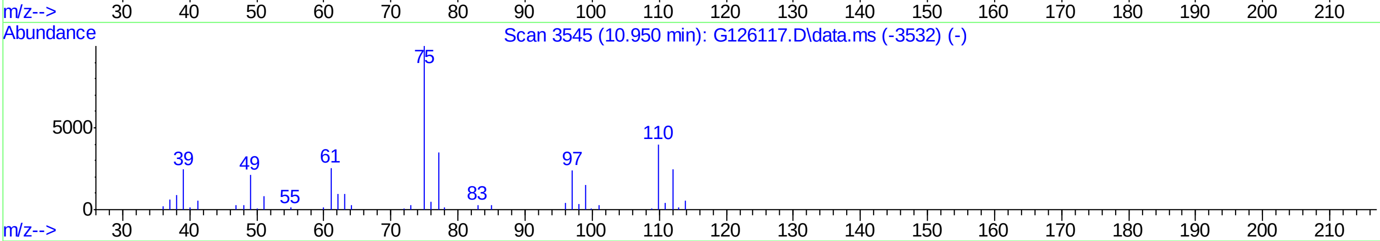
U33278.D edits: 1,2,3-trichloropropane

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 08:50:07 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```





TIC: U33278.D\data.ms

(85) 1,2,3-trichloropropane (P)

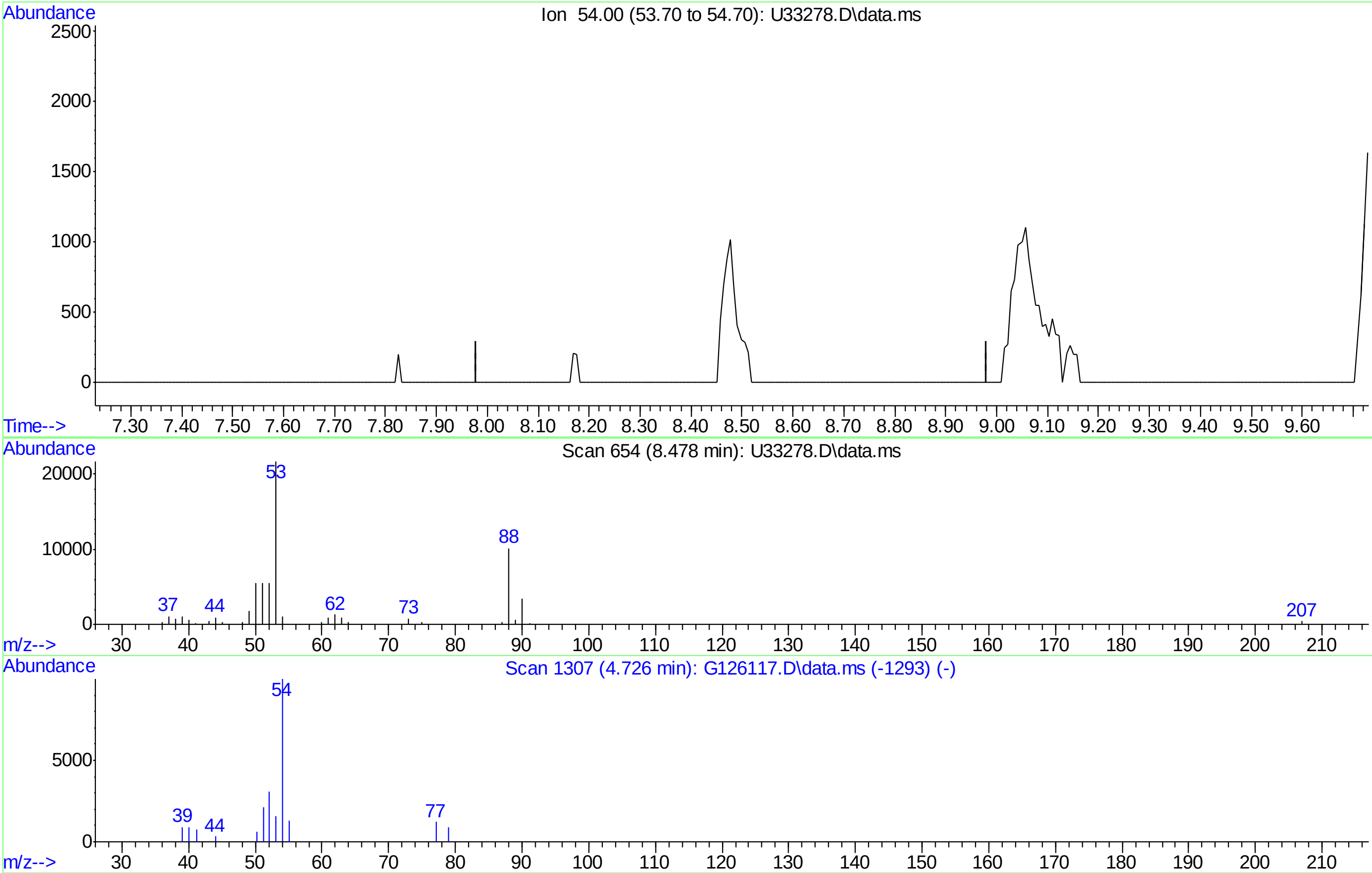
15.060min (-0.000) 4.86 ppb m

response 31214

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	66.42#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 09:49:46 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```

TIC: U33278.D\data.ms

(25) propionitrile (P)

8.481min 0.00 ppb d

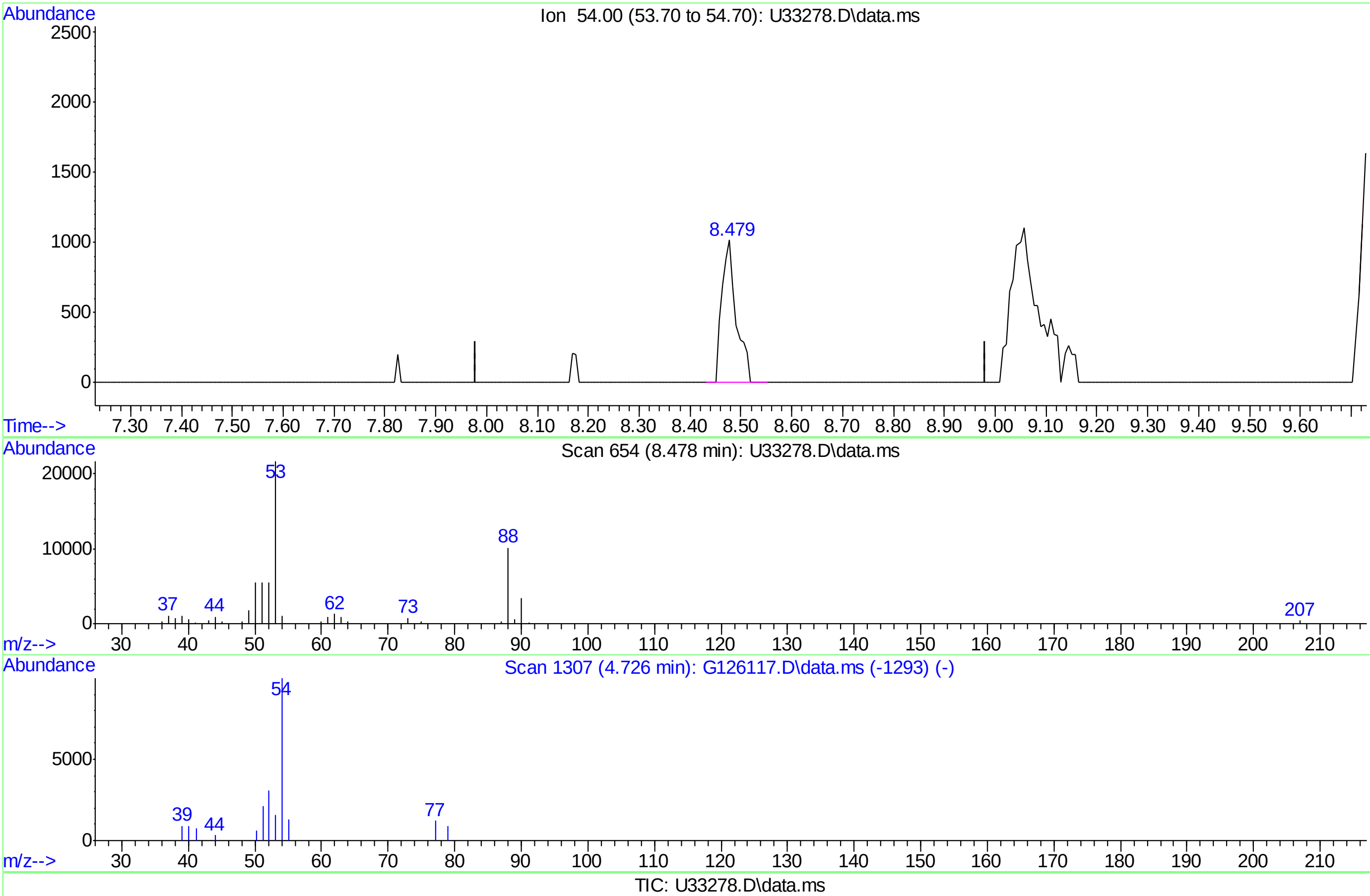
response 0

Ion	Exp%	Act%
54.00	100.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

U33278.D edits: propionitrile

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33278.D
Acq On    : 26 Oct 2015   7:33 pm
Operator  : andrewd1
Sample    : ic1360-5
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Oct 27 09:49:46 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:49:26 2015
Response via : Initial Calibration
```



(25) propionitrile (P)

8.478min (-0.003) 4.53 ppb m

response 1997

Ion	Exp%	Act%
54.00	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 15:45

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:56:50 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

        Compound                      R.T. QIon  Response  Conc Units Dev(Min)
-------------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9         7.526   65    326556   500.00 ppb      0.06
   4) pentafluorobenzene            9.494  168    483497    50.00 ppb      0.00
  43) 1,4-difluorobenzene          10.388  114    741372    50.00 ppb      0.00
  66) chlorobenzene-d5             13.595   82    388528    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4       16.173  152    573771    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)      9.560  113    311843    51.80 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery   =  103.60%
  60) toluene-d8 (s)               11.993   98    829634    48.18 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery   =   96.36%
  82) bromofluorobenzene (s)       14.873   95    405530    47.40 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery   =   94.80%

 Target Compounds                                                   Qvalue
   2) tertiary butyl alcohol        7.613   59     68762   127.88 ppb        62
   3) Ethanol                       6.358   45     29748   668.06 ppb        97
   5) dichlorodifluoromethane       4.364   85    110472     9.73 ppb        99
   6) chloromethane                 4.743   50     82619     9.71 ppb        97
   7) vinyl chloride                4.983   62     81033    10.23 ppb       100
   8) bromomethane                  5.588   96     49037     9.45 ppb        98
   9) chloroethane                  5.745   64     38482     9.51 ppb       100
  10) ethyl ether                   6.513   59     52113    11.64 ppb        98
  11) acetonitrile                  7.366   41    106022    10.70 ppb  #     13
  12) trichlorofluoromethane        6.169  101    120711    10.10 ppb        97
  13) freon-113                     6.894  101     80385    11.56 ppb        97
  15) 1,1-dichloroethene            6.905   96     61426    11.42 ppb        97
  16) acetone                       6.936   58      8139    12.54 ppb  #     47
  17) Methyl Acetate                6.958   43     33688    11.83 ppb  #     73
  18) methylene chloride            7.529   84     70428    10.77 ppb        86
  19) methyl tert butyl ether       7.839   73    185769    11.19 ppb        96
  20) acrylonitrile                 7.804   53     27297    11.30 ppb        86
  21) allyl chloride                7.368   41    111435    10.84 ppb        81
  22) trans-1,2-dichloroethene      7.879   96     63725    11.05 ppb        91
  23) iodomethane                   7.154  142    118022    11.18 ppb        94
  24) carbon disulfide              7.288   76    219344m   10.77 ppb
  25) propionitrile                 8.480   54      4565     9.96 ppb       100
  26) vinyl acetate                 8.310   43    100881m   12.33 ppb
  27) chloroprene                   8.484   53    107665    11.58 ppb        93
  28) di-isopropyl ether            8.345   45    213370    10.98 ppb        93
  29) methacrylonitrile             9.227   41     38323    10.72 ppb        94
  30) 2-butanone                    8.987   72      7201    10.21 ppb  #      1
  31) Ethyl Acetate                 8.175   43     58532    10.73 ppb  #      1
  32) Hexane                        8.176   41     69553    10.58 ppb  #     69
  33) 1,1-dichloroethane            8.399   63    126899    11.36 ppb        99
  34) tert-butyl ethyl ether        8.765   59    210677    11.26 ppb        92
  35) isobutyl alcohol              8.764   43     23502    52.22 ppb  #     72
  36) 2,2-dichloropropane           9.073   77    102296    11.19 ppb        96
  37) cis-1,2-dichloroethene        9.037   96     71474    11.21 ppb        96
```

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On : 26 Oct 2015 8:00 pm
Operator : andrewd1
Sample : ic1360-10
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 27 08:56:50 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) bromochloromethane	9.318	128	34135	11.38	ppb	#	77
39) chloroform	9.378	83	126192	11.40	ppb		96
41) Tetrahydrofuran	9.347	42	23262	11.81	ppb		85
42) 1,1,1-trichloroethane	9.635	97	109270	11.42	ppb		98
44) Cyclohexane	9.742	56	131142	11.62	ppb	#	86
45) carbon tetrachloride	9.818	117	92771	11.99	ppb		100
46) 1,1-dichloropropene	9.785	75	86439	11.68	ppb		97
47) benzene	10.025	78	223595	10.80	ppb		98
48) 1,2-dichloroethane	10.047	62	93426	11.14	ppb		99
49) tert-amyl methyl ether	10.064	73	188565	11.14	ppb		95
50) heptane	10.219	43	77424m	10.40	ppb		
51) trichloroethene	10.692	95	61313	9.76	ppb		93
52) 1,2-dichloropropane	10.982	63	53607	10.55	ppb		100
53) dibromomethane	11.093	93	36328	11.07	ppb		88
54) bromodichloromethane	11.226	83	74639	10.86	ppb		96
55) Methylcyclohexane	10.985	83	110907	11.53	ppb		89
56) 2-chloroethyl vinyl ether	11.439	63	18079	7.96	ppb		94
57) methyl methacrylate	10.900	69	26529	10.80	ppb		91
58) 1,4-dioxane	11.033	88	1160m	26.50	ppb		
59) cis-1,3-dichloropropene	11.676	75	68319	10.11	ppb		98
61) 4-methyl-2-pentanone	11.762	43	56690	10.07	ppb		96
62) toluene	12.070	92	109773	10.36	ppb		98
63) trans-1,3-dichloropropene	12.250	75	55591	9.72	ppb		93
64) 1,1,2-trichloroethane	12.490	83	31621	10.02	ppb		96
65) ethyl methacrylate	12.214	69	50529	10.29	ppb		84
67) tetrachloroethene	12.646	166	49153	11.02	ppb		95
68) 1,3-dichloropropane	12.682	76	60350	10.46	ppb		97
69) dibromochloromethane	12.951	129	43443	10.93	ppb		97
70) 1,2-dibromoethane	13.129	107	38509	10.65	ppb		93
71) 2-hexanone	12.639	43	38421	11.15	ppb	#	27
72) chlorobenzene	13.631	112	123941	10.64	ppb		98
73) 1,1,1,2-tetrachloroethane	13.697	131	58752	11.72	ppb		98
74) ethylbenzene	13.686	91	234003	10.99	ppb		98
75) m,p-xylene	13.815	106	178829	21.91	ppb		95
76) o-xylene	14.258	106	104429	11.60	ppb		99
77) styrene	14.271	104	150851	11.46	ppb		91
78) bromoform	14.544	173	34413	11.66	ppb		99
79) trans-1,4-dichloro-2-b...	14.677	53	18611	12.38	ppb	#	1
81) isopropylbenzene	14.639	105	285000	10.48	ppb		100
83) bromobenzene	15.085	156	71462	10.18	ppb		97
84) 1,1,2,2-tetrachloroethane	14.946	83	66677	10.11	ppb		98
85) 1,2,3-trichloropropane	15.060	75	70079m	10.28	ppb		
86) n-propylbenzene	15.100	91	349464	10.49	ppb		99
87) 2-chlorotoluene	15.258	91	246585	10.18	ppb		99
88) 4-chlorotoluene	15.382	91	215057	10.31	ppb		100
89) 1,3,5-trimethylbenzene	15.269	105	267324	10.60	ppb		98
90) tert-butylbenzene	15.652	91	147074	9.68	ppb		100
91) 1,2,4-trimethylbenzene	15.707	105	293734	10.49	ppb		98
92) sec-butylbenzene	15.895	105	347934	10.60	ppb		100
93) 1,3-dichlorobenzene	16.095	146	168957	10.47	ppb		99

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:56:50 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
94) p-isopropyltoluene	16.037	119	310102	10.66 ppb	100
95) 1,4-dichlorobenzene	16.202	146	174407	10.62 ppb	99
96) 1,2-dichlorobenzene	16.616	146	188119	10.63 ppb	97
97) n-butylbenzene	16.493	91	337739	10.63 ppb	99
98) 1,2-dibromo-3-chloropr...	17.460	75	18915	11.04 ppb	93
99) 1,3,5-trichlorobenzene	17.656	180	180211	10.58 ppb	98
100) 1,2,4-trichlorobenzene	18.368	180	161293	10.34 ppb	98
101) hexachlorobutadiene	18.483	225	75405	10.18 ppb	98
102) naphthalene	18.711	128	343782	10.40 ppb	100
103) 2-Methylnaphthalene	20.107	142	88743	4.92 ppb	97
104) 1-Methylnaphthalene	20.371	142	67577	5.01 ppb	98
105) 1,2,3-trichlorobenzene	18.958	180	142888	10.38 ppb	95

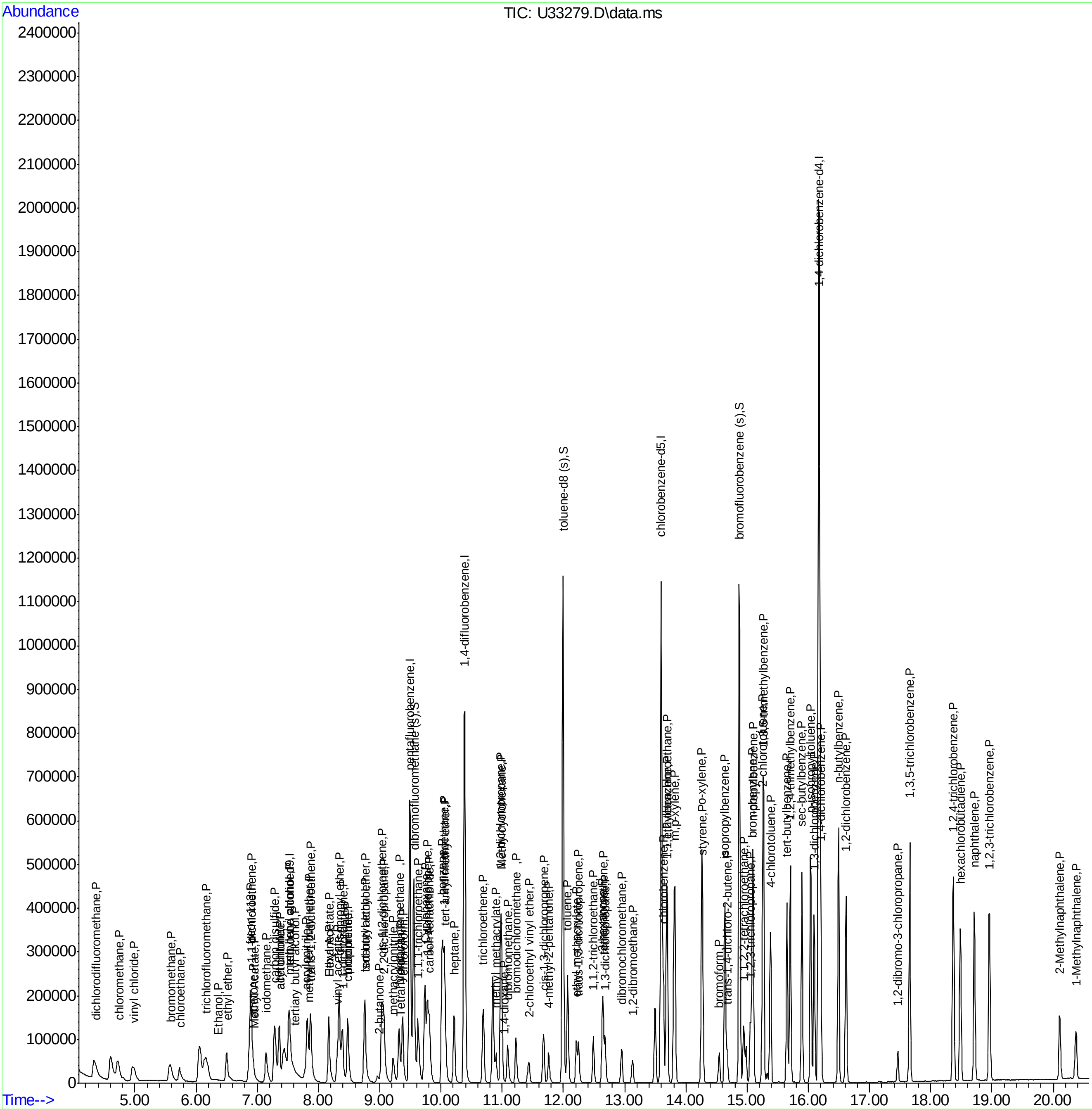
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.5

7

Quantitation Report (QT Reviewed)

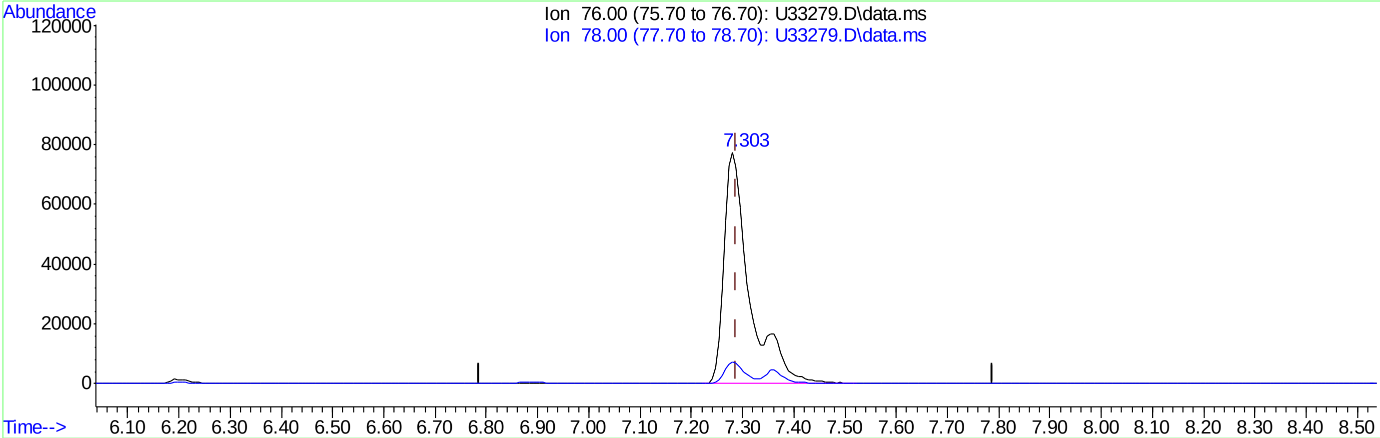
```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:56:50 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

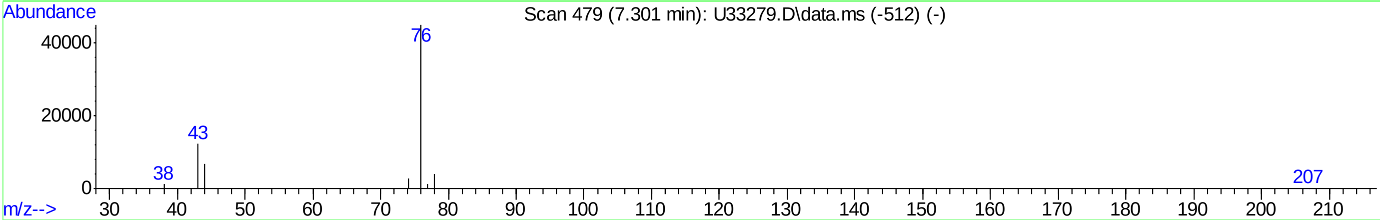


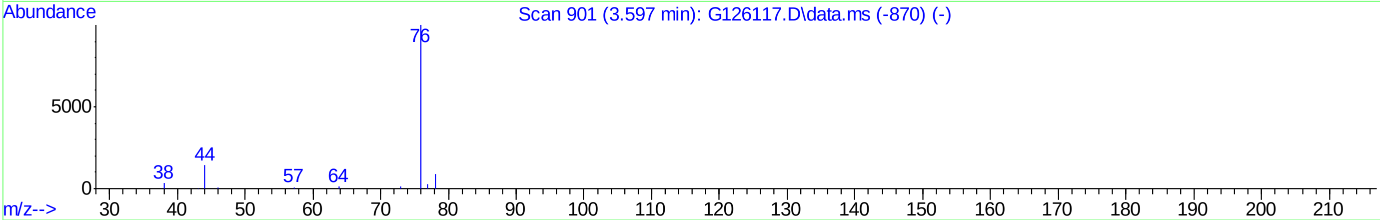
U151027.m Tue Oct 27 10:38:47 2015 Page: 4

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:55:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```





TIC: U33279.D\data.ms

(24) carbon disulfide (P)

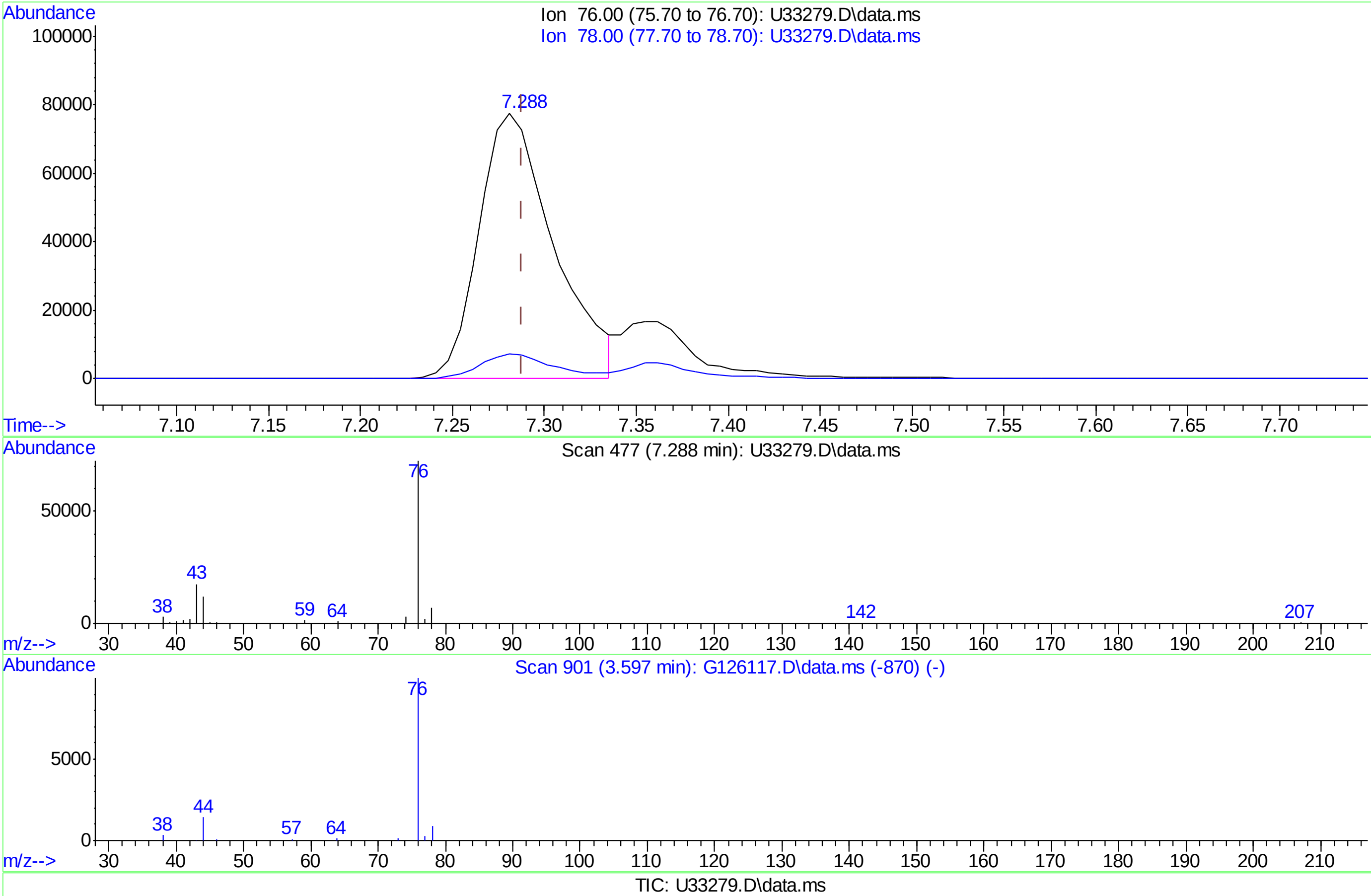
7.303min (+ 0.015) 13.10 ppb

response 266860

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	8.73
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:55:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(24) carbon disulfide (P)

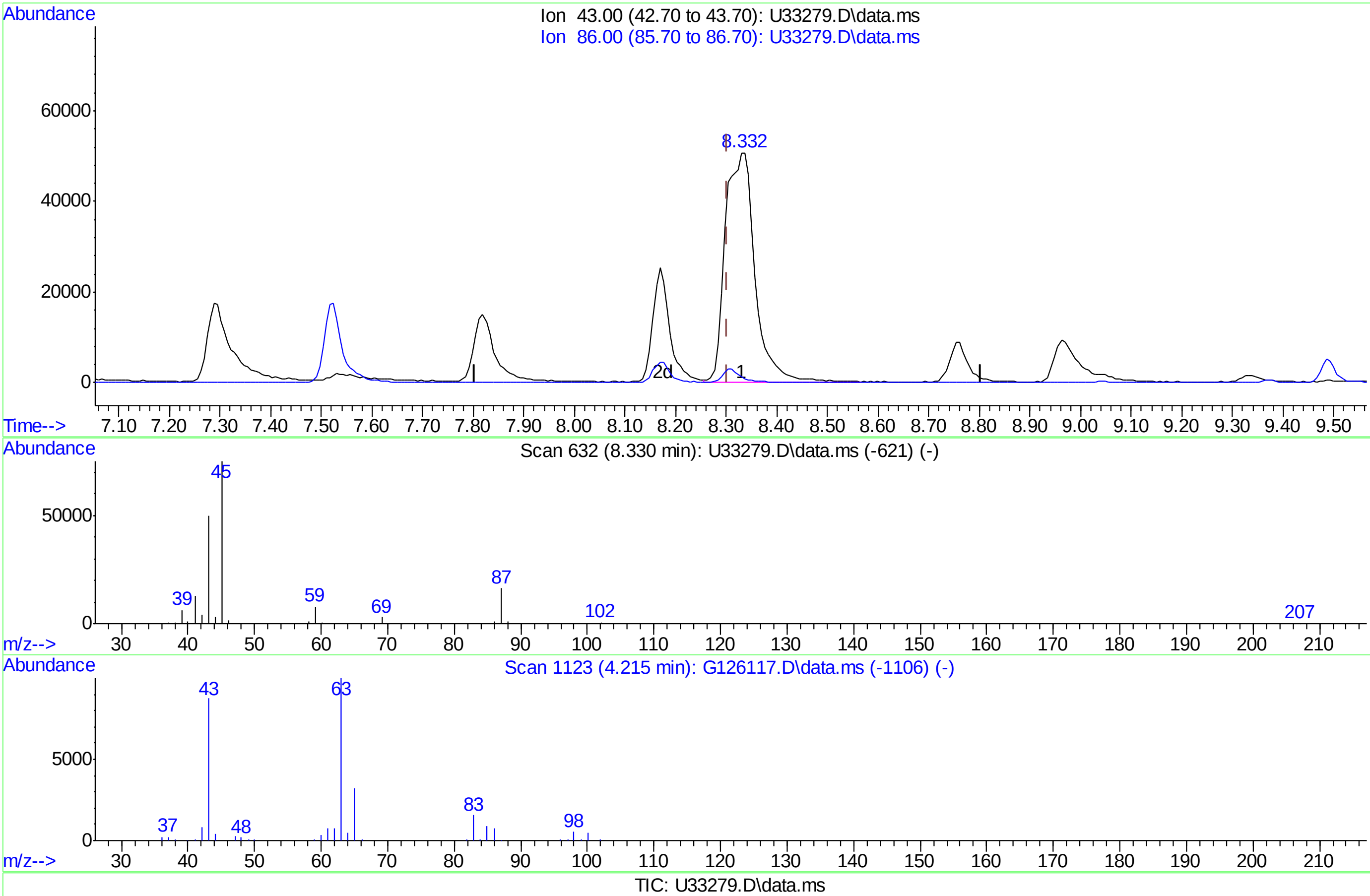
7.288min (-0.000) 10.77 ppb m

response 219344

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.32
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:55:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(26) vinyl acetate (P)

8.332min (+ 0.029) 25.82 ppb

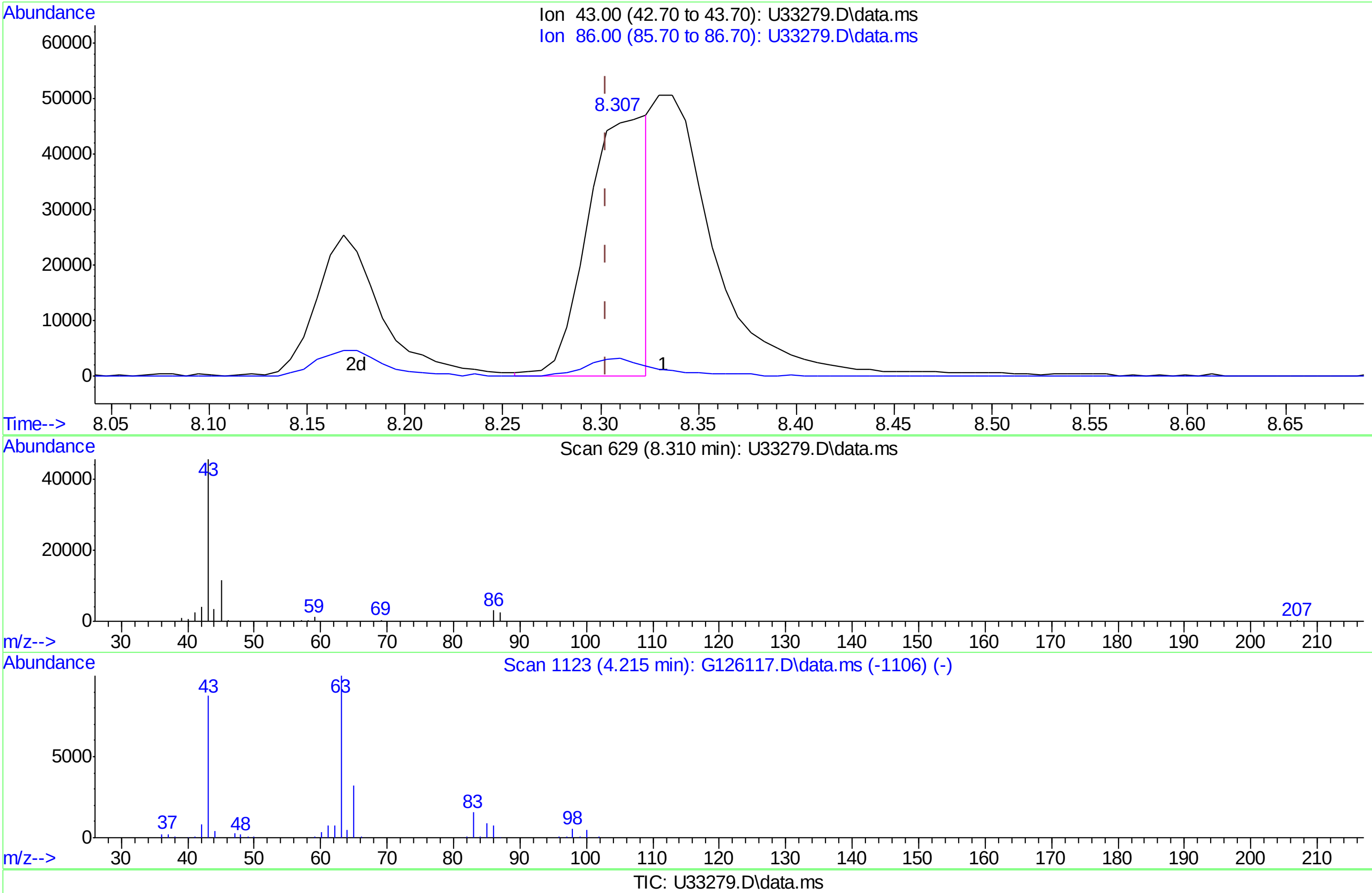
response 211290

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.44
0.00	0.00	0.00
0.00	0.00	0.00

U33279.D edits: vinyl acetate

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:55:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

(26) vinyl acetate (P)

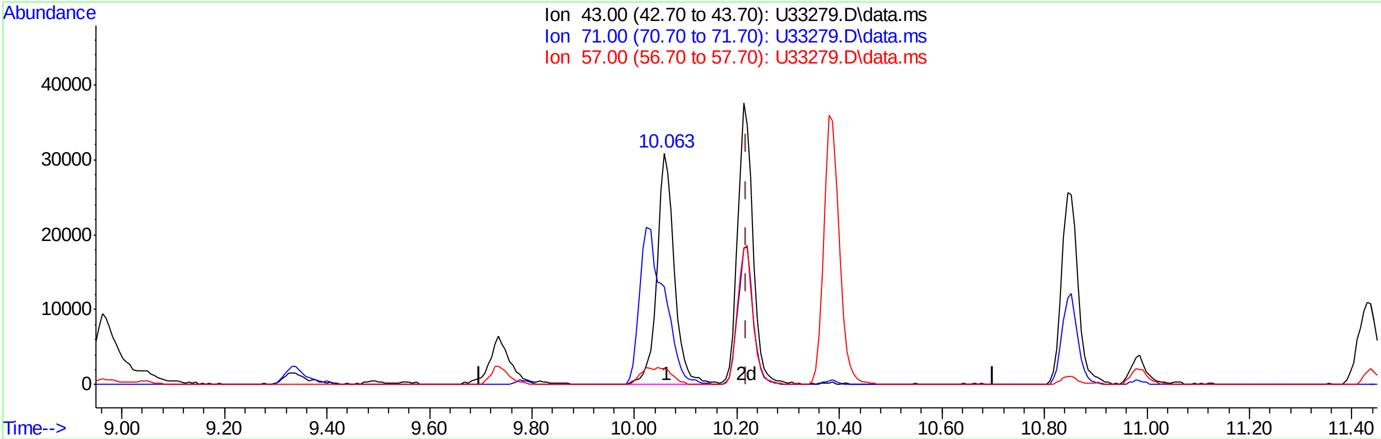
8.310min (+ 0.007) 12.33 ppb m

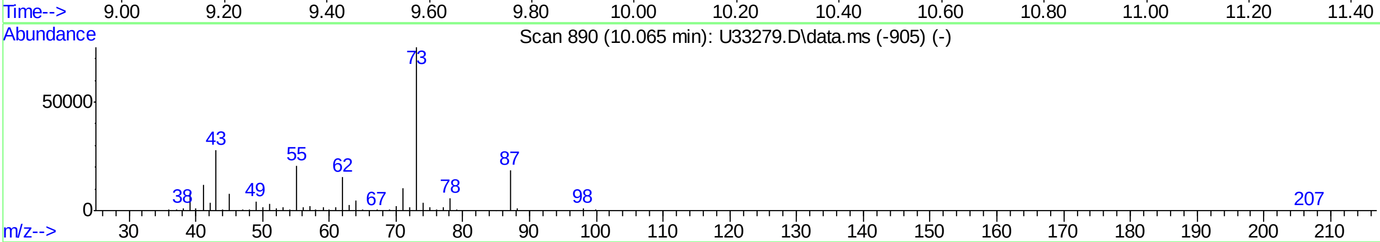
response 100881

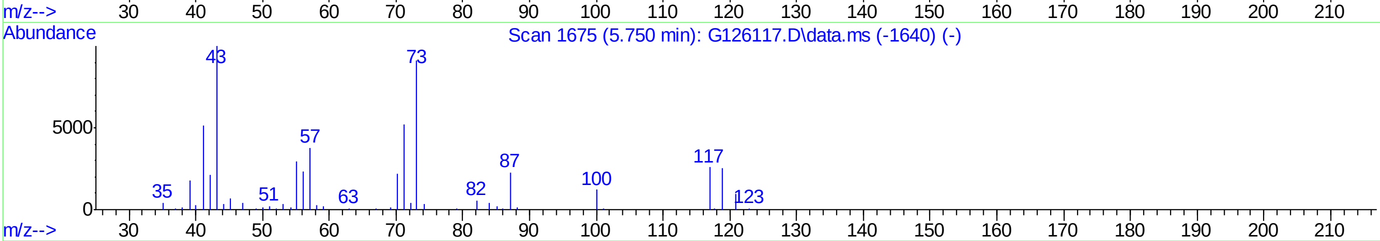
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.77
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:55:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```





TIC: U33279.D\data.ms

(50) heptane (P)

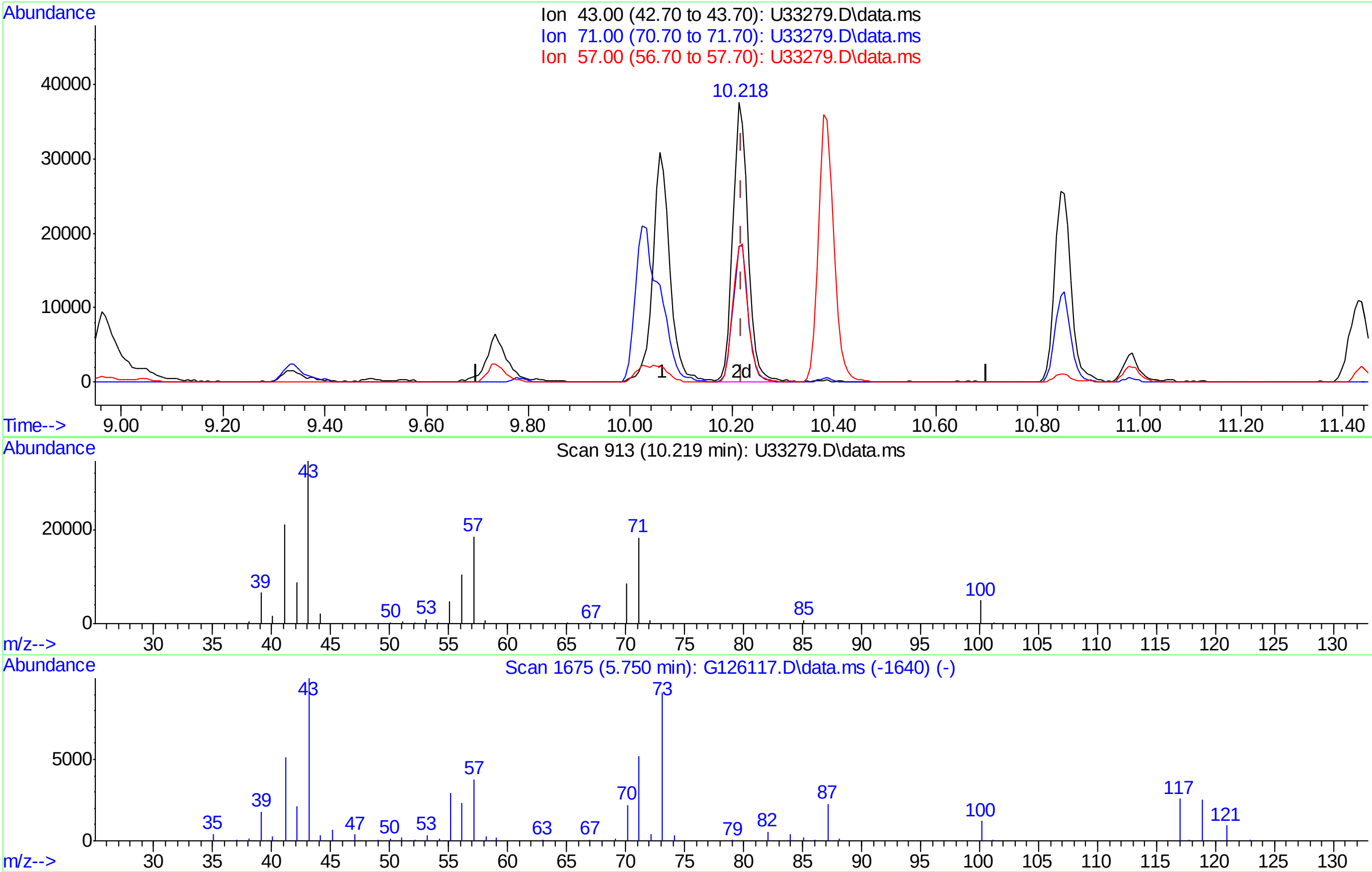
10.063min (-0.157) 9.98 ppb

response 74318

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	37.23
57.00	5.80	6.87
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:55:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

TIC: U33279.D\data.ms

(50) heptane (P)

10.219min (-0.000) 10.40 ppb m

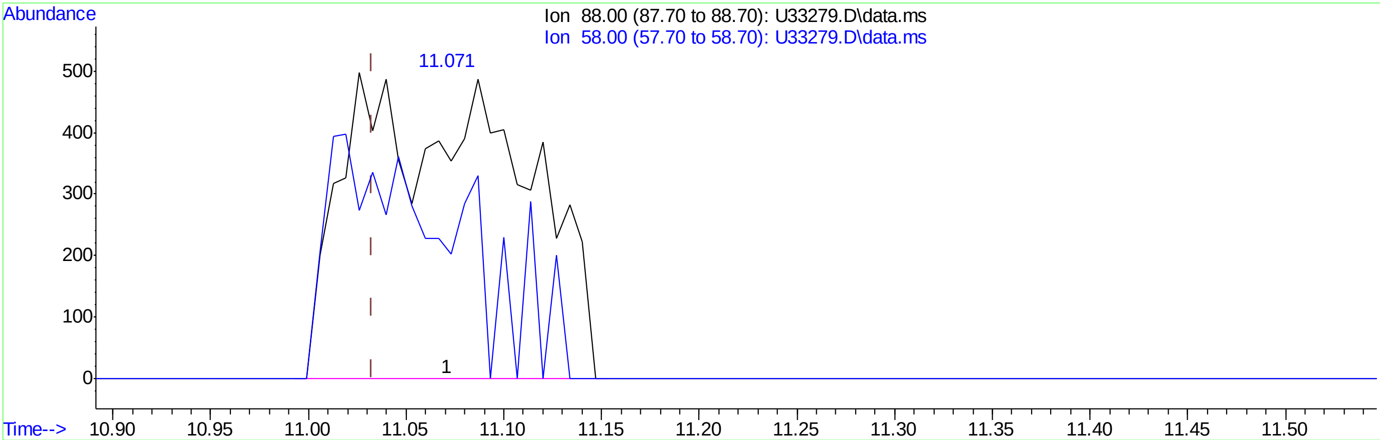
response 77424

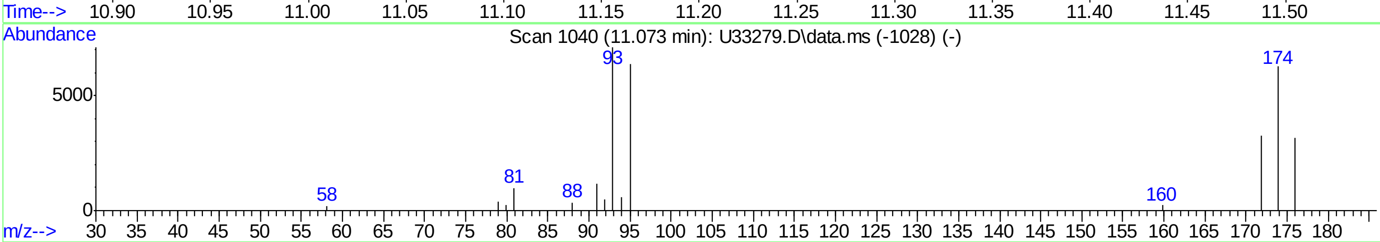
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	52.91
57.00	5.80	53.62#
0.00	0.00	0.00

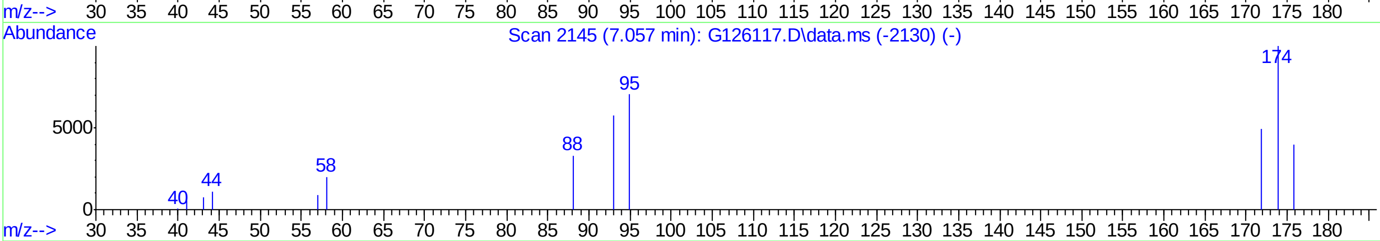
U33279.D edits: heptane

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:55:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```







TIC: U33279.D\data.ms

(58) 1,4-dioxane (P)

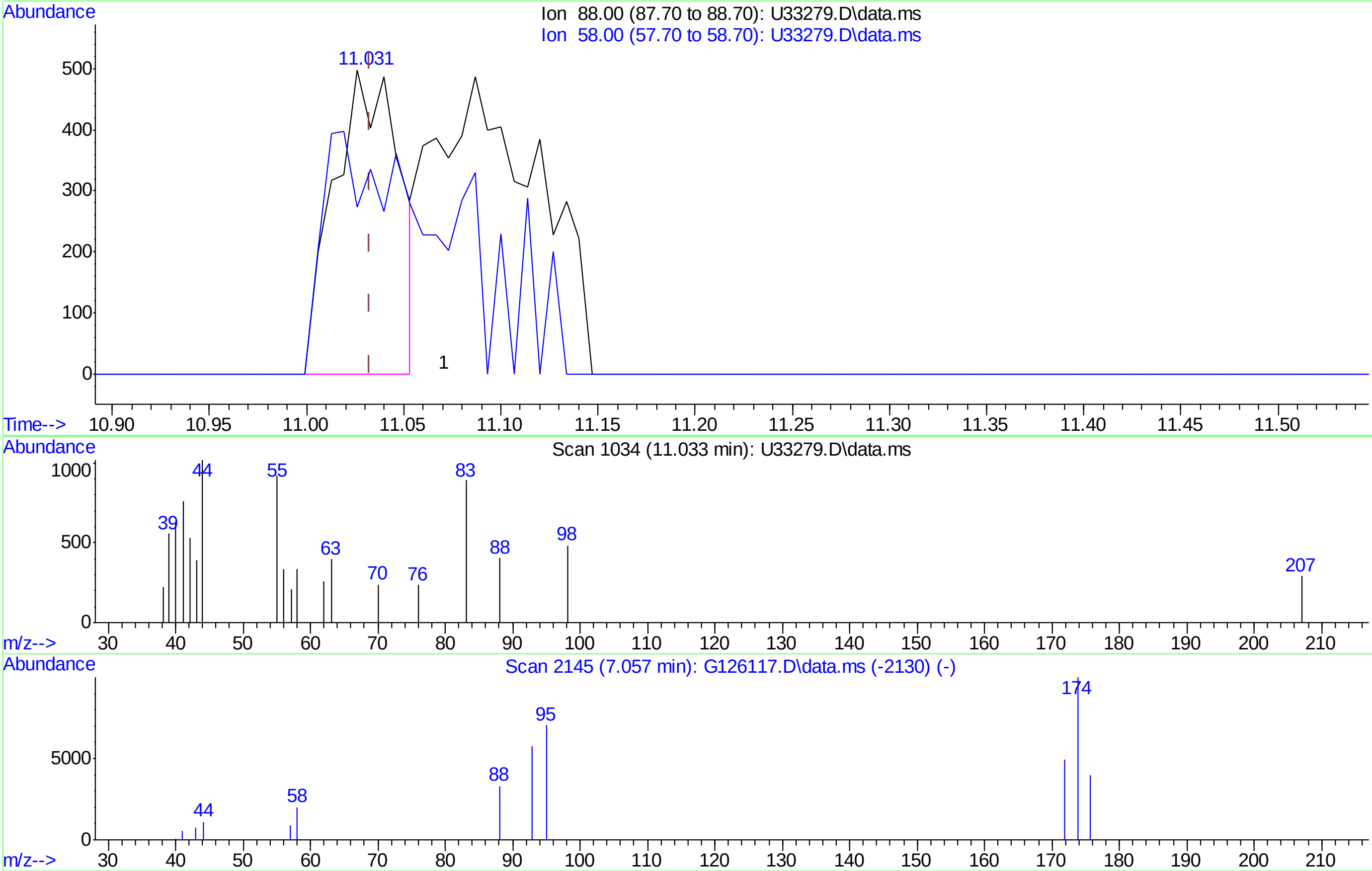
11.071min (+ 0.038) 68.34 ppb

response 2991

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	57.34#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:55:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33279.D\data.ms

(58) 1,4-dioxane (P)

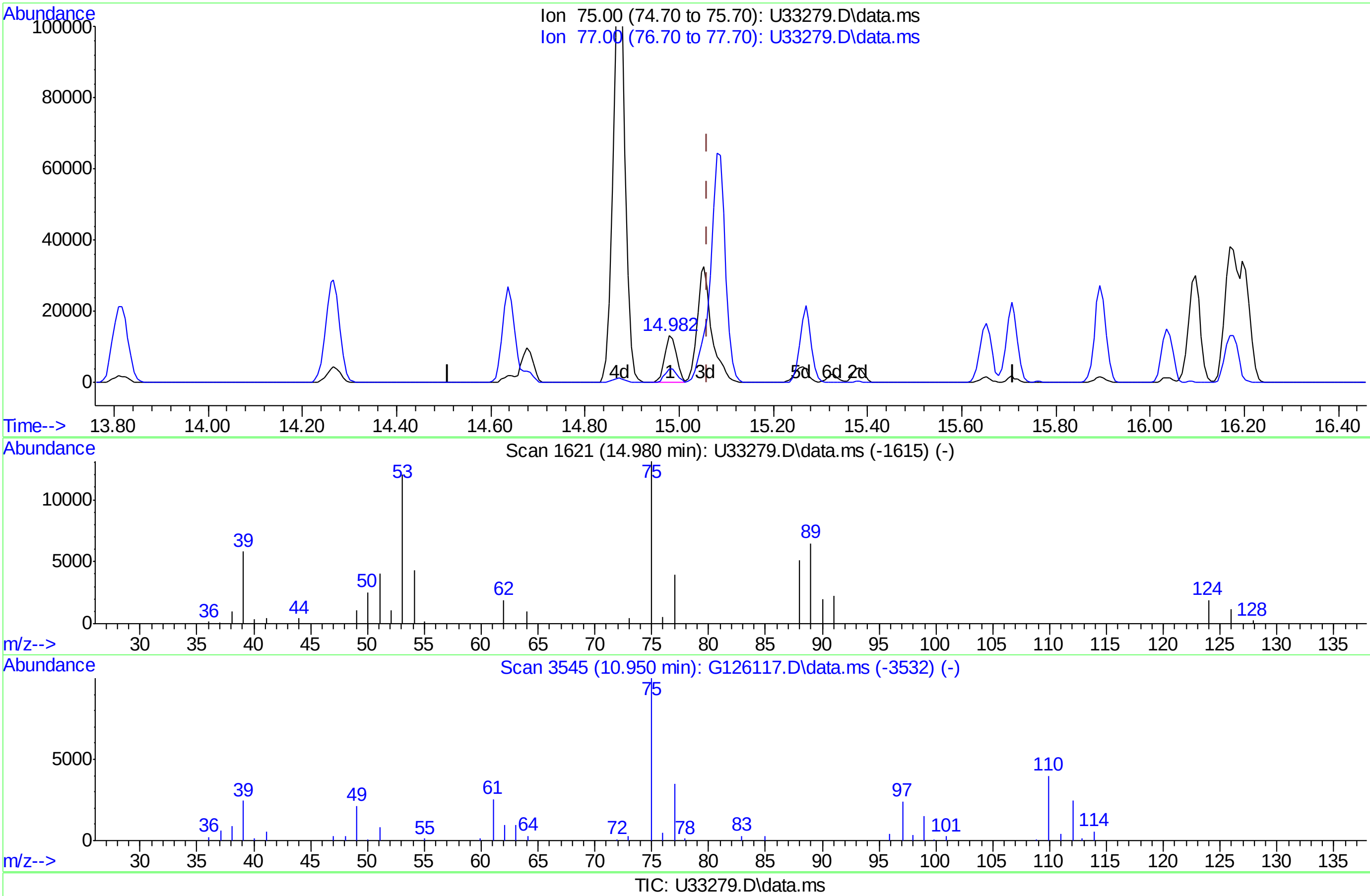
11.033min (-0.000) 26.50 ppb m

response 1160

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	83.17
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:55:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(85) 1,2,3-trichloropropane (P)

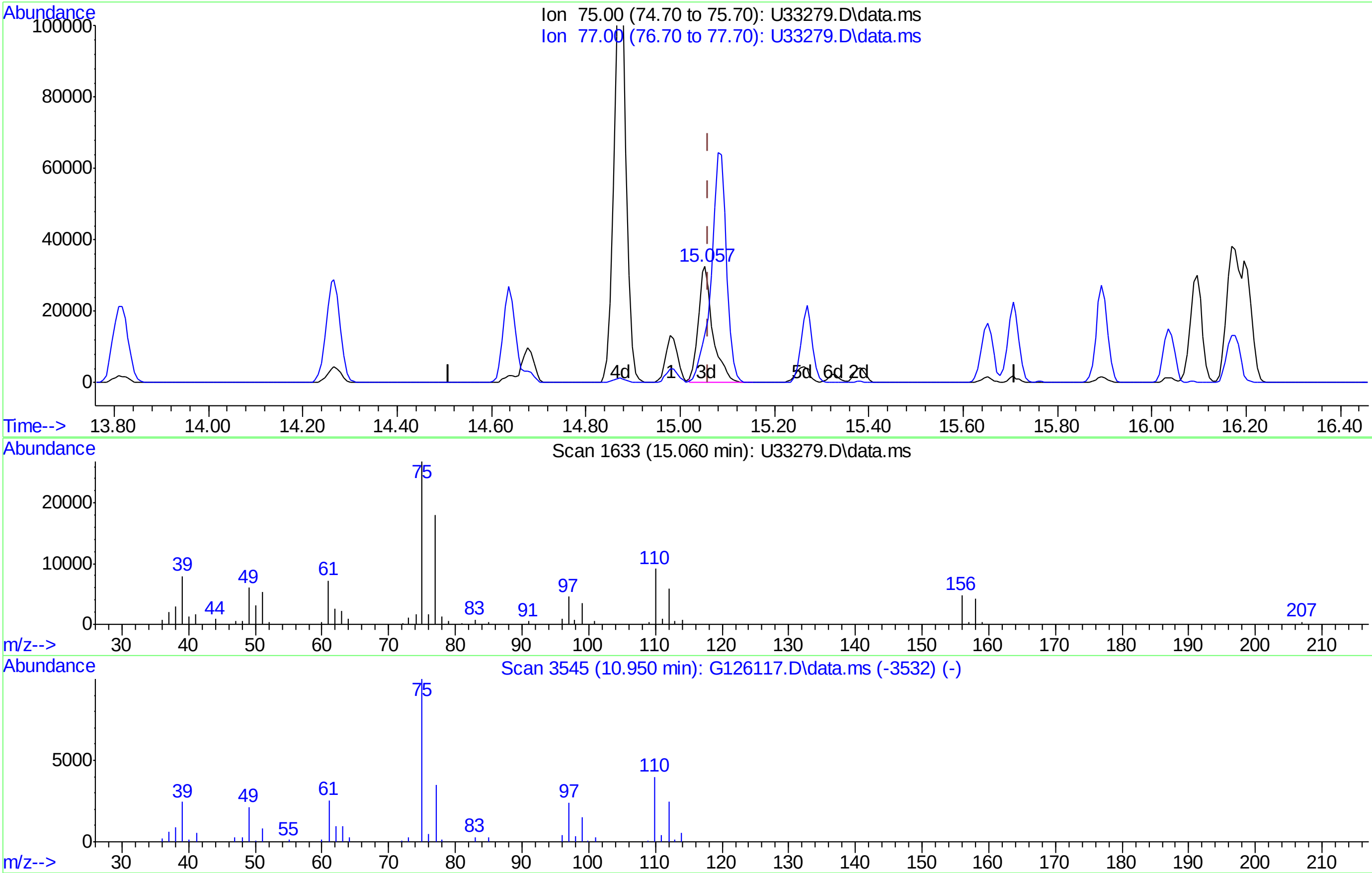
14.982min (-0.078) 3.30 ppb

response 22458

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	30.20
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33279.D
Acq On    : 26 Oct 2015   8:00 pm
Operator  : andrewd1
Sample    : ic1360-10
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 9   Sample Multiplier: 1

Quant Time: Oct 27 08:55:13 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33279.D\data.ms

(85) 1,2,3-trichloropropane (P)

15.060min (-0.000) 10.28 ppb m

response 70079

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	67.07#
0.00	0.00	0.00
0.00	0.00	0.00

U33279.D edits: 1,2,3-trichloropropane

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 15:45

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 09:01:19 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

       Compound                        R.T. QIon  Response  Conc Units Dev(Min)
--------------------------------------------------------------------------
Internal Standards
  1) tert butyl alcohol-d9           7.596   65   190868   500.00 ppb      0.13
  4) pentafluorobenzene              9.492  168   538012    50.00 ppb      0.00
 43) 1,4-difluorobenzene            10.387  114   839370    50.00 ppb      0.00
 66) chlorobenzene-d5               13.595   82   464955    50.00 ppb      0.00
 80) 1,4-dichlorobenzene-d4         16.173  152   575562    50.00 ppb      0.00

System Monitoring Compounds
 40) dibromofluoromethane (s)        9.560  113   321194    47.66 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery   =   95.32%
 60) toluene-d8 (s)                 11.993   98   990579    51.12 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery   =  102.24%
 82) bromofluorobenzene (s)         14.874   95   443473    52.12 ppb     0.00
  Spiked Amount     50.000   Range  70 - 130    Recovery   =  104.24%

Target Compounds                                                   Qvalue
  2) tertiary butyl alcohol          7.631   59    63643m  189.30 ppb
  3) Ethanol                         6.349   45    20993   879.59 ppb       97
  5) dichlorodifluoromethane         4.364   85   178599    14.20 ppb       94
  6) chloromethane                   4.734   50   110867    11.77 ppb       97
  7) vinyl chloride                  4.985   62   123167    13.92 ppb       98
  8) bromomethane                    5.587   96    74619    13.04 ppb       98
  9) chloroethane                    5.747   64    68059    15.26 ppb       97
 10) ethyl ether                     6.515   59   110789    21.53 ppb       86
 11) acetonitrile                    7.365   41   231044    20.59 ppb  #    14
 12) trichlorofluoromethane          6.168  101   191468    14.37 ppb       93
 13) freon-113                       6.895  101   160717    20.14 ppb       92
 15) 1,1-dichloroethene              6.902   96   121930    19.91 ppb       97
 16) acetone                         7.013   58    12328    15.74 ppb       87
 17) Methyl Acetate                  7.001   43    34849    10.37 ppb  #    62
 18) methylene chloride              7.531   84   139994    19.00 ppb  #    83
 19) methyl tert butyl ether         7.849   73   384896    20.44 ppb       95
 20) acrylonitrile                   7.862   53    52323    18.65 ppb       78
 21) allyl chloride                  7.365   41   231044    19.64 ppb       78
 22) trans-1,2-dichloroethene        7.877   96   128736    19.71 ppb       88
 23) iodomethane                     7.156  142   235162    19.64 ppb       92
 24) carbon disulfide                7.288   76   434827m   18.90 ppb
 25) propionitrile                   8.479   54    10056    19.76 ppb      100
 26) vinyl acetate                   8.303   43   163458m   17.15 ppb
 27) chloroprene                     8.482   53   223967    21.09 ppb       95
 28) di-isopropyl ether              8.348   45   455207    20.71 ppb       97
 29) methacrylonitrile               9.285   41   109851    27.22 ppb       98
 30) 2-butanone                      9.028   72    13664    17.23 ppb  #     1
 31) Ethyl Acetate                   8.172   43   126152    20.28 ppb  #     1
 32) Hexane                          8.173   41   148433    20.05 ppb  #    69
 33) 1,1-dichloroethane              8.397   63   256988    20.22 ppb       96
 34) tert-butyl ethyl ether          8.768   59   447068    21.03 ppb       91
 35) isobutyl alcohol                8.766   43    49378    97.74 ppb  #    67
 36) 2,2-dichloropropane             9.072   77   203799    19.65 ppb       97
 37) cis-1,2-dichloroethene          9.037   96   141843    19.60 ppb       96
```

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On : 26 Oct 2015 8:27 pm
Operator : andrewd1
Sample : ic1360-20
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 27 09:01:19 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38) bromochloromethane	9.320	128	69490	20.26 ppb #	76
39) chloroform	9.378	83	255678	20.29 ppb	97
41) Tetrahydrofuran	9.391	42	42202	18.15 ppb	76
42) 1,1,1-trichloroethane	9.635	97	229626	21.08 ppb	97
44) Cyclohexane	9.742	56	268427	20.35 ppb #	88
45) carbon tetrachloride	9.817	117	192085	21.23 ppb	100
46) 1,1-dichloropropene	9.783	75	182558	21.20 ppb	99
47) benzene	10.025	78	481401	20.27 ppb	100
48) 1,2-dichloroethane	10.051	62	201308	20.73 ppb	100
49) tert-amyl methyl ether	10.068	73	400395	20.51 ppb	96
50) heptane	10.213	43	183788m	21.63 ppb	
51) trichloroethene	10.691	95	130125	18.38 ppb	95
52) 1,2-dichloropropane	10.983	63	123262	21.20 ppb	100
53) dibromomethane	11.095	93	80830	21.30 ppb	95
54) bromodichloromethane	11.227	83	170330	21.52 ppb	98
55) Methylcyclohexane	10.985	83	233009	20.86 ppb	90
56) 2-chloroethyl vinyl ether	11.443	63	42896	17.57 ppb	95
57) methyl methacrylate	10.902	69	64922	22.89 ppb	91
58) 1,4-dioxane	11.040	88	836m	22.05 ppb	
59) cis-1,3-dichloropropene	11.677	75	180635	23.56 ppb	99
61) 4-methyl-2-pentanone	11.770	43	120215	18.84 ppb	98
62) toluene	12.070	92	266197	22.05 ppb	100
63) trans-1,3-dichloropropene	12.251	75	155428	24.11 ppb	93
64) 1,1,2-trichloroethane	12.491	83	81278	22.73 ppb	98
65) ethyl methacrylate	12.216	69	126695	22.67 ppb	85
67) tetrachloroethene	12.645	166	118751	21.88 ppb	98
68) 1,3-dichloropropane	12.684	76	155618	22.37 ppb	98
69) dibromochloromethane	12.952	129	113676	23.54 ppb	93
70) 1,2-dibromoethane	13.131	107	96463	22.01 ppb	98
71) 2-hexanone	12.644	43	79635	18.60 ppb #	21
72) chlorobenzene	13.631	112	301031	21.37 ppb	99
73) 1,1,1,2-tetrachloroethane	13.698	131	132991	21.55 ppb	99
74) ethylbenzene	13.686	91	546380	21.09 ppb	99
75) m,p-xylene	13.815	106	415052	41.82 ppb	97
76) o-xylene	14.258	106	232125	20.98 ppb	99
77) styrene	14.271	104	348014	21.57 ppb	91
78) bromoform	14.545	173	79313	21.74 ppb	99
79) trans-1,4-dichloro-2-b...	14.678	53	40638	21.32 ppb #	3
81) isopropylbenzene	14.639	105	640115	23.28 ppb	100
83) bromobenzene	15.085	156	156582	22.17 ppb	98
84) 1,1,2,2-tetrachloroethane	14.947	83	148687	22.44 ppb	99
85) 1,2,3-trichloropropane	15.060	75	143592m	20.91 ppb	
86) n-propylbenzene	15.100	91	760188	22.57 ppb	99
87) 2-chlorotoluene	15.258	91	529583	21.72 ppb	99
88) 4-chlorotoluene	15.382	91	460861	21.91 ppb	100
89) 1,3,5-trimethylbenzene	15.269	105	587209	22.98 ppb	97
90) tert-butylbenzene	15.652	91	352124	23.36 ppb	99
91) 1,2,4-trimethylbenzene	15.707	105	628321	22.19 ppb	98
92) sec-butylbenzene	15.895	105	780593	23.47 ppb	98
93) 1,3-dichlorobenzene	16.096	146	342409	20.99 ppb	100

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 09:01:19 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
94) p-isopropyltoluene	16.037	119	675564	22.89 ppb	99
95) 1,4-dichlorobenzene	16.202	146	348246	20.93 ppb	98
96) 1,2-dichlorobenzene	16.616	146	374077	20.85 ppb	95
97) n-butylbenzene	16.493	91	688793	21.39 ppb	99
98) 1,2-dibromo-3-chloropr...	17.461	75	35096	19.91 ppb	92
99) 1,3,5-trichlorobenzene	17.655	180	353041	20.43 ppb	99
100) 1,2,4-trichlorobenzene	18.368	180	317809	20.17 ppb	94
101) hexachlorobutadiene	18.483	225	148218	19.89 ppb	99
102) naphthalene	18.712	128	650247	19.47 ppb	100
103) 2-Methylnaphthalene	20.107	142	162125	9.01 ppb	96
104) 1-Methylnaphthalene	20.372	142	117401	8.67 ppb	99
105) 1,2,3-trichlorobenzene	18.958	180	271956	19.55 ppb	99

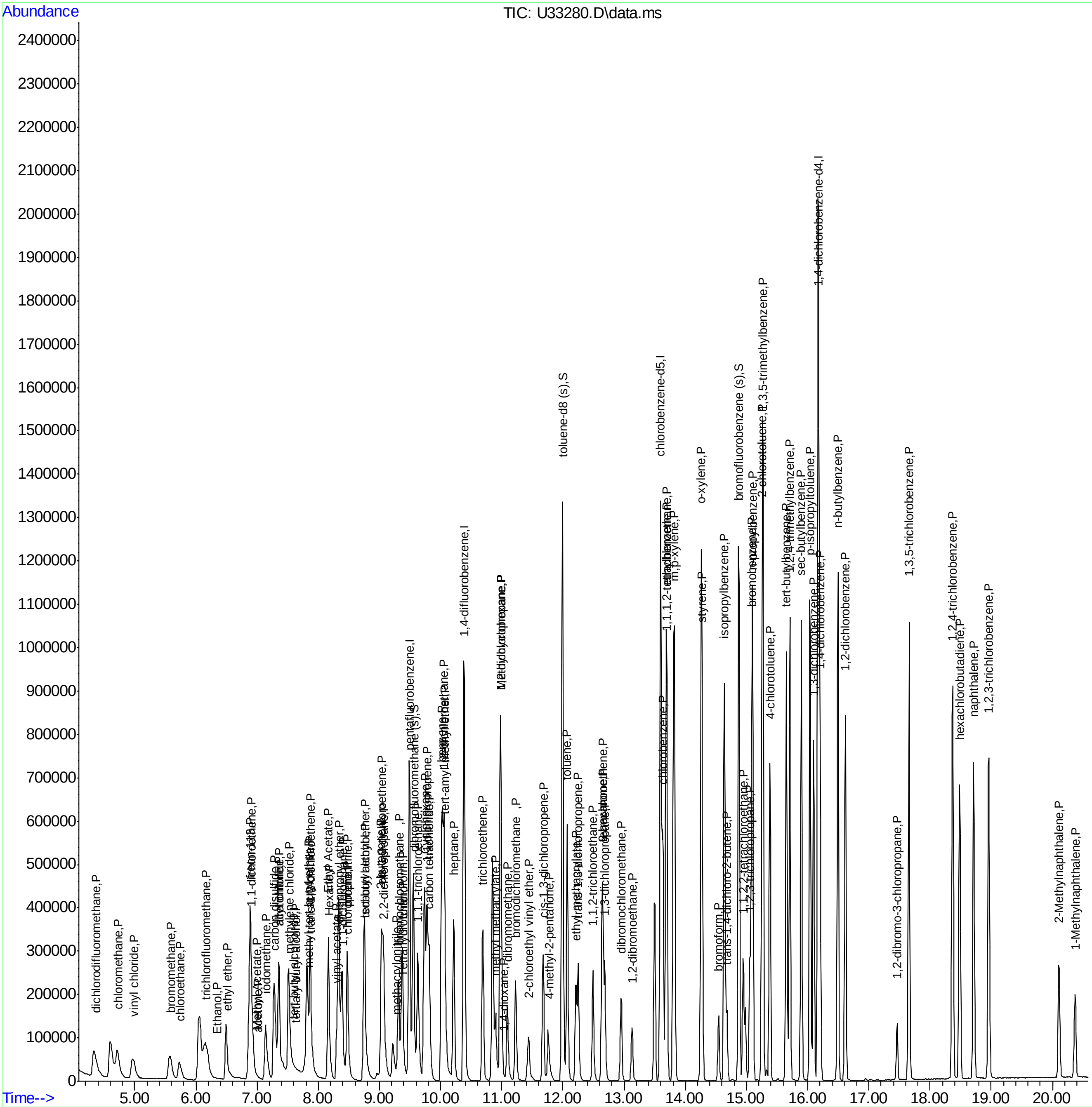
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.9

7

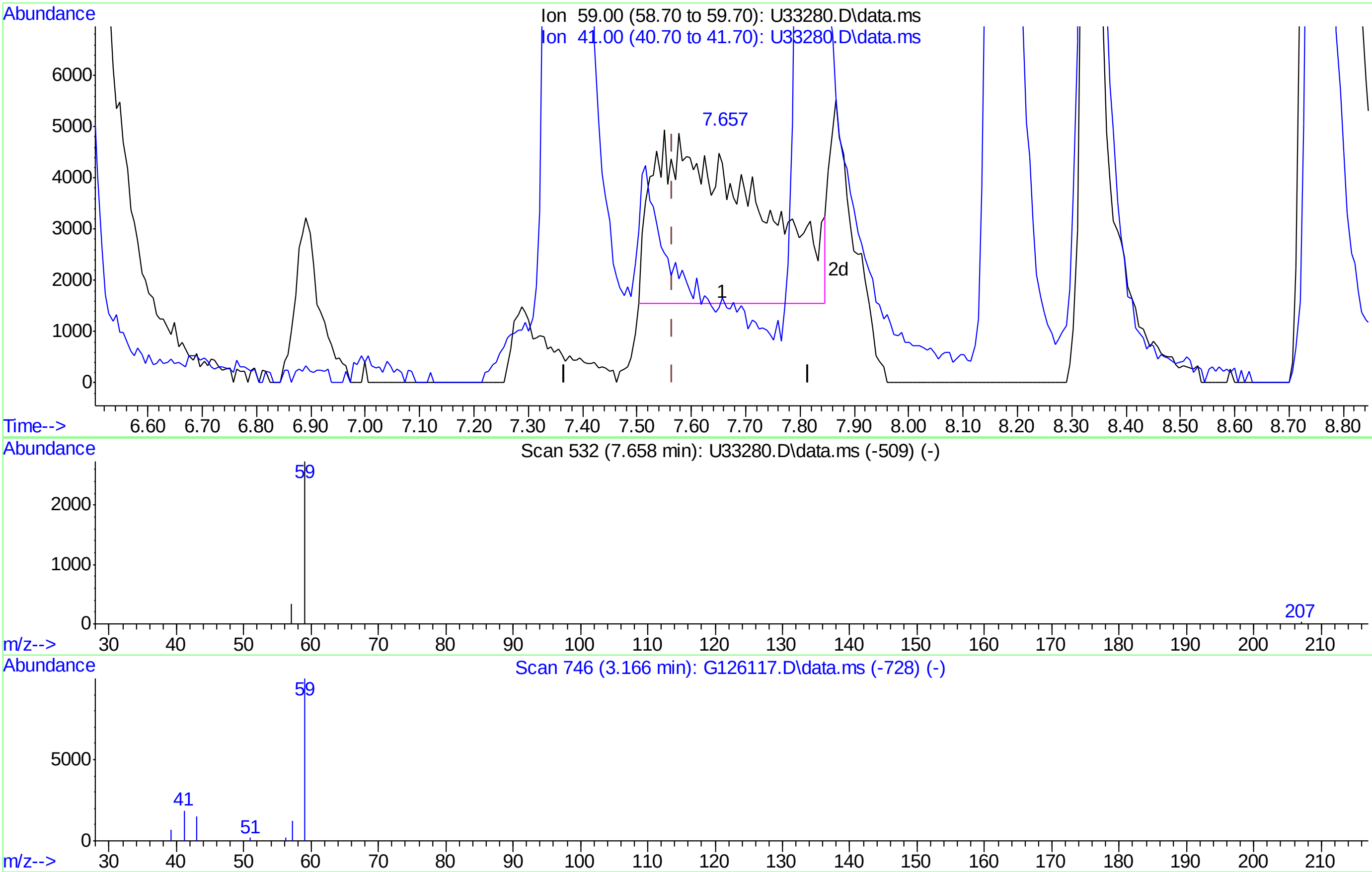
Quantitation Report   (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 09:01:19 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33280.D\data.ms

(2) tertiary butyl alcohol (P)

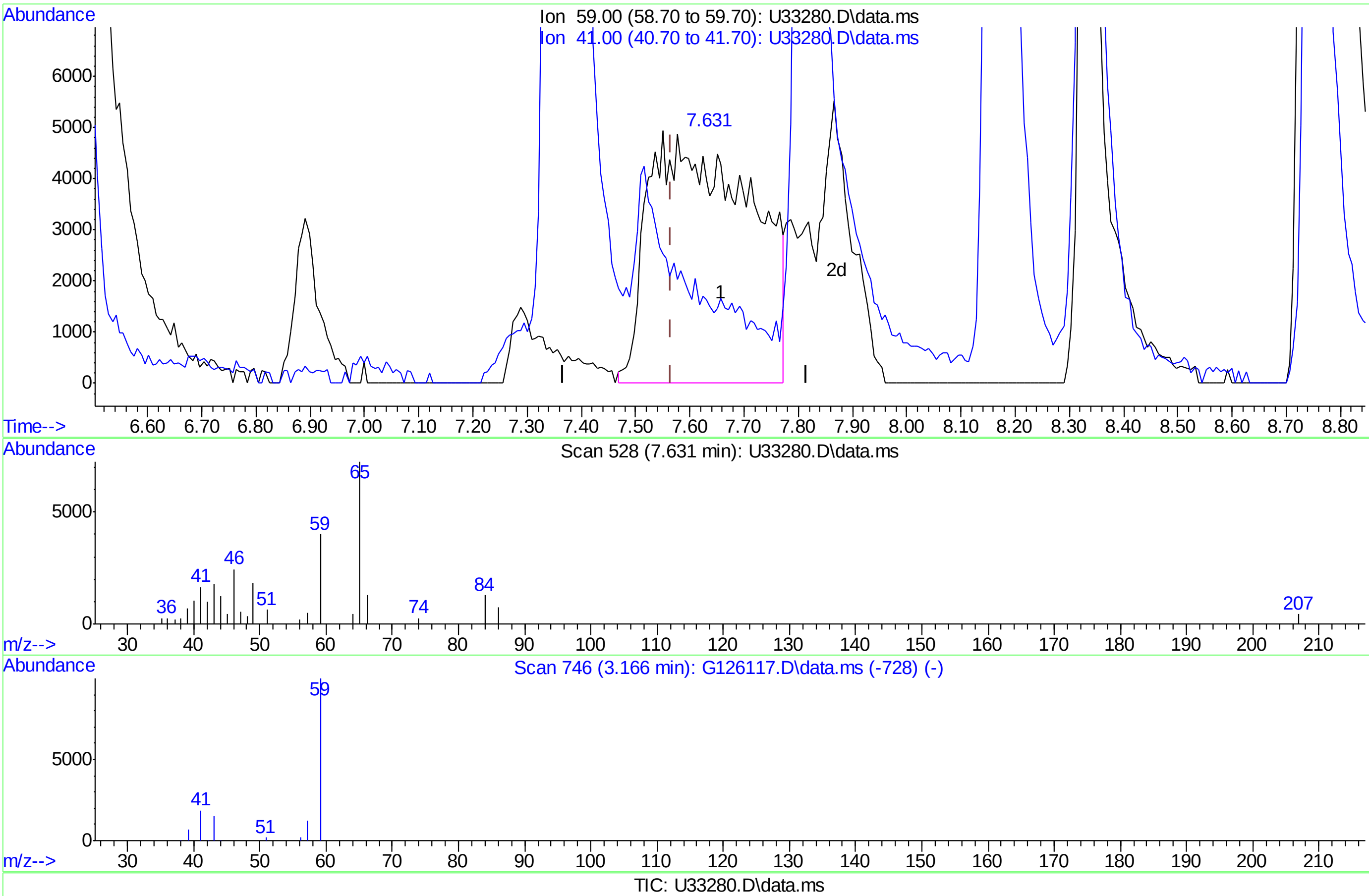
7.657min (+ 0.090) 128.87 ppb

response 43326

Ion	Exp%	Act%
59.00	100.00	100.00
41.00	23.90	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(2) tertiary butyl alcohol (P)

7.631min (+ 0.064) 189.30 ppb m

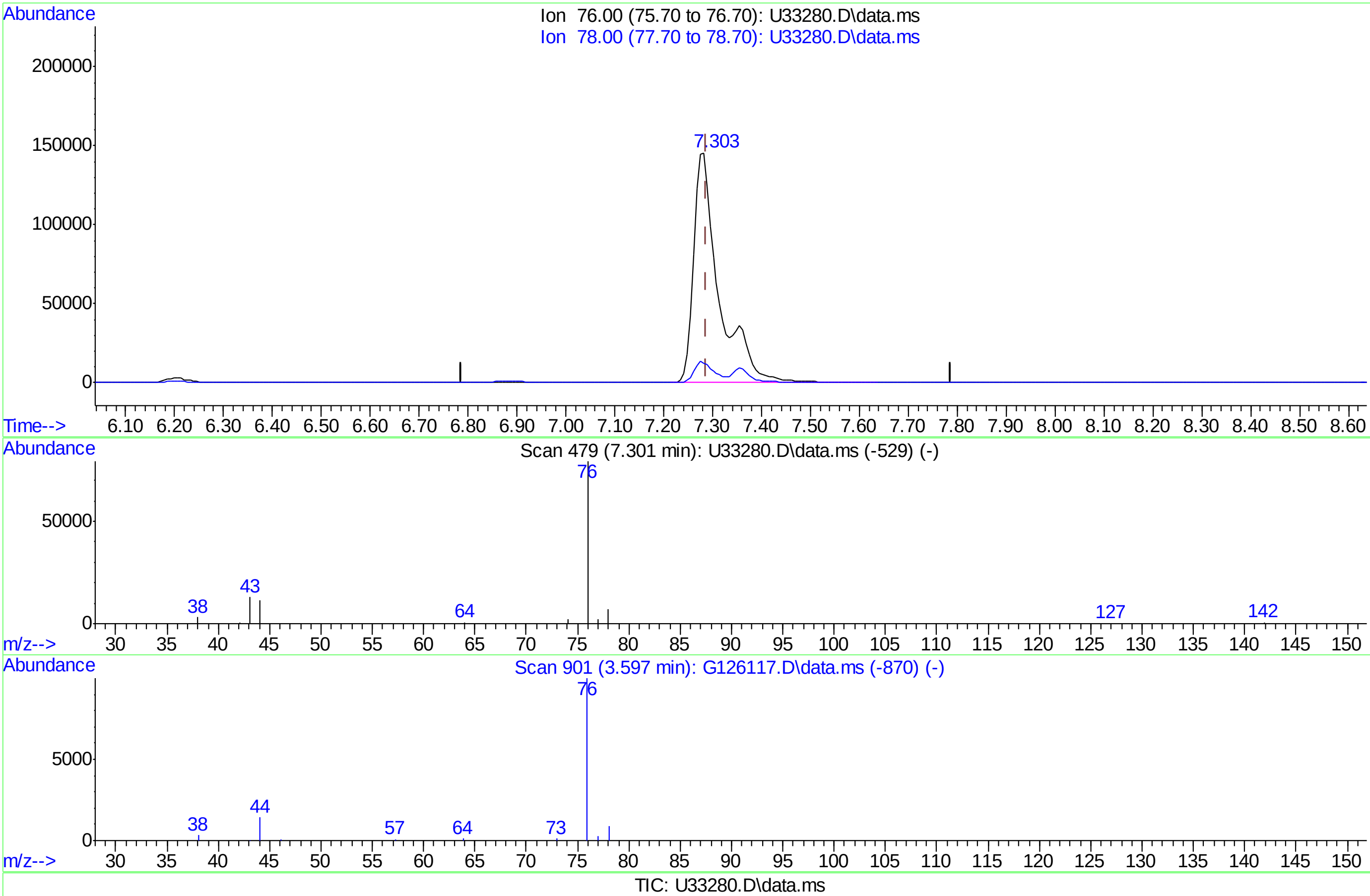
response 63643

Ion	Exp%	Act%
59.00	100.00	100.00
41.00	23.90	40.93
0.00	0.00	0.00
0.00	0.00	0.00

U33280.D edits: tertiary butyl alcohol

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

(24) carbon disulfide (P)

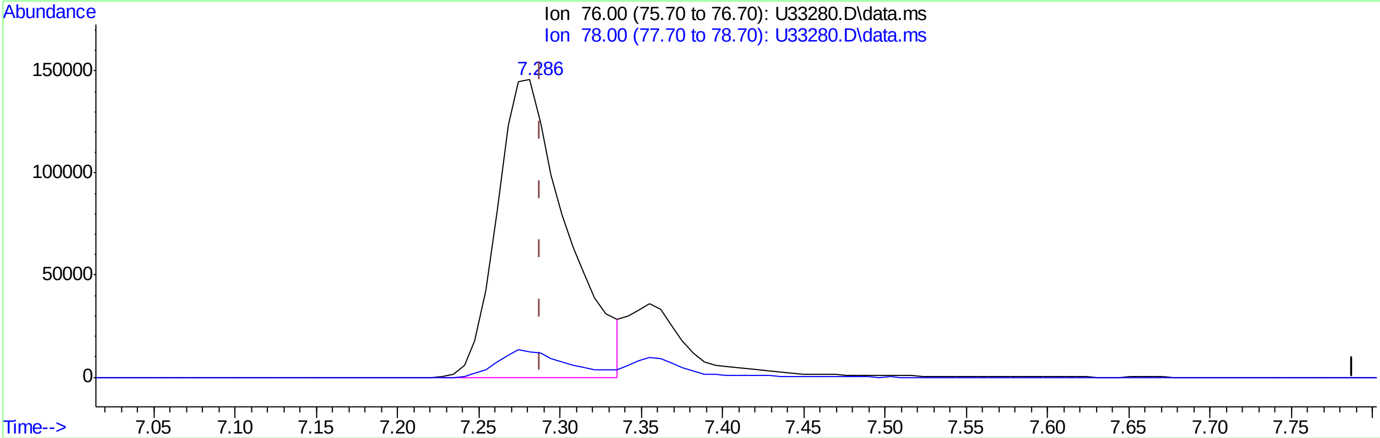
7.303min (+ 0.015) 23.13 ppb

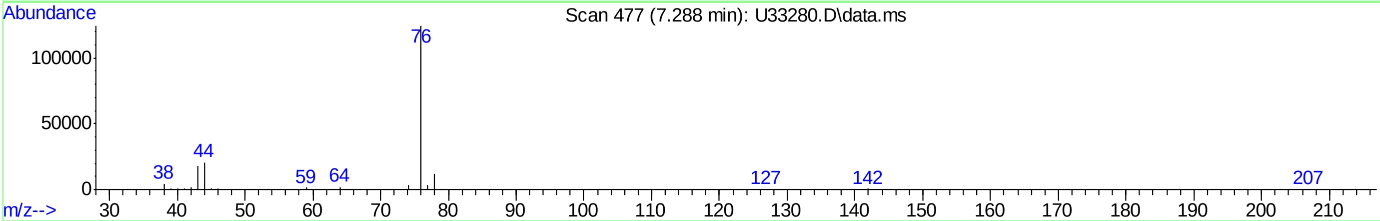
response 532110

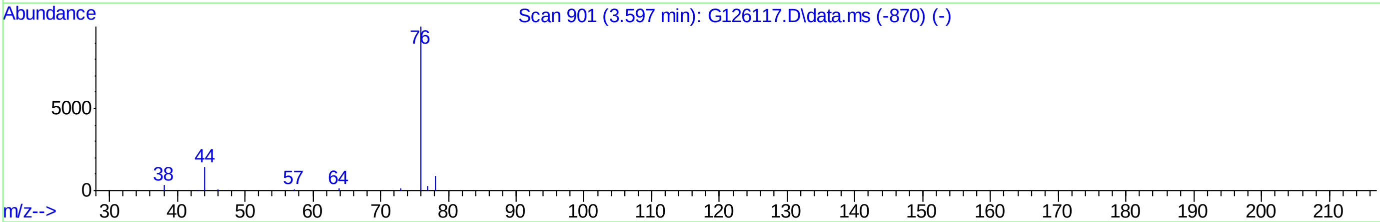
Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```





TIC: U33280.D\data.ms

(24) carbon disulfide (P)

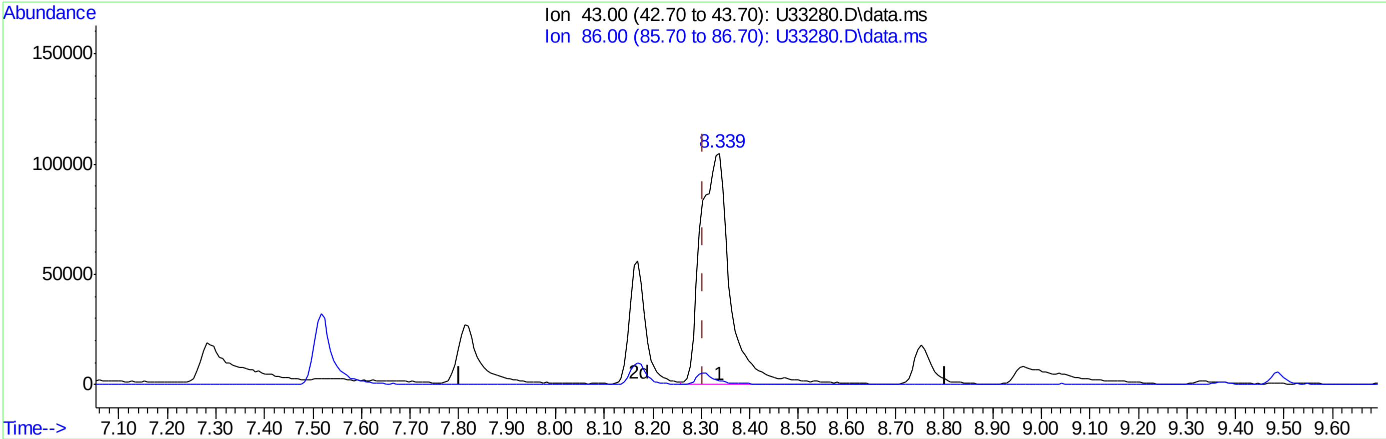
7.288min (+ 0.000) 18.90 ppb m

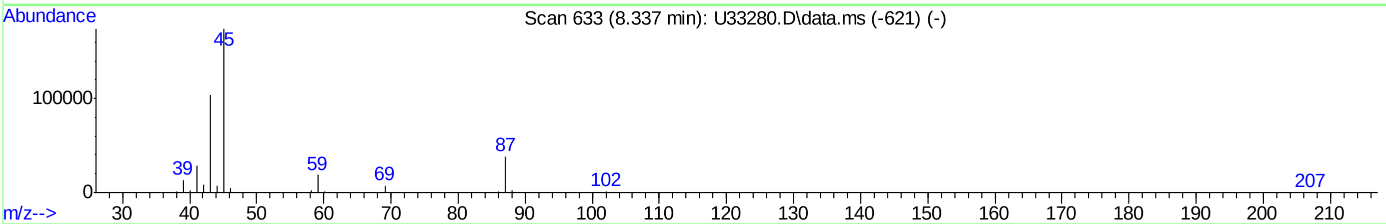
response 434827

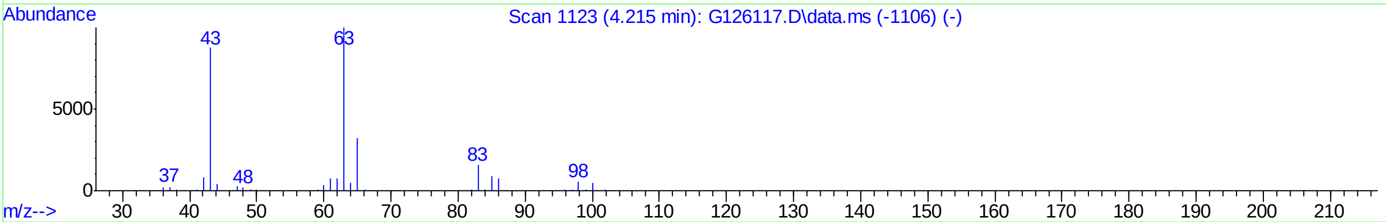
Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```







TIC: U33280.D\data.ms

(26) vinyl acetate (P)

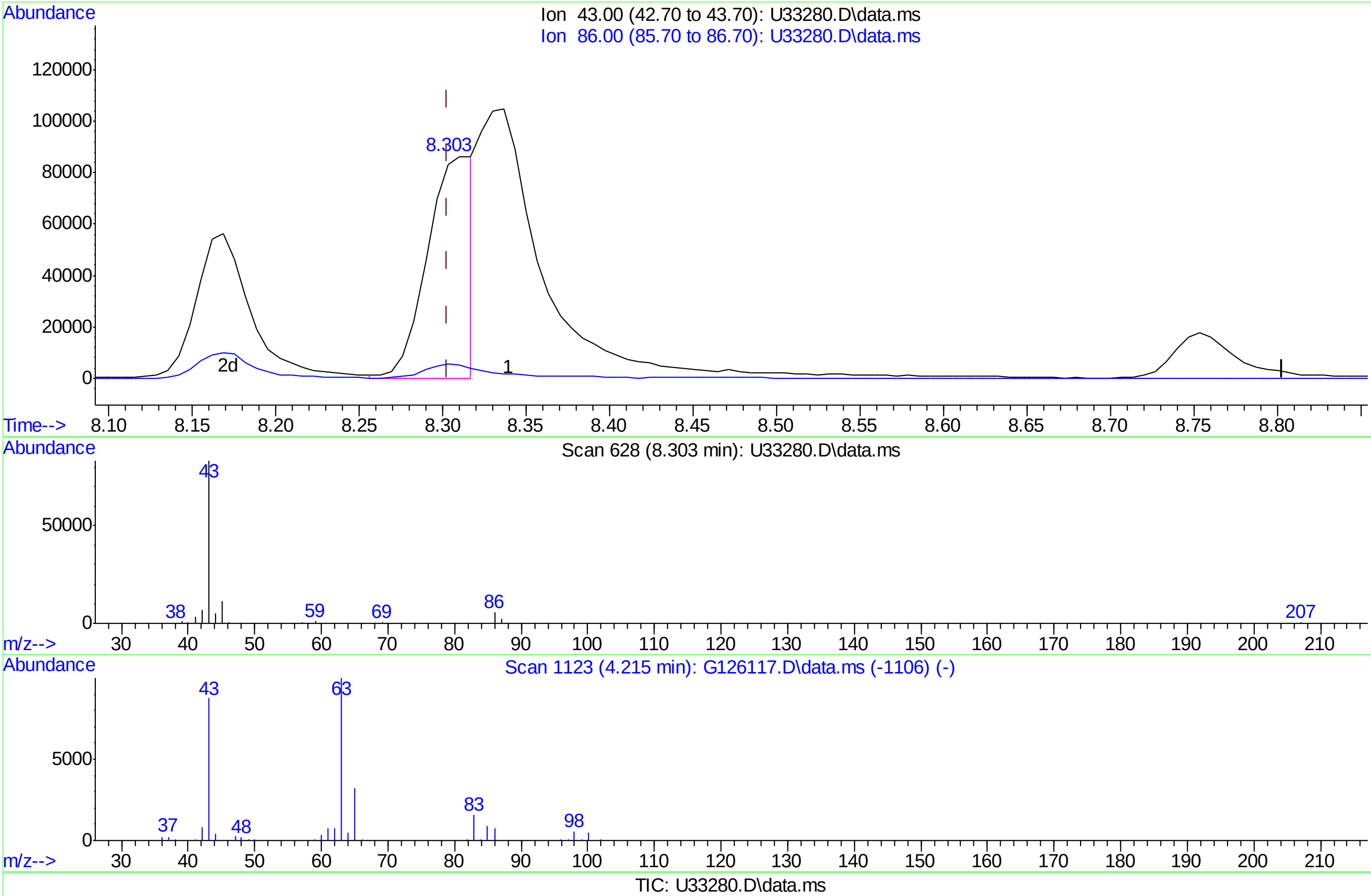
8.339min (+ 0.036) 47.13 ppb

response 449097

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	1.57
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

(26) vinyl acetate (P)

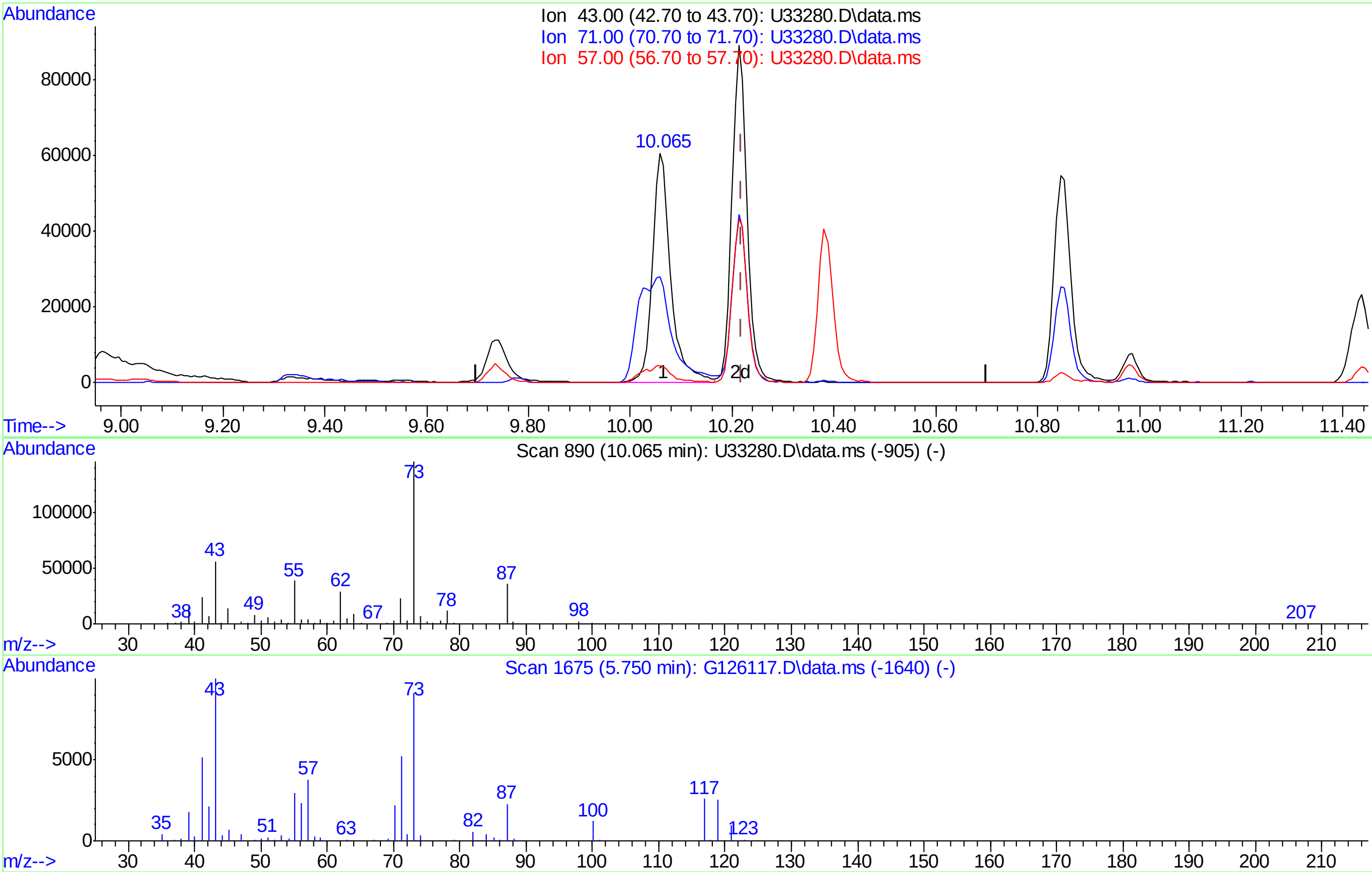
8.303min (+ 0.000) 17.15 ppb m

response 163458

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.59
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33280.D\data.ms

(50) heptane (P)

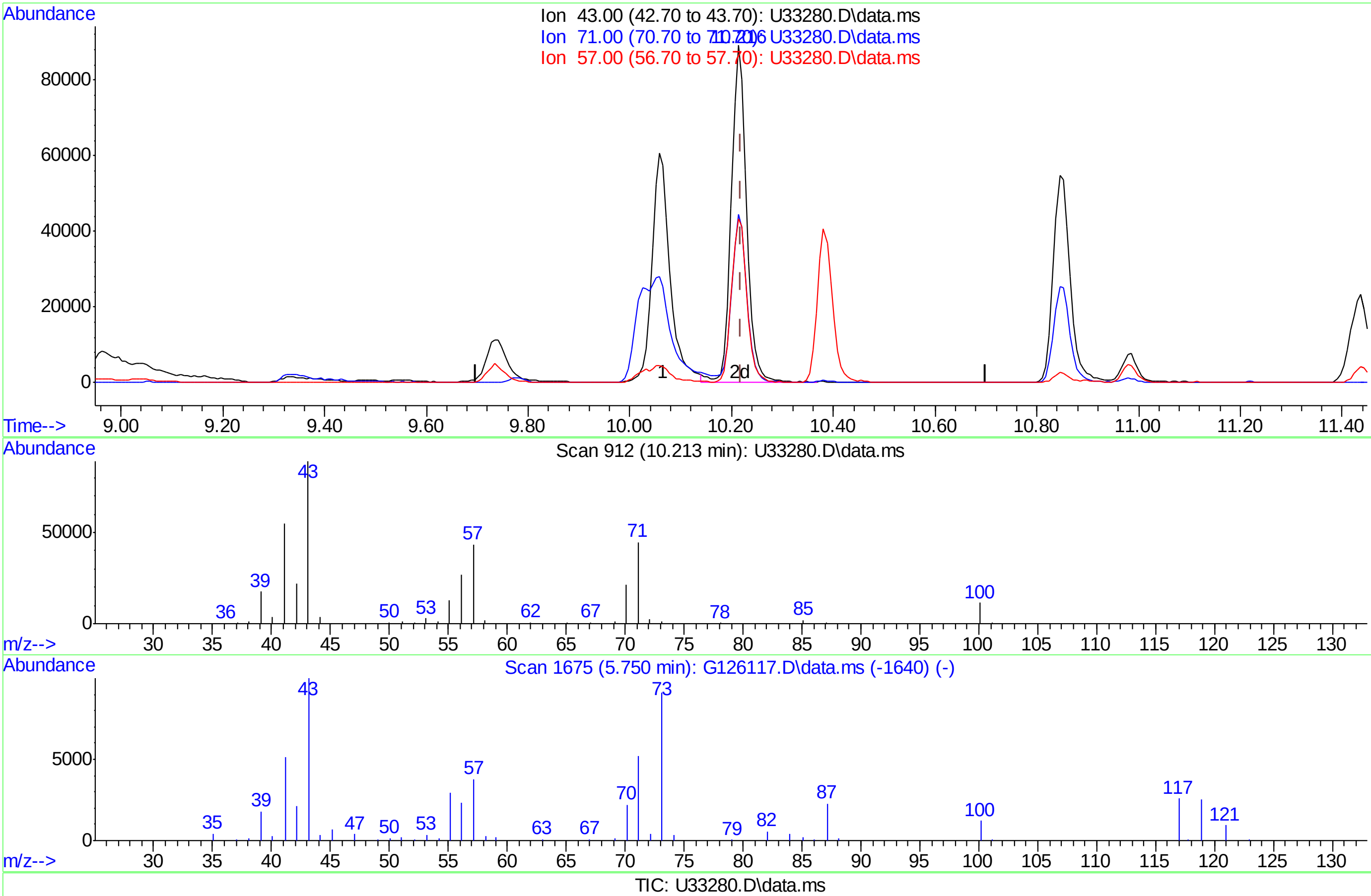
10.065min (-0.154) 18.30 ppb

response 155455

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	44.17
57.00	5.80	7.41
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(50) heptane (P)

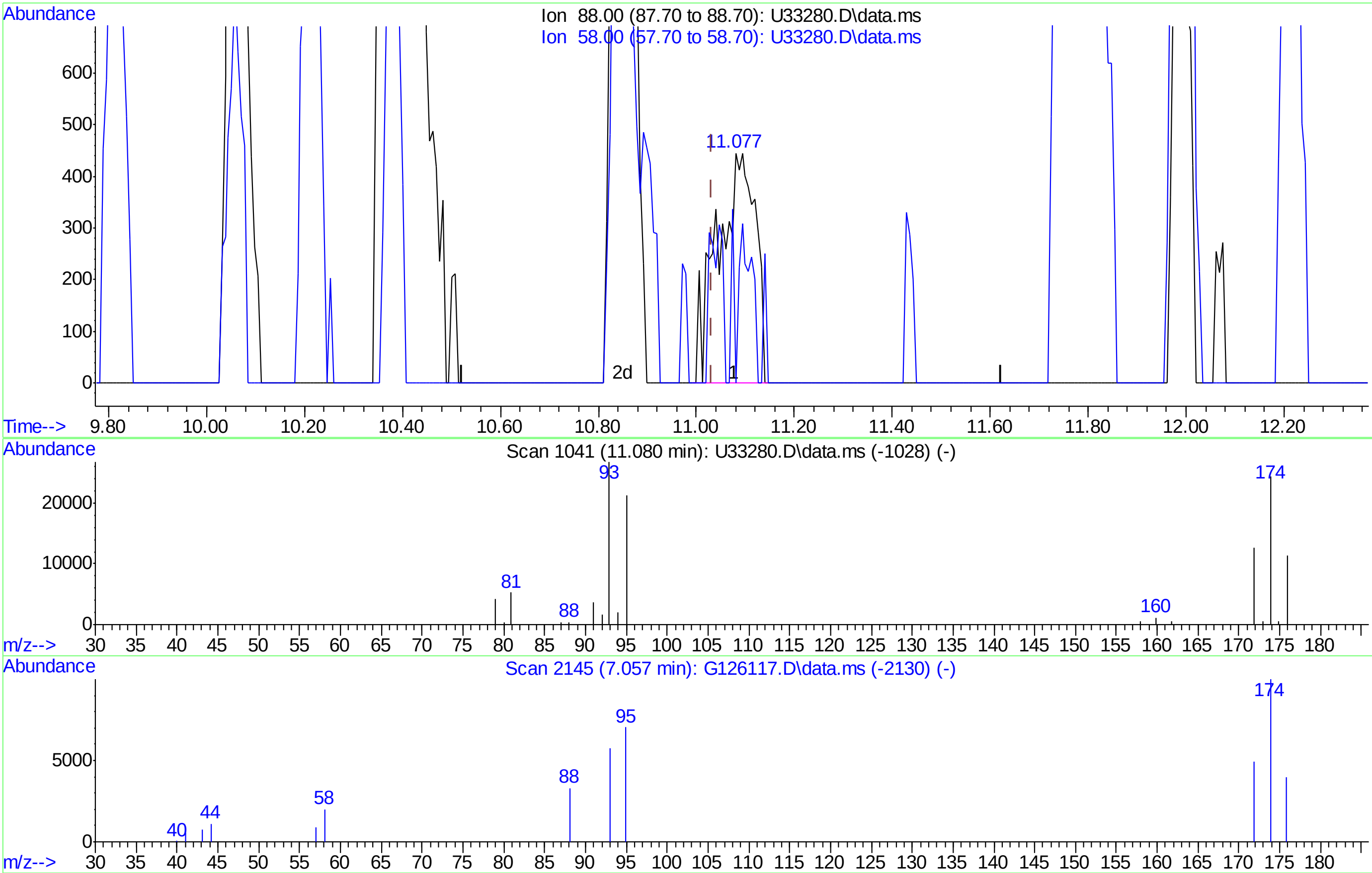
10.213min (-0.007) 21.63 ppb m

response 183788

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	50.11
57.00	5.80	48.75#
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33280.D\data.ms

(58) 1,4-dioxane (P)

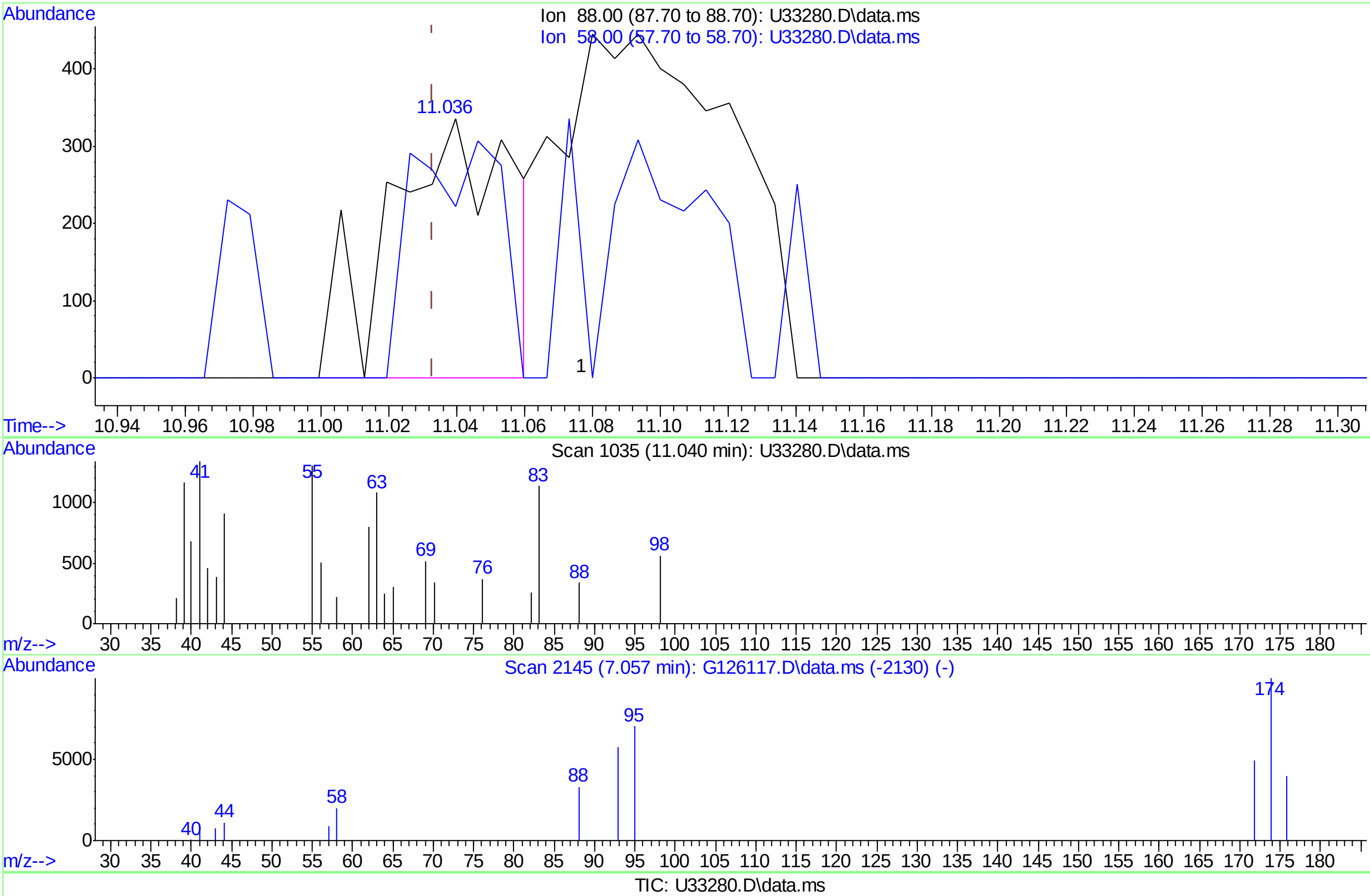
11.077min (+ 0.044) 63.55 ppb

response 2409

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(58) 1,4-dioxane (P)

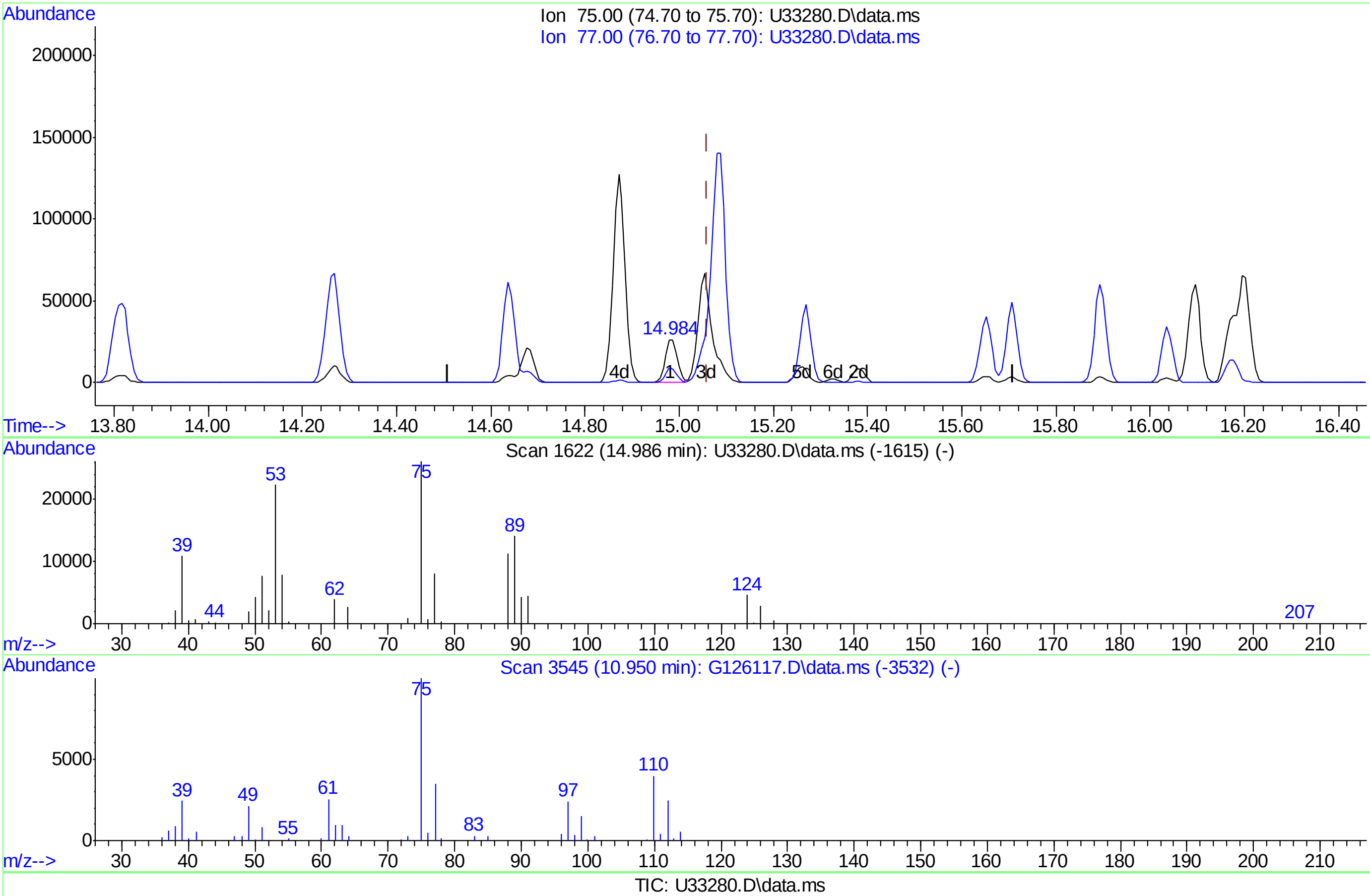
11.040min (+ 0.007) 22.05 ppb m

response 836

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	66.07#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(85) 1,2,3-trichloropropane (P)

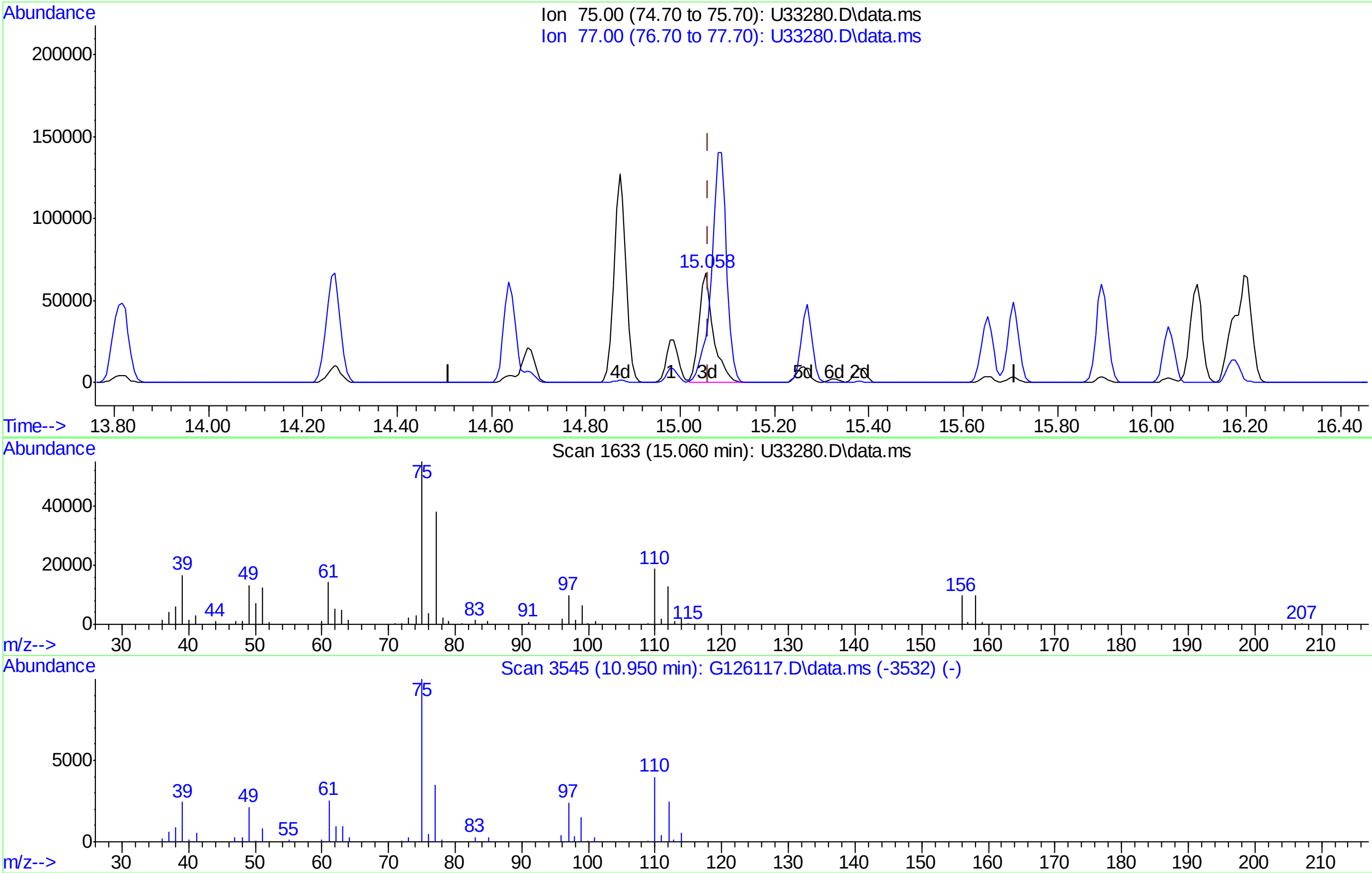
14.983min (-0.077) 6.83 ppb

response 46898

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	31.09
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33280.D
Acq On    : 26 Oct 2015   8:27 pm
Operator  : andrewd1
Sample    : ic1360-20
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Oct 27 08:59:08 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33280.D\data.ms

(85) 1,2,3-trichloropropane (P)

15.060min (+ 0.000) 20.91 ppb m

response 143592

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	69.45#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations
APPROVED
(compounds with "m" flag)
Sona Liskova
10/29/15 15:45

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On : 26 Oct 2015 8:54 pm
Operator : andrewd1
Sample : icc1360-50
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 27 08:35:52 2015
Quant Method : R:\1\methods\U151012.m
Quant Title : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.470	65	336487	500.00	ppb	-0.10
4) pentafluorobenzene	9.493	168	493503	50.00	ppb	0.00
43) 1,4-difluorobenzene	10.387	114	795946	50.00	ppb	0.00
66) chlorobenzene-d5	13.595	82	446278	50.00	ppb	0.00
80) 1,4-dichlorobenzene-d4	16.173	152	566884	50.00	ppb	0.00
System Monitoring Compounds						
40) dibromofluoromethane (s)	9.559	113	301384	60.87	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	121.74%		
60) toluene-d8 (s)	11.993	98	956188	55.29	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	110.58%		
82) bromofluorobenzene (s)	14.873	95	427554	57.79	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	115.58%		

Target Compounds	R.T.	QIon	Response	Conc	Units		Qvalue
2) tertiary butyl alcohol	7.567	59	346528	509.62	ppb		97
5) dichlorodifluoromethane	4.361	85	559693	62.88	ppb		98
6) chloromethane	4.741	50	348353	125.17	ppb		99
7) vinyl chloride	4.983	62	415087	67.80	ppb		100
8) bromomethane	5.588	96	229739	74.95	ppb		97
9) chloroethane	5.746	64	199330	64.80	ppb		99
10) ethyl ether	6.509	59	244150	77.77	ppb		93
11) acetonitrile	7.364	41	498984	87.77	ppb	#	13
12) trichlorofluoromethane	6.171	101	613007	66.21	ppb		97
13) freon-113	6.895	101	382472	74.56	ppb		97
15) 1,1-dichloroethene	6.904	96	291942	69.96	ppb		96
16) acetone	6.914	58	38216	75.88	ppb	#	74
17) Methyl Acetate	6.915	43	137871	82.26	ppb	#	68
18) methylene chloride	7.527	84	331755	70.87	ppb		86
19) methyl tert butyl ether	7.835	73	889140	78.85	ppb		92
20) acrylonitrile	7.791	53	128069	93.01	ppb		97
21) allyl chloride	7.365	41	513129	87.87	ppb		80
22) trans-1,2-dichloroethene	7.878	96	298513	66.42	ppb		89
23) iodomethane	7.153	142	561423	62.67	ppb		93
24) carbon disulfide	7.288	76	1048584m	81.27	ppb		
25) propionitrile	8.481	54	23392	83.28	ppb		100
26) vinyl acetate	8.303	43	421680m	83.96	ppb		
27) chloroprene	8.483	53	517030	84.53	ppb		95
28) di-isopropyl ether	8.344	45	1028616	84.53	ppb		90
29) methacrylonitrile	9.221	41	187293	82.36	ppb		94
30) 2-butanone	8.977	72	35979	78.65	ppb	#	1
32) Hexane	8.174	41	324530	81.32	ppb	#	69
33) 1,1-dichloroethane	8.398	63	587114	76.06	ppb		97
34) tert-butyl ethyl ether	8.763	59	1035097	85.30	ppb		92
35) isobutyl alcohol	8.763	43	112607	393.35	ppb		76
36) 2,2-dichloropropane	9.074	77	486657	77.36	ppb		97
37) cis-1,2-dichloroethene	9.037	96	329881	67.59	ppb		95
38) bromochloromethane	9.317	128	163119	60.36	ppb	#	75
39) chloroform	9.377	83	587716	69.83	ppb		97

Quantitation Report   (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On   : 26 Oct 2015   8:54 pm
Operator : andrewd1
Sample   : icc1360-50
Misc   : ms34382,msu1360,,,,5,1
ALS Vial : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:35:52 2015
Quant Method : R:\1\methods\U151012.m
Quant Title : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
41)	Tetrahydrofuran	9.336	42	101236	83.56	ppb		88
42)	1,1,1-trichloroethane	9.636	97	542310	70.52	ppb		98
44)	Cyclohexane	9.743	56	623032	75.25	ppb	#	90
45)	carbon tetrachloride	9.818	117	455772	59.62	ppb		98
46)	1,1-dichloropropene	9.784	75	412475	65.16	ppb		99
47)	benzene	10.024	78	1082048	61.01	ppb		100
48)	1,2-dichloroethane	10.046	62	454938	59.81	ppb		98
49)	tert-amyl methyl ether	10.063	73	927288	69.17	ppb		96
50)	heptane	10.219	43	393930m	71.47	ppb		
51)	trichloroethene	10.691	95	304446	58.33	ppb		94
52)	1,2-dichloropropane	10.982	63	283518	66.83	ppb		100
53)	dibromomethane	11.092	93	186702	58.89	ppb		96
54)	bromodichloromethane	11.226	83	400893	63.74	ppb		97
55)	Methylcyclohexane	10.986	83	541304	70.35	ppb		89
56)	2-chloroethyl vinyl ether	11.438	63	124413	63.91	ppb		95
57)	methyl methacrylate	10.898	69	156530	68.95	ppb		91
59)	cis-1,3-dichloropropene	11.675	75	415414	69.73	ppb		99
61)	4-methyl-2-pentanone	11.759	43	292480	72.01	ppb		97
62)	toluene	12.070	92	608767	61.25	ppb		99
63)	trans-1,3-dichloropropene	12.249	75	358493	57.40	ppb		94
64)	1,1,2-trichloroethane	12.489	83	184242	62.34	ppb		97
65)	ethyl methacrylate	12.213	69	289273	73.99	ppb		86
67)	tetrachloroethene	12.645	166	274701	40.54	ppb		98
68)	1,3-dichloropropane	12.682	76	352290	53.08	ppb		96
69)	dibromochloromethane	12.951	129	269950	49.44	ppb		97
70)	1,2-dibromoethane	13.128	107	224879	47.99	ppb		98
71)	2-hexanone	12.638	43	188212	59.86	ppb	#	18
72)	chlorobenzene	13.631	112	699241	45.51	ppb		100
73)	1,1,1,2-tetrachloroethane	13.697	131	311128	45.84	ppb		98
74)	ethylbenzene	13.686	91	1243548	50.78	ppb		99
75)	m,p-xylene	13.815	106	951022	96.36	ppb		98
76)	o-xylene	14.258	106	545223	50.53	ppb		100
77)	styrene	14.271	104	797256	53.99	ppb		89
78)	bromoform	14.544	173	198345	50.81	ppb		98
79)	trans-1,4-dichloro-2-b...	14.677	53	101278m	65.39	ppb		
81)	isopropylbenzene	14.639	105	1515039	65.13	ppb		100
83)	bromobenzene	15.085	156	361898	49.83	ppb		97
84)	1,1,2,2-tetrachloroethane	14.946	83	345815	63.53	ppb		98
85)	1,2,3-trichloropropane	15.060	75	345545m	59.40	ppb		
86)	n-propylbenzene	15.100	91	1773761	64.16	ppb		99
87)	2-chlorotoluene	15.258	91	1255586	61.69	ppb		98
88)	4-chlorotoluene	15.382	91	1069498	60.05	ppb		99
89)	1,3,5-trimethylbenzene	15.270	105	1429498	64.02	ppb		98
90)	tert-butylbenzene	15.652	91	881298	64.74	ppb		99
91)	1,2,4-trimethylbenzene	15.707	105	1515470	63.84	ppb		98
92)	sec-butylbenzene	15.895	105	1915959	68.56	ppb		98
93)	1,3-dichlorobenzene	16.096	146	816679	50.31	ppb		99
94)	p-isopropyltoluene	16.038	119	1659920	65.27	ppb		99
95)	1,4-dichlorobenzene	16.202	146	829880	49.80	ppb		99
96)	1,2-dichlorobenzene	16.616	146	917126	51.65	ppb		95

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On : 26 Oct 2015 8:54 pm
Operator : andrewd1
Sample : icc1360-50
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 11 Sample Multiplier: 1

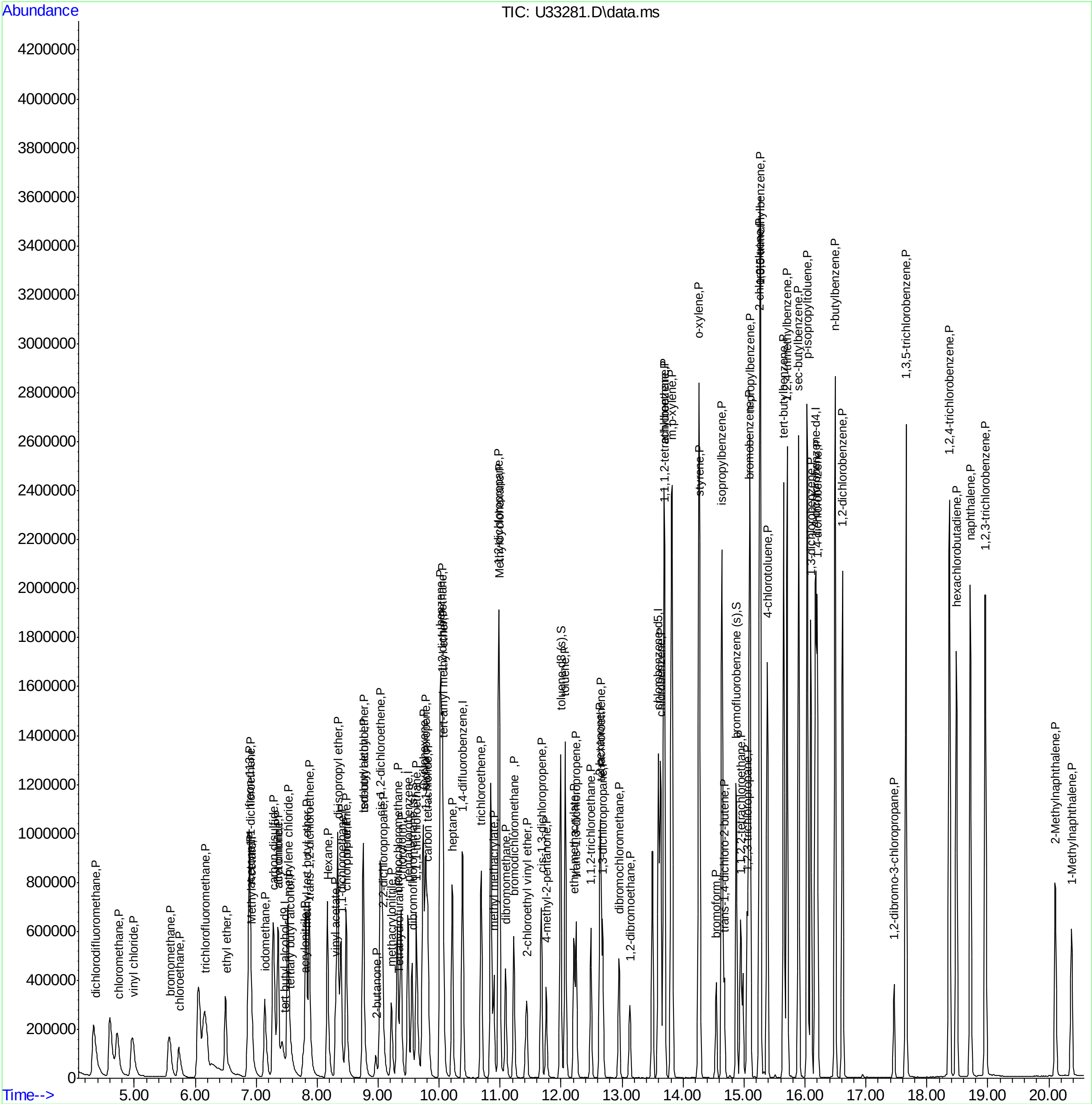
Quant Time: Oct 27 08:35:52 2015
Quant Method : R:\1\methods\U151012.m
Quant Title : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
97) n-butylbenzene	16.493	91	1689301	68.40 ppb	99
98) 1,2-dibromo-3-chloropr...	17.460	75	102142	69.79 ppb	93
99) 1,3,5-trichlorobenzene	17.656	180	877574	49.77 ppb	97
100) 1,2,4-trichlorobenzene	18.368	180	826926	51.61 ppb	97
101) hexachlorobutadiene	18.484	225	377909	48.04 ppb	97
102) naphthalene	18.712	128	1789812	59.71 ppb	100
103) 2-Methylnaphthalene	20.108	142	500118	27.47 ppb	97
104) 1-Methylnaphthalene	20.372	142	365927	27.50 ppb	99
105) 1,2,3-trichlorobenzene	18.959	180	726978	50.26 ppb	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

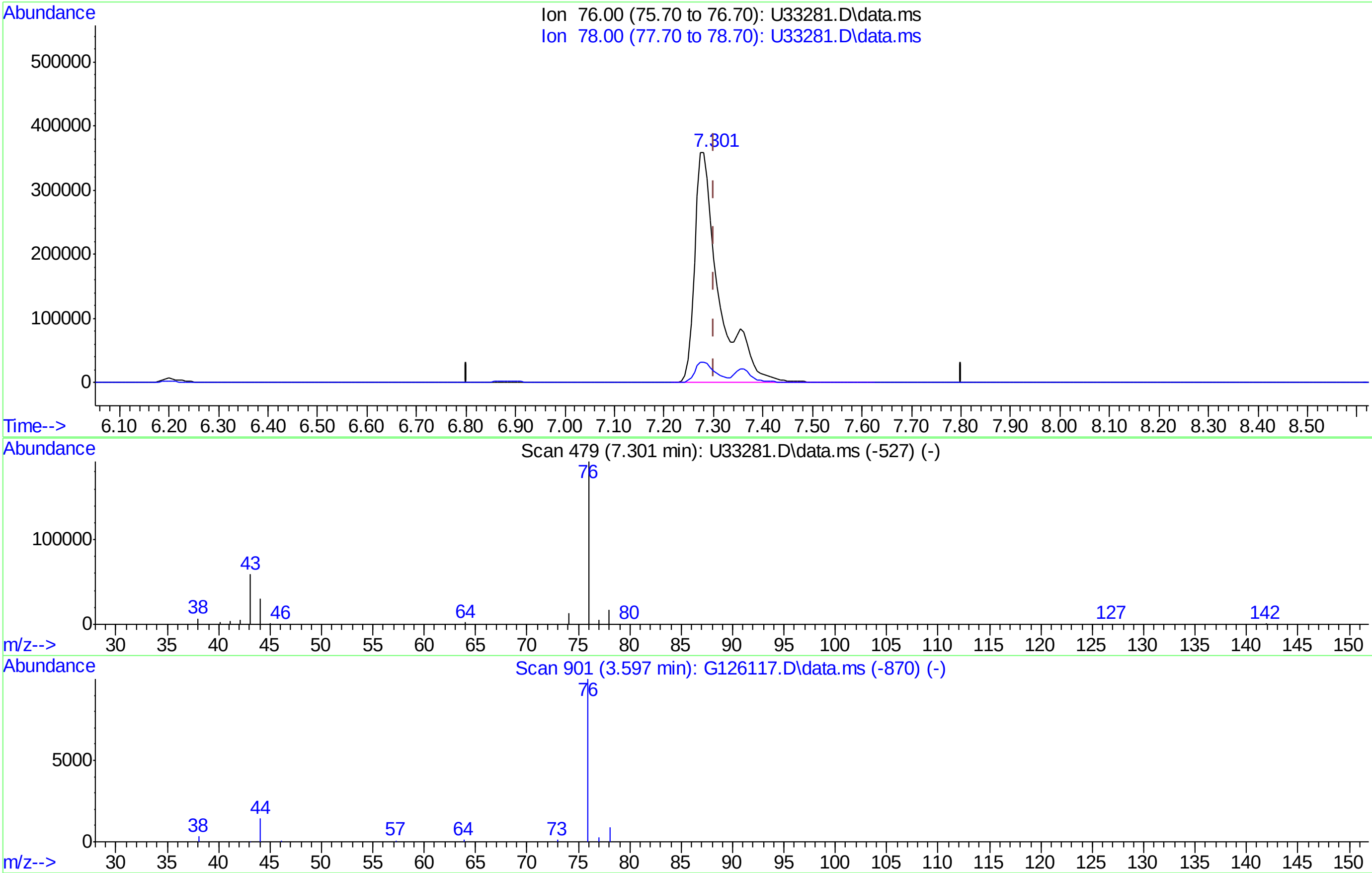
Quantitation Report   (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:35:52 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```



Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```

TIC: U33281.D\data.ms

(24) carbon disulfide (P)

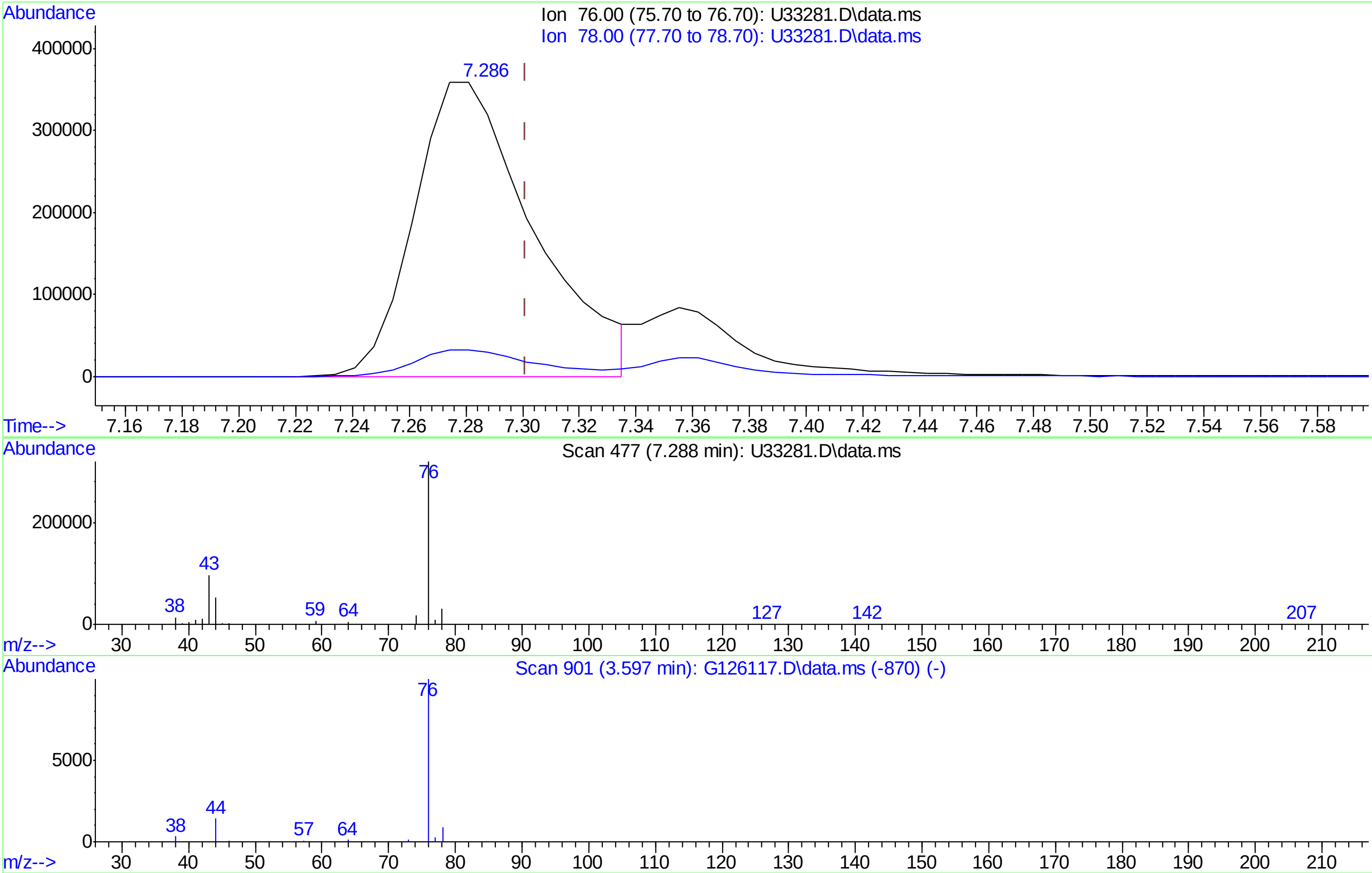
7.301min (+ 0.000) 98.27 ppb

response 1267908

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.13
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```

TIC: U33281.D\data.ms

(24) carbon disulfide (P)

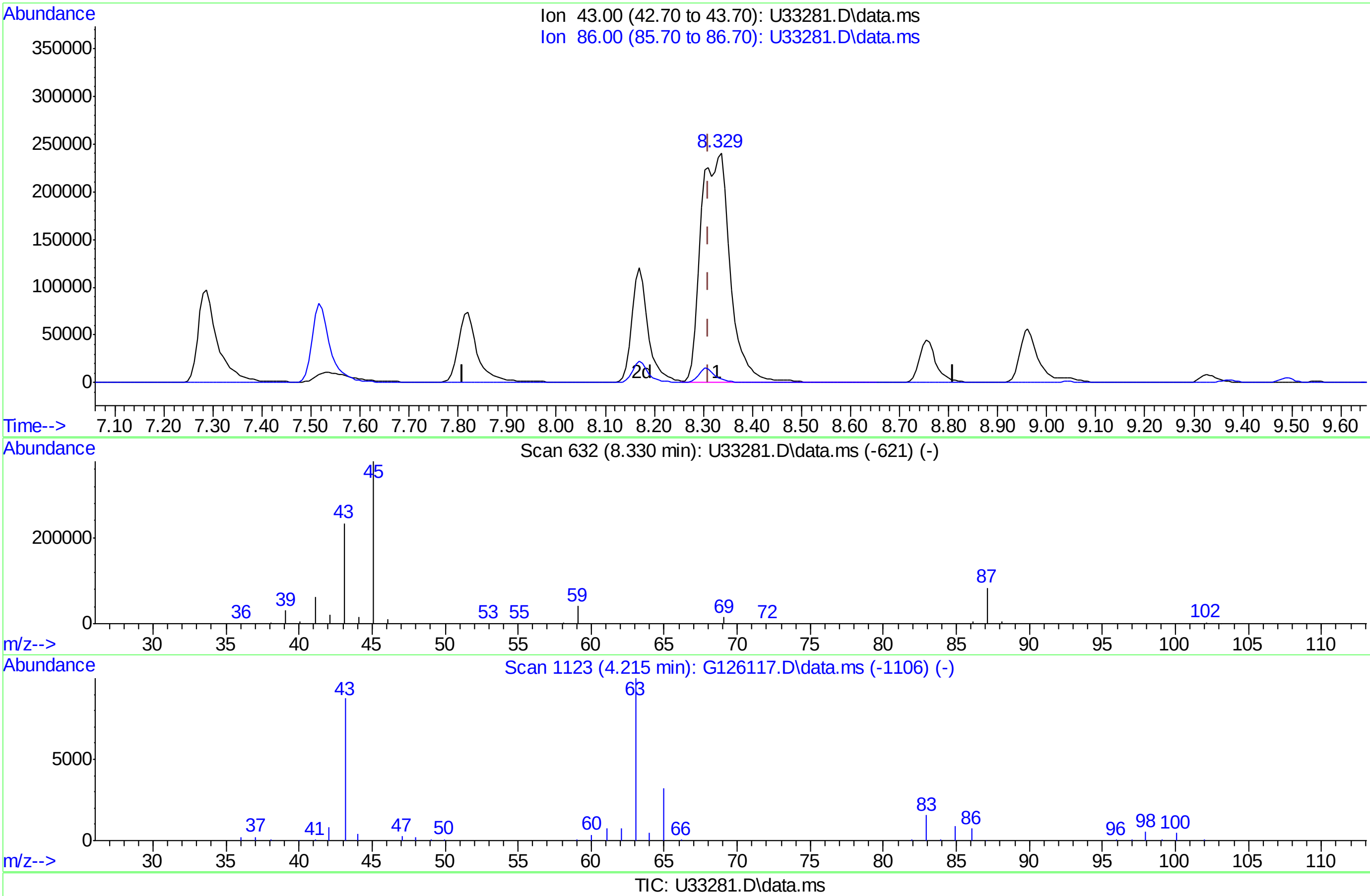
7.288min (-0.013) 81.27 ppb m

response 1048584

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.27
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```



(26) vinyl acetate (P)

8.329min (+ 0.019) 197.42 ppb

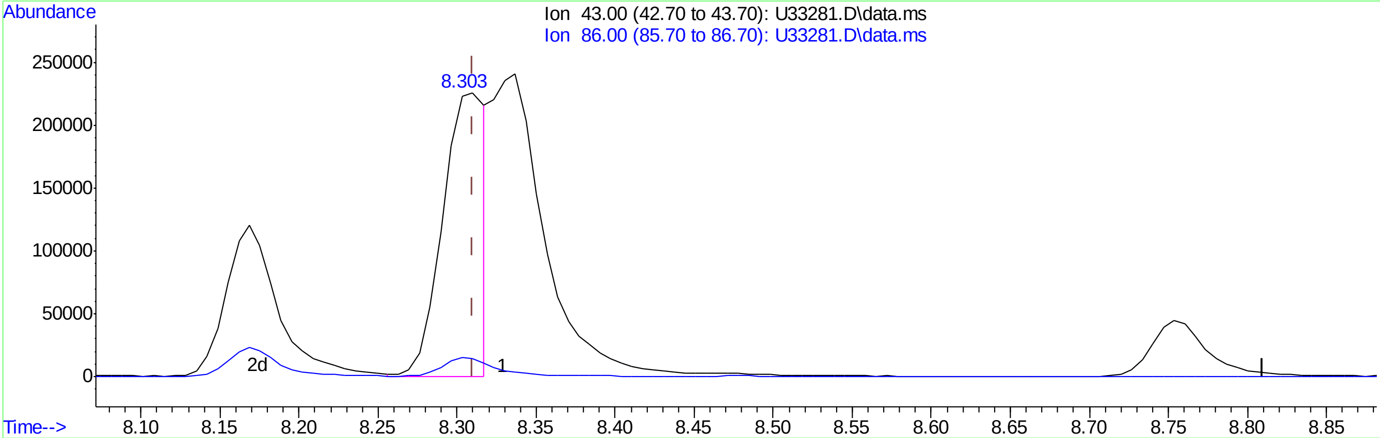
response 991482

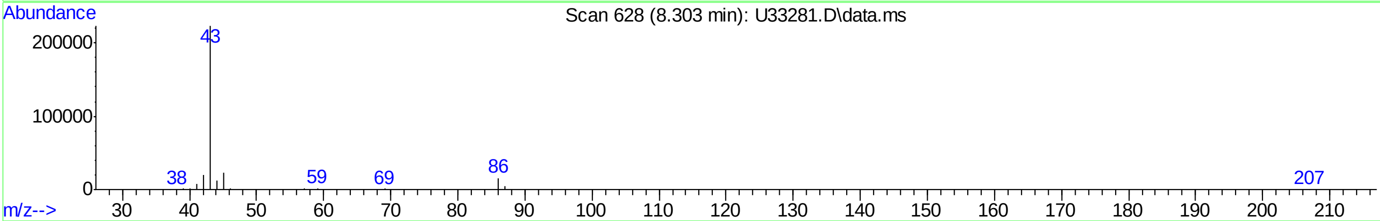
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.05
0.00	0.00	0.00
0.00	0.00	0.00

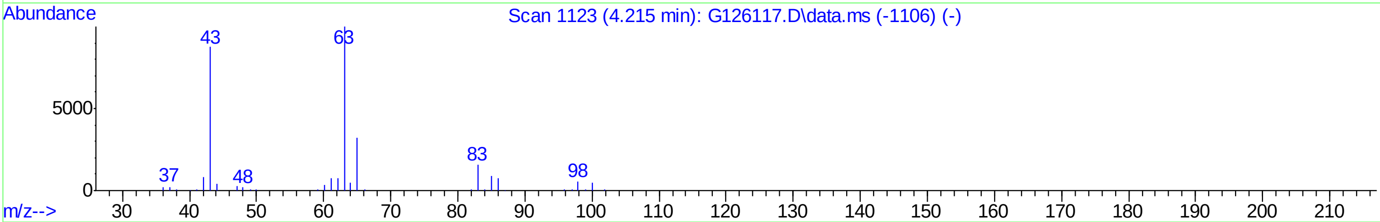
U33281.D edits: vinyl acetate

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```





TIC: U33281.D\data.ms

(26) vinyl acetate (P)

8.303min (-0.007) 83.96 ppb m

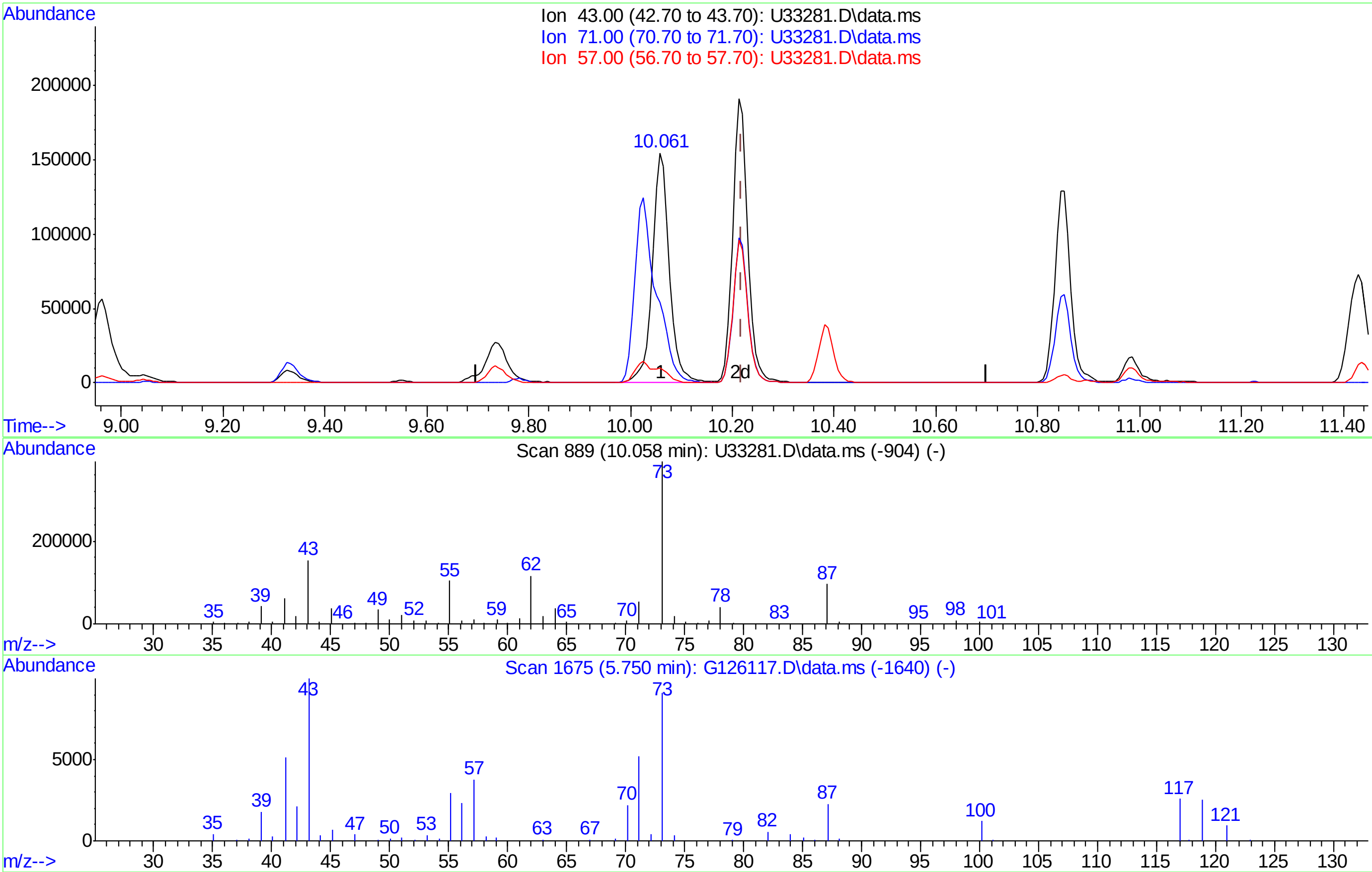
response 421680

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.93
0.00	0.00	0.00
0.00	0.00	0.00

U33281.D edits: vinyl acetate

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```



(50) heptane (P)

10.061min (-0.158) 66.57 ppb

response 366941

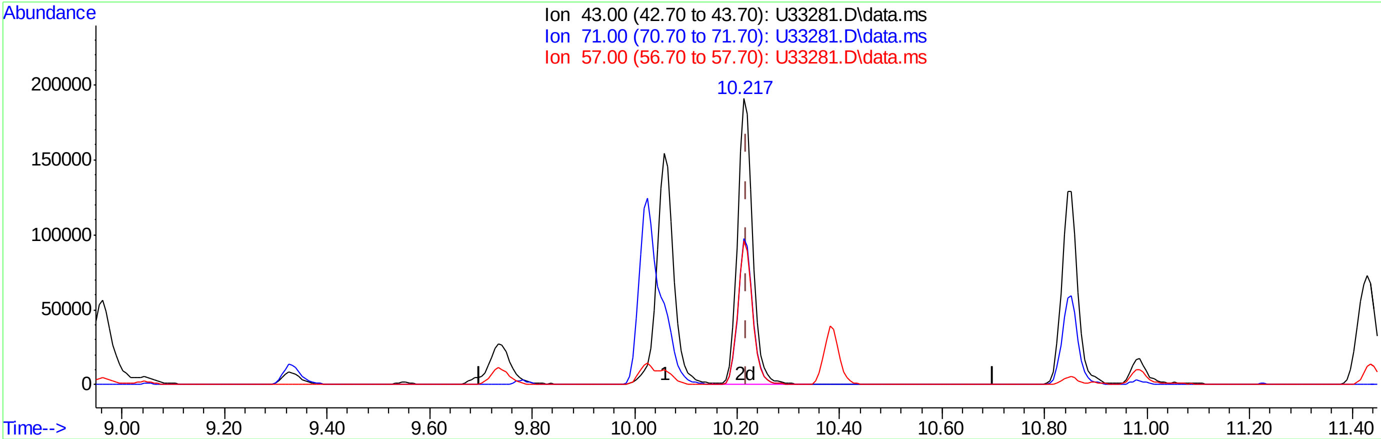
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	35.18
57.00	5.80	6.54
0.00	0.00	0.00

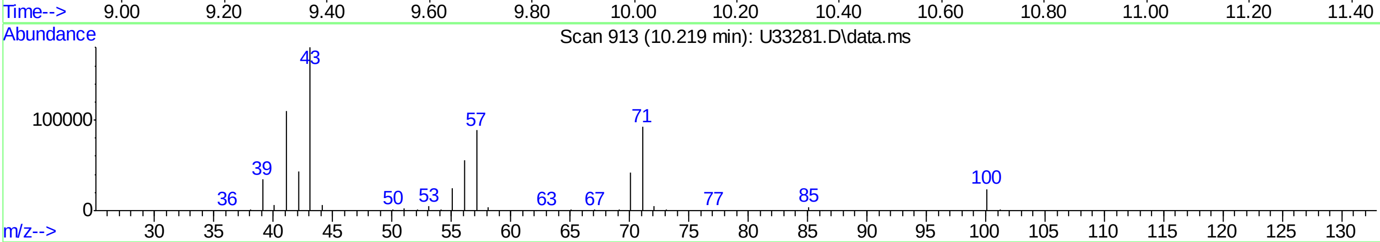
U33281.D edits: heptane

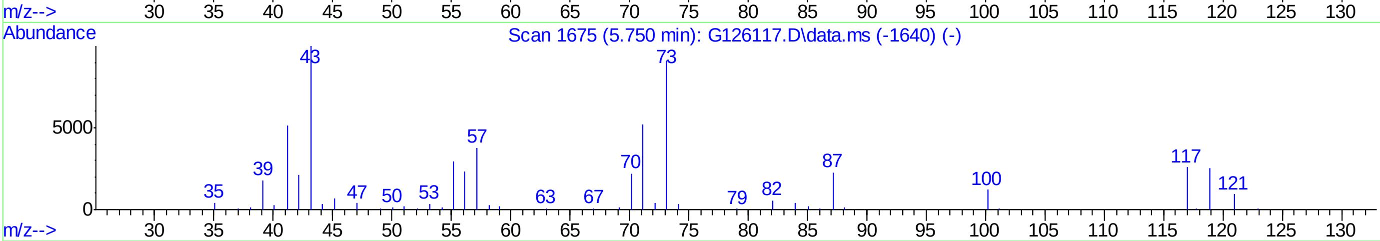
7.6.7.5
7

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```





TIC: U33281.D\data.ms

(50) heptane (P)

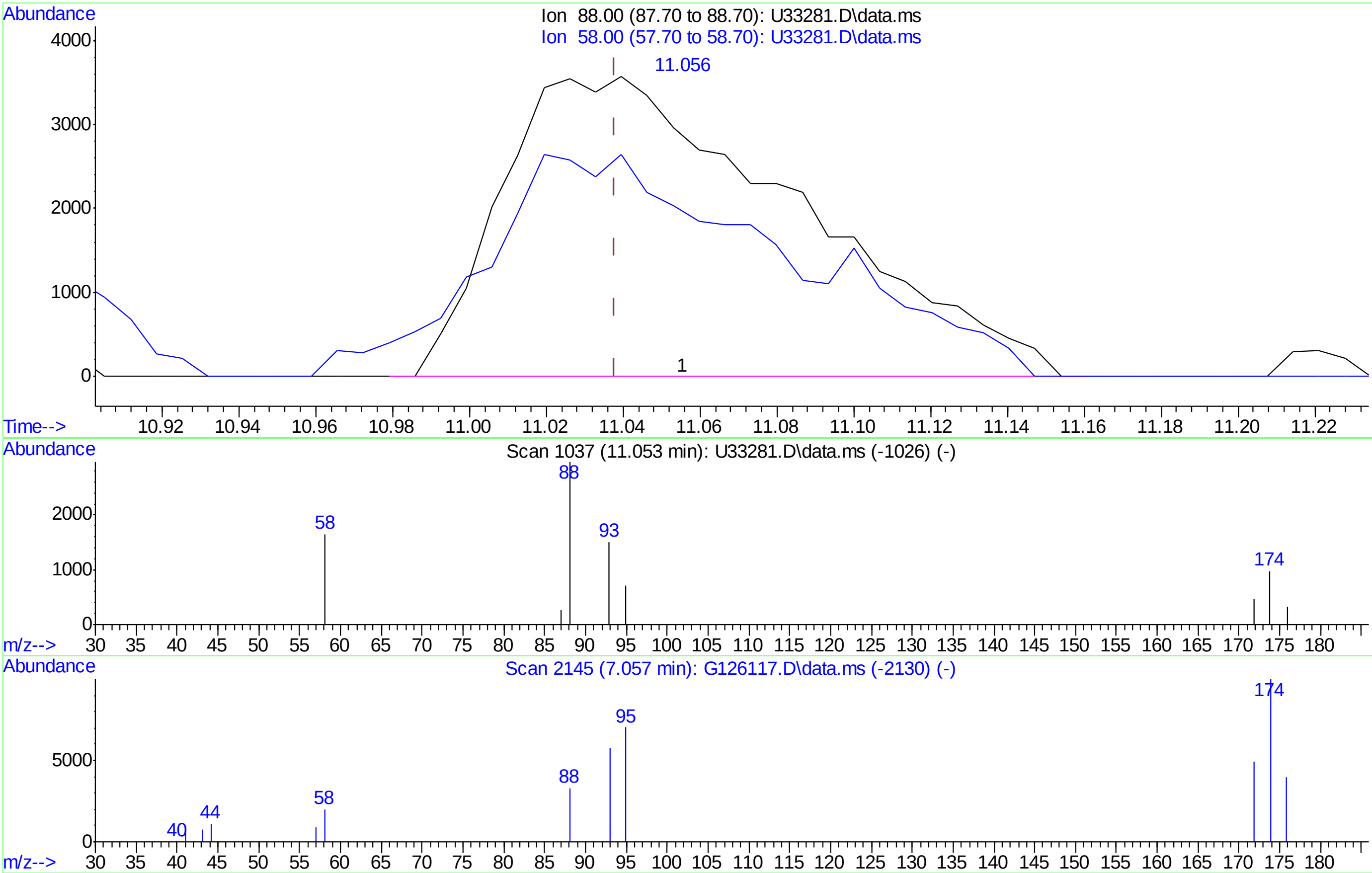
10.219min (+ 0.000) 71.47 ppb m

response 393930

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	51.21
57.00	5.80	49.29#
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```



(58) 1,4-dioxane (P)

11.056min (+ 0.018) 0.00 ppb

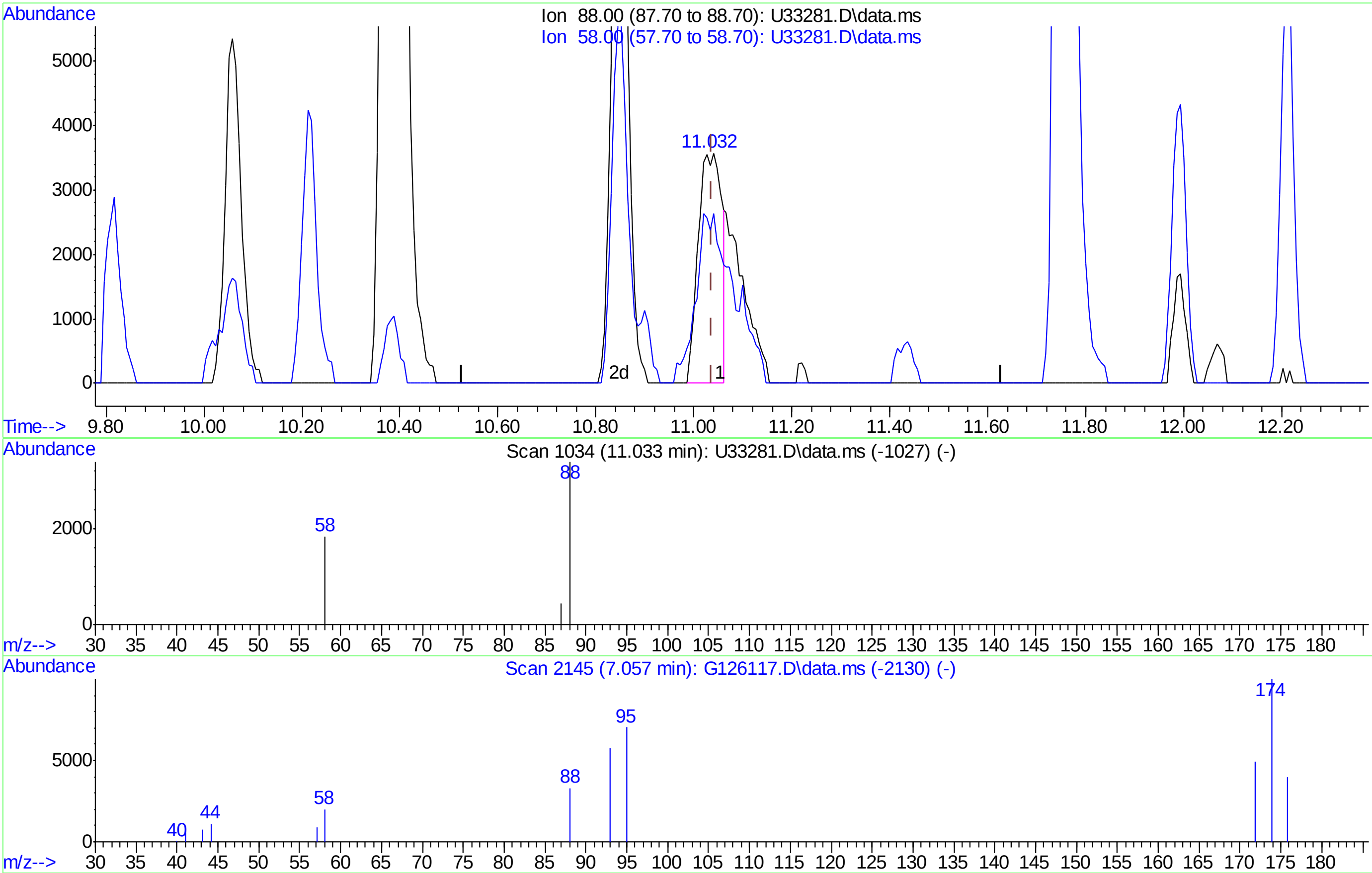
response 19107

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	68.79#
0.00	0.00	0.00
0.00	0.00	0.00

U33281.D edits: 1,4-dioxane

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```



TIC: U33281.D\data.ms

(58) 1,4-dioxane (P)

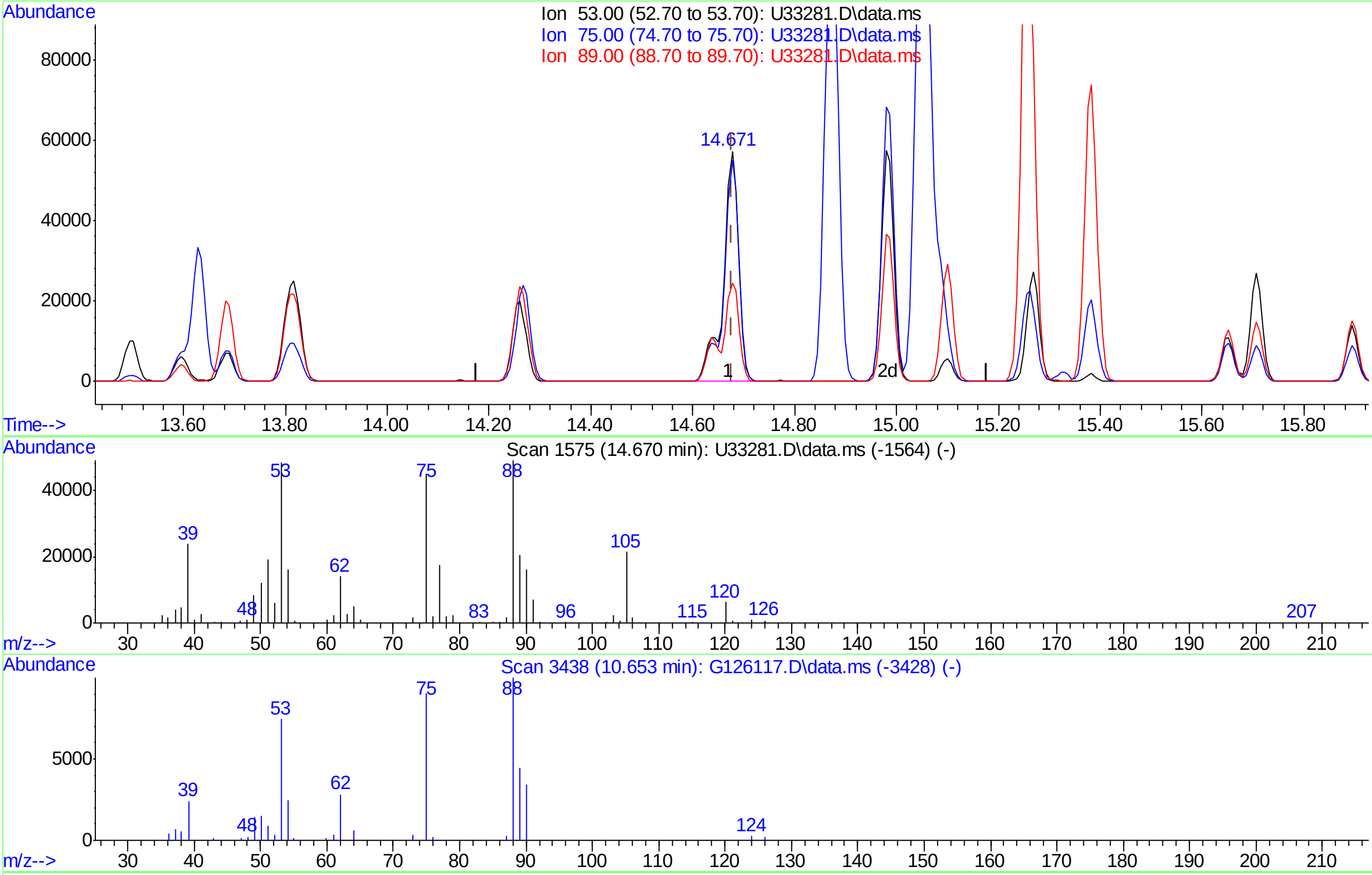
11.033min (-0.005) 0.00 ppb m

response 11747

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	70.20#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```



TIC: U33281.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

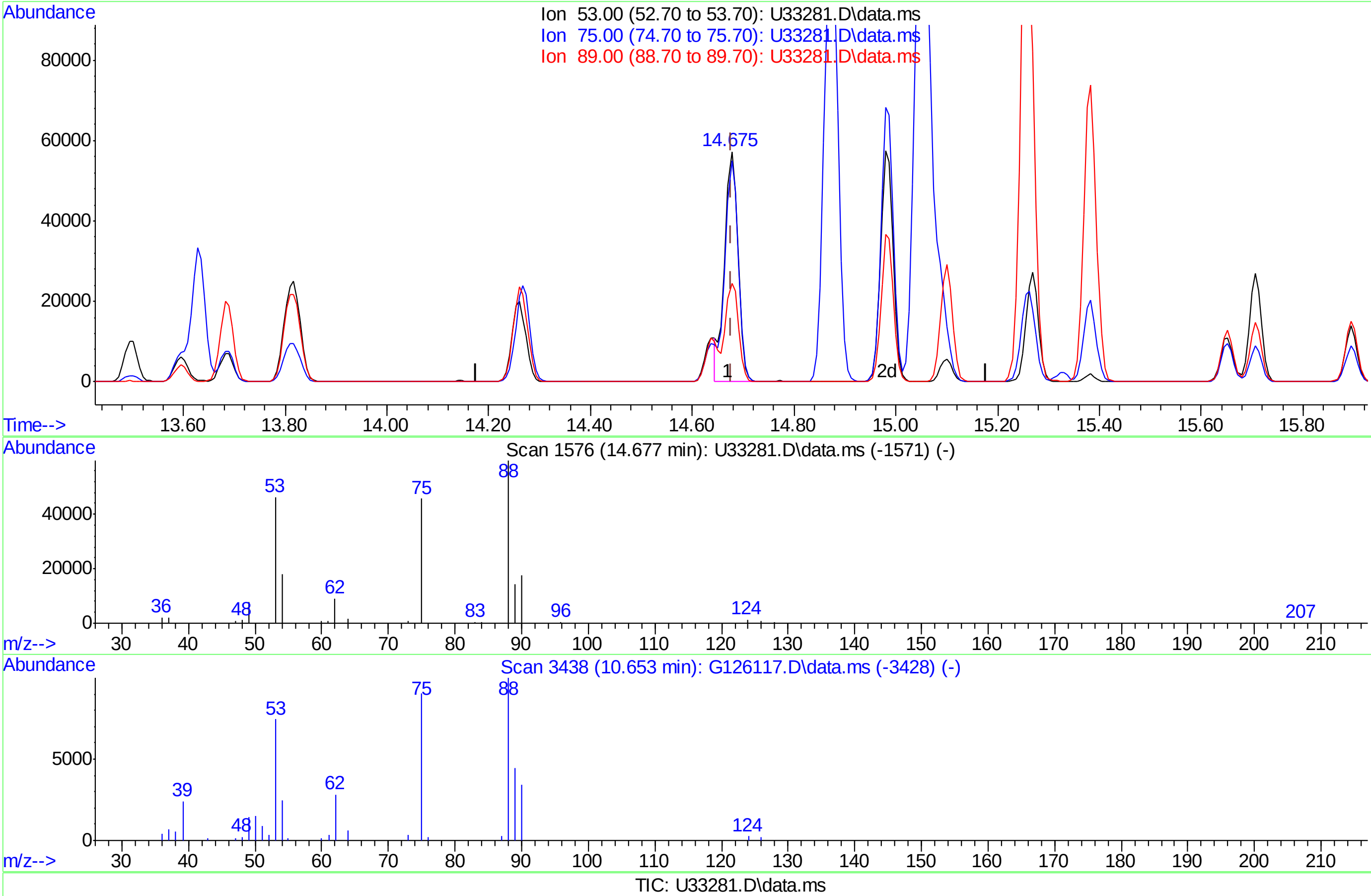
14.671min (-0.006) 75.63 ppb

response 117145

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	92.83#
89.00	64.60	42.39
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```



(79) trans-1,4-dichloro-2-butene (P)

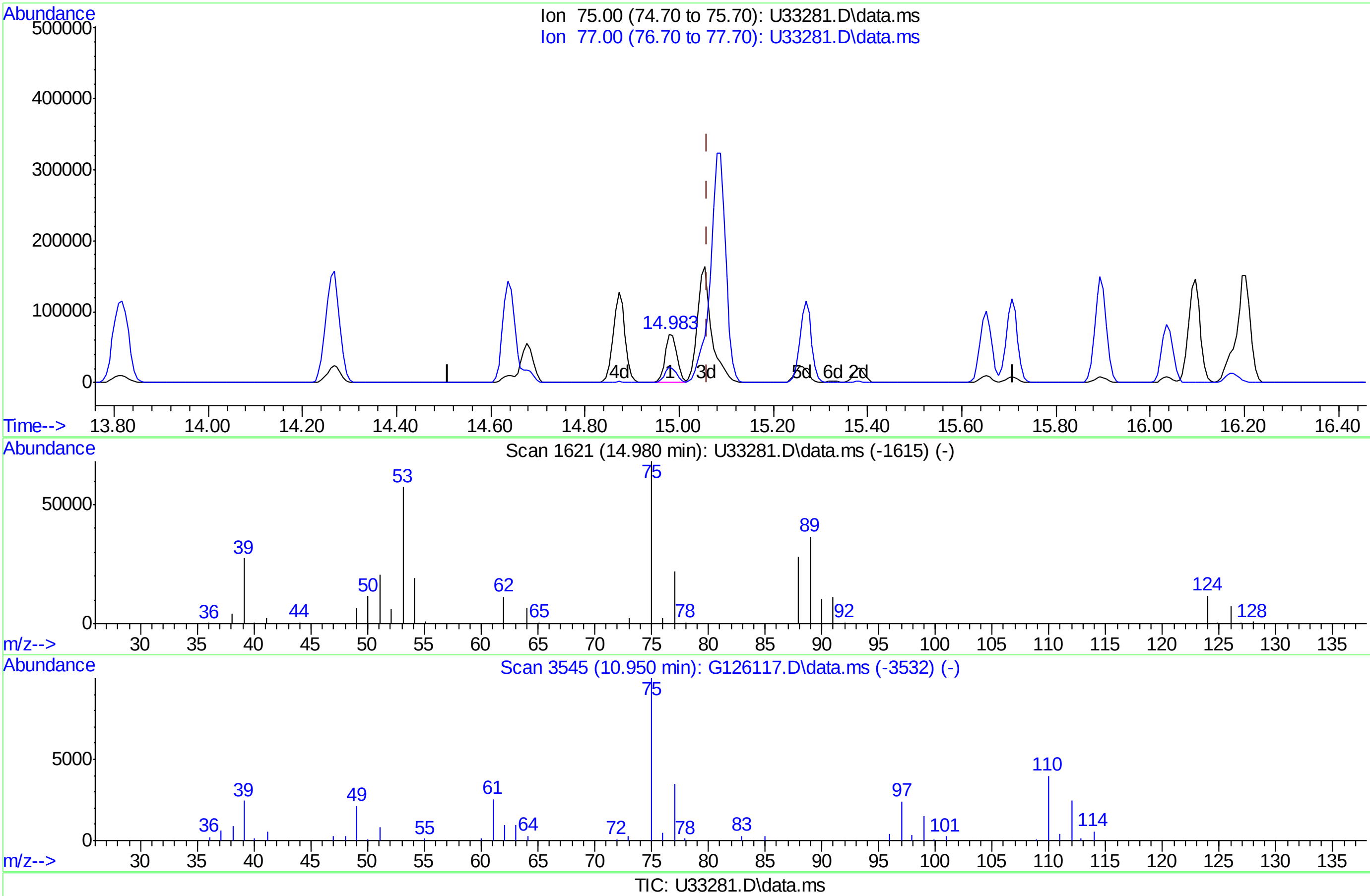
14.677min (+ 0.000) 65.39 ppb m

response 101278

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	95.82#
89.00	64.60	42.94
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```

(85) 1,2,3-trichloropropane (P)

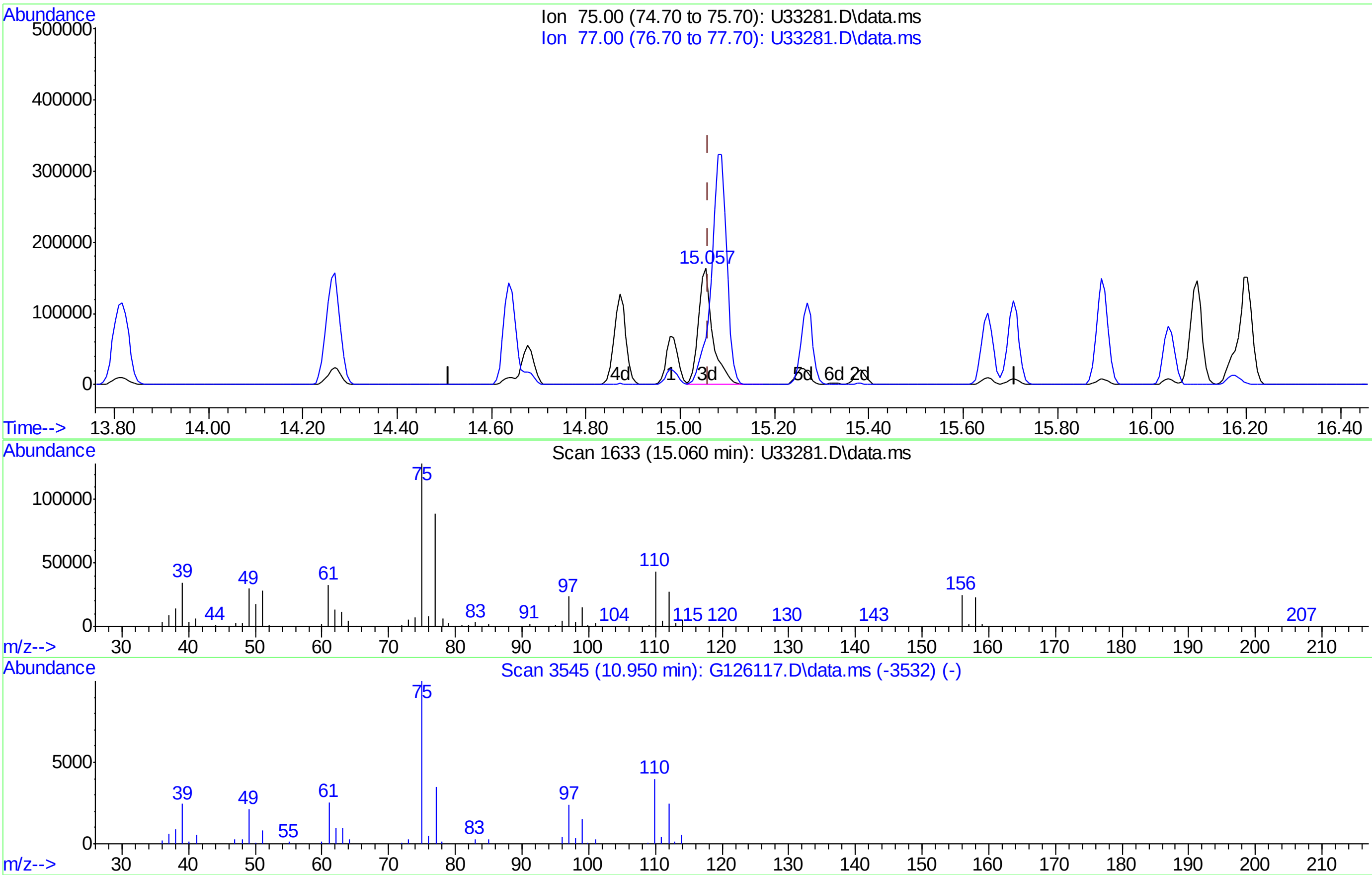
14.983min (-0.077) 20.37 ppb

response 118528

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	32.29
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33281.D
Acq On    : 26 Oct 2015   8:54 pm
Operator  : andrewd1
Sample    : icc1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Oct 27 08:31:32 2015
Quant Method : R:\1\methods\U151012.m
Quant Title  : SW-846 Method 8260
QLast Update : Wed Oct 14 13:55:03 2015
Response via : Initial Calibration
```



TIC: U33281.D\data.ms

(85) 1,2,3-trichloropropane (P)

15.060min (+ 0.000) 59.40 ppb m

response 345545

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	68.93#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 15:45

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:04:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

        Compound                       R.T. QIon  Response  Conc Units Dev(Min)
 --------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9          7.567   65    225614   500.00 ppb      0.10
   4) pentafluorobenzene             9.494  168    530097    50.00 ppb      0.00
  43) 1,4-difluorobenzene           10.387  114    871989    50.00 ppb      0.00
  66) chlorobenzene-d5              13.595   82    529916    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4        16.173  152    624731    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)       9.559  113    321332    48.72 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery    =    97.44%
  60) toluene-d8 (s)                11.993   98   1095912    54.26 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery    =   108.52%
  82) bromofluorobenzene (s)        14.873   95    503764    54.22 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery    =   108.44%

 Target Compounds                                                    Qvalue
   2) tertiary butyl alcohol         7.661   59    485370  1234.58 ppb        51
   3) Ethanol                        6.345   45    123196  4917.85 ppb        96
   5) dichlorodifluoromethane        4.364   85   1137938    95.78 ppb        97
   6) chloromethane                  4.746   50    685508    78.46 ppb        99
   7) vinyl chloride                 4.989   62    873008   104.67 ppb       100
   8) bromomethane                   5.596   96    493030    92.05 ppb        99
   9) chloroethane                   5.752   64    390474    92.51 ppb        96
  10) ethyl ether                    6.512   59    503697    98.09 ppb        91
  11) acetonitrile                   7.366   41   1013864    91.16 ppb  #     13
  12) trichlorofluoromethane         6.176  101   1260823   100.06 ppb        99
  13) freon-113                      6.898  101    764726    97.13 ppb        97
  15) 1,1-dichloroethene             6.907   96    591655    98.10 ppb        96
  16) acetone                        6.979   58     69959m   95.74 ppb
  17) Methyl Acetate                 6.962   43    211107    72.46 ppb  #     72
  18) methylene chloride             7.530   84    687191    95.35 ppb        86
  19) methyl tert butyl ether        7.842   73   1868981   100.41 ppb        92
  20) acrylonitrile                  7.822   53    280989   103.41 ppb        79
  21) allyl chloride                 7.366   41   1035566    89.76 ppb        77
  22) trans-1,2-dichloroethene       7.880   96    602769    93.87 ppb        90
  23) iodomethane                    7.157  142   1158075    98.41 ppb        93
  24) carbon disulfide               7.288   76   2170753m   96.64 ppb
  25) propionitrile                  8.482   54     46760    93.62 ppb       100
  26) vinyl acetate                  8.303   43    849227m   92.64 ppb
  27) chloroprene                    8.484   53   1035430    98.20 ppb        95
  28) di-isopropyl ether             8.346   45   2138166    98.24 ppb        91
  29) methacrylonitrile              9.226   41    394781    93.64 ppb        93
  30) 2-butanone                     9.005   72     75957   101.93 ppb  #      1
  31) Ethyl Acetate                  8.174   43    539237    87.69 ppb  #      1
  32) Hexane                         8.175   41    637082    87.31 ppb  #     70
  33) 1,1-dichloroethane             8.399   63   1201402    95.77 ppb        97
  34) tert-butyl ethyl ether         8.766   59   2183752   103.49 ppb        92
  35) isobutyl alcohol               8.764   43    232691   469.22 ppb        77
  36) 2,2-dichloropropane            9.074   77    983638    96.48 ppb        97
  37) cis-1,2-dichloroethene         9.037   96    664246    93.42 ppb        95
```

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:04:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38) bromochloromethane	9.319	128	331335	97.84 ppb #	76
39) chloroform	9.378	83	1194674	96.01 ppb	99
41) Tetrahydrofuran	9.360	42	210337	94.00 ppb	79
42) 1,1,1-trichloroethane	9.637	97	1117531	103.31 ppb	99
44) Cyclohexane	9.744	56	1248010	90.83 ppb #	88
45) carbon tetrachloride	9.819	117	956274	100.84 ppb	99
46) 1,1-dichloropropene	9.784	75	842277	93.36 ppb	99
47) benzene	10.024	78	2236819	90.48 ppb	99
48) 1,2-dichloroethane	10.048	62	959018	94.50 ppb	97
49) tert-amyl methyl ether	10.066	73	1957373	96.15 ppb	96
50) heptane	10.219	43	816455m	91.26 ppb	
51) trichloroethene	10.692	95	621333	85.62 ppb	95
52) 1,2-dichloropropane	10.982	63	611293	100.20 ppb	100
53) dibromomethane	11.093	93	405441	101.74 ppb	95
54) bromodichloromethane	11.226	83	884764	106.27 ppb	98
55) Methylcyclohexane	10.987	83	1079469	92.46 ppb	90
56) 2-chloroethyl vinyl ether	11.439	63	321564	129.97 ppb	96
57) methyl methacrylate	10.899	69	372479	122.85 ppb	92
58) 1,4-dioxane	11.033	88	6243m	214.17 ppb	
59) cis-1,3-dichloropropene	11.676	75	973796	119.23 ppb	99
61) 4-methyl-2-pentanone	11.763	43	651334	99.06 ppb	98
62) toluene	12.070	92	1366684	107.42 ppb	100
63) trans-1,3-dichloropropene	12.249	75	874473	126.87 ppb	93
64) 1,1,2-trichloroethane	12.490	83	433650	114.15 ppb	98
65) ethyl methacrylate	12.213	69	692933	117.14 ppb	83
67) tetrachloroethene	12.645	166	606494	96.76 ppb	97
68) 1,3-dichloropropane	12.682	76	844447	104.75 ppb	96
69) dibromochloromethane	12.951	129	650241	115.24 ppb	97
70) 1,2-dibromoethane	13.129	107	534266	105.19 ppb	97
71) 2-hexanone	12.639	43	432268	90.16 ppb #	18
72) chlorobenzene	13.631	112	1604451	98.97 ppb	99
73) 1,1,1,2-tetrachloroethane	13.698	131	681611	95.85 ppb	99
74) ethylbenzene	13.686	91	2762704	92.85 ppb	99
75) m,p-xylene	13.815	106	2129995	187.10 ppb	98
76) o-xylene	14.258	106	1181112	93.01 ppb	99
77) styrene	14.271	104	1821542	97.94 ppb	89
78) bromoform	14.544	173	476347	112.91 ppb	99
79) trans-1,4-dichloro-2-b...	14.677	53	237822m	108.05 ppb	
81) isopropylbenzene	14.639	105	3216246	105.30 ppb	100
83) bromobenzene	15.084	156	815007	104.69 ppb	96
84) 1,1,2,2-tetrachloroethane	14.946	83	805891	110.13 ppb	99
85) 1,2,3-trichloropropane	15.060	75	766870m	102.20 ppb	
86) n-propylbenzene	15.100	91	3771247	101.30 ppb	99
87) 2-chlorotoluene	15.259	91	2708507	101.11 ppb	96
88) 4-chlorotoluene	15.382	91	2394872	103.47 ppb	99
89) 1,3,5-trimethylbenzene	15.270	105	3036007	107.19 ppb	99
90) tert-butylbenzene	15.652	91	1889886	110.84 ppb	97
91) 1,2,4-trimethylbenzene	15.708	105	3249216	104.08 ppb	98
92) sec-butylbenzene	15.895	105	3987278	107.77 ppb	98
93) 1,3-dichlorobenzene	16.096	146	1733901	97.23 ppb	99

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On : 26 Oct 2015 9:21 pm
Operator : andrewd1
Sample : ic1360-100
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 12 Sample Multiplier: 1

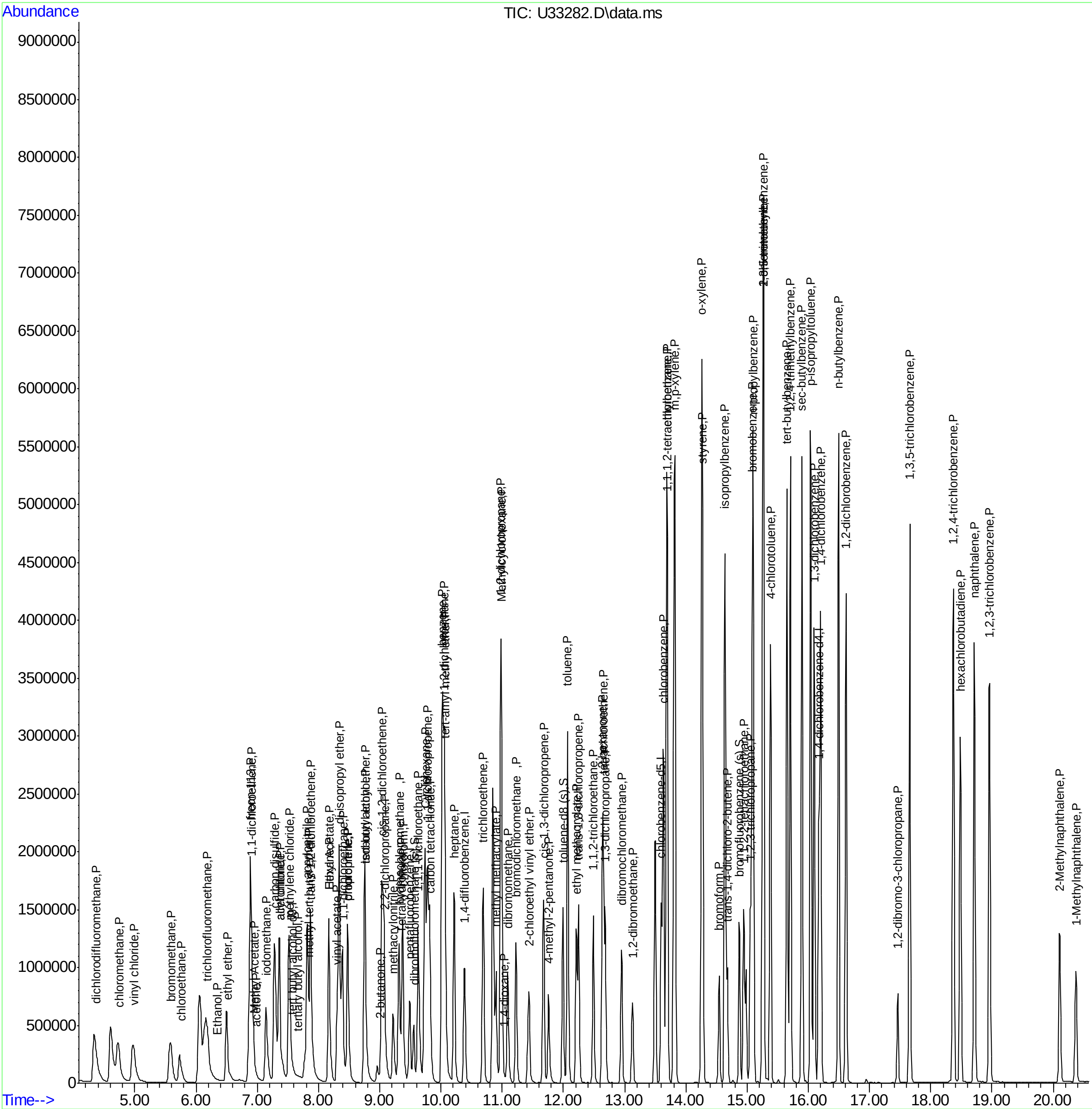
Quant Time: Oct 27 09:04:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
94) p-isopropyltoluene	16.038	119	3421913	104.67 ppb	98
95) 1,4-dichlorobenzene	16.202	146	1756856	96.64 ppb	99
96) 1,2-dichlorobenzene	16.616	146	1886838	96.29 ppb	96
97) n-butylbenzene	16.493	91	3327677	94.25 ppb	98
98) 1,2-dibromo-3-chloropr...	17.460	75	205385	107.43 ppb	94
99) 1,3,5-trichlorobenzene	17.656	180	1602467	85.12 ppb	100
100) 1,2,4-trichlorobenzene	18.369	180	1490004	86.99 ppb	96
101) hexachlorobutadiene	18.483	225	667030	82.54 ppb	96
102) naphthalene	18.712	128	3392464	93.95 ppb	100
103) 2-Methylnaphthalene	20.107	142	819466	43.00 ppb	98
104) 1-Methylnaphthalene	20.372	142	594979	41.87 ppb	98
105) 1,2,3-trichlorobenzene	18.959	180	1302339	86.56 ppb	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

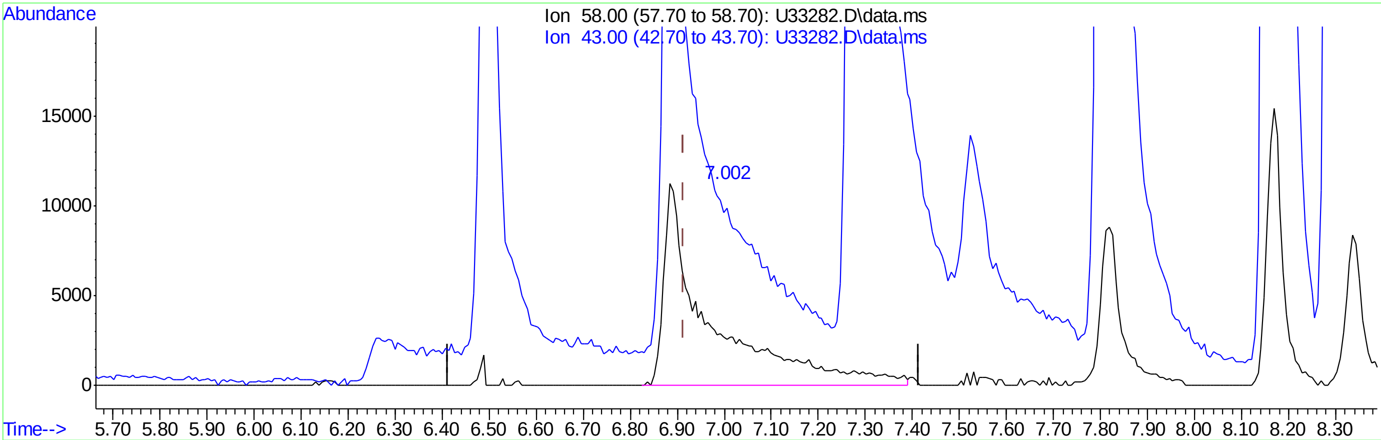
Quantitation Report (QT Reviewed)

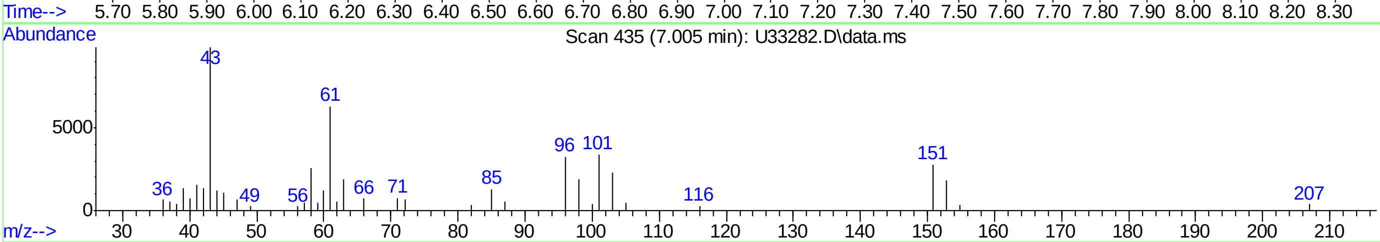
```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:04:05 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

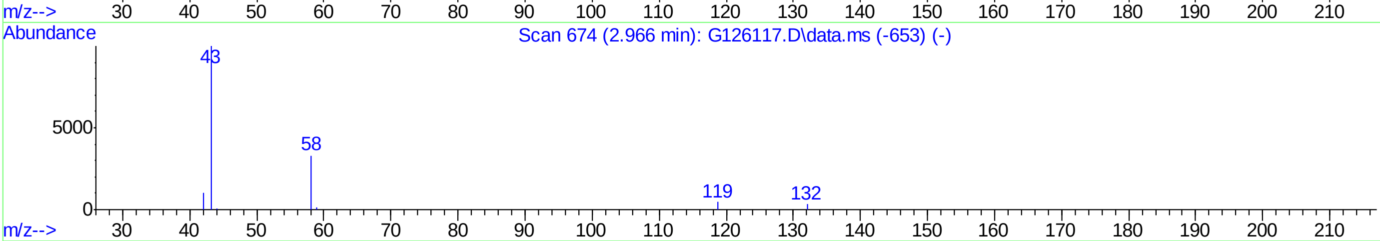


Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```







TIC: U33282.D\data.ms

(16) acetone (P)

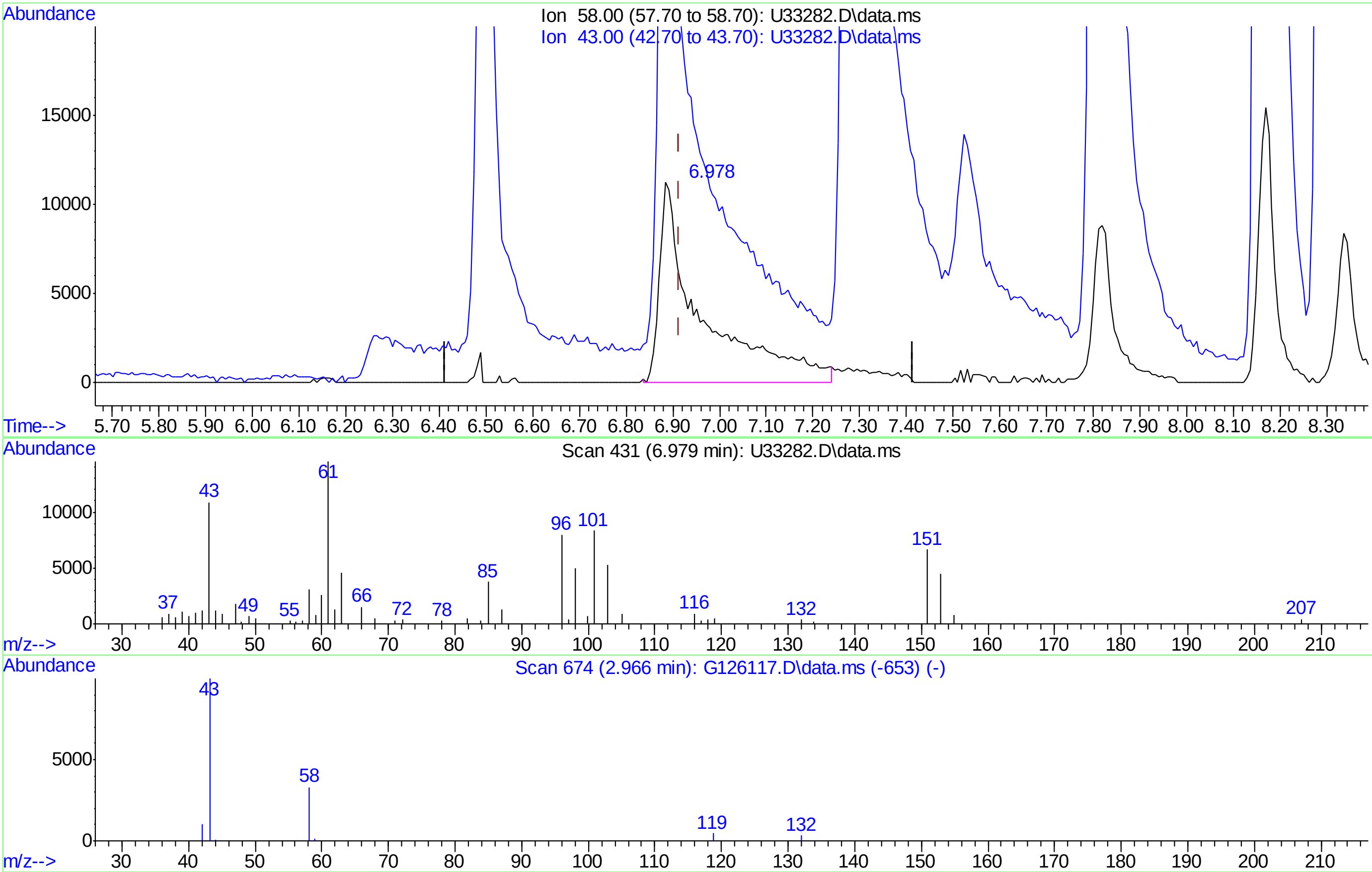
7.002min (+ 0.089) 103.32 ppb

response 75499

Ion	Exp%	Act%
58.00	100.00	100.00
43.00	308.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

TIC: U33282.D\data.ms

(16) acetone (P)

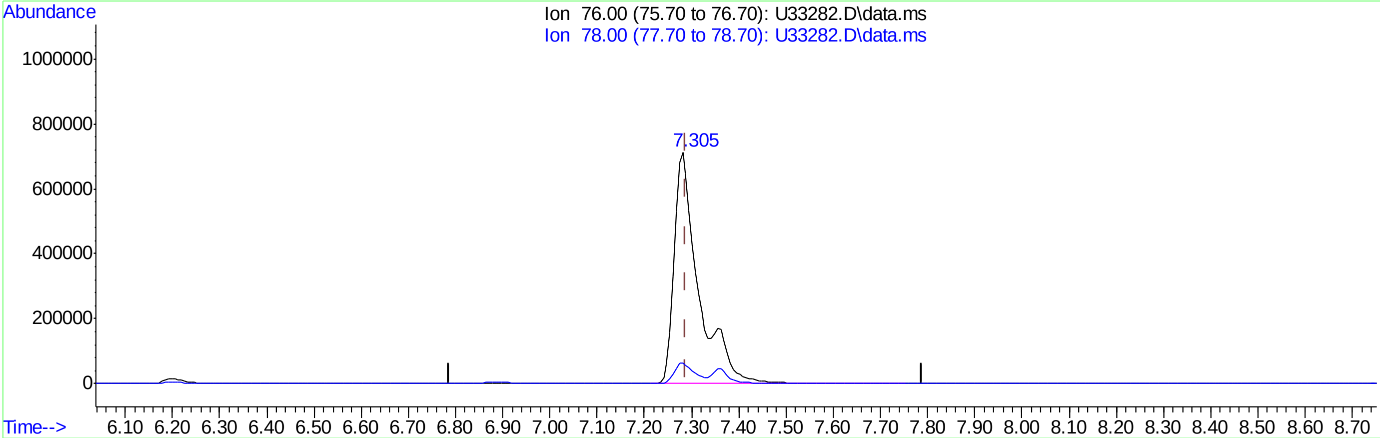
6.979min (+ 0.065) 95.74 ppb m

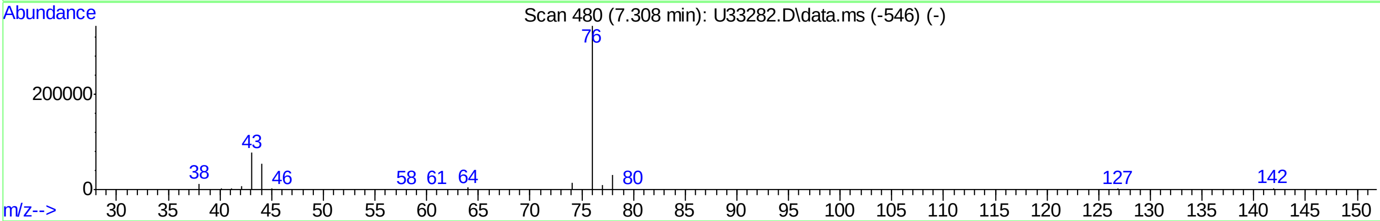
response 69959

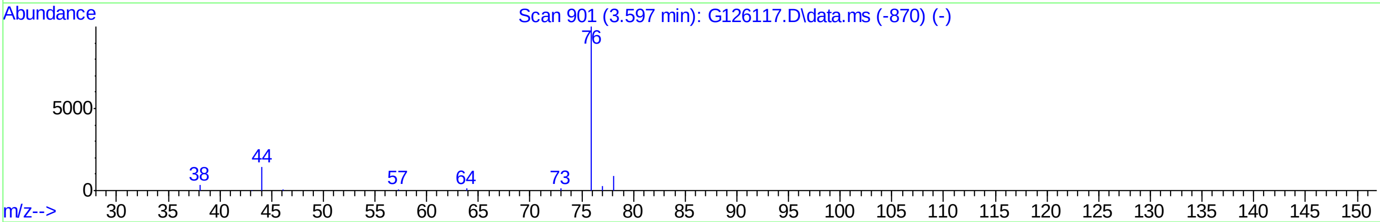
Ion	Exp%	Act%
58.00	100.00	100.00
43.00	308.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```





TIC: U33282.D\data.ms

(24) carbon disulfide (P)

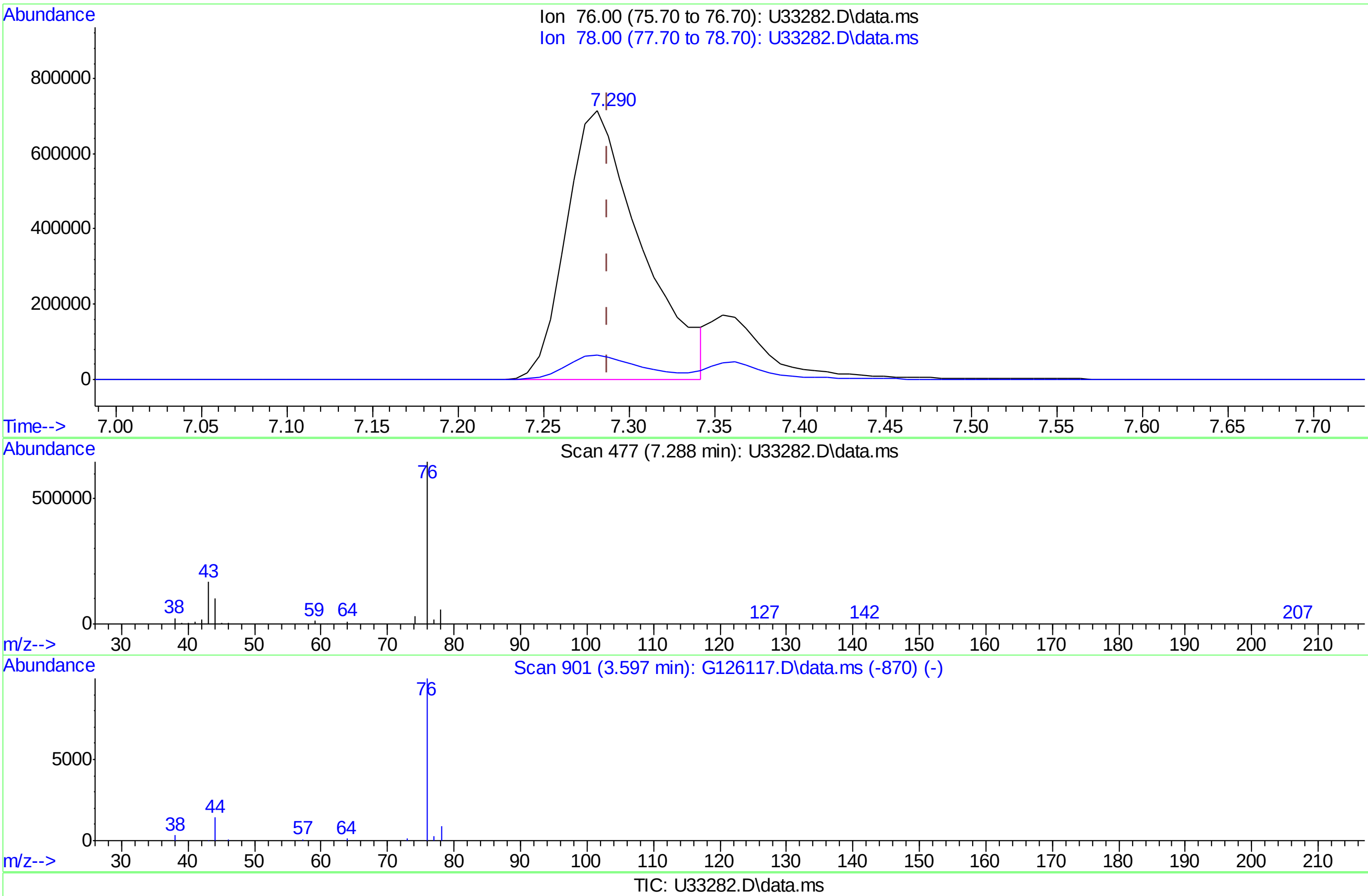
7.305min (+ 0.017) 115.67 ppb

response 2598299

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.25
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

(24) carbon disulfide (P)

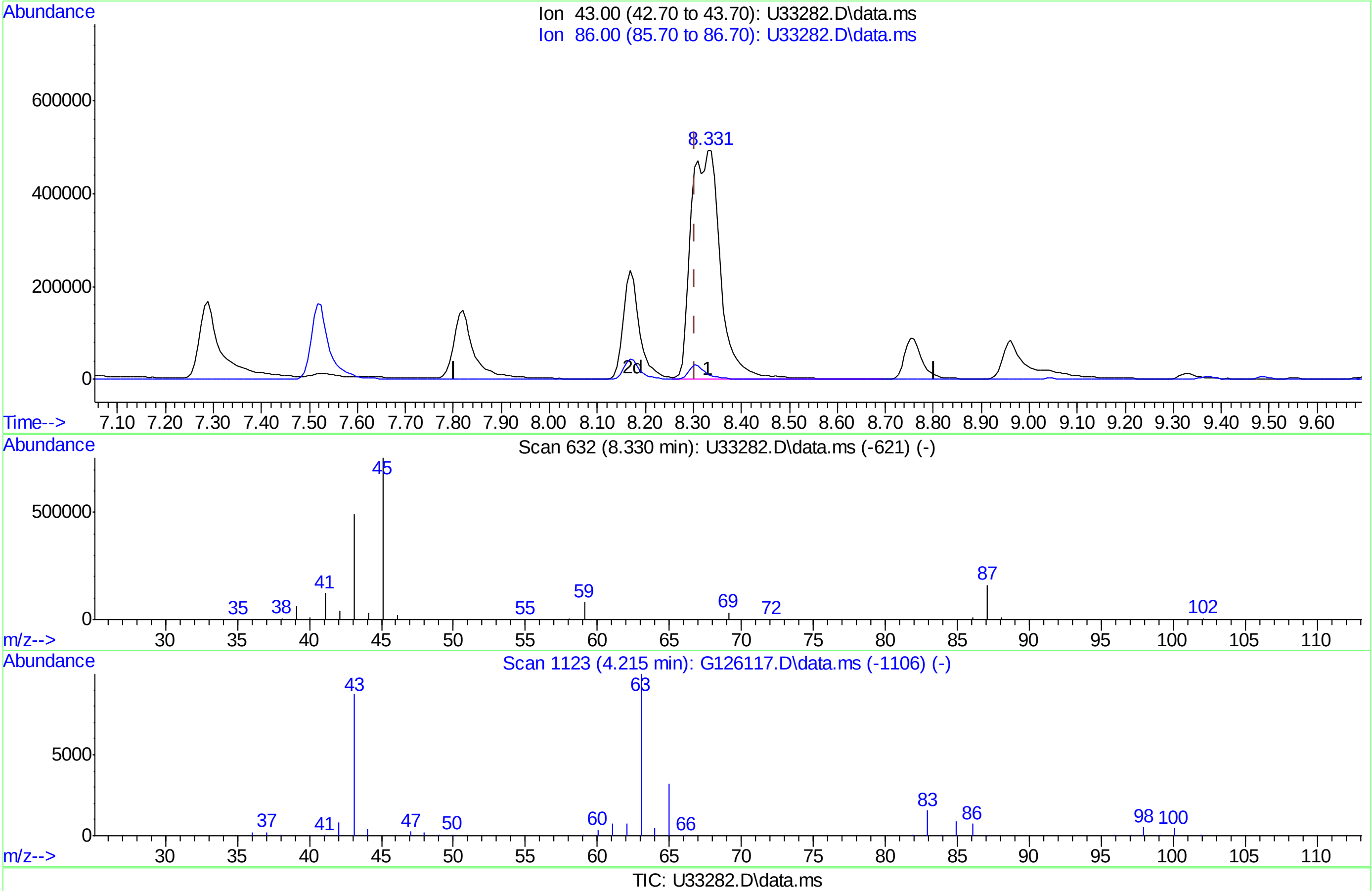
7.288min (-0.000) 96.64 ppb m

response 2170753

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	8.99
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(26) vinyl acetate (P)

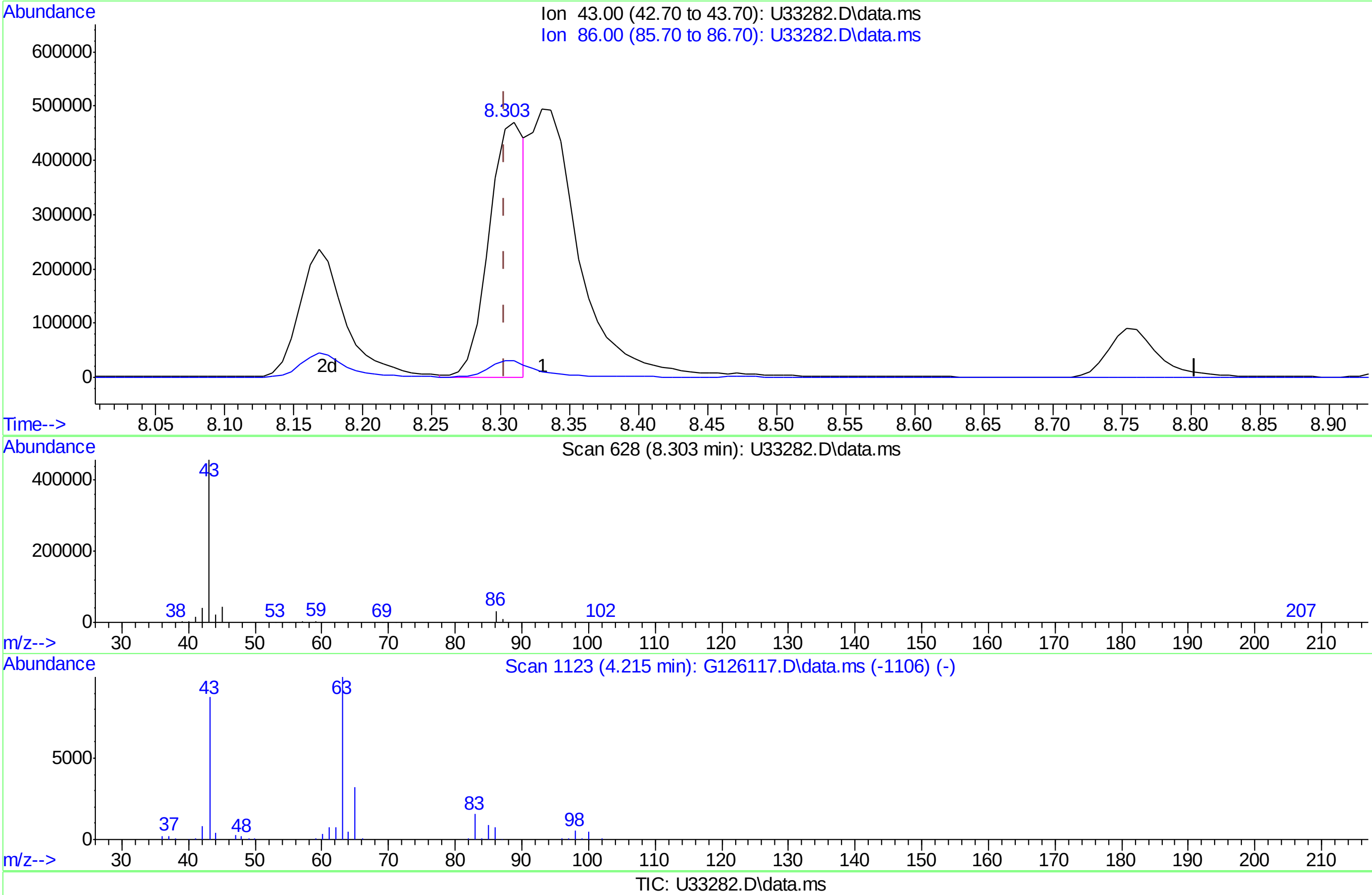
8.331min (+ 0.028) 228.01 ppb

response 2090073

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.07
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

(26) vinyl acetate (P)

8.303min (-0.000) 92.64 ppb m

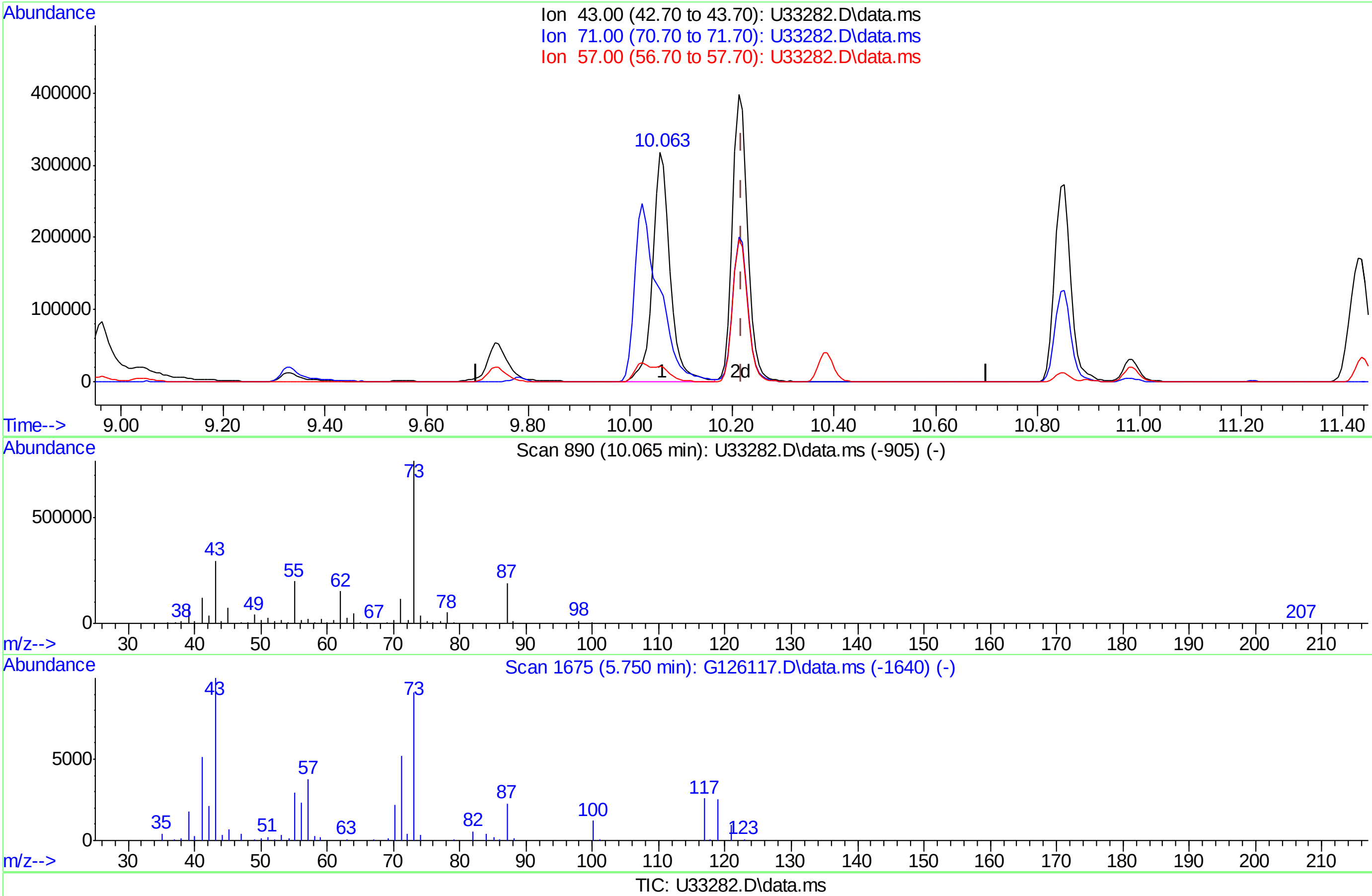
response 849227

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.89
0.00	0.00	0.00
0.00	0.00	0.00

U33282.D edits: vinyl acetate

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

(50) heptane (P)

10.063min (-0.156) 86.84 ppb

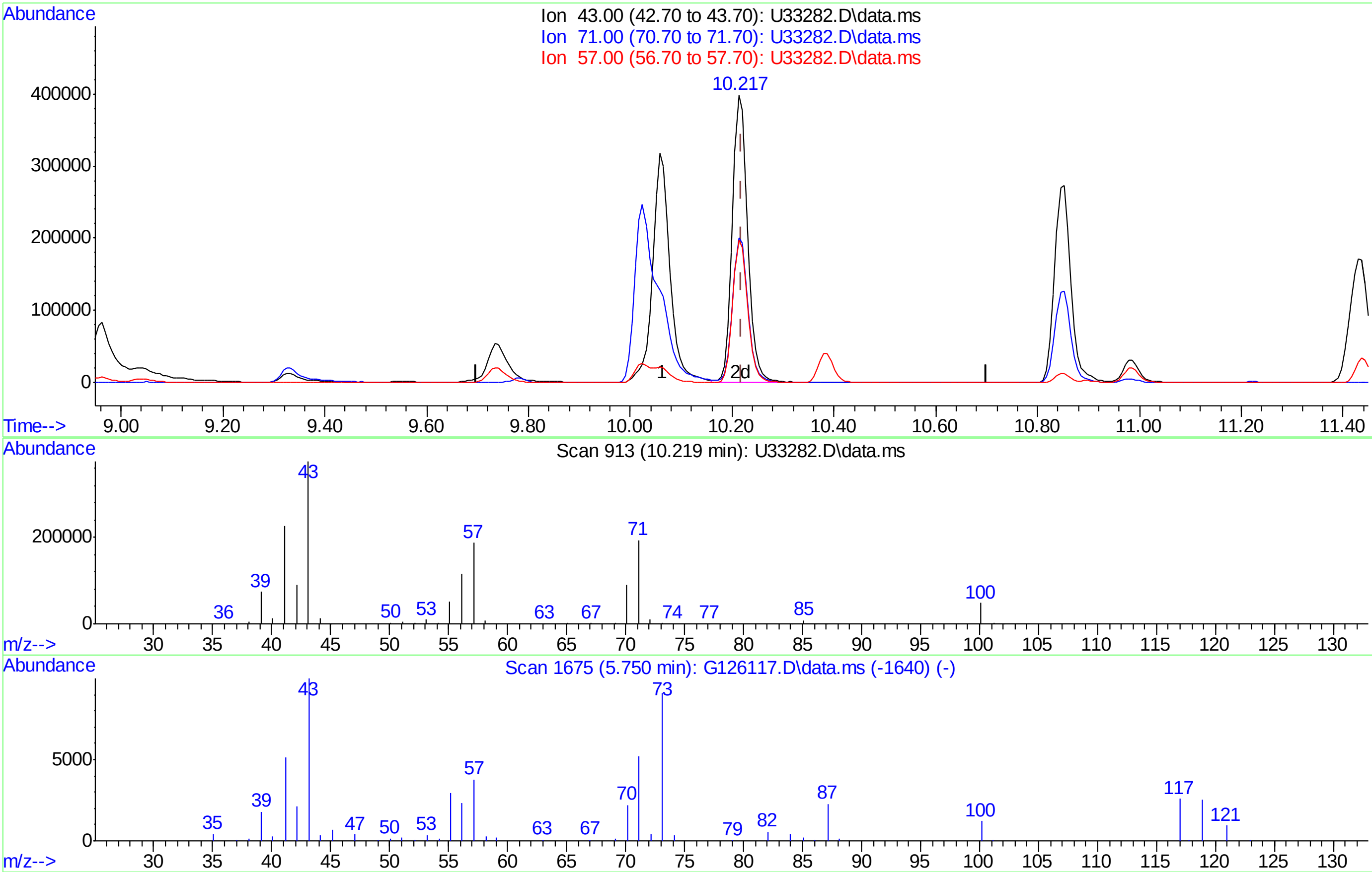
response 776931

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	39.77
57.00	5.80	6.93
0.00	0.00	0.00

U33282.D edits: heptane

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

TIC: U33282.D\data.ms

(50) heptane (P)

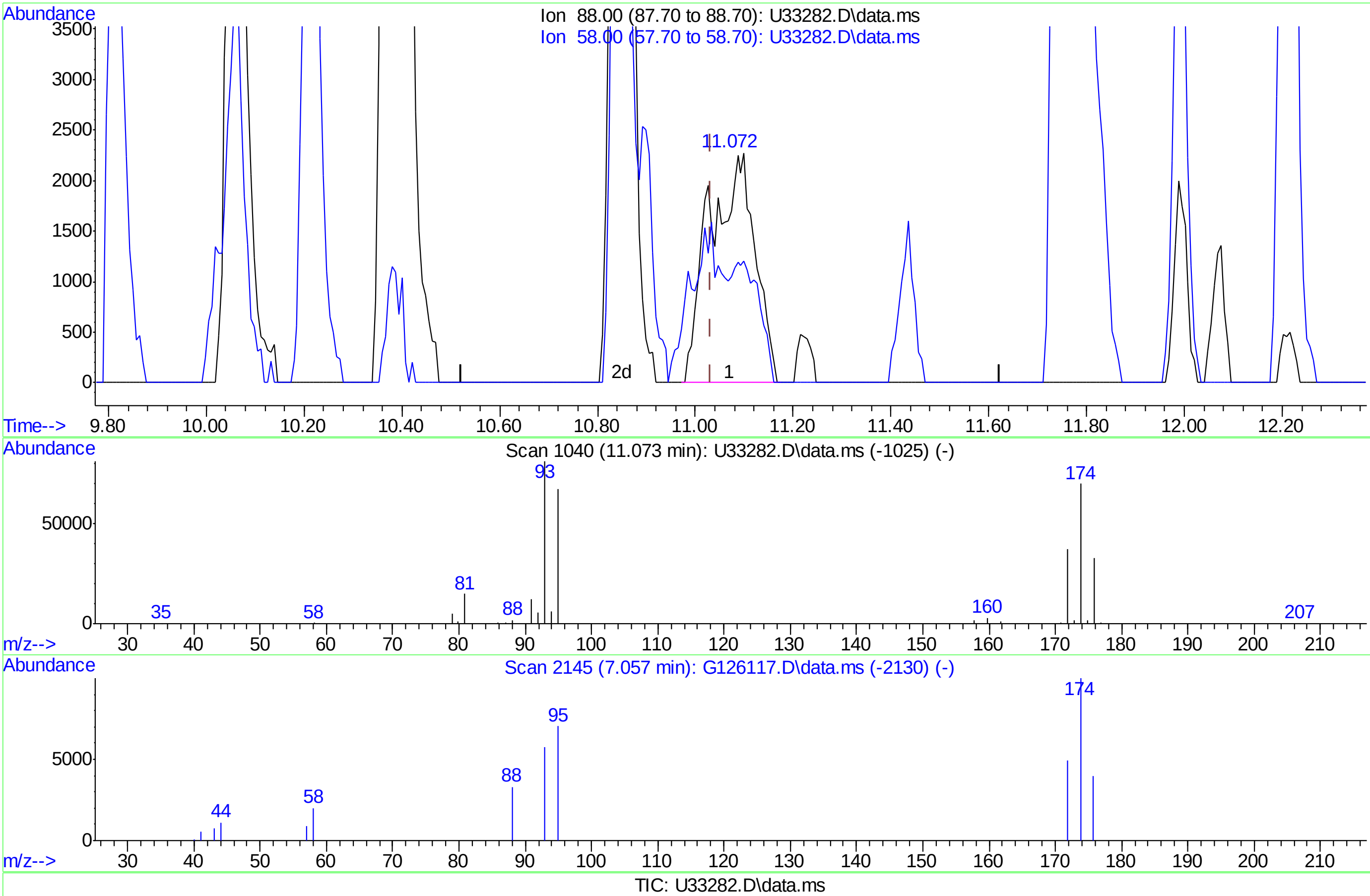
10.219min (-0.000) 91.26 ppb m

response 816455

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	51.39
57.00	5.80	49.75#
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(58) 1,4-dioxane (P)

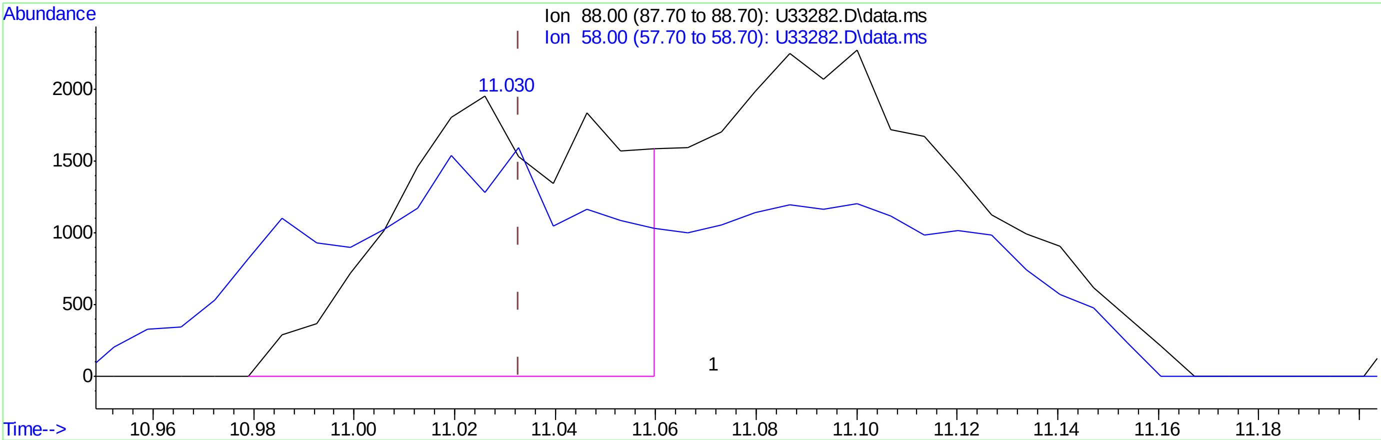
11.072min (+ 0.039) 503.85 ppb

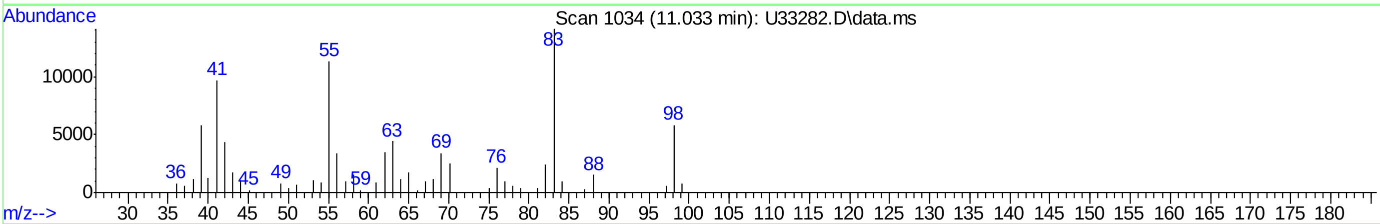
response 14687

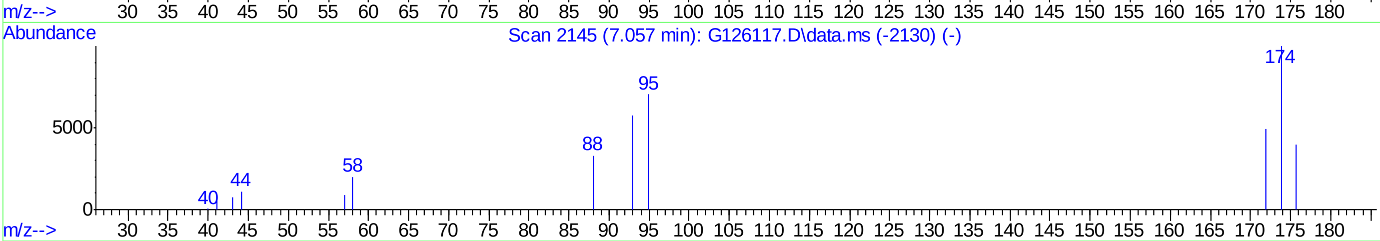
Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	61.81#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```







TIC: U33282.D\data.ms

(58) 1,4-dioxane (P)

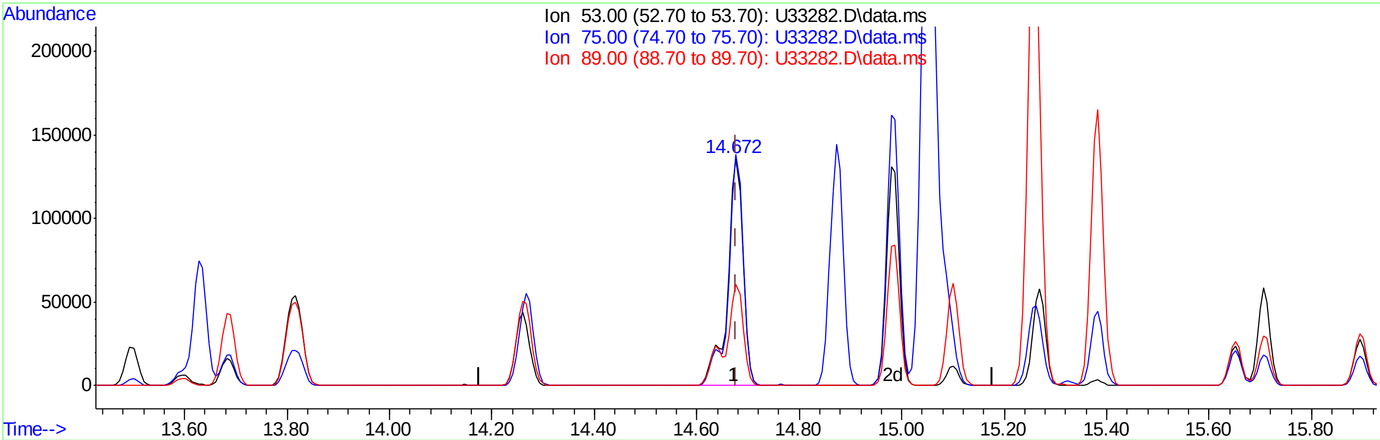
11.033min (-0.000) 214.17 ppb m

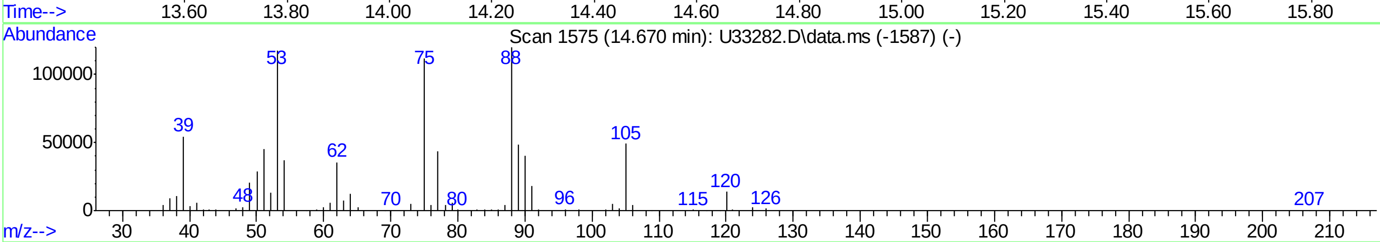
response 6243

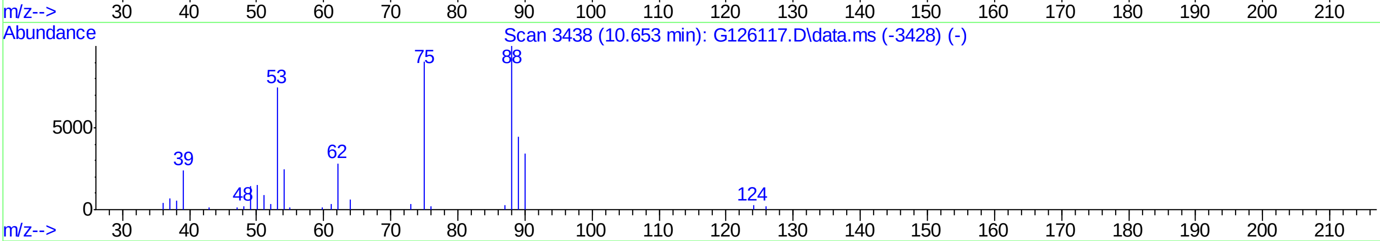
Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	103.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```







TIC: U33282.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

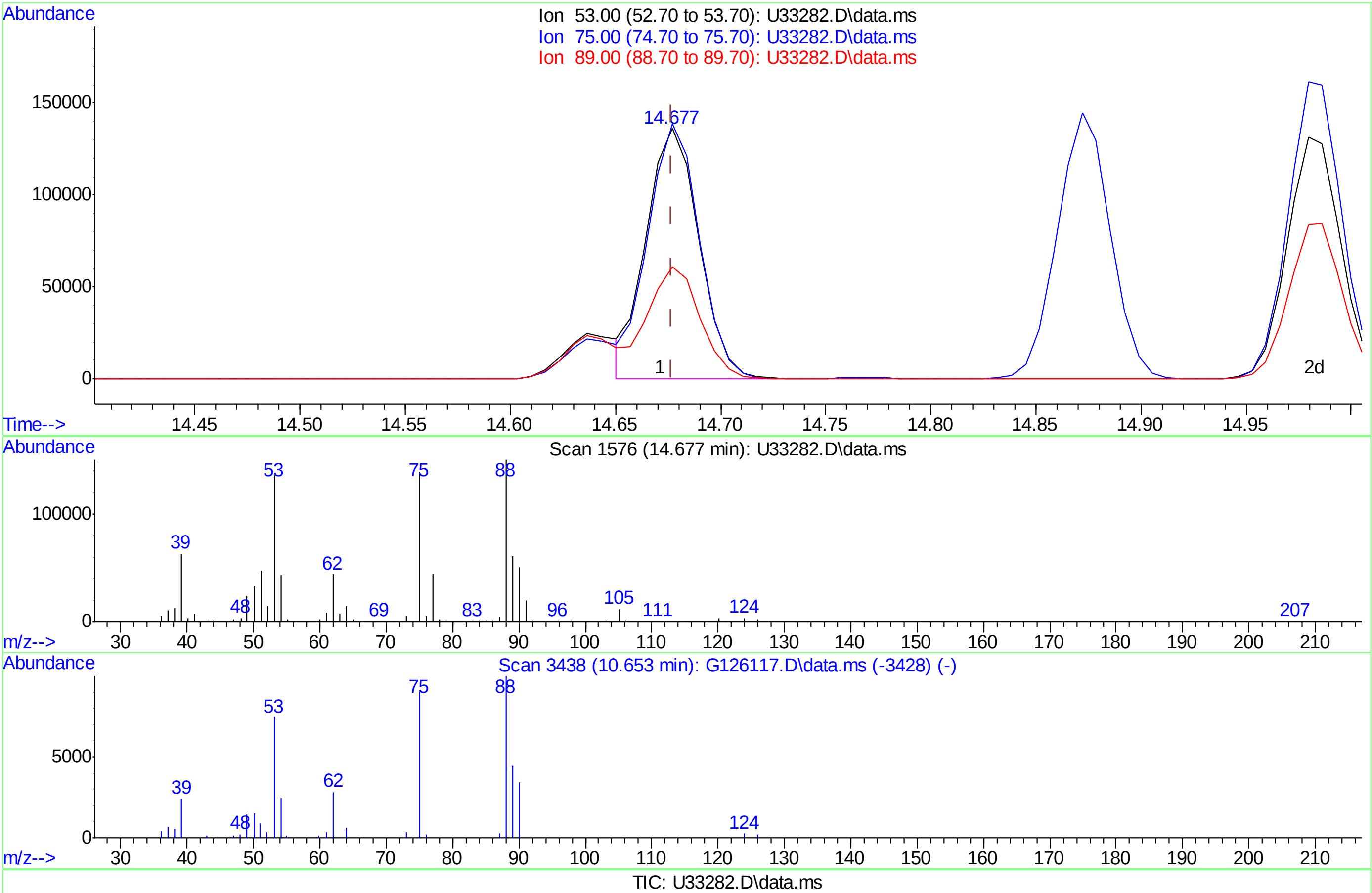
14.672min (-0.005) 127.57 ppb

response 280795

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	95.30#
89.00	64.60	41.59
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

(79) trans-1,4-dichloro-2-butene (P)

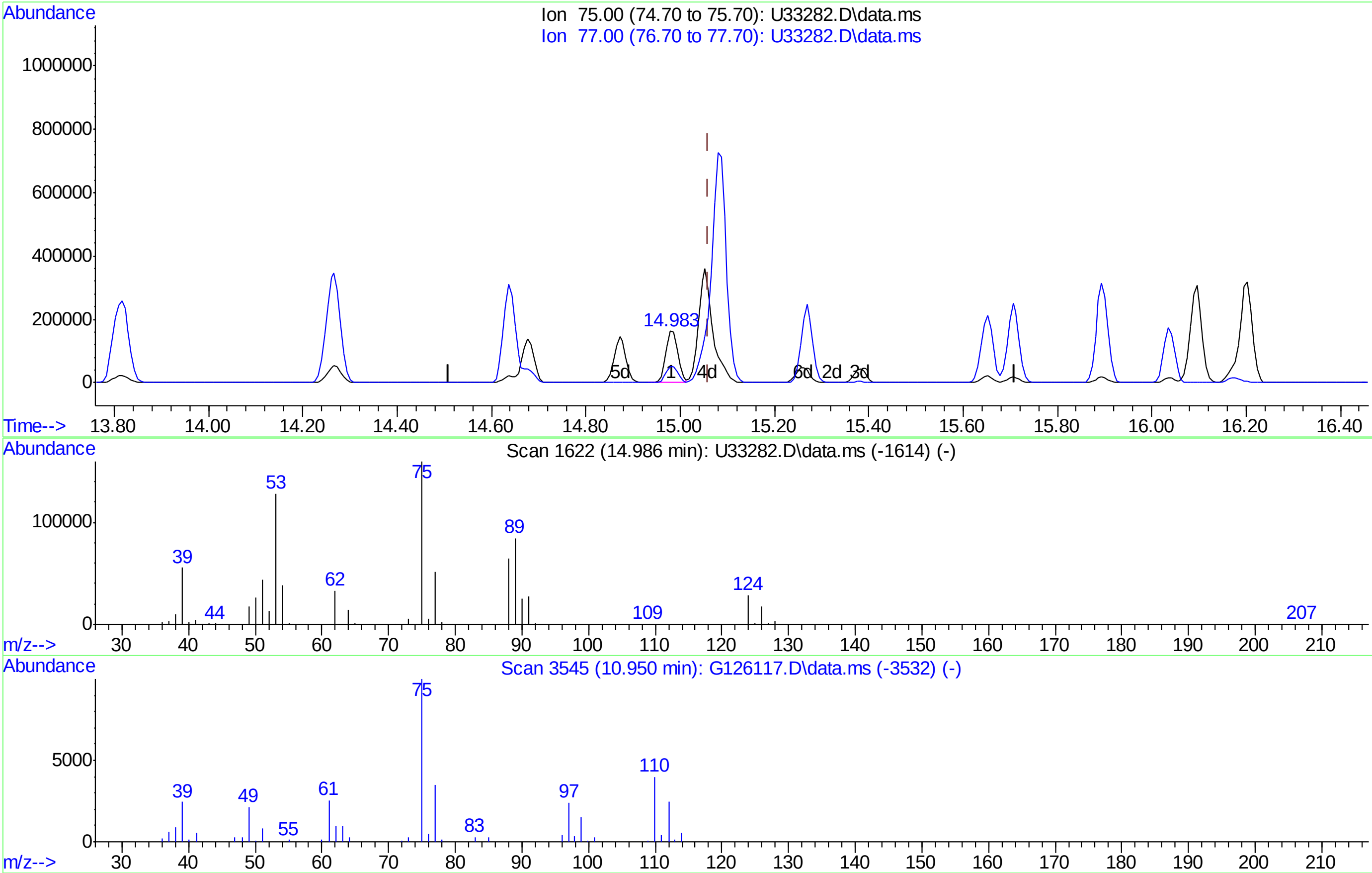
14.677min (-0.000) 108.05 ppb m

response 237822

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	101.98#
89.00	64.60	44.61
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

TIC: U33282.D\data.ms

(85) 1,2,3-trichloropropane (P)

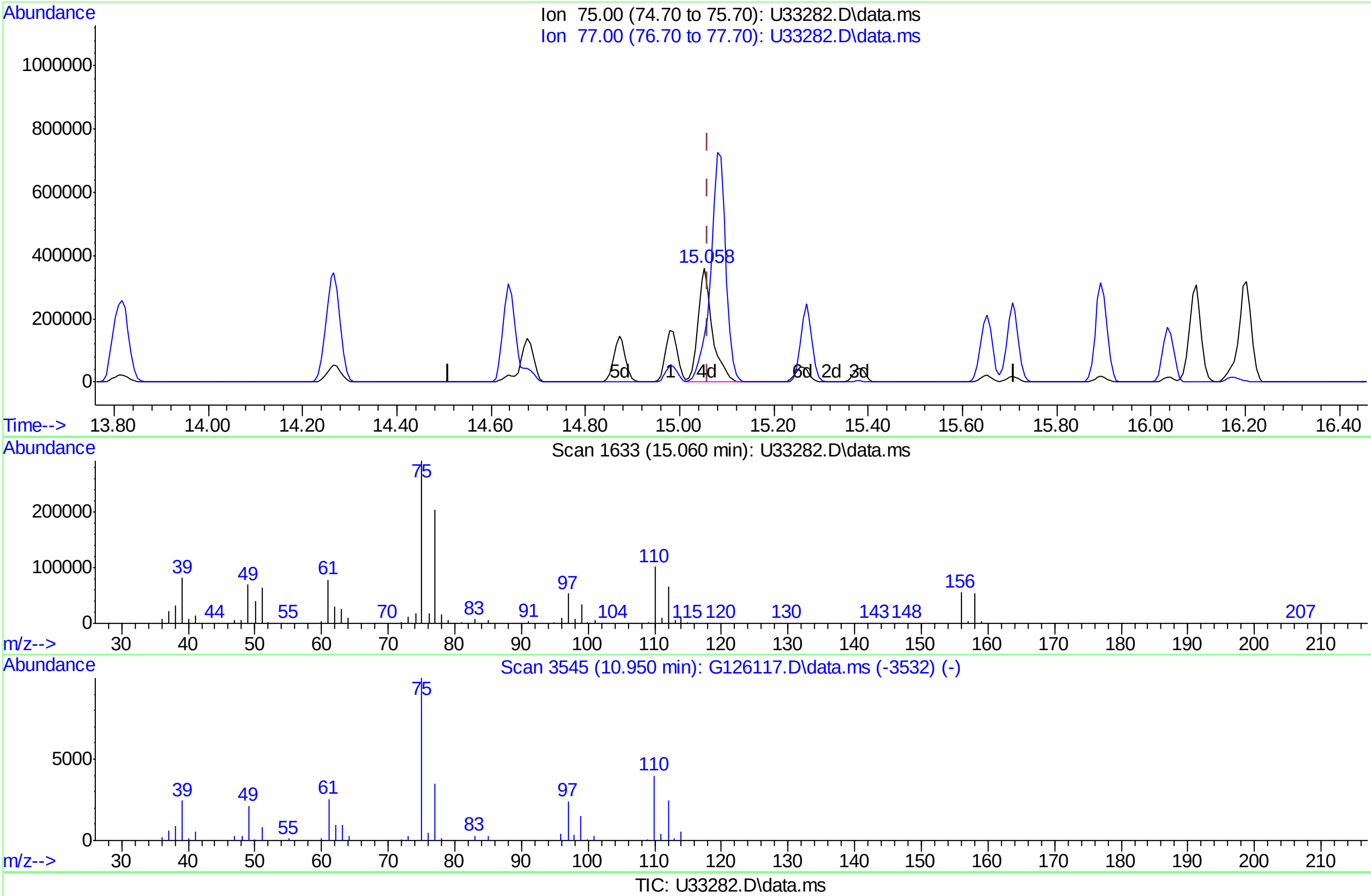
14.983min (-0.077) 38.12 ppb

response 286028

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	32.20
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33282.D
Acq On    : 26 Oct 2015   9:21 pm
Operator  : andrewd1
Sample    : ic1360-100
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Oct 27 09:01:56 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

(85) 1,2,3-trichloropropane (P)

15.060min (-0.000) 102.20 ppb m

response 766870

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	69.82#
0.00	0.00	0.00
0.00	0.00	0.00

U33282.D edits: 1,2,3-trichloropropane

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 15:45

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On : 26 Oct 2015 9:48 pm
Operator : andrewd1
Sample : ic1360-200
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 09:06:50 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.539	65	354165	500.00 ppb		0.07
4) pentafluorobenzene	9.494	168	533661	50.00 ppb		0.00
43) 1,4-difluorobenzene	10.387	114	898667	50.00 ppb		0.00
66) chlorobenzene-d5	13.596	82	580223	50.00 ppb		0.00
80) 1,4-dichlorobenzene-d4	16.174	152	686984	50.00 ppb		0.00
System Monitoring Compounds						
40) dibromofluoromethane (s)	9.559	113	330465	49.93 ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	99.86%		
60) toluene-d8 (s)	11.993	98	1157777	55.04 ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	110.08%		
82) bromofluorobenzene (s)	14.874	95	572890	55.49 ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	110.98%		
Target Compounds						Qvalue
2) tertiary butyl alcohol	7.623	59	1432721	2234.15 ppb		64
5) dichlorodifluoromethane	4.360	85	2229393	187.38 ppb		99
6) chloromethane	4.744	50	1278258	149.35 ppb		100
7) vinyl chloride	4.985	62	1752604	207.52 ppb		99
8) bromomethane	5.593	96	942337	176.51 ppb		99
9) chloroethane	5.748	64	776957	184.83 ppb		100
10) ethyl ether	6.512	59	1015841	197.04 ppb		89
11) acetonitrile	7.364	41	2027525	183.78 ppb	#	13
12) trichlorofluoromethane	6.174	101	2475093	195.09 ppb		98
13) freon-113	6.896	101	1597218	202.35 ppb		96
15) 1,1-dichloroethene	6.906	96	1215668	200.69 ppb		96
16) acetone	6.958	58	175085m	240.05 ppb		
17) Methyl Acetate	6.947	43	547577	197.57 ppb	#	74
18) methylene chloride	7.529	84	1394705	193.35 ppb	#	83
19) methyl tert butyl ether	7.841	73	3892935	207.63 ppb		92
20) acrylonitrile	7.810	53	616233	223.75 ppb		84
21) allyl chloride	7.365	41	2125378	186.82 ppb		75
22) trans-1,2-dichloroethene	7.879	96	1208431	188.37 ppb		90
23) iodomethane	7.154	142	2371196	200.55 ppb		93
24) carbon disulfide	7.288	76	4420042m	196.40 ppb		
25) propionitrile	8.482	54	95325	192.65 ppb		100
26) vinyl acetate	8.303	43	1673278m	183.25 ppb		
27) chloroprene	8.483	53	2110902	199.30 ppb		96
28) di-isopropyl ether	8.346	45	4232695	193.60 ppb		92
29) methacrylonitrile	9.226	41	888281	211.21 ppb		92
30) 2-butanone	8.994	72	176947	234.73 ppb	#	1
31) Ethyl Acetate	8.174	43	1082194	179.22 ppb	#	1
32) Hexane	8.174	41	1272532	176.43 ppb	#	68
33) 1,1-dichloroethane	8.398	63	2417708	192.46 ppb		97
34) tert-butyl ethyl ether	8.767	59	4531359	212.39 ppb		92
35) isobutyl alcohol	8.764	43	480164	970.32 ppb	#	74
36) 2,2-dichloropropane	9.073	77	1955640	191.39 ppb		99
37) cis-1,2-dichloroethene	9.037	96	1366667	192.51 ppb		95
38) bromochloromethane	9.318	128	691334	203.40 ppb	#	75

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On : 26 Oct 2015 9:48 pm
Operator : andrewd1
Sample : ic1360-200
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 09:06:50 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) chloroform	9.378	83	2462728	197.59 ppb	98
41) Tetrahydrofuran	9.349	42	470509	211.41 ppb	87
42) 1,1,1-trichloroethane	9.637	97	2320847	212.23 ppb	98
44) Cyclohexane	9.744	56	2598563	185.94 ppb #	88
45) carbon tetrachloride	9.819	117	1983106	202.69 ppb	99
46) 1,1-dichloropropene	9.784	75	1731304	187.76 ppb	98
47) benzene	10.024	78	4471753	177.63 ppb	100
48) 1,2-dichloroethane	10.048	62	1982039	191.02 ppb	97
49) tert-amyl methyl ether	10.066	73	4018202	192.45 ppb	96
50) heptane	10.219	43	1592417m	174.89 ppb	
51) trichloroethene	10.692	95	1313063	179.25 ppb	97
52) 1,2-dichloropropane	10.982	63	1240210	197.20 ppb	100
53) dibromomethane	11.093	93	861000	209.11 ppb	94
54) bromodichloromethane	11.226	83	1876091	216.71 ppb	96
55) Methylcyclohexane	10.988	83	2262818	189.86 ppb	89
56) 2-chloroethyl vinyl ether	11.440	63	684521	255.68 ppb	95
57) methyl methacrylate	10.900	69	817066	251.89 ppb	91
58) 1,4-dioxane	11.033	88	17994m	698.84 ppb	
59) cis-1,3-dichloropropene	11.676	75	2061857	239.21 ppb	99
61) 4-methyl-2-pentanone	11.762	43	1433932	211.86 ppb	97
62) toluene	12.071	92	2842301	214.77 ppb	99
63) trans-1,3-dichloropropene	12.249	75	1876026	255.52 ppb	93
64) 1,1,2-trichloroethane	12.490	83	928704	232.50 ppb	99
65) ethyl methacrylate	12.213	69	1478915	237.50 ppb	84
67) tetrachloroethene	12.646	166	1282983	187.70 ppb	97
68) 1,3-dichloropropane	12.682	76	1809119	203.75 ppb	96
69) dibromochloromethane	12.951	129	1433110	227.63 ppb	99
70) 1,2-dibromoethane	13.129	107	1179540	210.53 ppb	98
71) 2-hexanone	12.640	43	966006m	187.70 ppb	
72) chlorobenzene	13.632	112	3458930	195.11 ppb	99
73) 1,1,1,2-tetrachloroethane	13.698	131	1451733	187.42 ppb	97
74) ethylbenzene	13.687	91	5875236	181.97 ppb	98
75) m,p-xylene	13.816	106	4550557	368.04 ppb	98
76) o-xylene	14.259	106	2542950	184.51 ppb	97
77) styrene	14.273	104	3962069	195.07 ppb	85
78) bromoform	14.545	173	1116792	237.38 ppb	100
79) trans-1,4-dichloro-2-b...	14.677	53	563917m	230.89 ppb	
81) isopropylbenzene	14.640	105	7140137	211.18 ppb	99
83) bromobenzene	15.085	156	1820695	211.43 ppb	96
84) 1,1,2,2-tetrachloroethane	14.947	83	1773921	217.70 ppb	99
85) 1,2,3-trichloropropane	15.060	75	1731260m	209.24 ppb	
86) n-propylbenzene	15.102	91	8298187	202.38 ppb	98
87) 2-chlorotoluene	15.260	91	5907163	200.26 ppb	96
88) 4-chlorotoluene	15.383	91	5415249	211.85 ppb	100
89) 1,3,5-trimethylbenzene	15.271	105	6596689	209.91 ppb	100
90) tert-butylbenzene	15.652	91	4281224	223.50 ppb	94
91) 1,2,4-trimethylbenzene	15.709	105	7071953	204.95 ppb	98
92) sec-butylbenzene	15.896	105	8694119	211.64 ppb	97
93) 1,3-dichlorobenzene	16.097	146	3793144	194.11 ppb	99
94) p-isopropyltoluene	16.039	119	7417189	205.13 ppb	97

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On : 26 Oct 2015 9:48 pm
Operator : andrewd1
Sample : ic1360-200
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 13 Sample Multiplier: 1

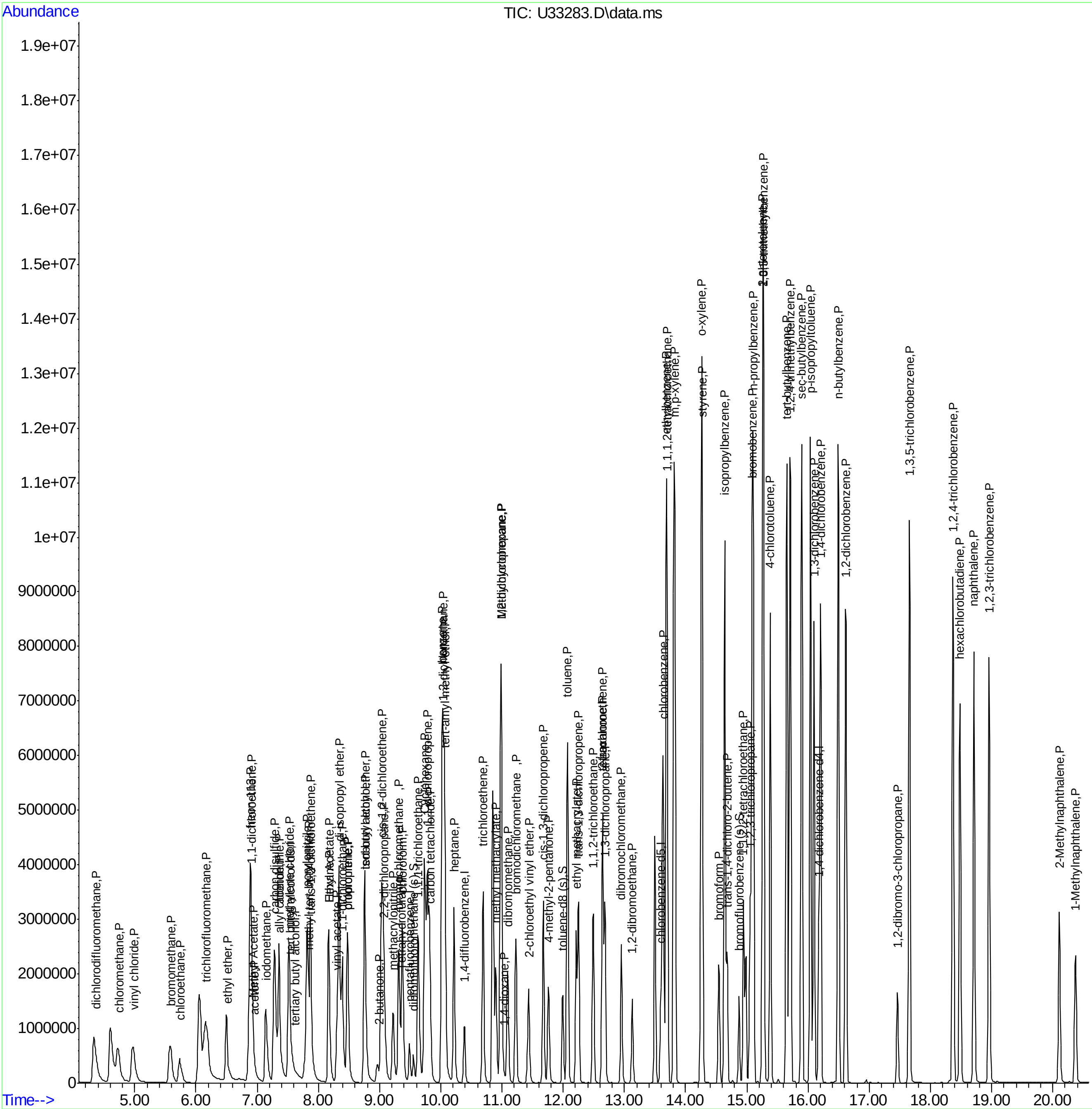
Quant Time: Oct 27 09:06:50 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
95) 1,4-dichlorobenzene	16.204	146	3827575	192.27	ppb	98
96) 1,2-dichlorobenzene	16.617	146	3981296	185.62	ppb	96
97) n-butylbenzene	16.494	91	7106078	184.36	ppb	97
98) 1,2-dibromo-3-chloropr...	17.460	75	453551	213.10	ppb	94
99) 1,3,5-trichlorobenzene	17.657	180	3436767	169.62	ppb	97
100) 1,2,4-trichlorobenzene	18.370	180	3258290	176.26	ppb	95
101) hexachlorobutadiene	18.484	225	1557550	179.18	ppb	96
102) naphthalene	18.713	128	7158630	181.66	ppb	100
103) 2-Methylnaphthalene	20.108	142	2045561	100.43	ppb	98
104) 1-Methylnaphthalene	20.372	142	1458878	96.49	ppb	99
105) 1,2,3-trichlorobenzene	18.960	180	2936095	180.94	ppb	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

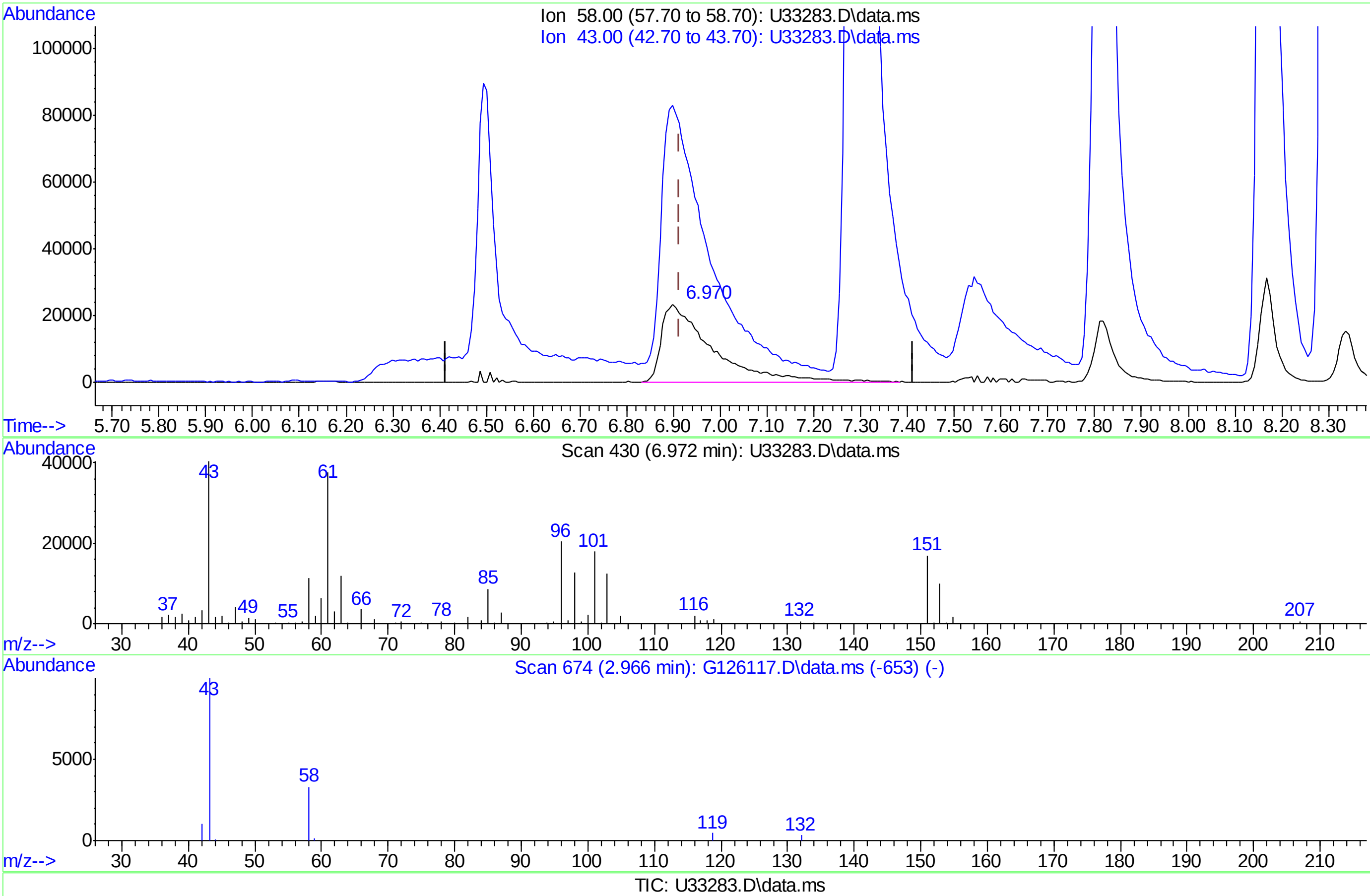
Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:06:50 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

(16) acetone (P)

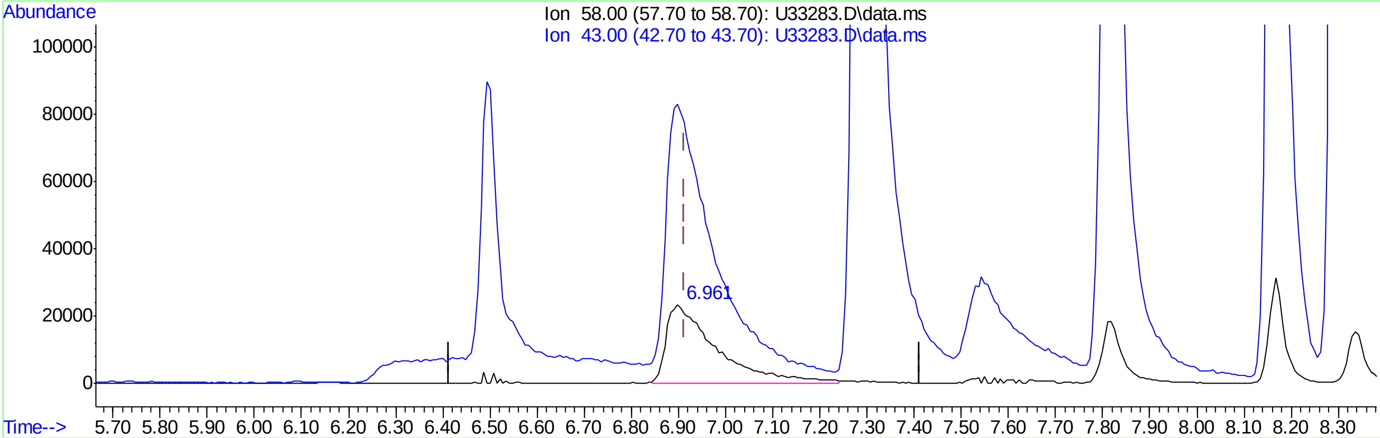
6.970min (+ 0.056) 247.09 ppb

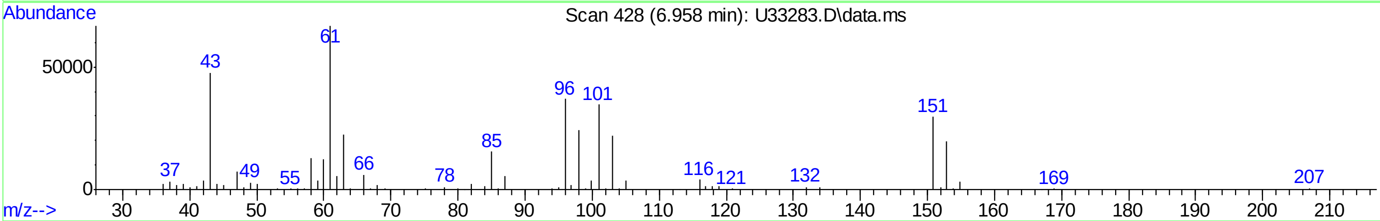
response 180216

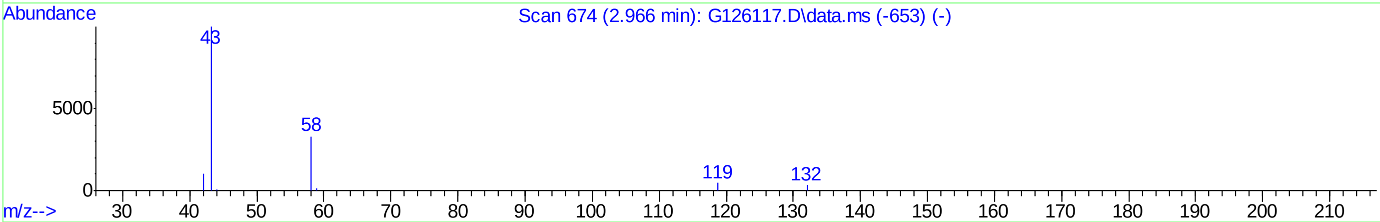
Ion	Exp%	Act%
58.00	100.00	100.00
43.00	308.80	303.84
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```







TIC: U33283.D\data.ms

(16) acetone (P)

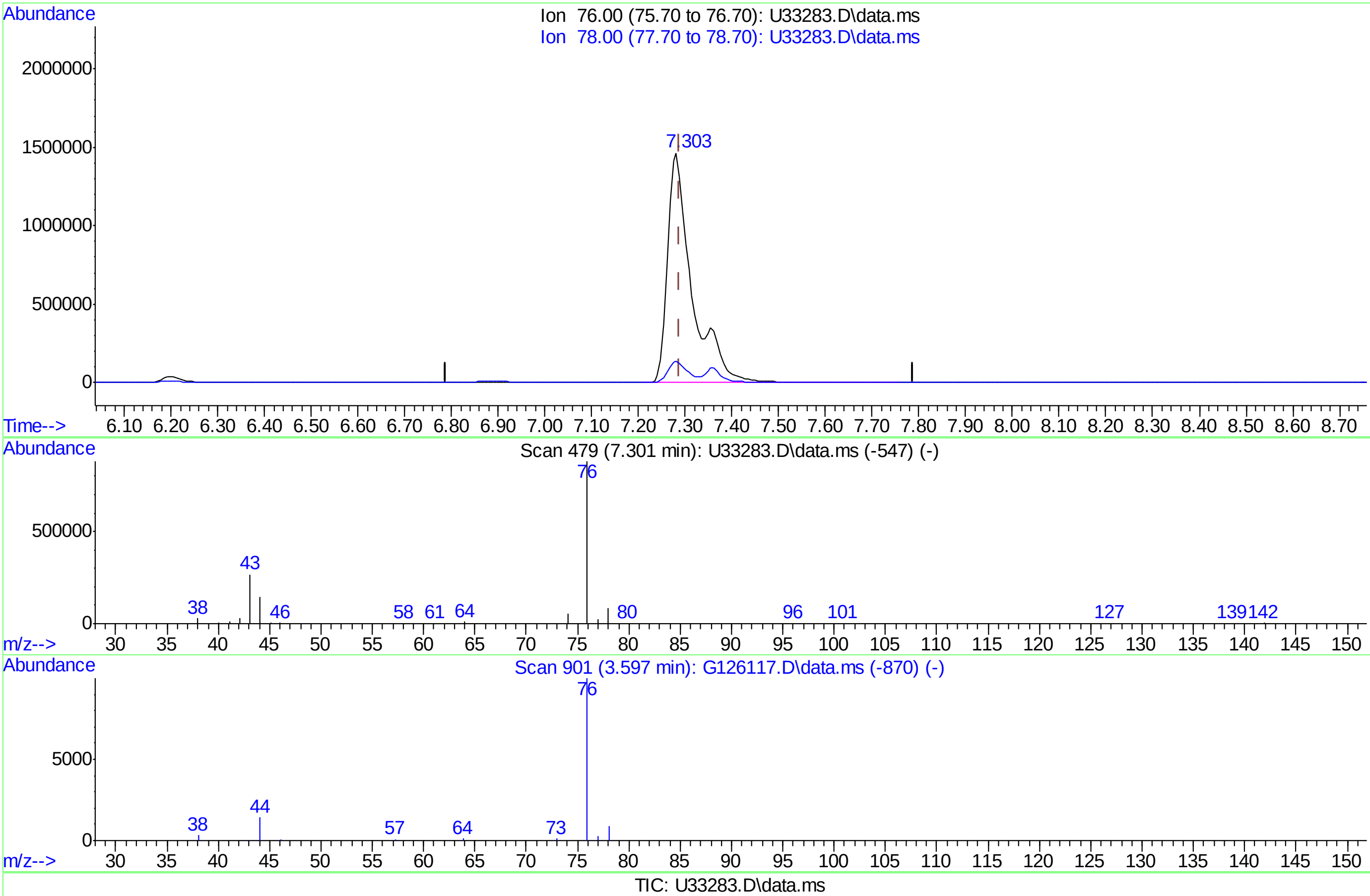
6.958min (+ 0.045) 240.05 ppb m

response 175085

Ion	Exp%	Act%
58.00	100.00	100.00
43.00	308.80	312.75
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

(24) carbon disulfide (P)

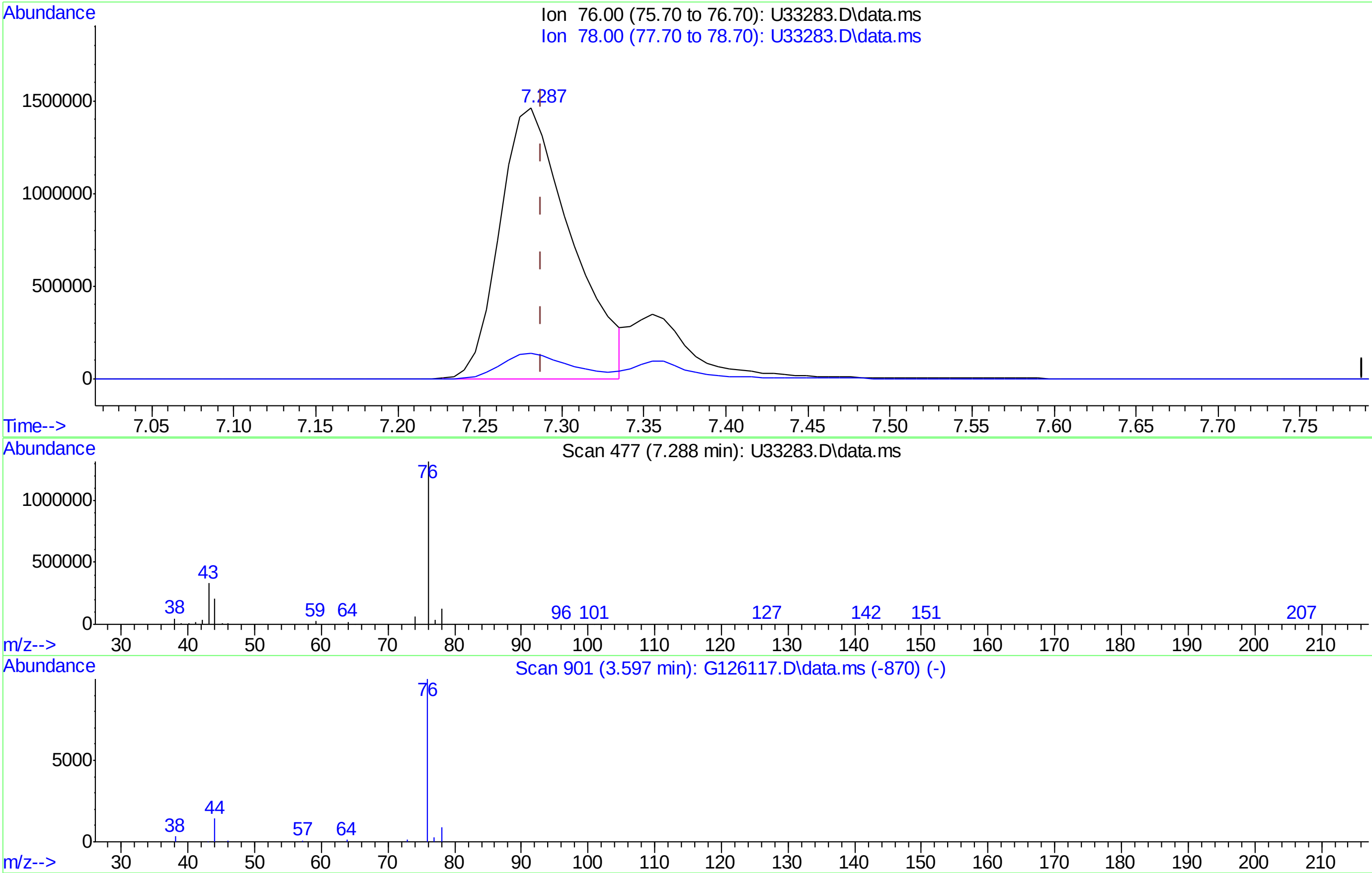
7.303min (+ 0.015) 238.63 ppb

response 5370384

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.35
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

TIC: U33283.D\data.ms

(24) carbon disulfide (P)

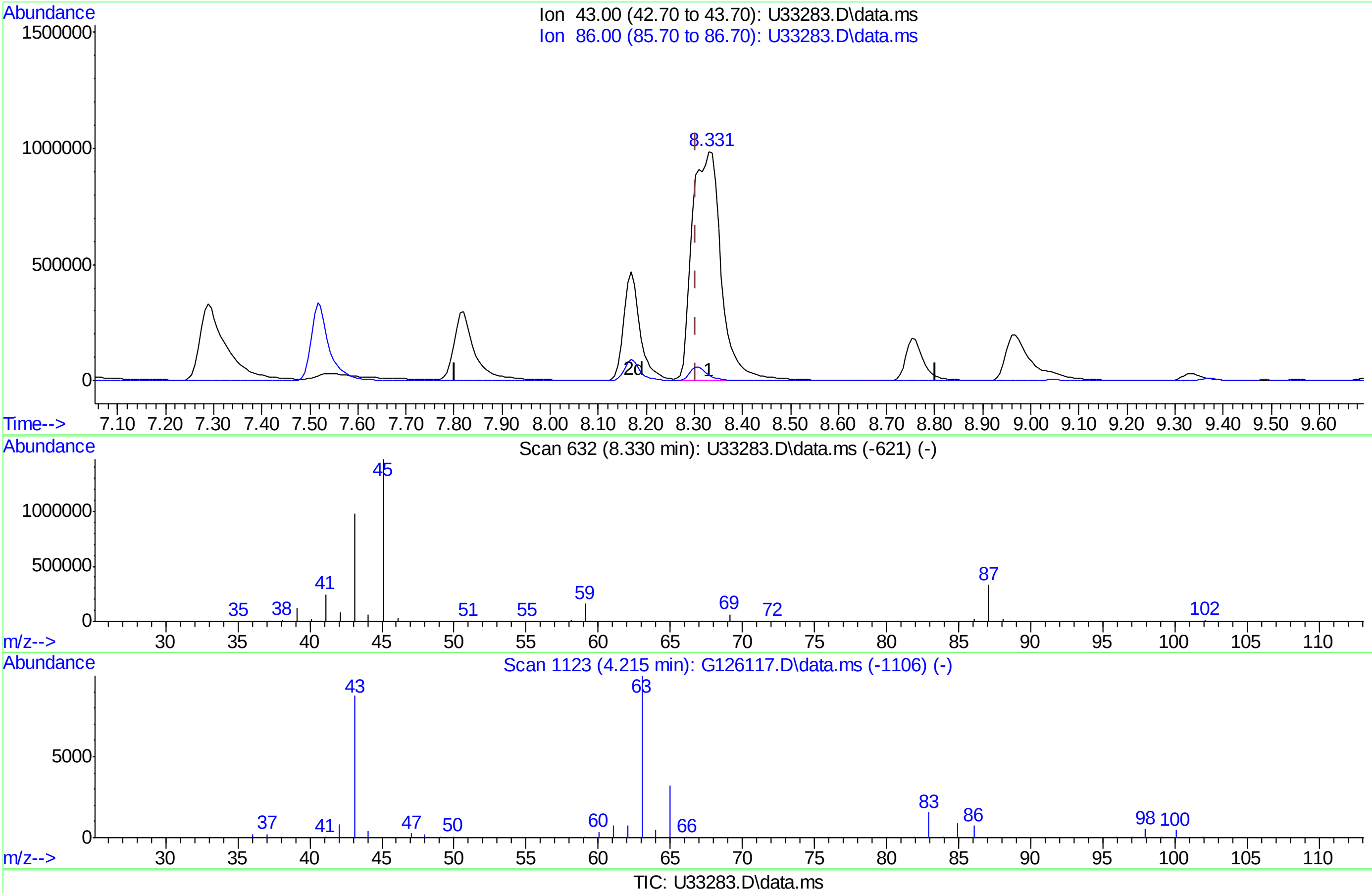
7.288min (-0.000) 196.40 ppb m

response 4420042

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.29
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(26) vinyl acetate (P)

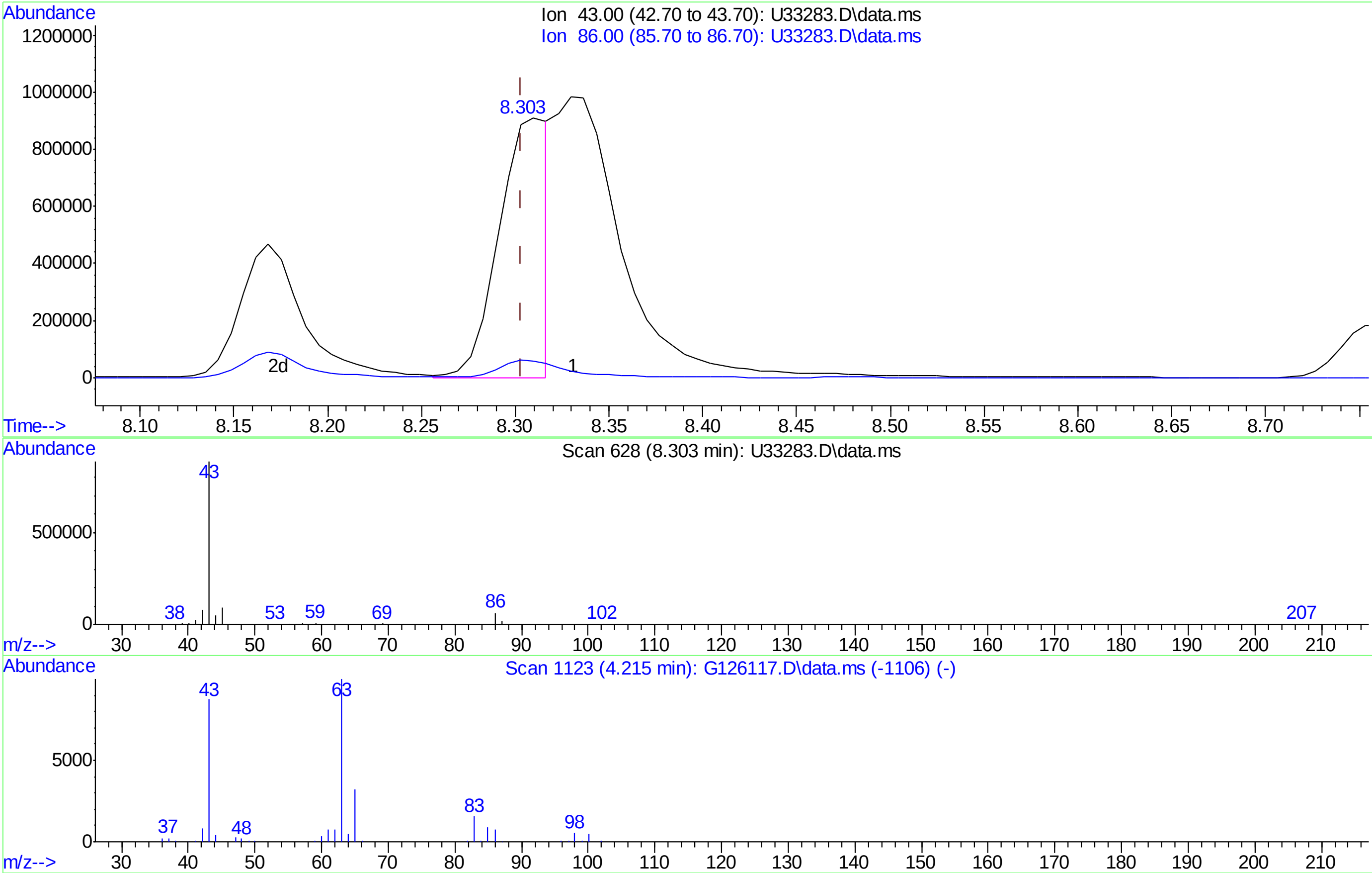
8.331min (+ 0.028) 454.12 ppb

response 4146684

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.41
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33283.D\data.ms

(26) vinyl acetate (P)

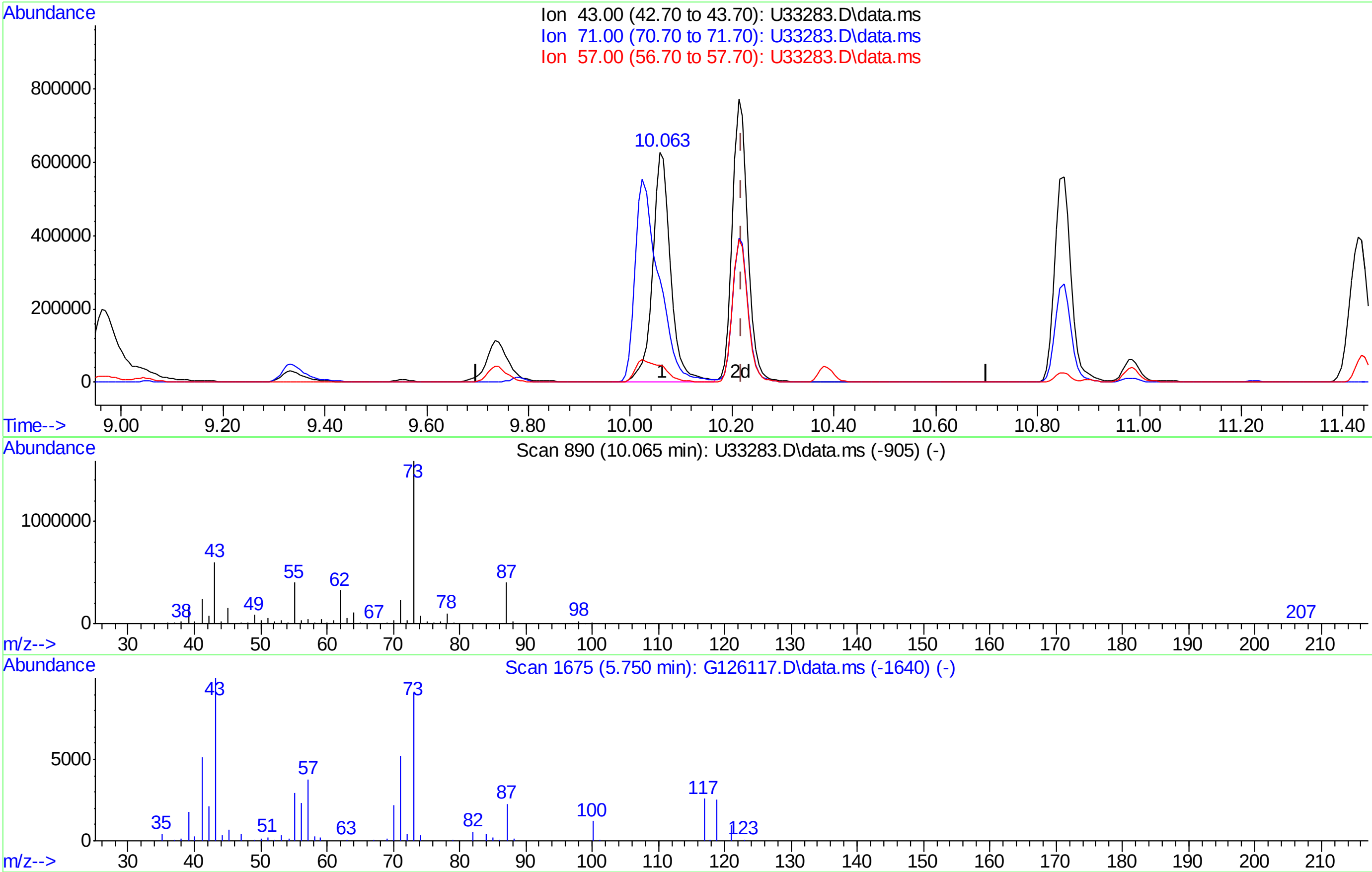
8.303min (-0.000) 183.25 ppb m

response 1673278

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.88
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

TIC: U33283.D\data.ms

(50) heptane (P)

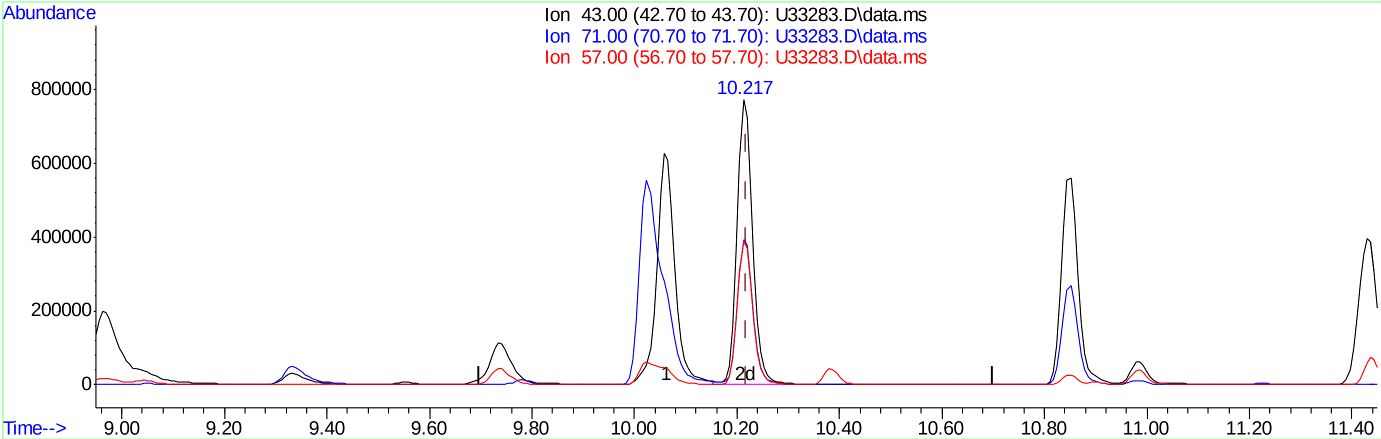
10.063min (-0.156) 173.28 ppb

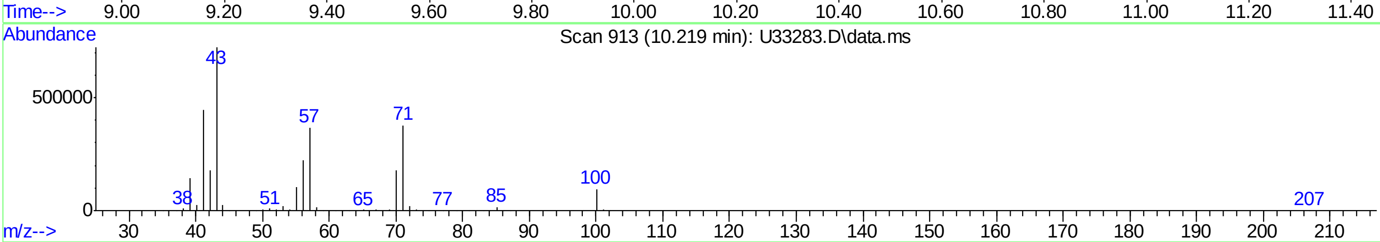
response 1577797

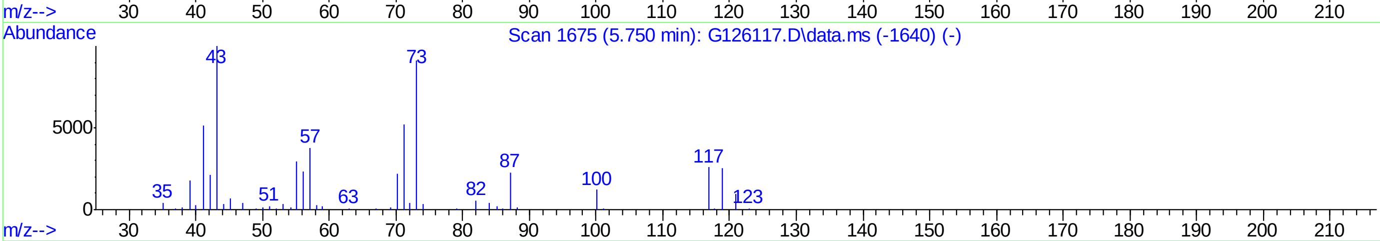
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	39.36
57.00	5.80	7.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```







TIC: U33283.D\data.ms

(50) heptane (P)

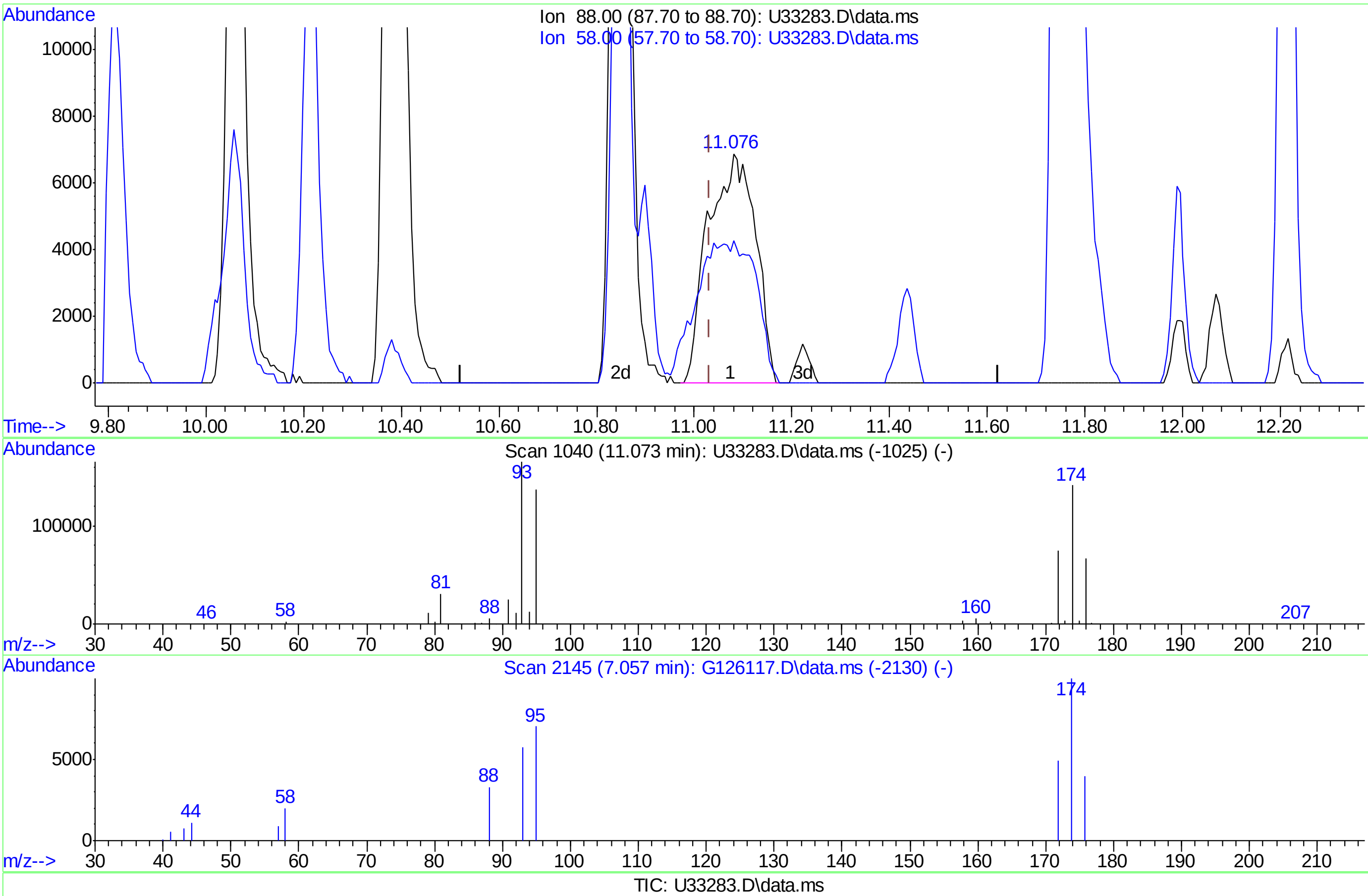
10.219min (-0.000) 174.89 ppb m

response 1592417

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	52.22
57.00	5.80	51.05#
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(58) 1,4-dioxane (P)

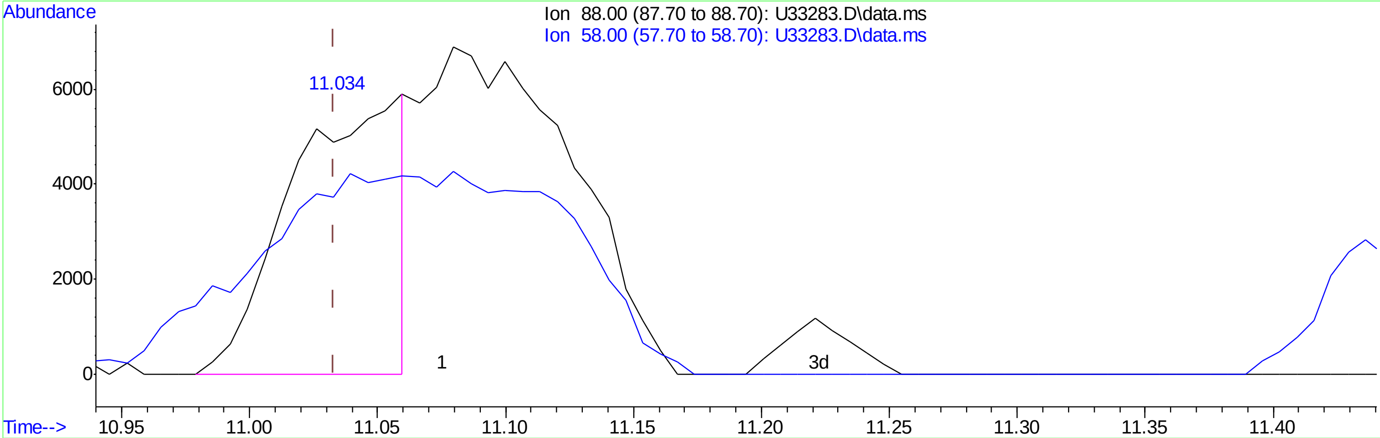
11.076min (+ 0.043) 1790.88 ppb

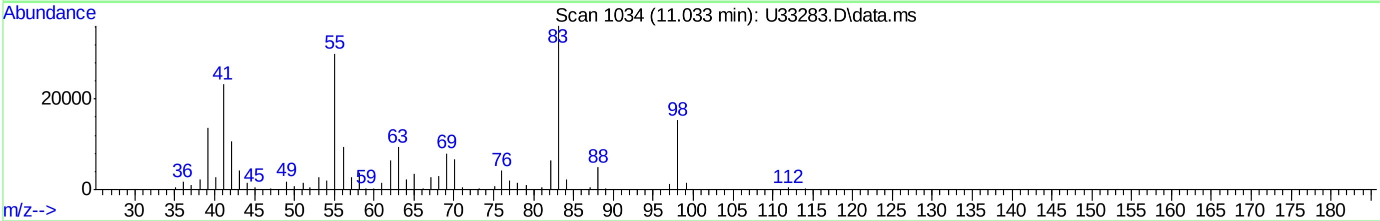
response 46112

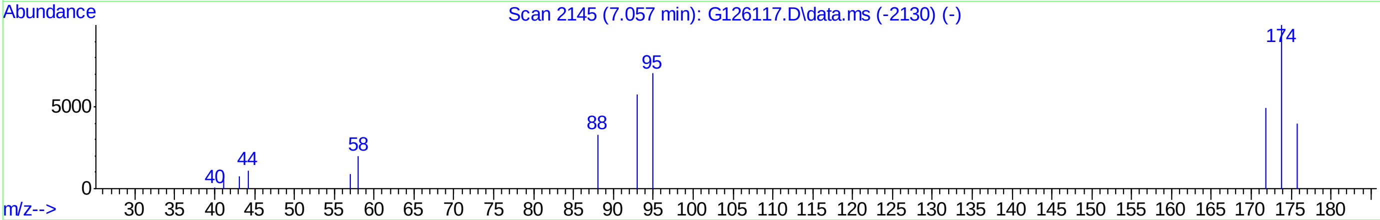
Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	65.29#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```





TIC: U33283.D\data.ms

(58) 1,4-dioxane (P)

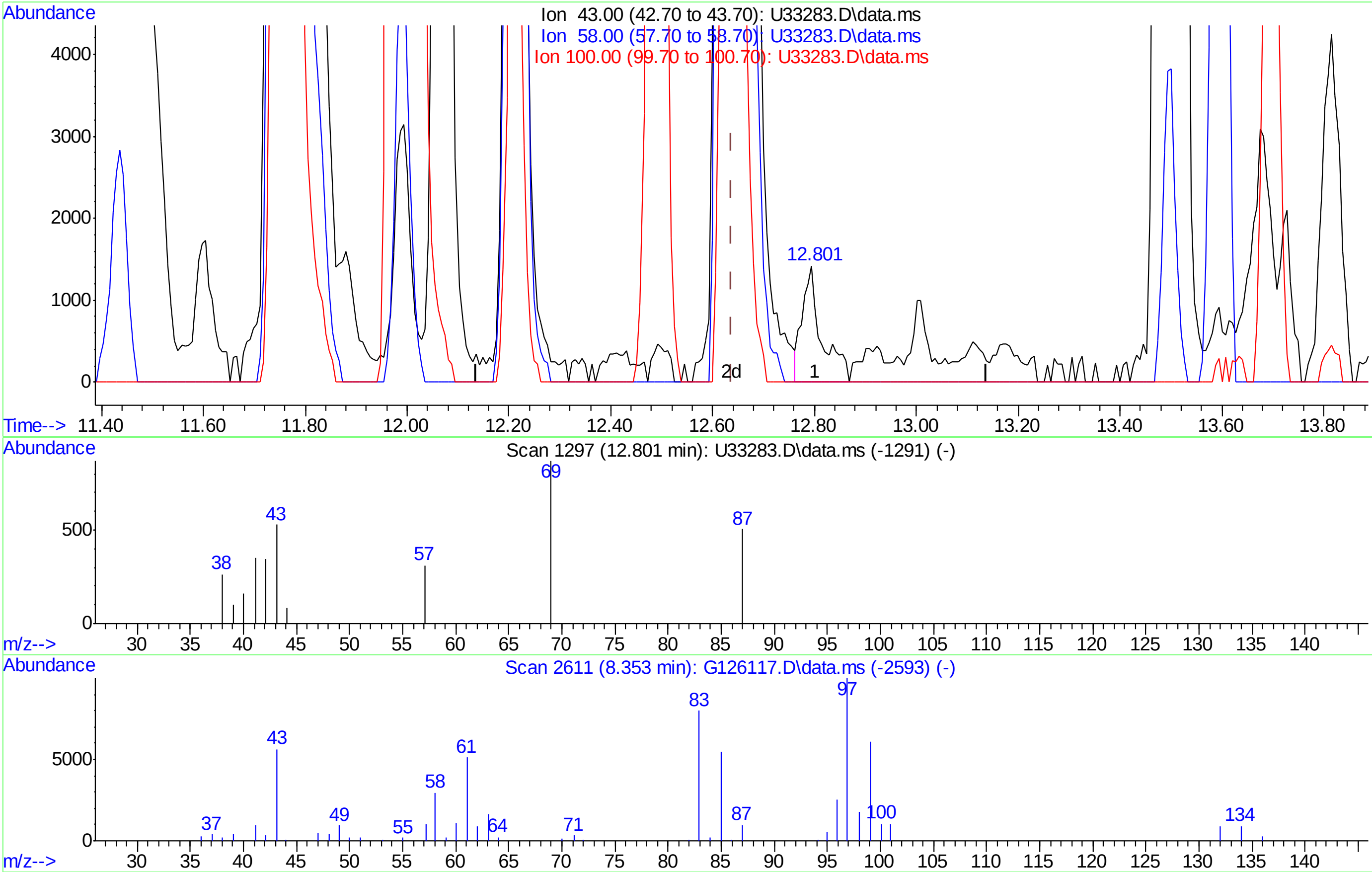
11.033min (-0.000) 698.84 ppb m

response 17994

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	76.22#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33283.D\data.ms

(71) 2-hexanone (P)

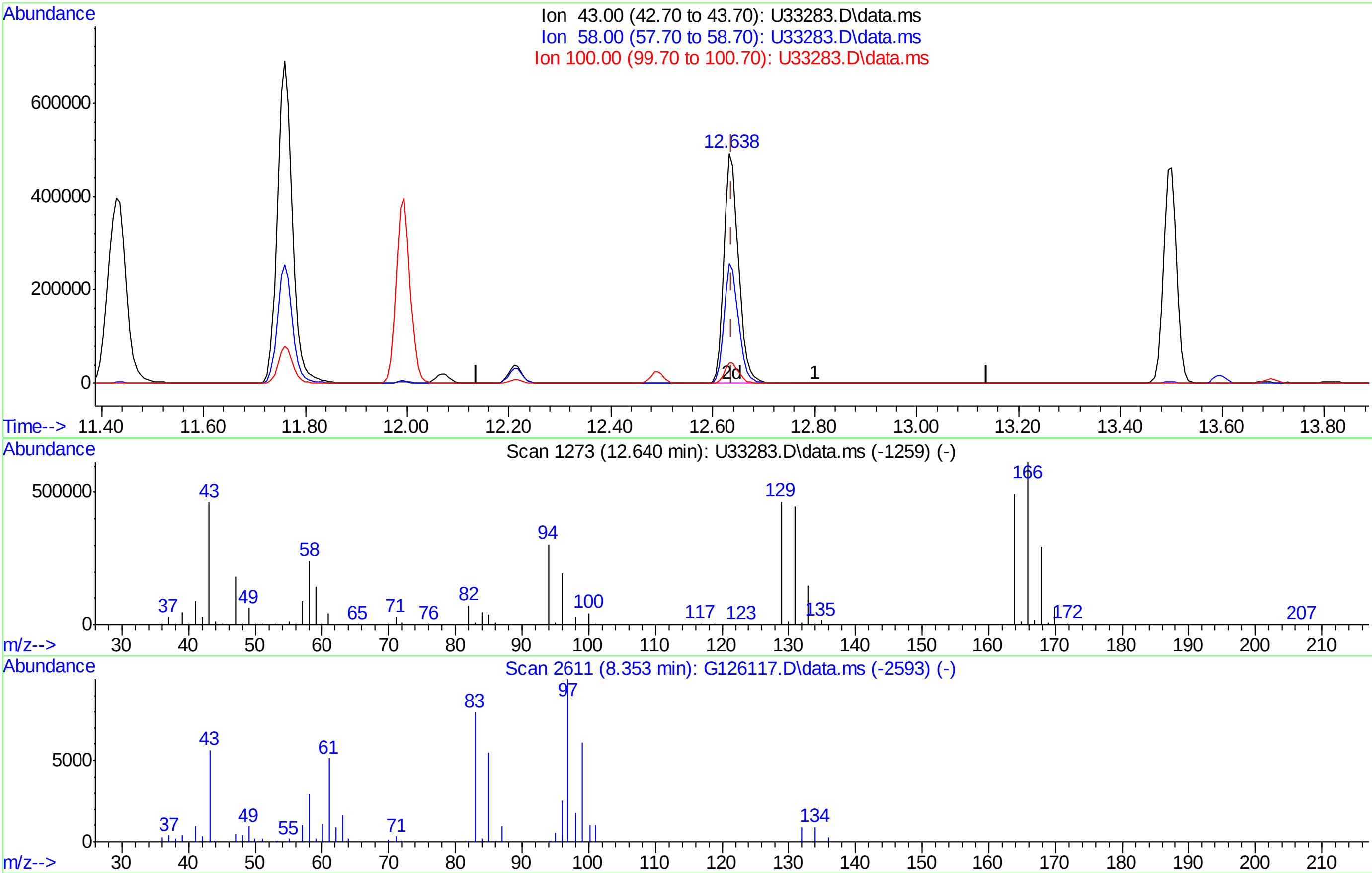
12.801min (+ 0.164) 0.74 ppb

response 3794

Ion	Exp%	Act%
43.00	100.00	100.00
58.00	16.30	0.00
100.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(71) 2-hexanone (P)

12.640min (+ 0.002) 187.70 ppb m

response 966006

Ion	Exp%	Act%
43.00	100.00	100.00
58.00	16.30	52.20#
100.00	0.00	9.35
0.00	0.00	0.00

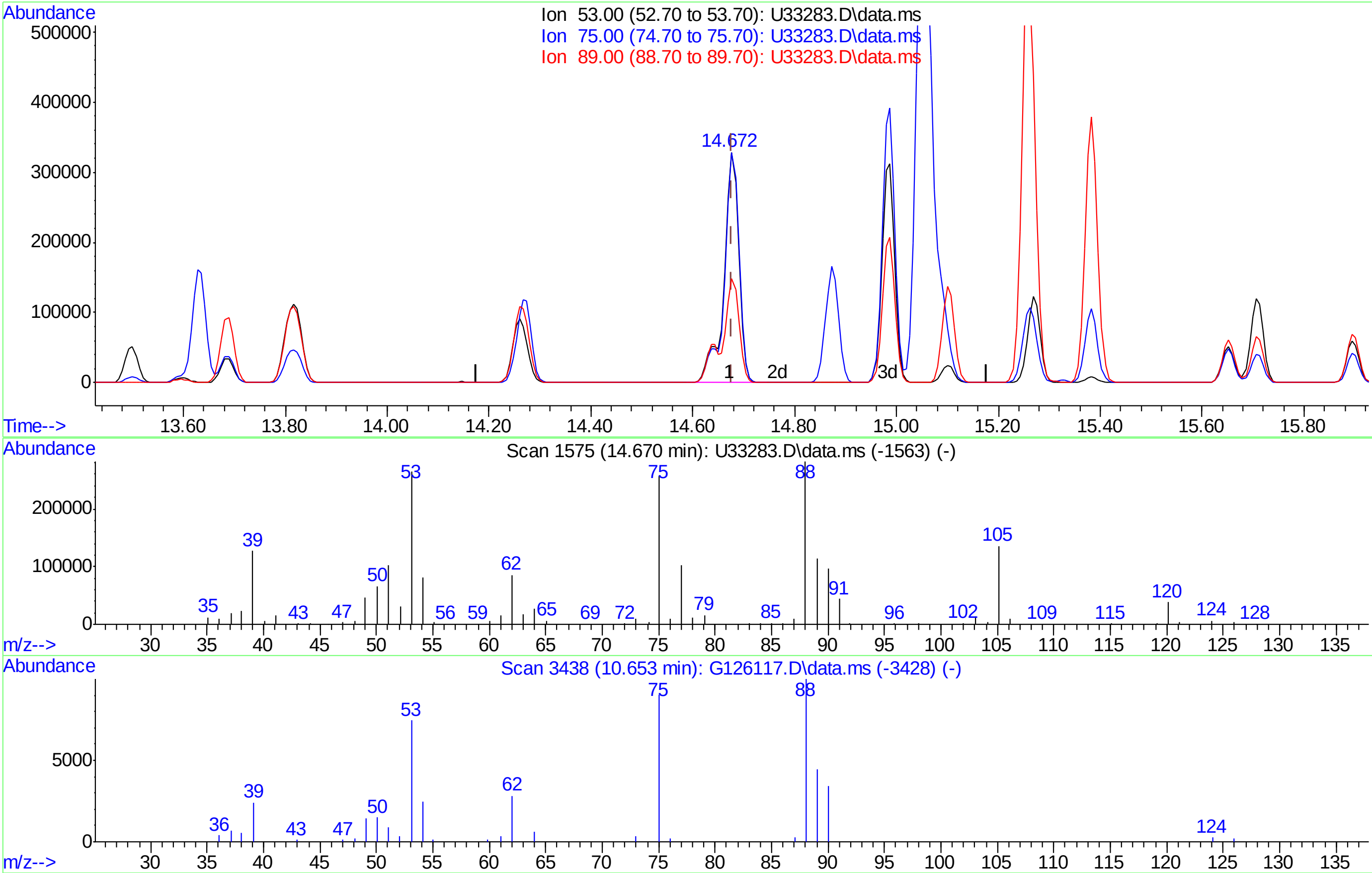
7.6.9.12
7

ACCUTEST
MC42178

U33283.D edits: 2-hexanone

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33283.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

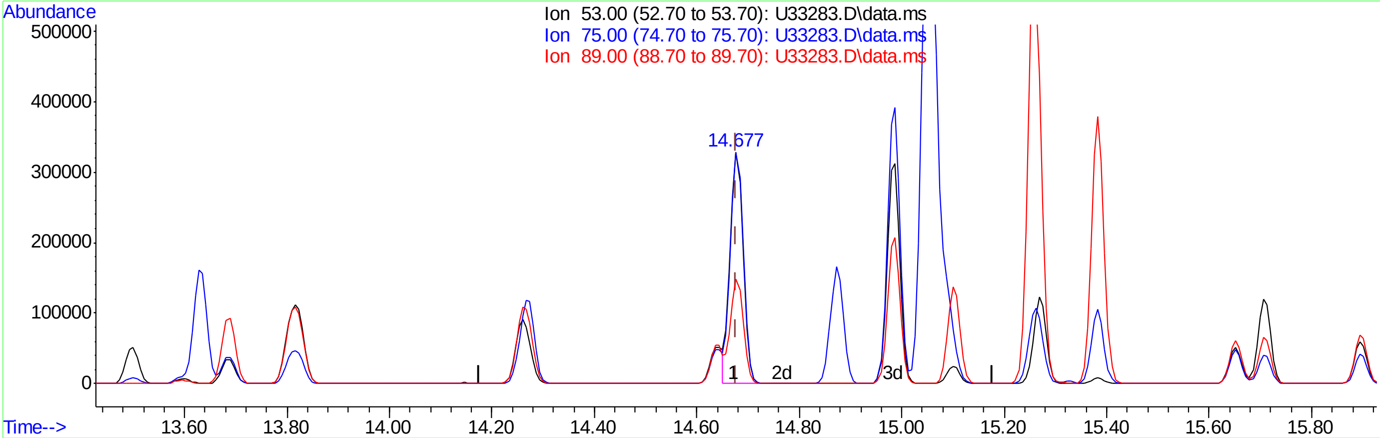
14.672min (-0.005) 268.72 ppb

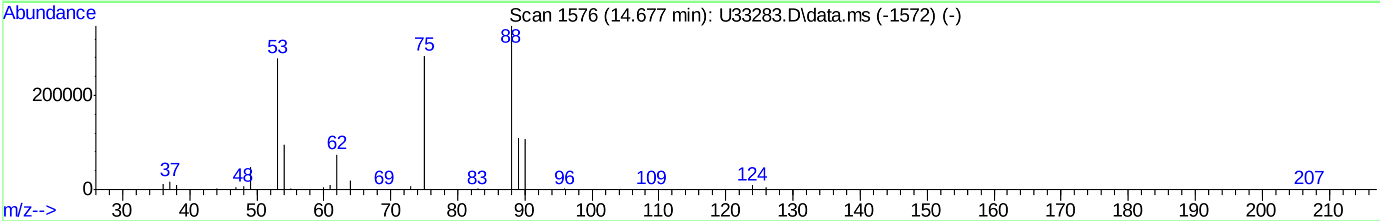
response 656313

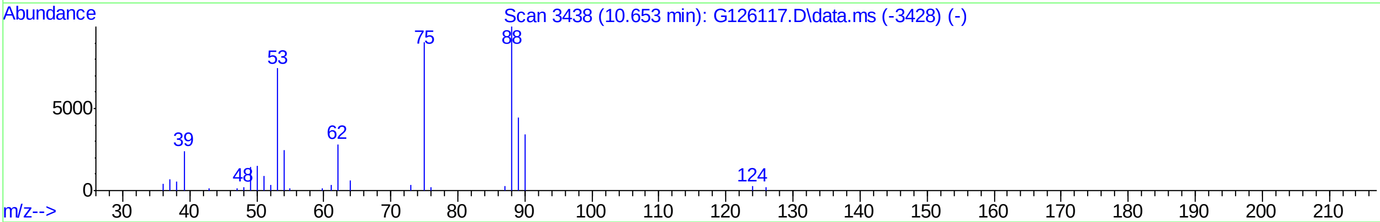
Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	97.46#
89.00	64.60	43.47
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```







TIC: U33283.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

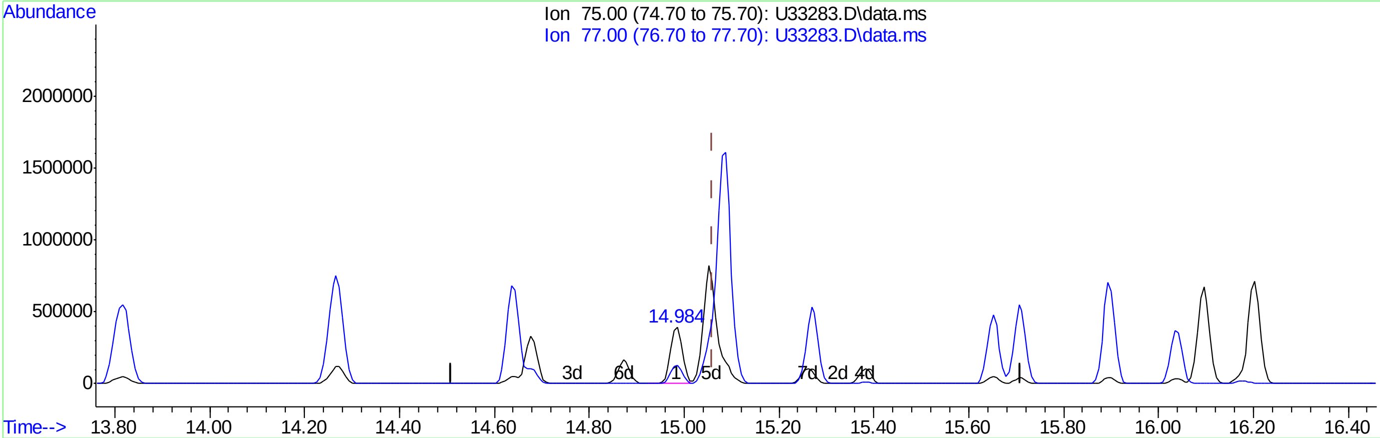
14.677min (-0.000) 230.89 ppb m

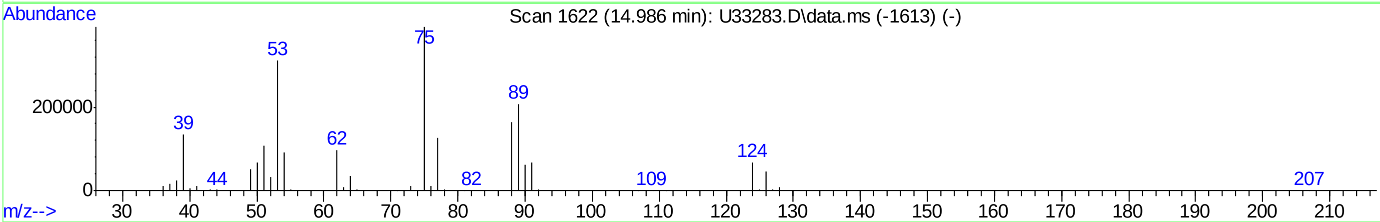
response 563917

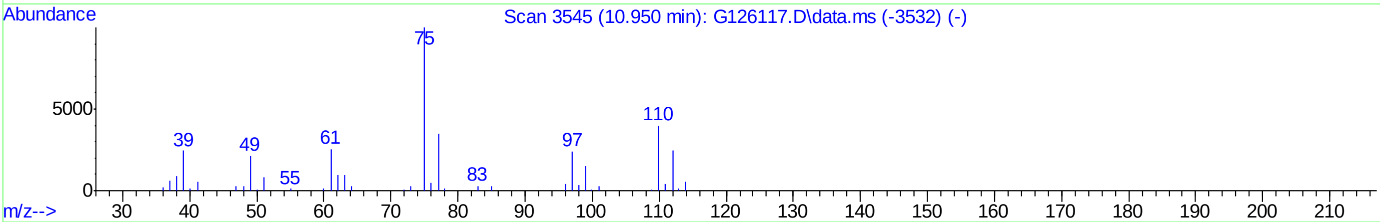
Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	100.14#
89.00	64.60	45.42
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On    : 26 Oct 2015   9:48 pm
Operator  : andrewd1
Sample    : ic1360-200
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 13   Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```





TIC: U33283.D\data.ms

(85) 1,2,3-trichloropropane (P)

14.984min (-0.076) 81.68 ppb

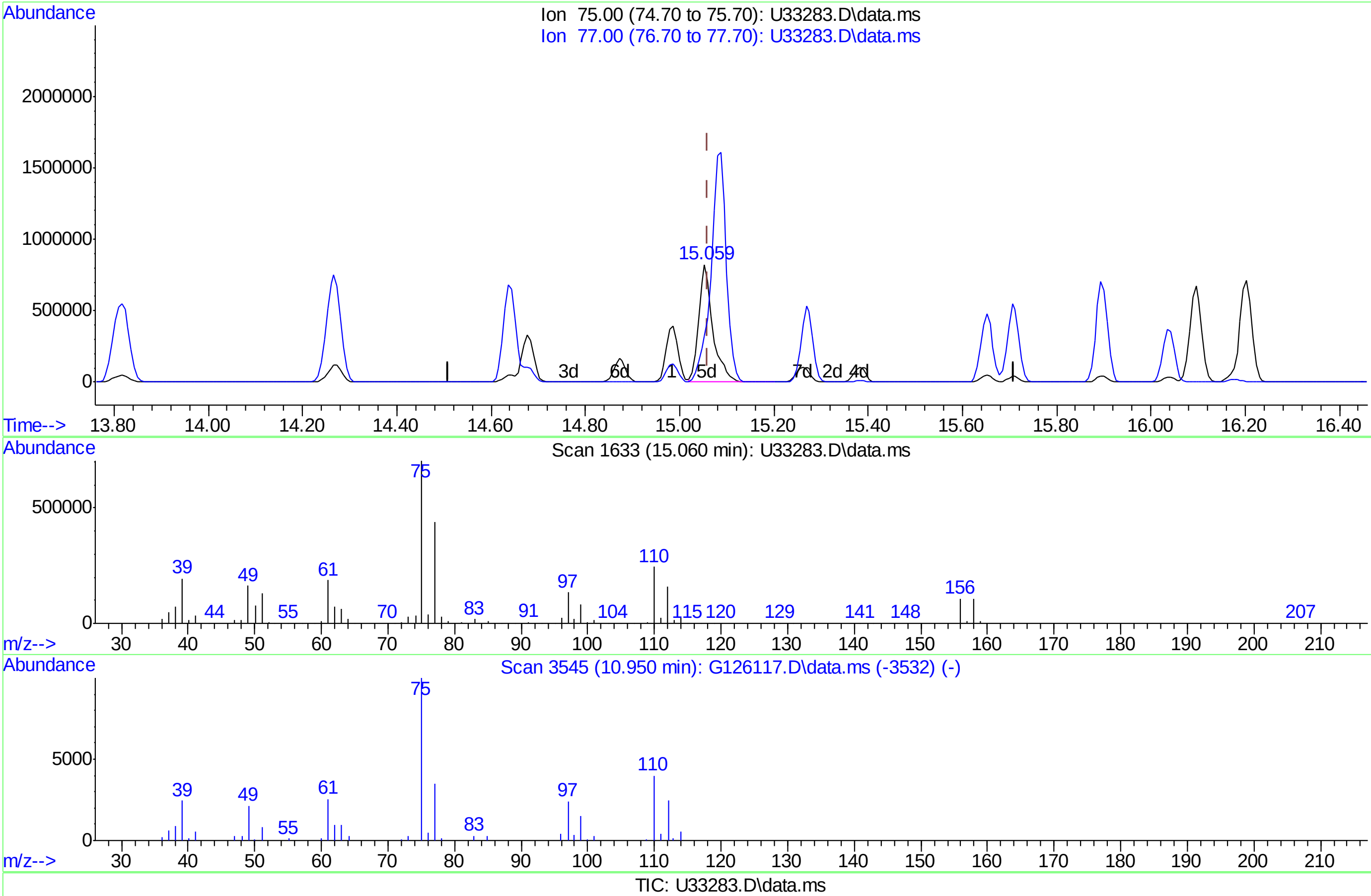
response 675862

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	31.98
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\1\data\U151026\
Data File : U33283.D
Acq On : 26 Oct 2015 9:48 pm
Operator : andrewd1
Sample : ic1360-200
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 27 09:04:51 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration



(85) 1,2,3-trichloropropane (P)

15.060min (-0.000) 209.24 ppb m

response 1731260

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	62.14#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 15:45

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On : 26 Oct 2015 10:15 pm
Operator : andrewd1
Sample : ic1360-400
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 27 09:11:03 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	7.526	65	352998	500.00	ppb		0.06
4) pentafluorobenzene	9.495	168	576775	50.00	ppb		0.00
43) 1,4-difluorobenzene	10.388	114	990227	50.00	ppb		0.00
66) chlorobenzene-d5	13.597	82	672915	50.00	ppb		0.00
80) 1,4-dichlorobenzene-d4	16.176	152	748313	50.00	ppb		0.00
System Monitoring Compounds							
40) dibromofluoromethane (s)	9.560	113	348807	48.77	ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.54%				
60) toluene-d8 (s)	11.994	98	1309393	55.87	ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 111.74%				
82) bromofluorobenzene (s)	14.875	95	666890	58.58	ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 117.16%				
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.615	59	2875083	4424.16	ppb		52
5) dichlorodifluoromethane	4.363	85	4443113	347.97	ppb		99
6) chloromethane	4.751	50	2554625	284.16	ppb		99
7) vinyl chloride	4.989	62	3627912	395.81	ppb		99
8) bromomethane	5.597	96	1793446	314.93	ppb		98
9) chloroethane	5.753	64	1471799	327.06	ppb		98
10) ethyl ether	6.513	59	1950200	350.65	ppb		90
11) acetonitrile	7.366	41	3816470	323.83	ppb	#	13
12) trichlorofluoromethane	6.181	101	5115644	374.11	ppb		98
13) freon-113	6.900	101	3060702	358.24	ppb		96
15) 1,1-dichloroethene	6.909	96	2377537	363.03	ppb		95
16) acetone	6.951	58	330099	405.23	ppb		86
17) Methyl Acetate	6.941	43	1113138	372.36	ppb	#	72
18) methylene chloride	7.531	84	2710345	348.94	ppb	#	82
19) methyl tert butyl ether	7.845	73	7449508	366.07	ppb		92
20) acrylonitrile	7.802	53	1143940	376.86	ppb		92
21) allyl chloride	7.366	41	3892784	320.11	ppb		72
22) trans-1,2-dichloroethene	7.880	96	2337641	339.35	ppb		88
23) iodomethane	7.158	142	4645537	363.43	ppb		92
24) carbon disulfide	7.295	76	8610734m	354.81	ppb		
25) propionitrile	8.484	54	187745	353.66	ppb		100
26) vinyl acetate	8.303	43	2990112m	306.19	ppb		
27) chloroprene	8.485	53	4098899	358.21	ppb		95
28) di-isopropyl ether	8.349	45	7995137	339.56	ppb		90
29) methacrylonitrile	9.226	41	1722606	376.34	ppb		91
30) 2-butanone	8.988	72	345613	409.97	ppb	#	1
31) Ethyl Acetate	8.175	43	2041172	318.28	ppb	#	1
32) Hexane	8.176	41	2441384	317.86	ppb	#	69
33) 1,1-dichloroethane	8.400	63	4683771	346.43	ppb		97
34) tert-butyl ethyl ether	8.770	59	8743821	376.60	ppb		91
35) isobutyl alcohol	8.766	43	916240	1719.53	ppb		78
36) 2,2-dichloropropane	9.078	77	3836850	349.09	ppb		98
37) cis-1,2-dichloroethene	9.038	96	2619599	342.84	ppb		93
38) bromochloromethane	9.319	128	1341173	364.33	ppb	#	73

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:11:03 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
39) chloroform	9.379	83	4823352	358.54 ppb	97
41) Tetrahydrofuran	9.344	42	860010	354.17 ppb	88
42) 1,1,1-trichloroethane	9.640	97	4570040	384.07 ppb	98
44) Cyclohexane	9.748	56	4962016	325.08 ppb #	86
45) carbon tetrachloride	9.822	117	3916816	362.78 ppb	98
46) 1,1-dichloropropene	9.786	75	3402912	337.22 ppb	98
47) benzene	10.025	78	8439384	308.07 ppb	100
48) 1,2-dichloroethane	10.048	62	3746670	329.54 ppb	98
49) tert-amyl methyl ether	10.069	73	7687755	335.56 ppb	95
50) heptane	10.219	43	3075037m	311.38 ppb	
51) trichloroethene	10.693	95	2651543	332.82 ppb	98
52) 1,2-dichloropropane	10.983	63	2361775	341.41 ppb	99
53) dibromomethane	11.094	93	1709595	374.69 ppb	96
54) bromodichloromethane	11.227	83	3817167	396.02 ppb	97
55) Methylcyclohexane	10.991	83	4317366	330.61 ppb	88
56) 2-chloroethyl vinyl ether	11.440	63	1464471	477.44 ppb	95
57) methyl methacrylate	10.901	69	1648776	444.81 ppb	90
58) 1,4-dioxane	11.033	88	41635m	1561.54 ppb	
59) cis-1,3-dichloropropene	11.677	75	4261945	439.17 ppb	98
61) 4-methyl-2-pentanone	11.761	43	2870837	382.42 ppb	98
62) toluene	12.072	92	5777982	393.01 ppb	98
63) trans-1,3-dichloropropene	12.250	75	3926976	470.88 ppb	93
64) 1,1,2-trichloroethane	12.491	83	1919754	427.49 ppb	98
65) ethyl methacrylate	12.214	69	3075710	439.10 ppb	83
67) tetrachloroethene	12.647	166	2636910	334.93 ppb	99
68) 1,3-dichloropropane	12.683	76	3738515	362.30 ppb	95
69) dibromochloromethane	12.952	129	3028987	408.57 ppb	98
70) 1,2-dibromoethane	13.130	107	2500913	382.38 ppb	98
71) 2-hexanone	12.640	43	1846150m	312.51 ppb	
72) chlorobenzene	13.633	112	7248728	353.52 ppb	97
73) 1,1,1,2-tetrachloroethane	13.700	131	2900548	325.16 ppb	99
74) ethylbenzene	13.689	91	11701545	315.66 ppb	95
75) m,p-xylene	13.818	106	9171246	645.31 ppb	91
76) o-xylene	14.260	106	4935944	311.49 ppb	99
77) styrene	14.275	104	7896060	336.13 ppb	79
78) bromoform	14.546	173	2394621	428.87 ppb	100
79) trans-1,4-dichloro-2-b...	14.677	53	1208167m	417.33 ppb	
81) isopropylbenzene	14.641	105	13733165	370.58 ppb	95
83) bromobenzene	15.086	156	3637385	385.34 ppb	95
84) 1,1,2,2-tetrachloroethane	14.949	83	3545723	395.59 ppb	100
85) 1,2,3-trichloropropane	15.060	75	3481471	384.31 ppb	57
86) n-propylbenzene	15.105	91	15102778	337.70 ppb	89
87) 2-chlorotoluene	15.262	91	11080140	344.80 ppb	98
88) 4-chlorotoluene	15.385	91	10840925	386.80 ppb	98
89) 1,3,5-trimethylbenzene	15.274	105	11950432	347.19 ppb	96
90) tert-butylbenzene	15.654	91	8306457	390.45 ppb	88
91) 1,2,4-trimethylbenzene	15.711	105	13027979	345.67 ppb	98
92) sec-butylbenzene	15.899	105	15303235	339.79 ppb	90
93) 1,3-dichlorobenzene	16.099	146	7342542	346.08 ppb	98
94) p-isopropyltoluene	16.041	119	13284717	336.33 ppb	91

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On : 26 Oct 2015 10:15 pm
Operator : andrewd1
Sample : ic1360-400
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 27 09:11:03 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
95)	1,4-dichlorobenzene	16.206	146	7475145	346.20	ppb	97
96)	1,2-dichlorobenzene	16.619	146	7493846	323.34	ppb	94
97)	n-butylbenzene	16.496	91	12896302	309.85	ppb	93
98)	1,2-dibromo-3-chloropr...	17.461	75	891588	381.01	ppb	94
99)	1,3,5-trichlorobenzene	17.659	180	6325853	292.17	ppb	96
100)	1,2,4-trichlorobenzene	18.372	180	5952291	300.06	ppb	95
101)	hexachlorobutadiene	18.486	225	2997875	320.32	ppb	94
102)	naphthalene	18.715	128	12858452	302.65	ppb	100
103)	2-Methylnaphthalene	20.108	142	3658573	164.79	ppb	97
104)	1-Methylnaphthalene	20.372	142	2557159	156.19	ppb	98
105)	1,2,3-trichlorobenzene	18.961	180	5363039	307.08	ppb	95

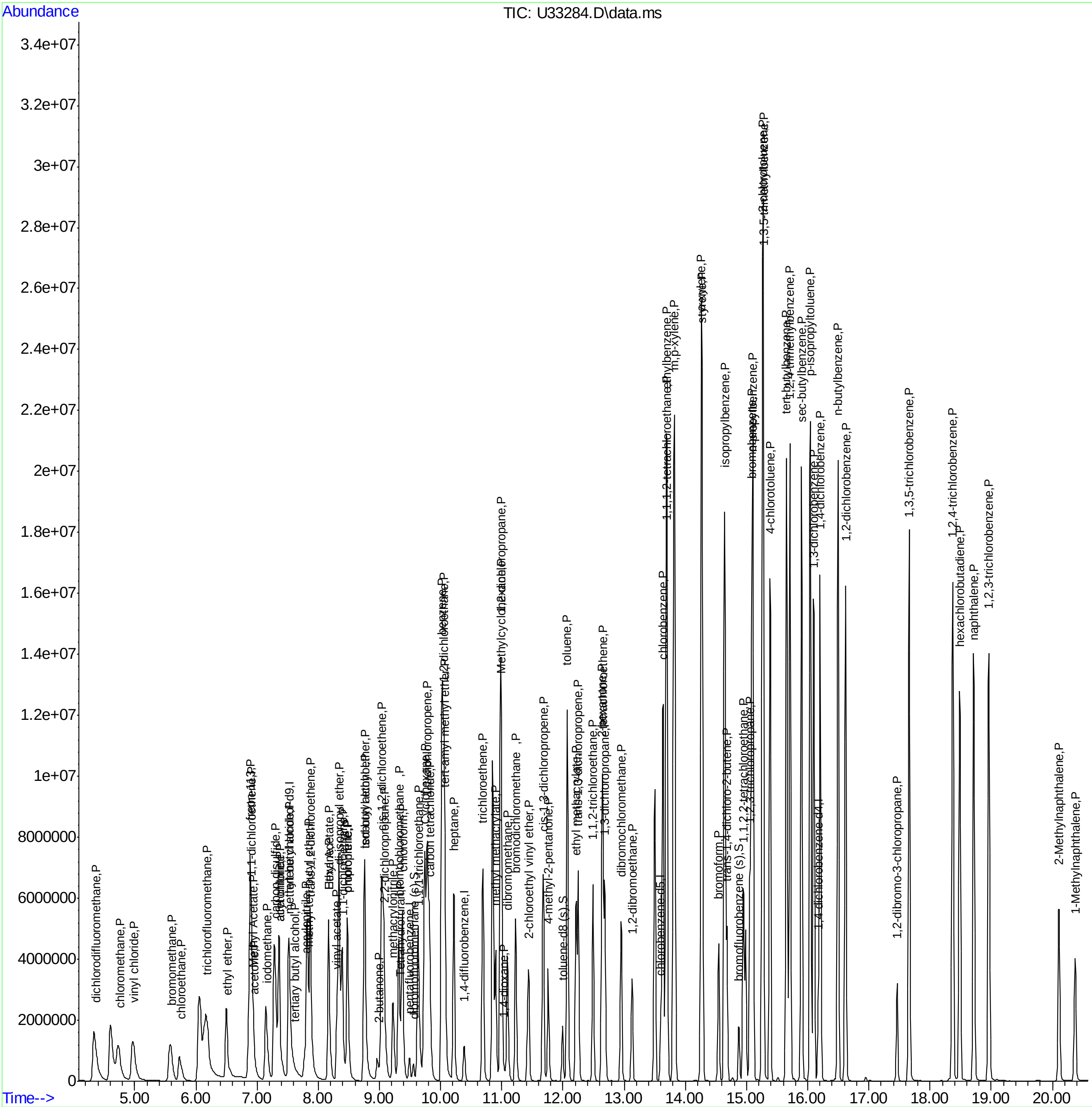
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.10

7

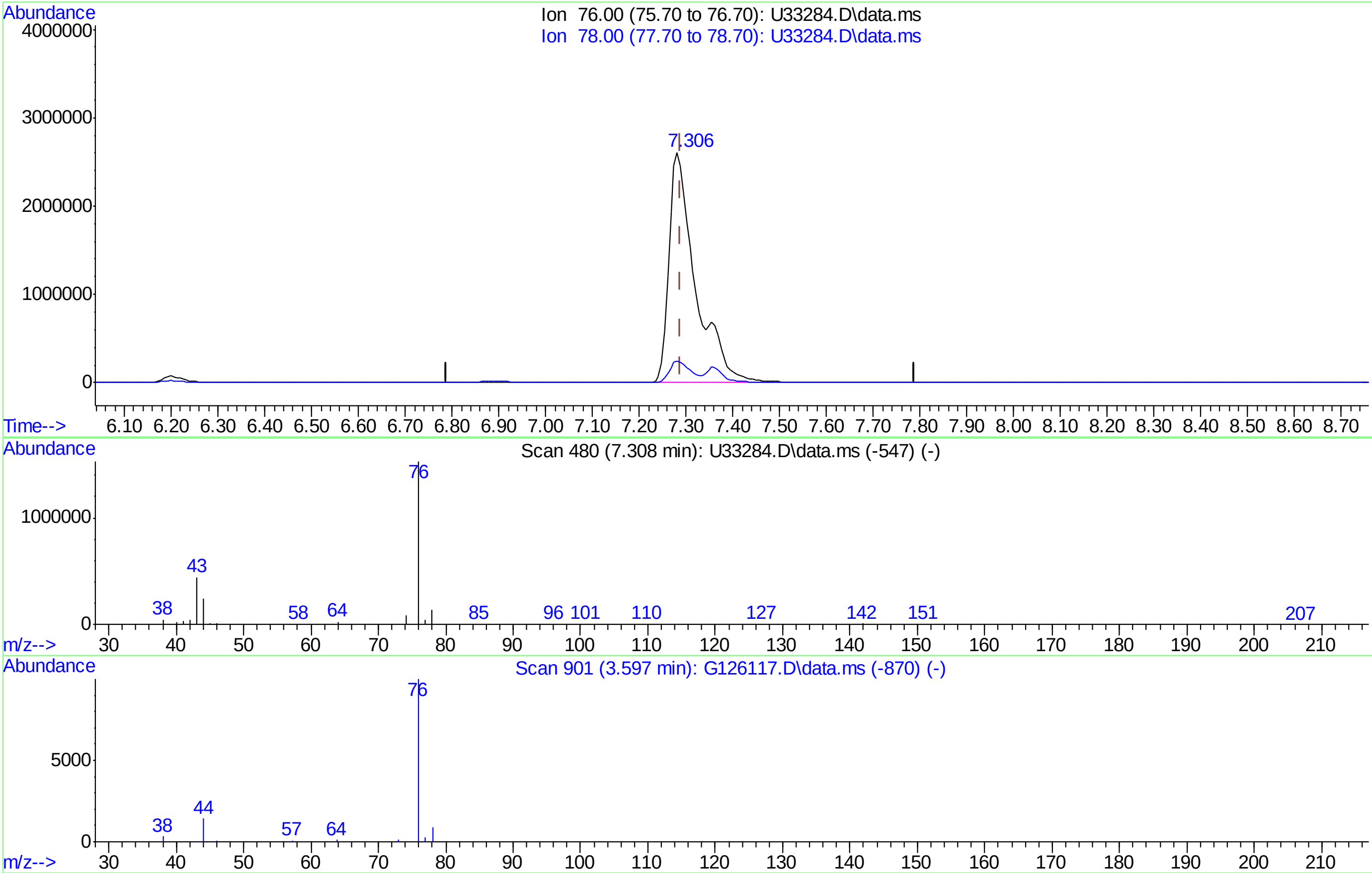
Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:11:03 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33284.D\data.ms

(24) carbon disulfide (P)

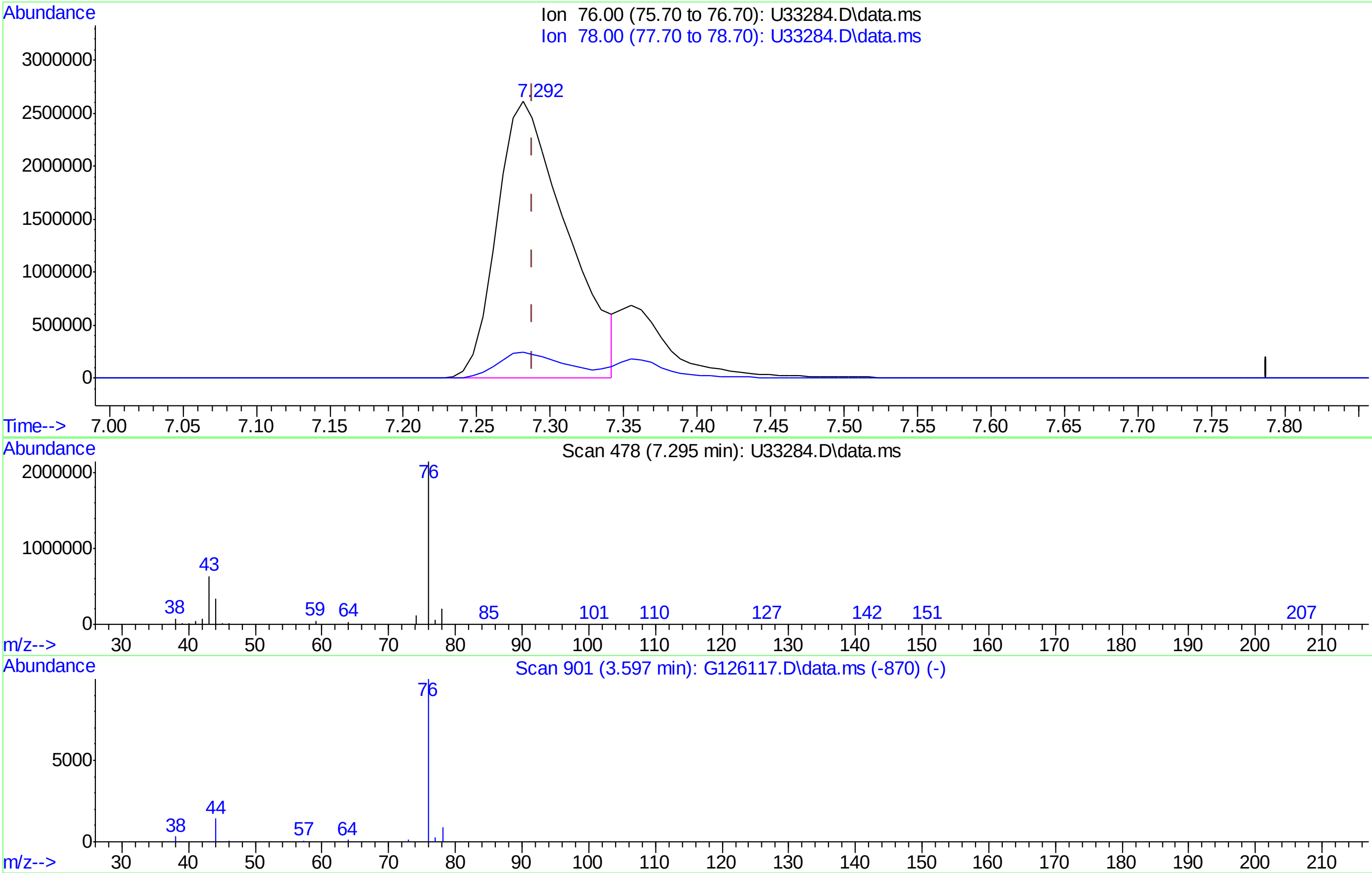
7.306min (+ 0.018) 425.56 ppb

response 10327705

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33284.D\data.ms

(24) carbon disulfide (P)

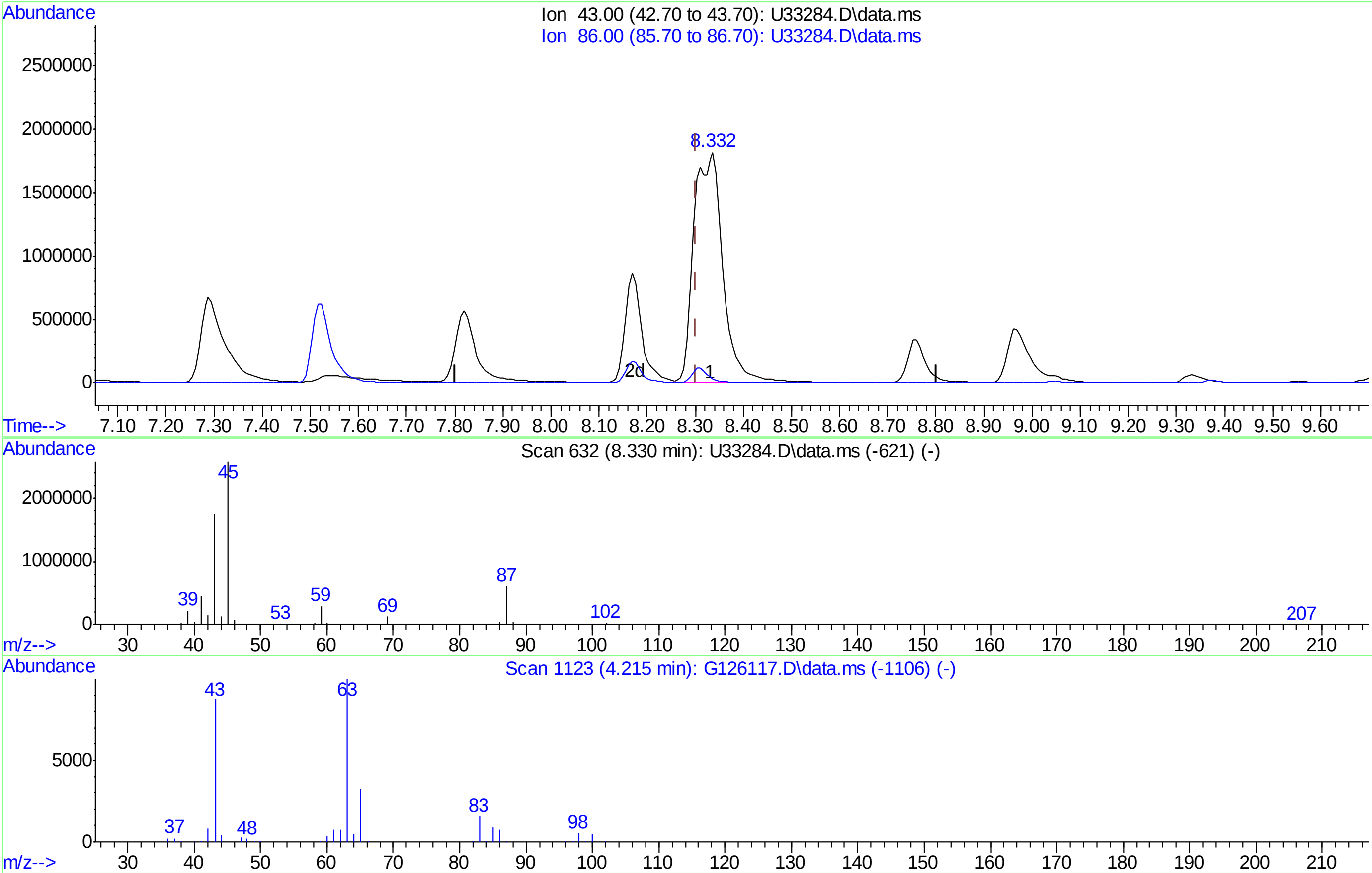
7.295min (+ 0.007) 354.81 ppb m

response 8610734

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.41
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

TIC: U33284.D\data.ms

(26) vinyl acetate (P)

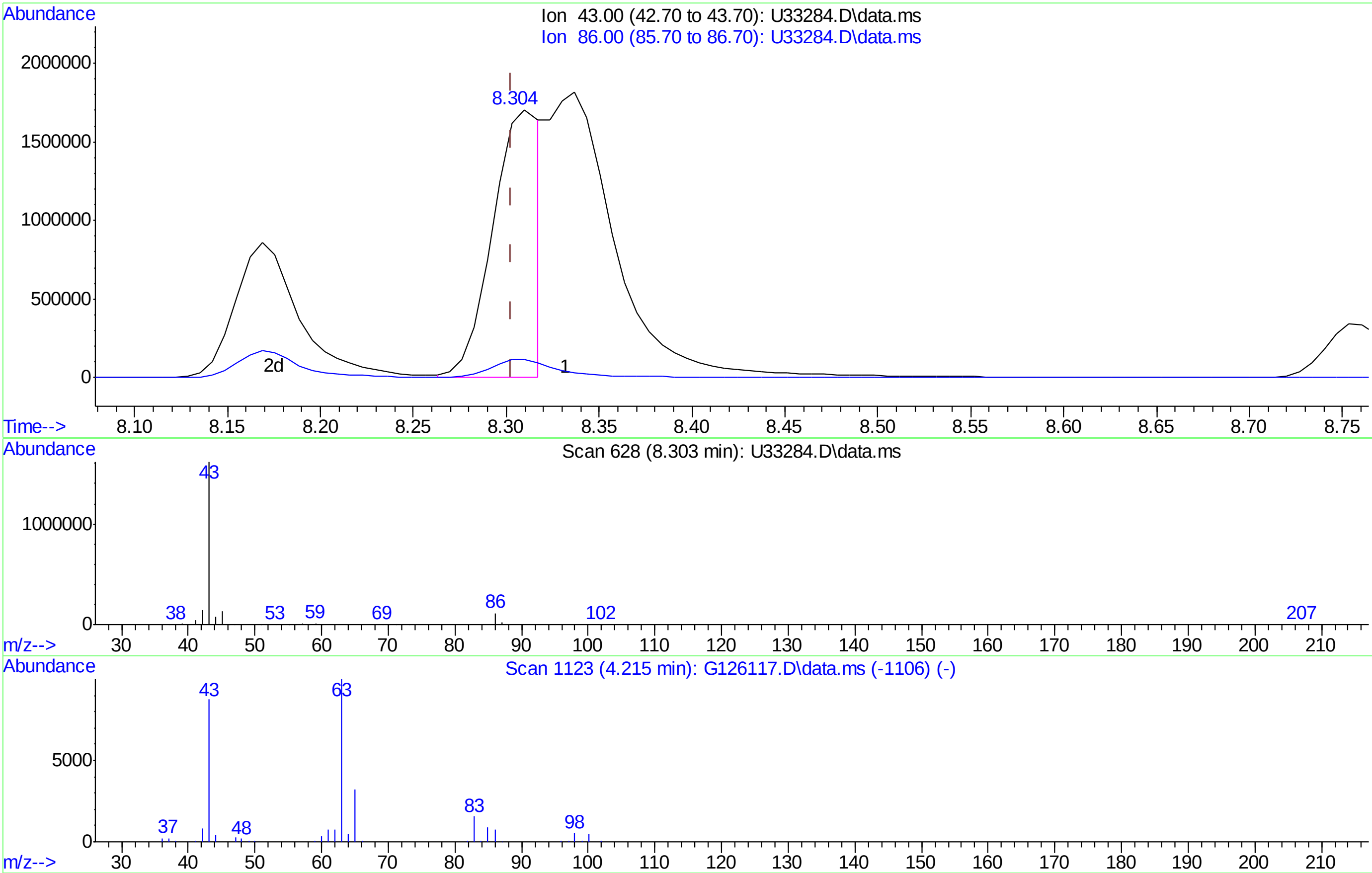
8.332min (+ 0.029) 783.45 ppb

response 7650925

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.54
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33284.D\data.ms

(26) vinyl acetate (P)

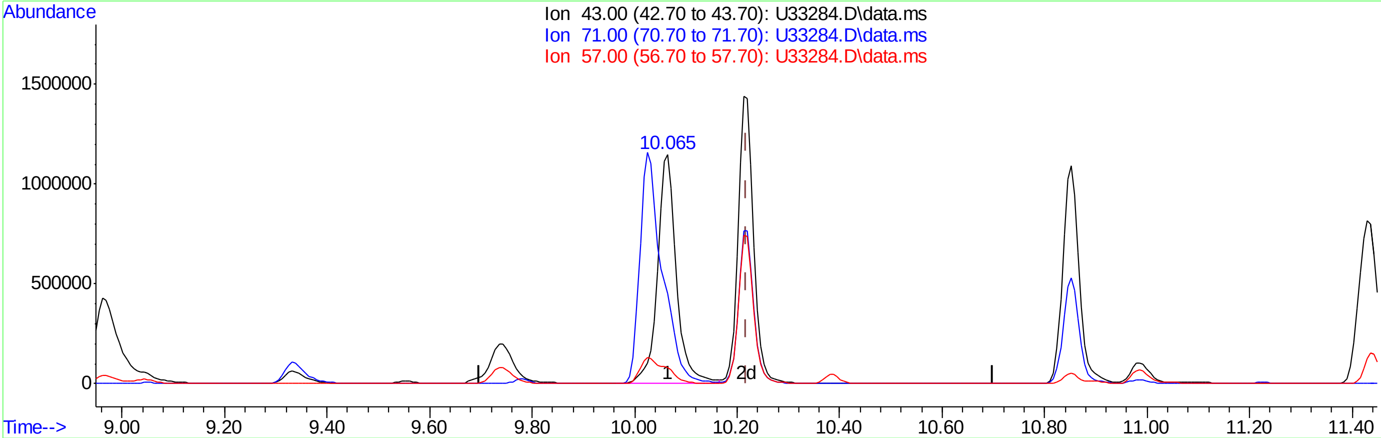
8.303min (+ 0.000) 306.19 ppb m

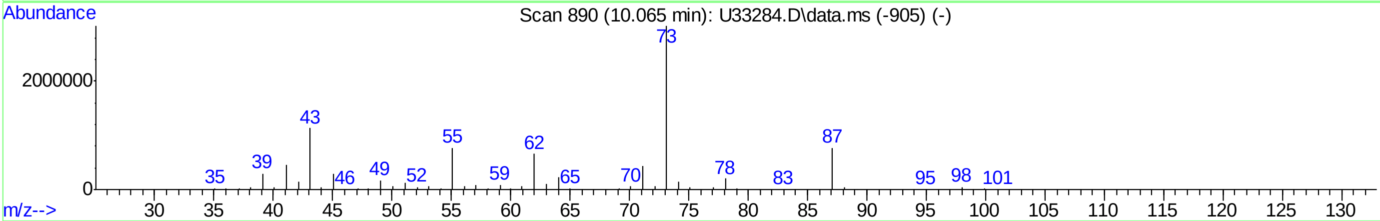
response 2990112

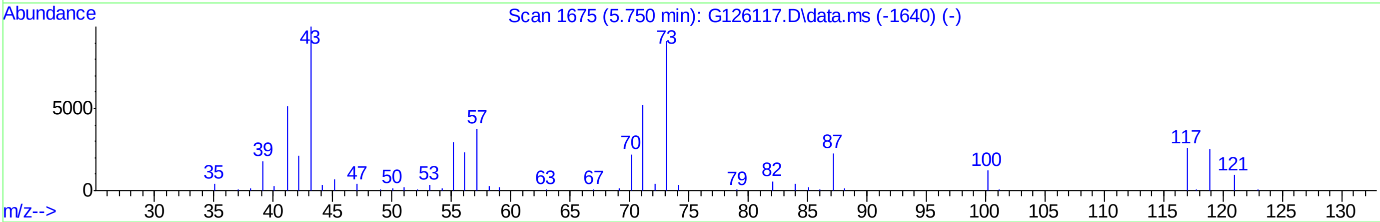
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	7.08
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```





TIC: U33284.D\data.ms

(50) heptane (P)

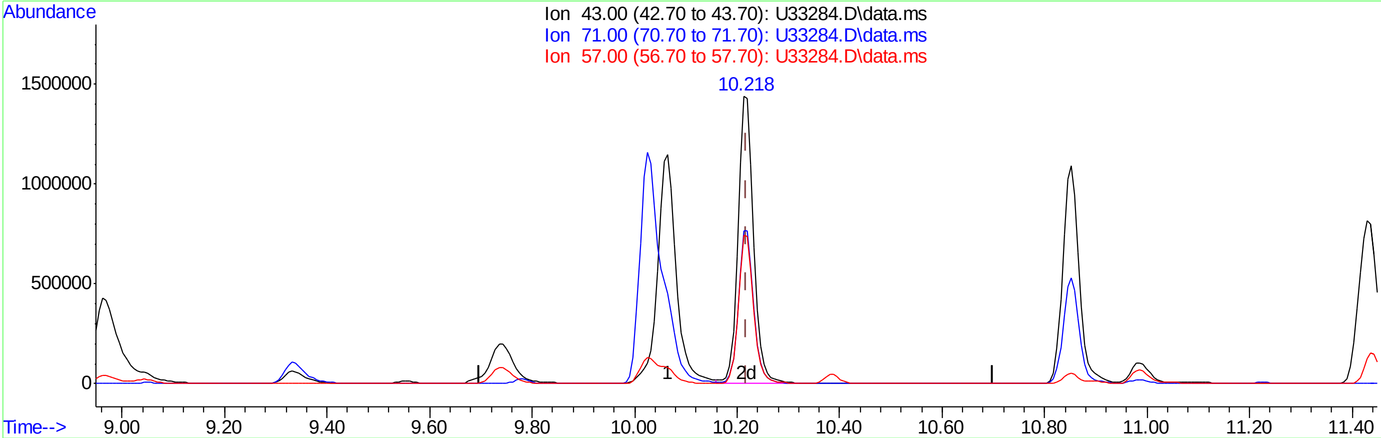
10.065min (-0.154) 300.66 ppb

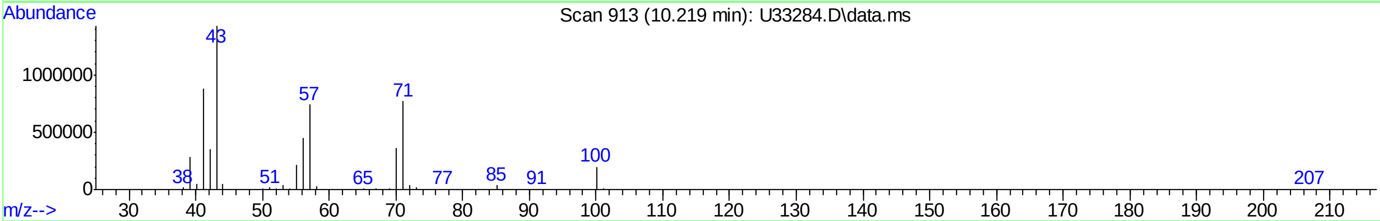
response 2969216

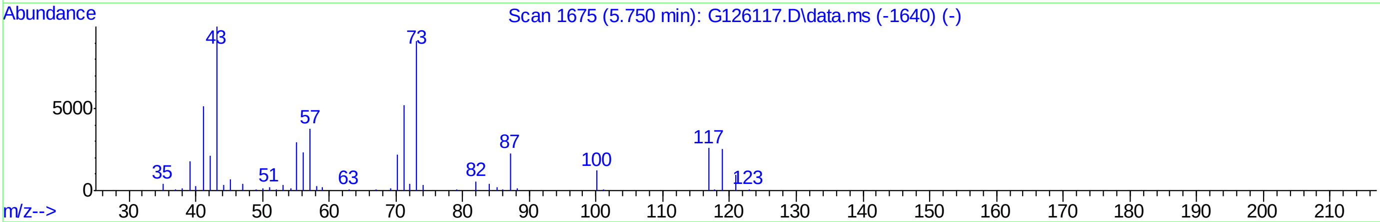
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	39.37
57.00	5.80	7.02
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```





TIC: U33284.D\data.ms

(50) heptane (P)

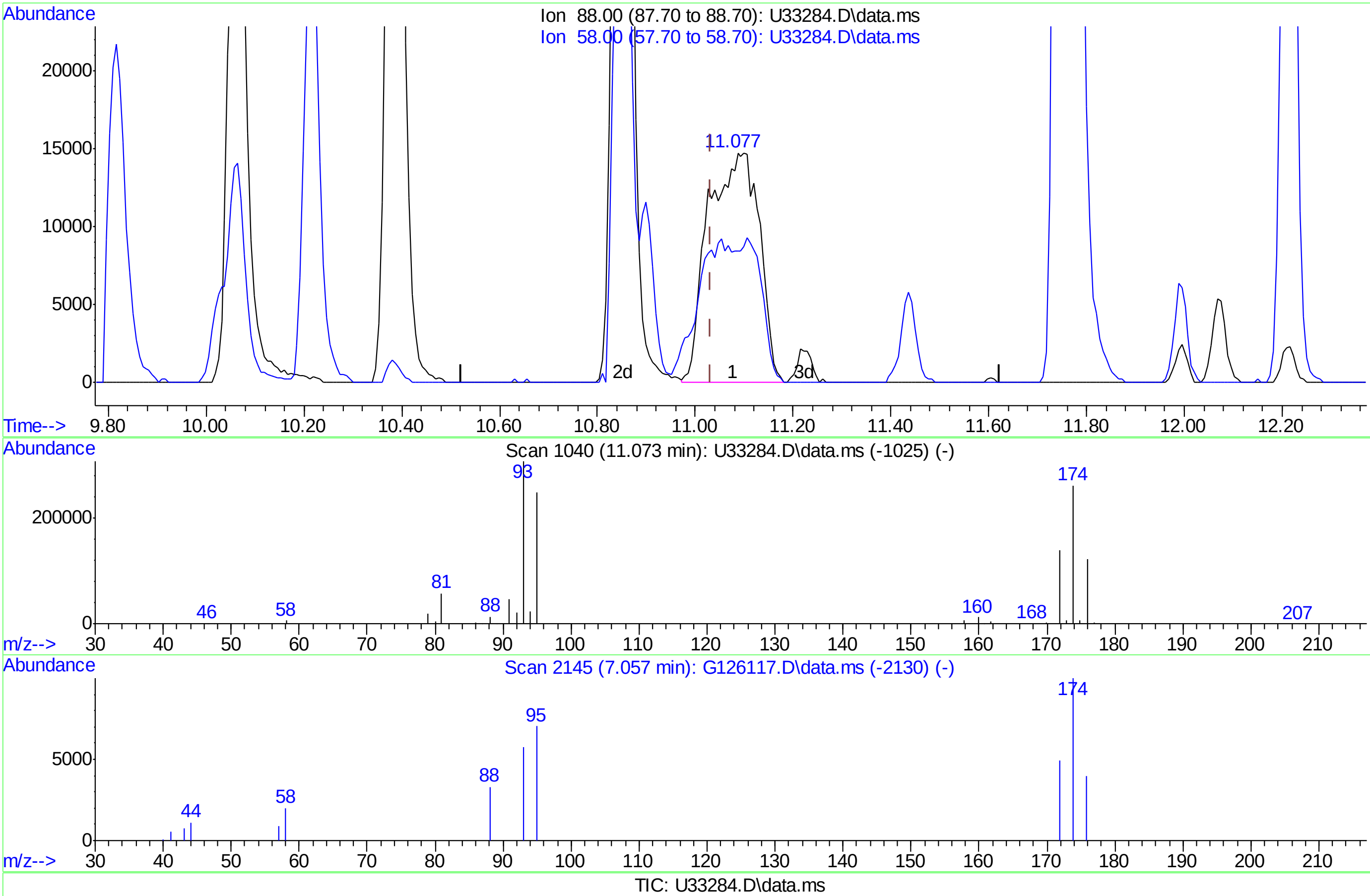
10.219min (+ 0.000) 311.38 ppb m

response 3075037

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	53.83
57.00	5.80	51.85#
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(58) 1,4-dioxane (P)

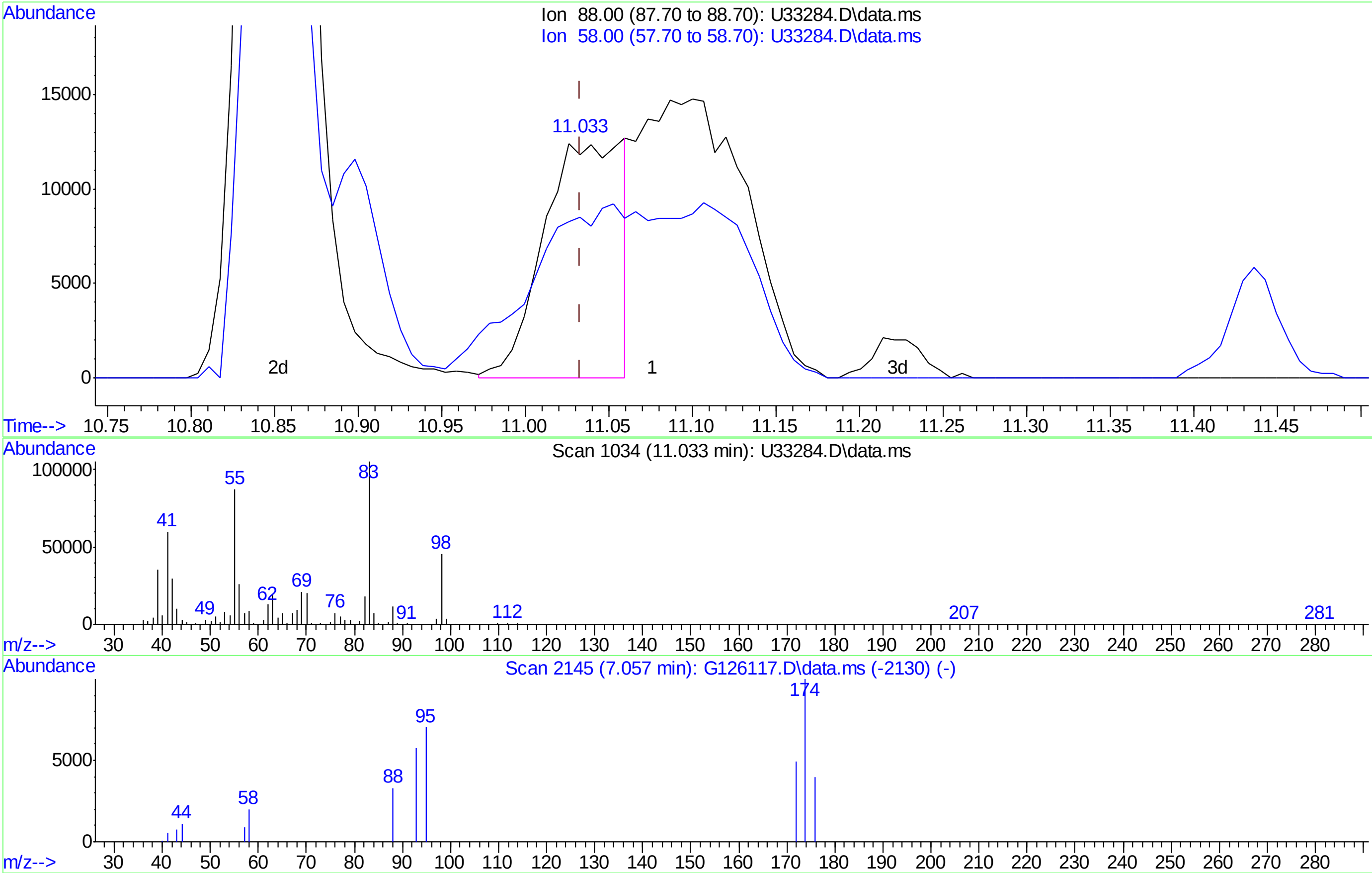
11.077min (+ 0.044) 4018.27 ppb

response 107138

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	60.89#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



TIC: U33284.D\data.ms

(58) 1,4-dioxane (P)

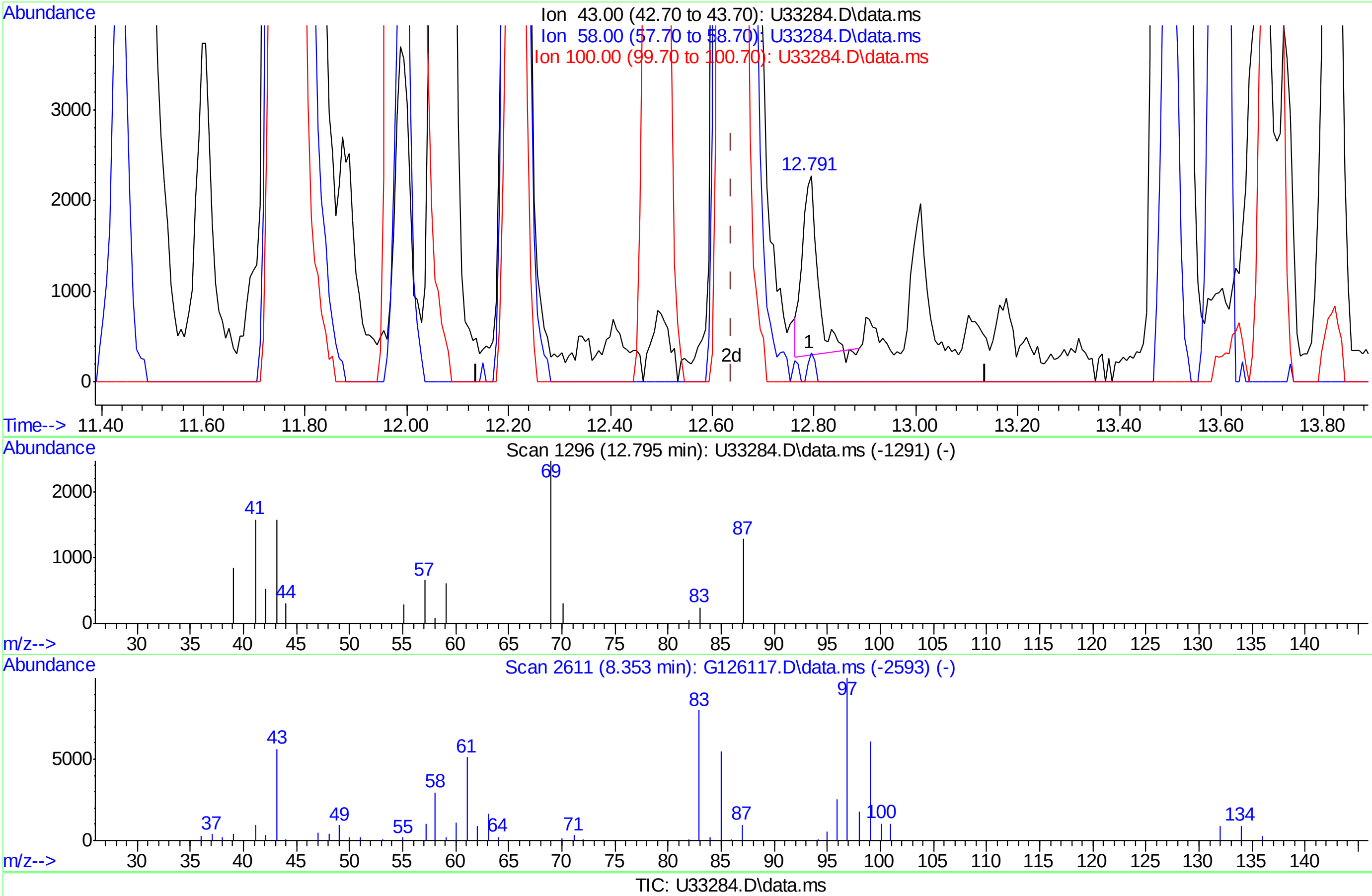
11.033min (-0.000) 1561.54 ppb m

response 41635

Ion	Exp%	Act%
88.00	100.00	100.00
58.00	109.20	71.97#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(71) 2-hexanone (P)

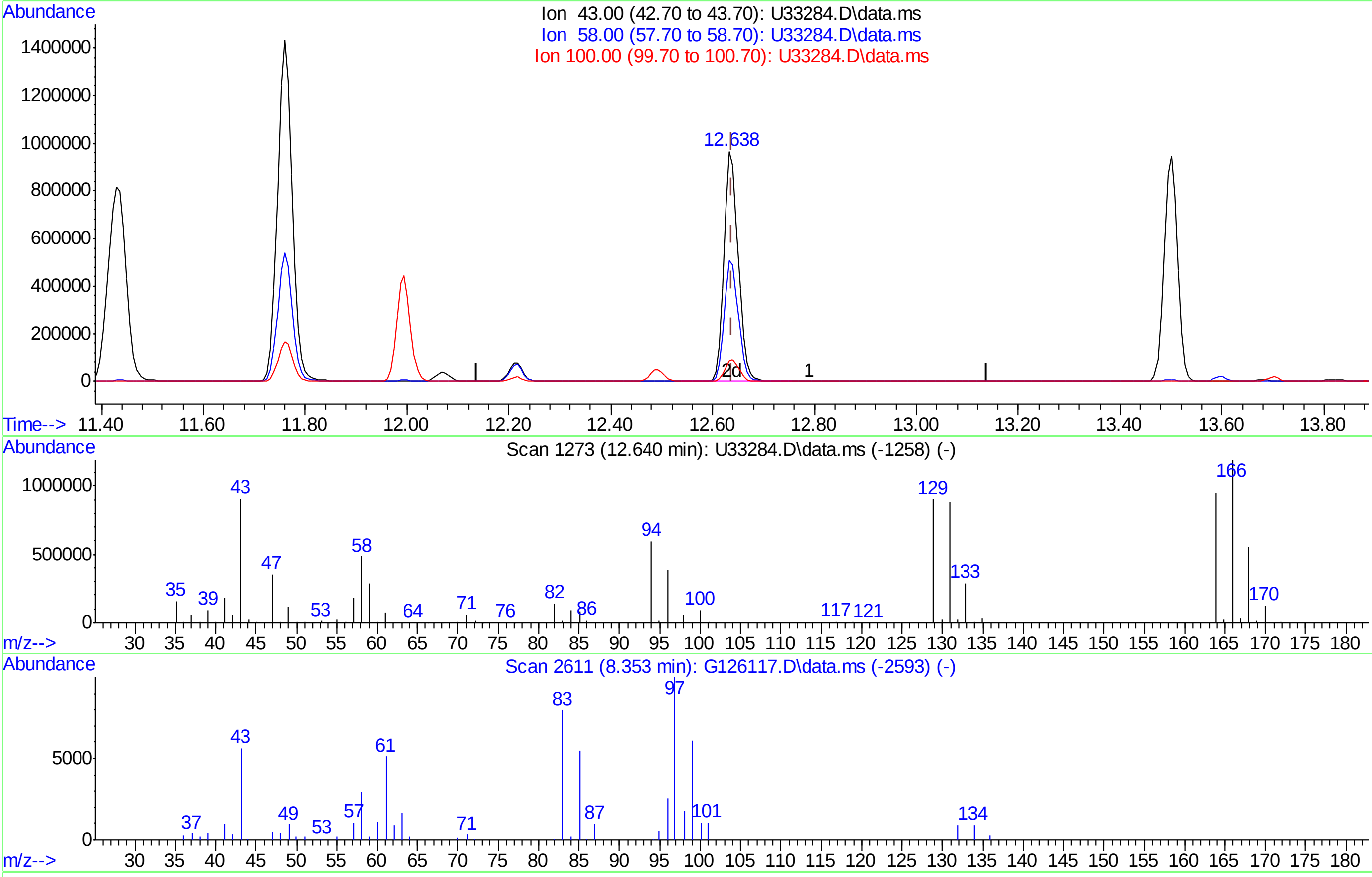
12.791min (+ 0.153) 0.70 ppb

response 4134

Ion	Exp%	Act%
43.00	100.00	100.00
58.00	16.30	16.89
100.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```



(71) 2-hexanone (P)

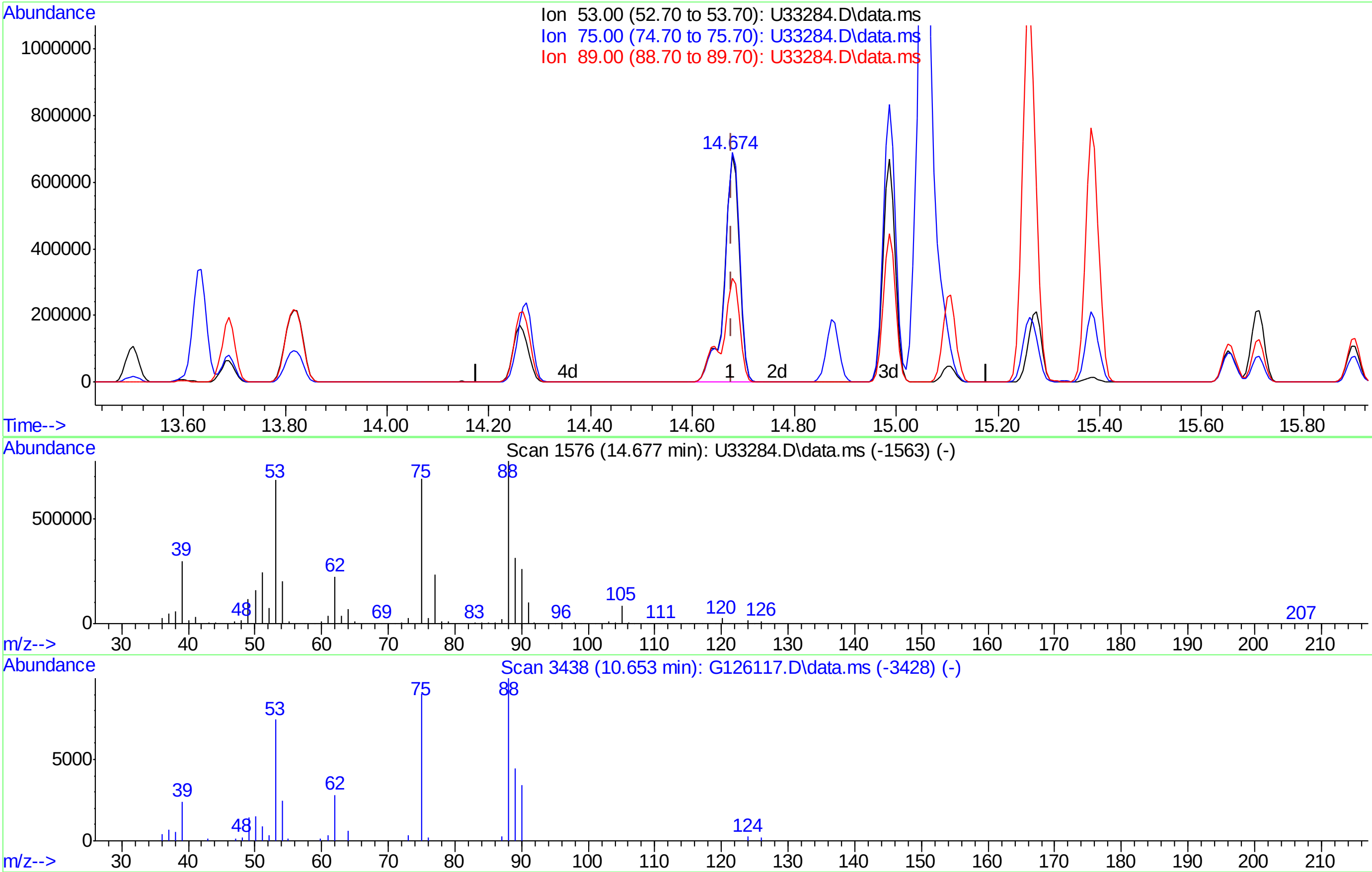
12.640min (+ 0.002) 312.51 ppb m

response 1846150

Ion	Exp%	Act%
43.00	100.00	100.00
58.00	16.30	53.96#
100.00	0.00	10.09
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```

TIC: U33284.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

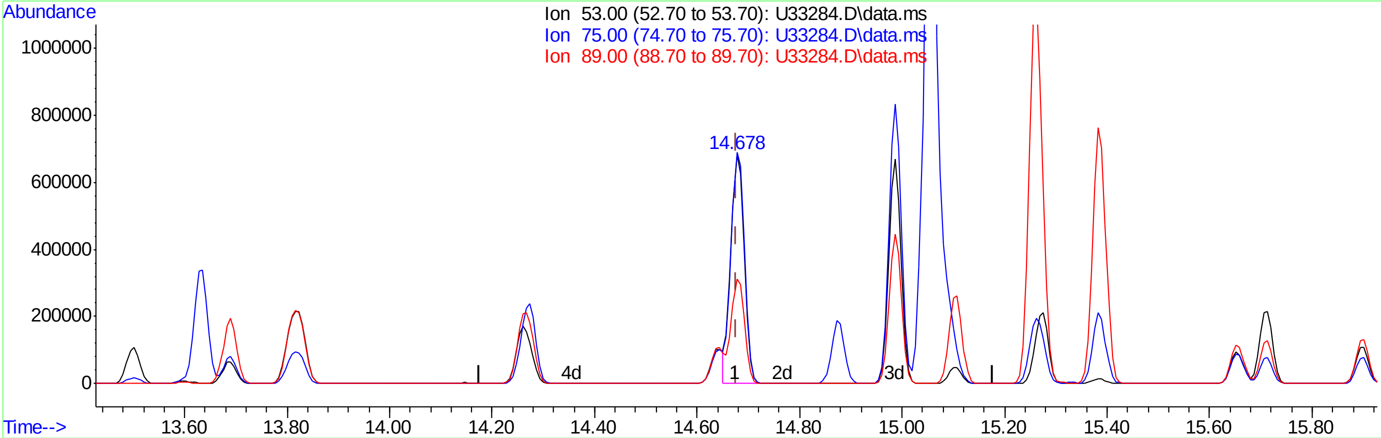
14.674min (-0.003) 478.34 ppb

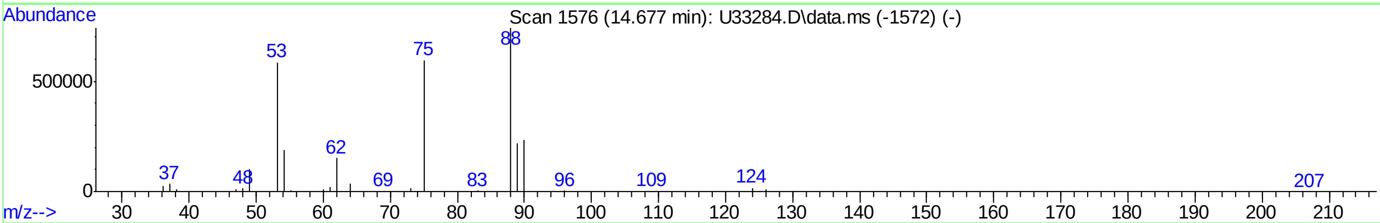
response 1384795

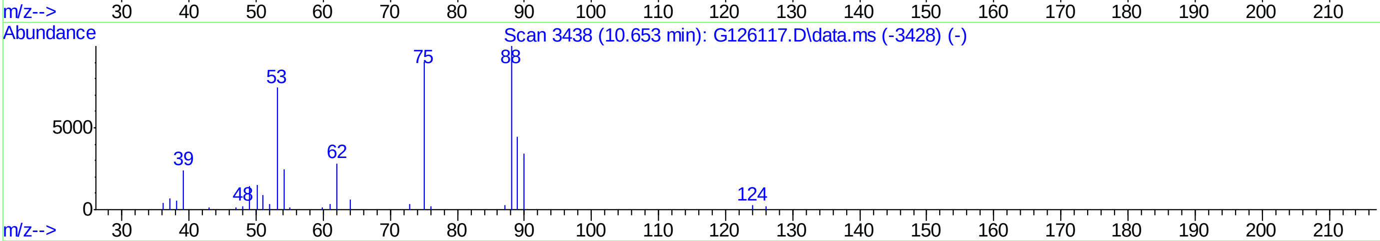
Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	101.08#
89.00	64.60	45.43
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33284.D
Acq On    : 26 Oct 2015  10:15 pm
Operator  : andrewd1
Sample    : ic1360-400
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Oct 27 09:08:54 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 08:55:01 2015
Response via : Initial Calibration
```







TIC: U33284.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

14.677min (+ 0.000) 417.33 ppb m

response 1208167

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	101.08#
89.00	64.60	45.47
0.00	0.00	0.00

U33284.D edits: trans-1,4-dichloro-2-butene

Quantitation Report (QT Reviewed)

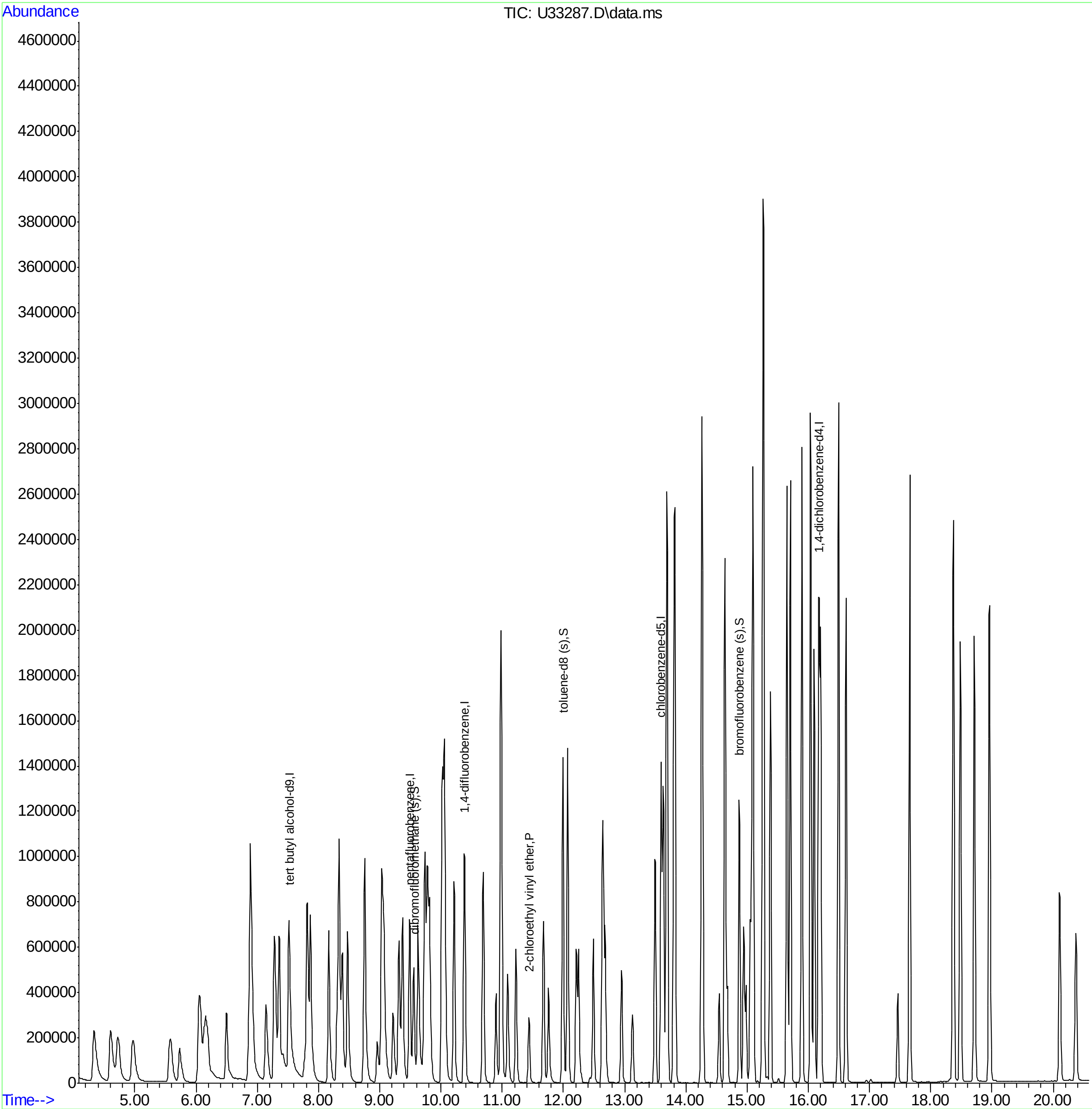
```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:36:53 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

        Compound                   R.T. QIon  Response  Conc Units Dev(Min)
 ---------------------------------------------------------------------------
 Internal Standards
   1) tert butyl alcohol-d9       7.524   65    361265   500.00 ppb      0.05
   4) pentafluorobenzene          9.493  168    547668    50.00 ppb      0.00
  43) 1,4-difluorobenzene        10.387  114    889166    50.00 ppb      0.00
  66) chlorobenzene-d5           13.595   82    479379    50.00 ppb      0.00
  80) 1,4-dichlorobenzene-d4     16.173  152    601715    50.00 ppb      0.00

 System Monitoring Compounds
  40) dibromofluoromethane (s)    9.559  113    334001    49.30 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery   =    98.60%
  60) toluene-d8 (s)             11.993   98   1056522    49.62 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery   =    99.24%
  82) bromofluorobenzene (s)     14.873   95    449351    48.26 ppb     0.00
   Spiked Amount     50.000   Range  70 - 130     Recovery   =    96.52%

 Target Compounds                                                   Qvalue
  56) 2-chloroethyl vinyl ether  11.439   63    140431    44.14 ppb       95
 ---------------------------------------------------------------------------

 (#) = qualifier out of range (m) = manual integration (+) = signals summed
```

7.6.11

7

Quantitation Report   (QT Reviewed)

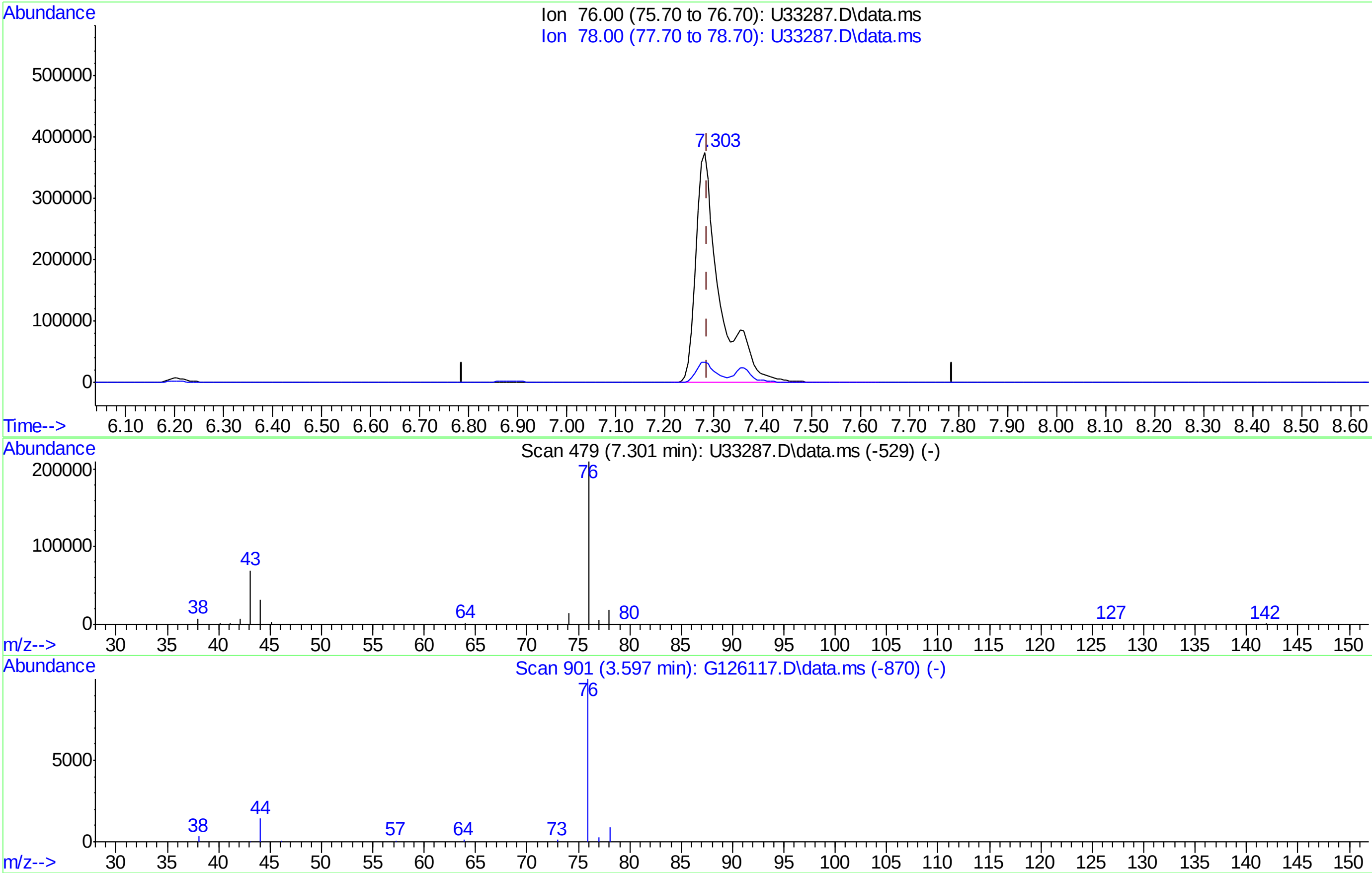
```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:36:53 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



U151027.m Tue Oct 27 10:41:02 2015   Page: 2

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:15:43 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:09:49 2015
Response via : Initial Calibration
```



TIC: U33287.D\data.ms

(24) carbon disulfide (P)

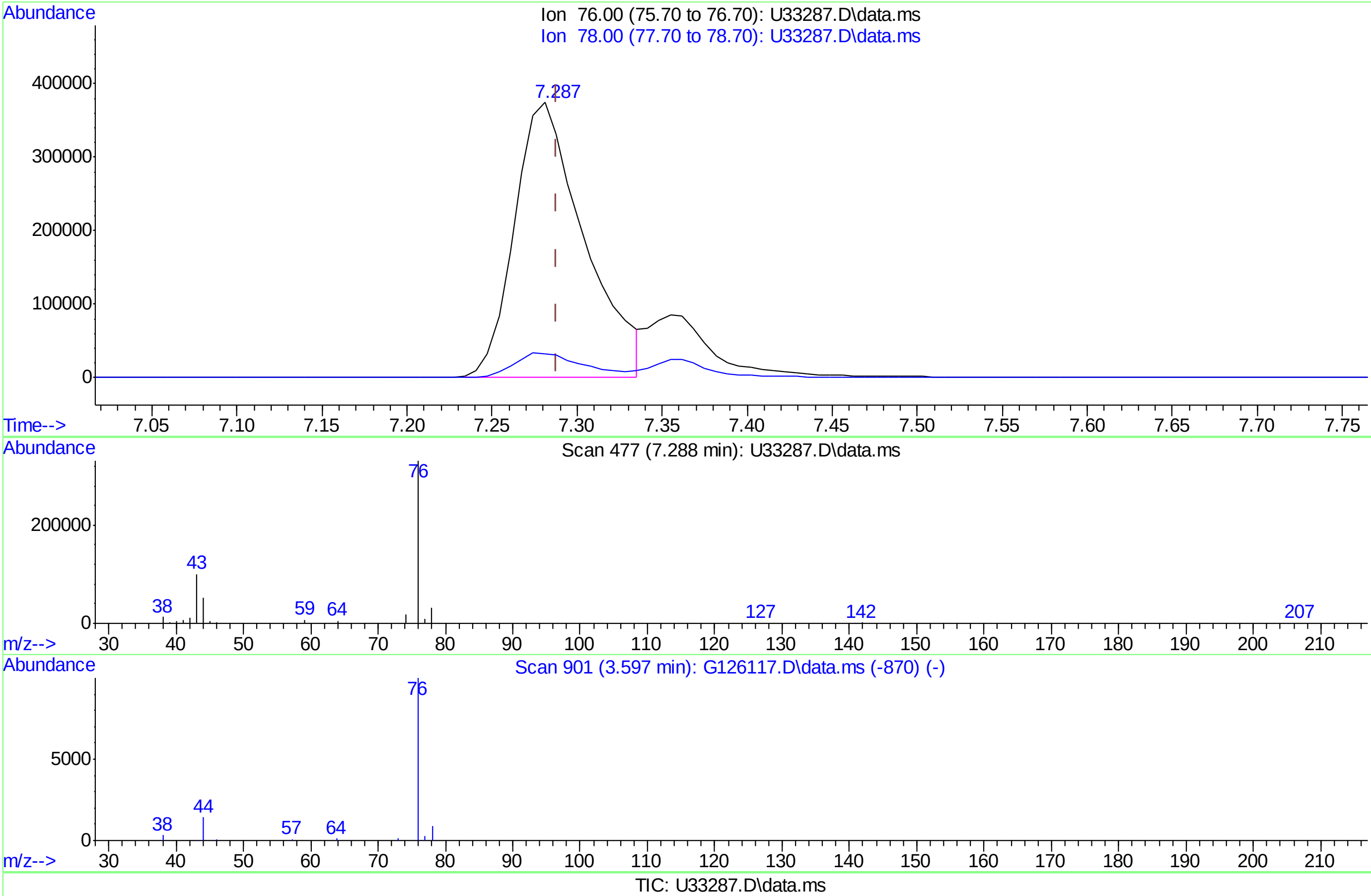
7.303min (+ 0.015) 57.15 ppb

response 1300448

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.04
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:15:43 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:09:49 2015
Response via : Initial Calibration
```

(24) carbon disulfide (P)

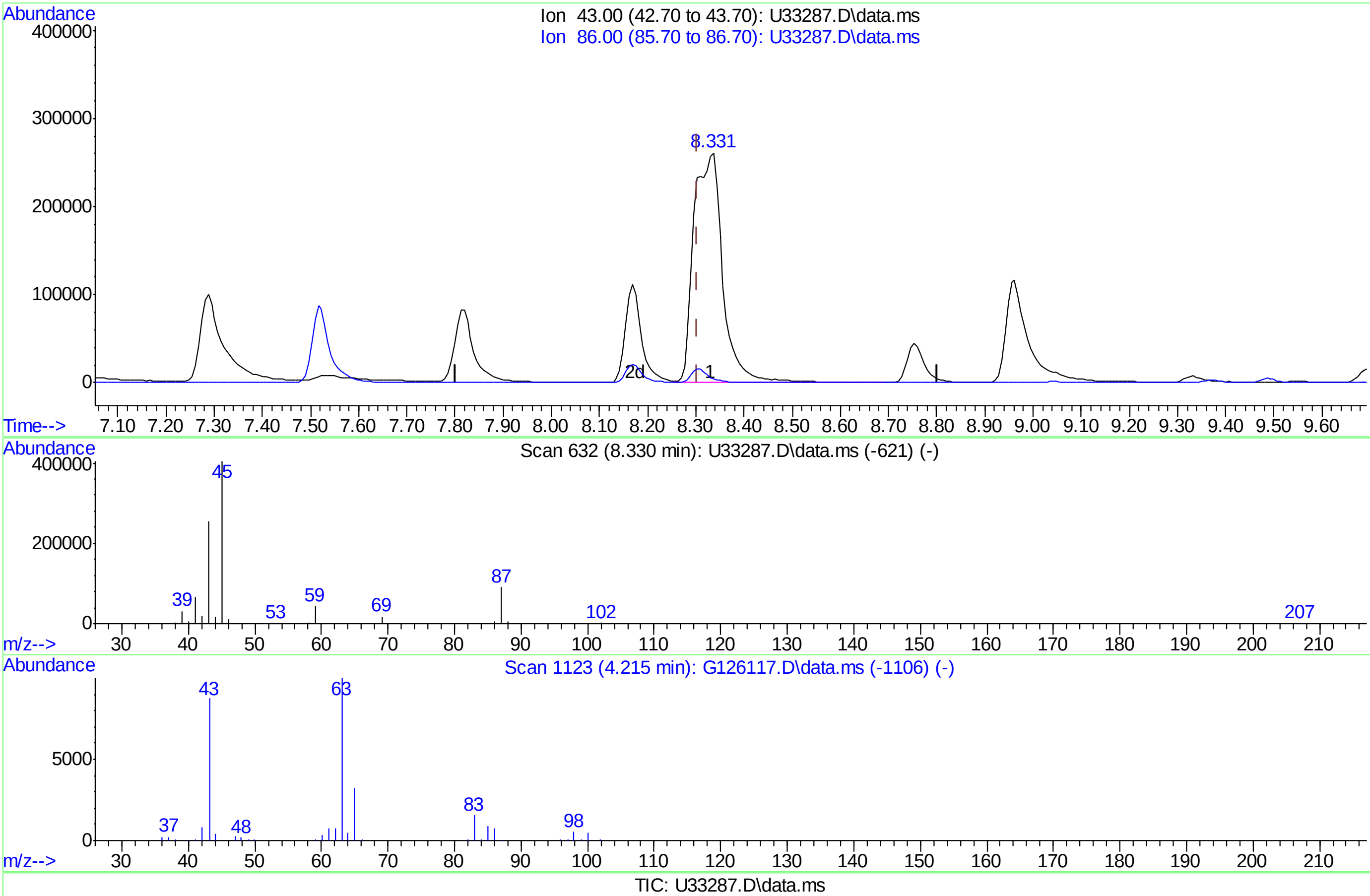
7.288min (-0.000) 46.84 ppb m

response 1065927

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.37
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:15:43 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:09:49 2015
Response via : Initial Calibration
```



(26) vinyl acetate (P)

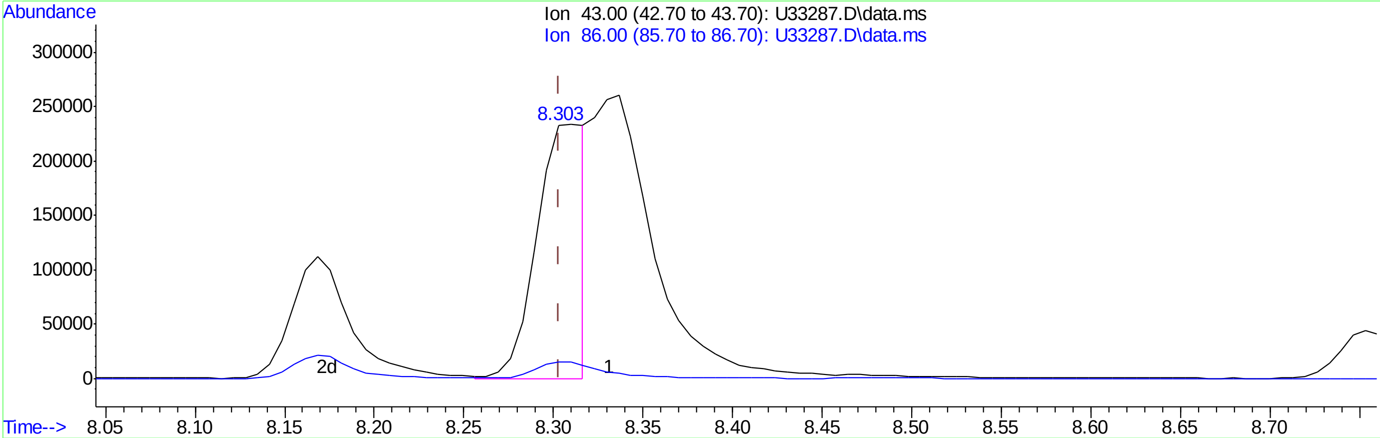
8.331min (+ 0.028) 119.64 ppb

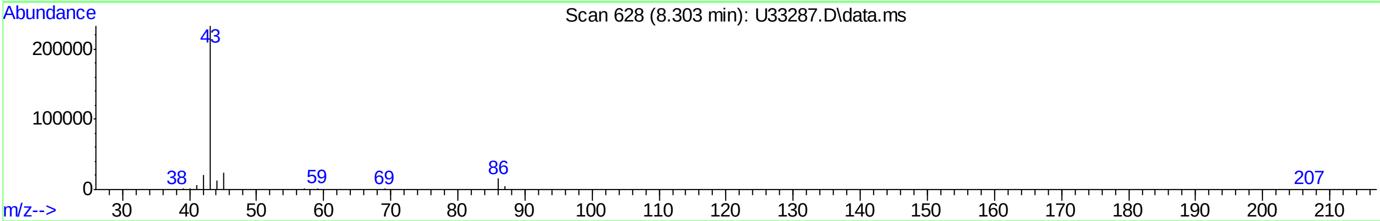
response 1080462

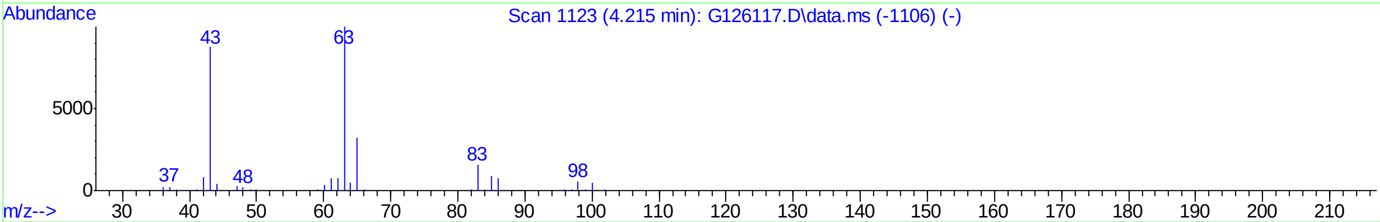
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.24
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:15:43 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:09:49 2015
Response via : Initial Calibration
```





TIC: U33287.D\data.ms

(26) vinyl acetate (P)

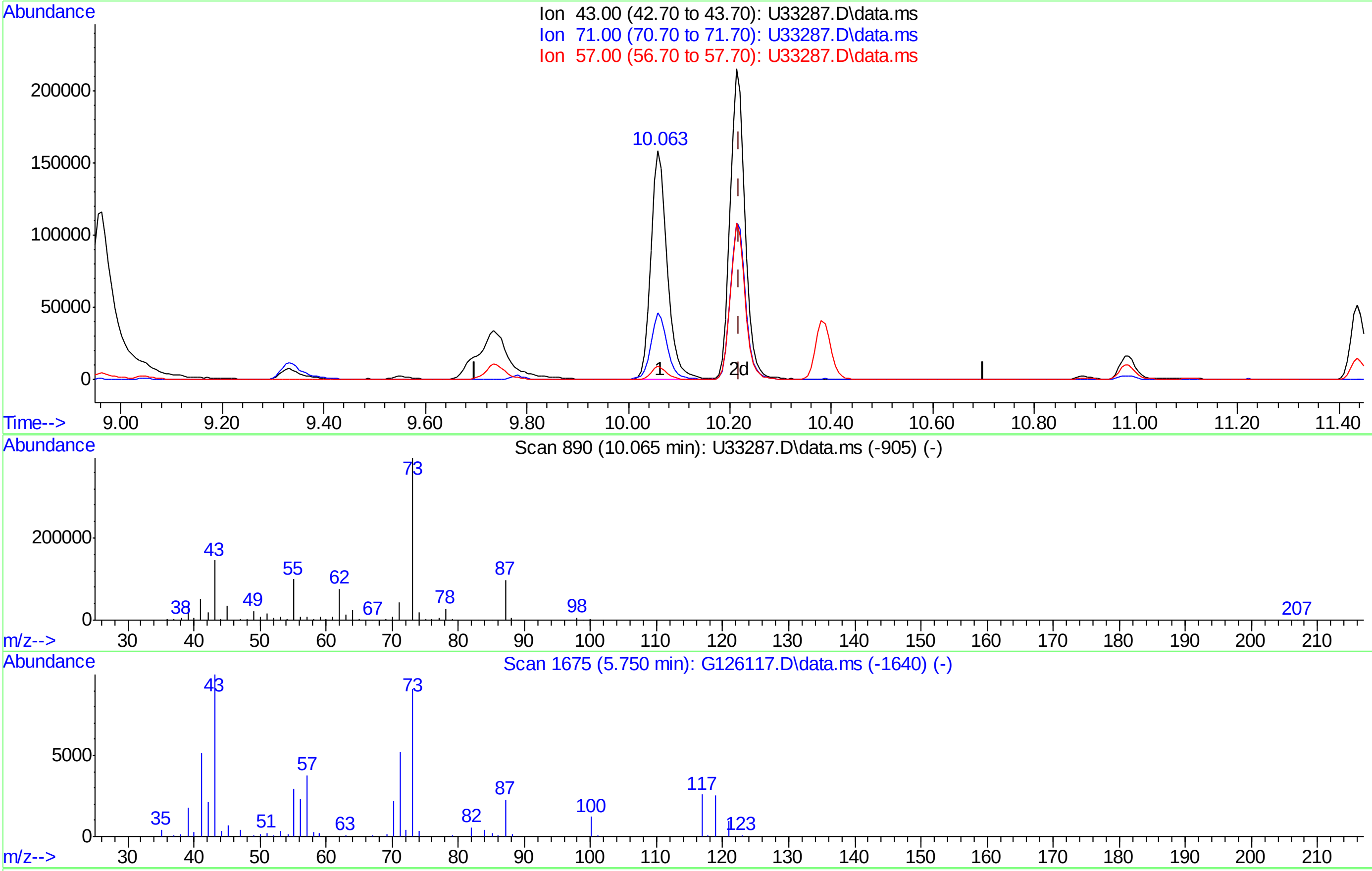
8.303min (-0.000) 48.51 ppb m

response 438127

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.73
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:15:43 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:09:49 2015
Response via : Initial Calibration
```



(50) heptane (P)

10.063min (-0.156) 42.31 ppb

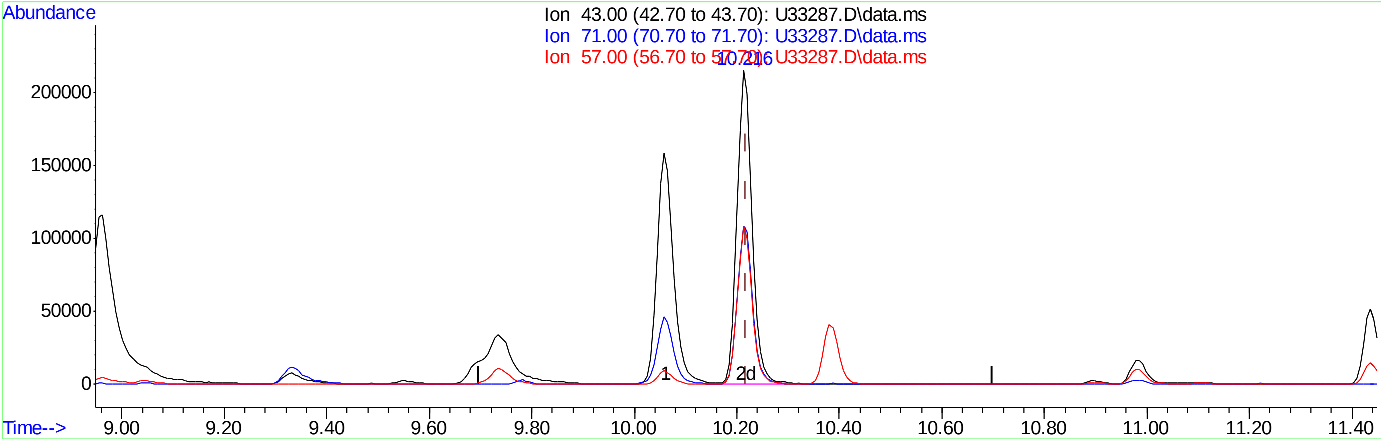
response 365921

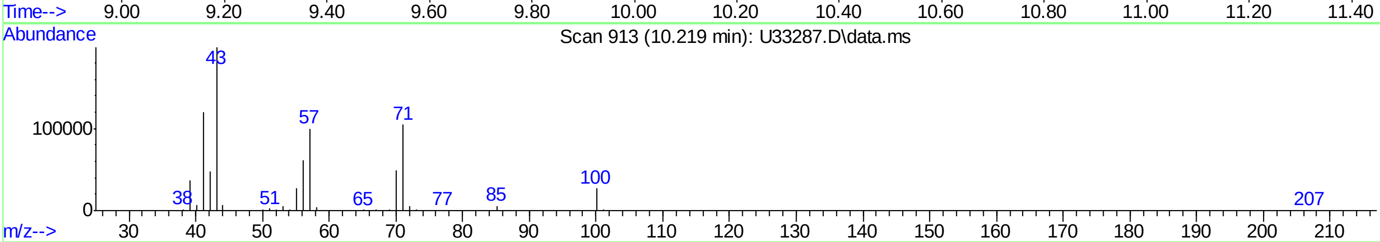
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	28.95
57.00	5.80	5.49
0.00	0.00	0.00

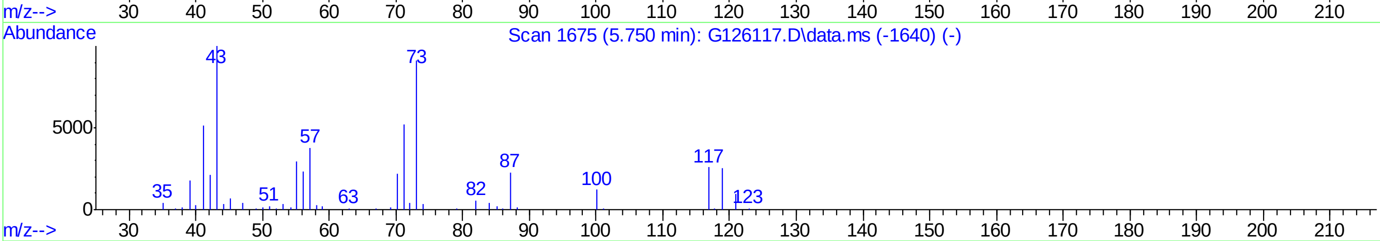
U33287.D edits: heptane

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:15:43 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:09:49 2015
Response via : Initial Calibration
```







TIC: U33287.D\data.ms

(50) heptane (P)

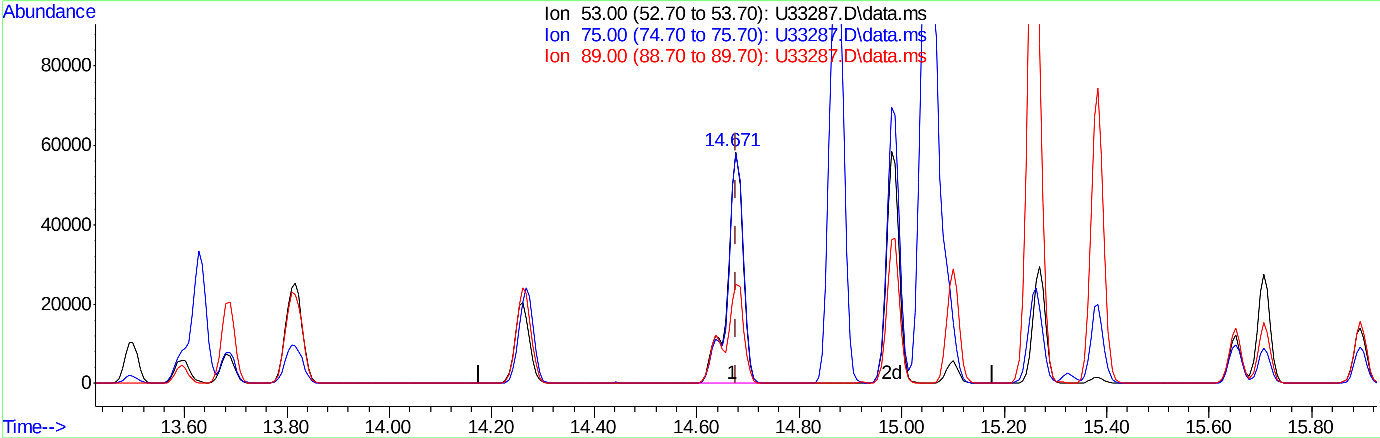
10.219min (+ 0.000) 50.28 ppb m

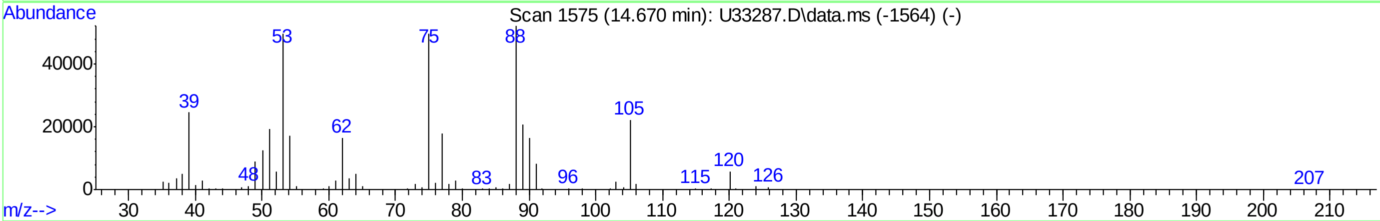
response 434902

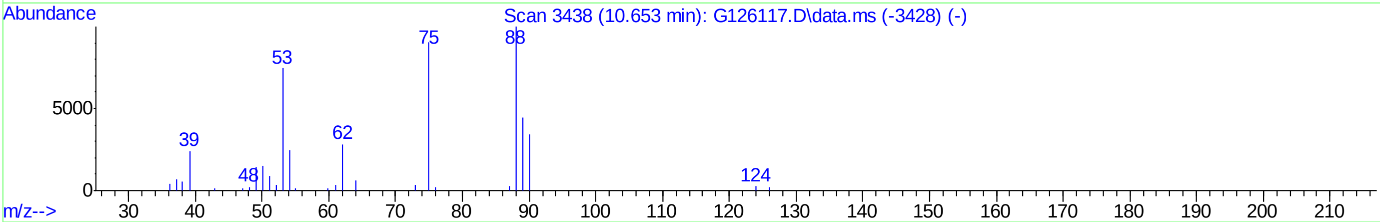
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	52.59
57.00	5.80	50.36#
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:15:43 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:09:49 2015
Response via : Initial Calibration
```







TIC: U33287.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

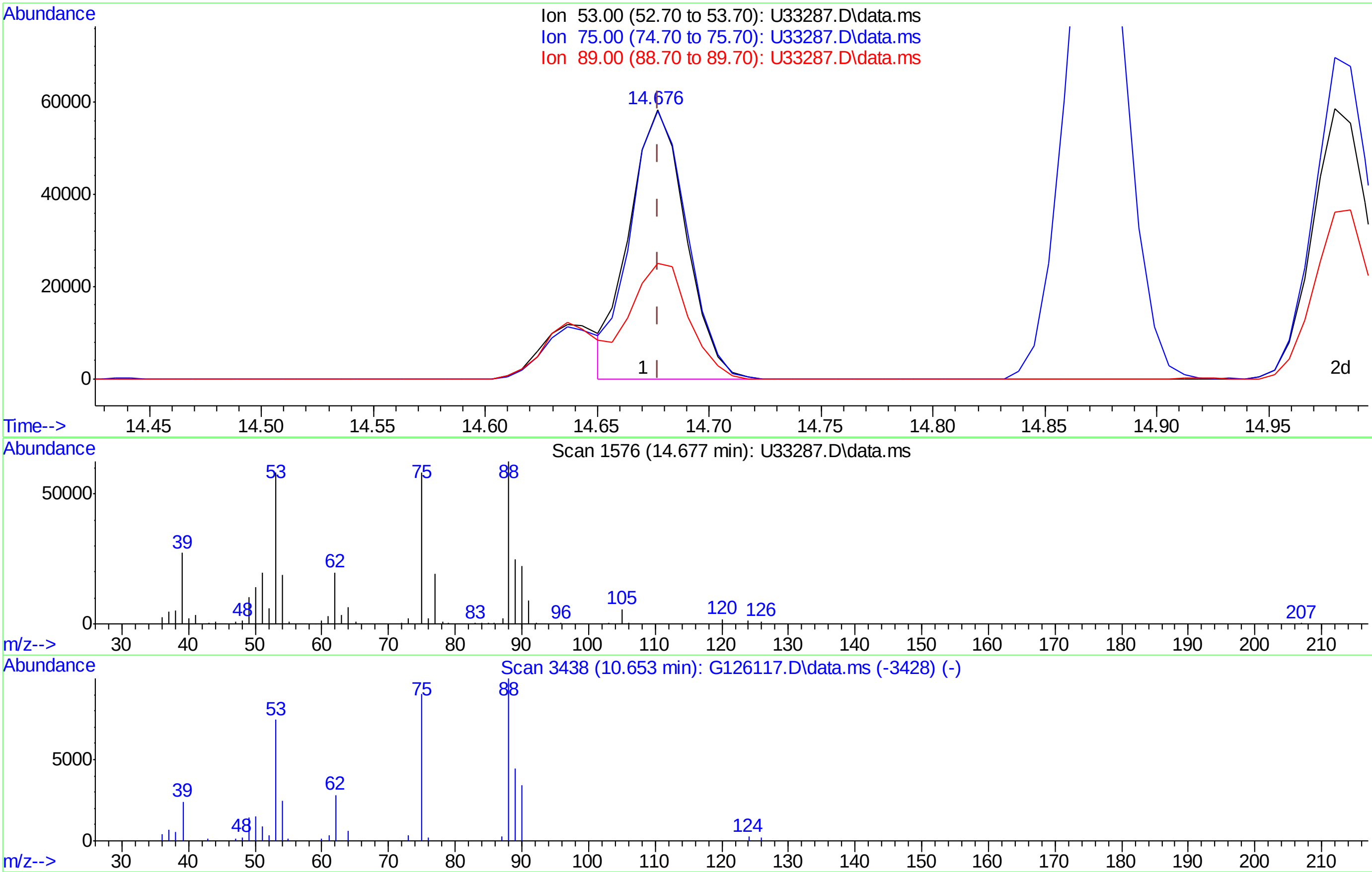
14.671min (-0.006) 59.40 ppb

response 123171

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	100.03#
89.00	64.60	41.89
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:15:43 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:09:49 2015
Response via : Initial Calibration
```

TIC: U33287.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

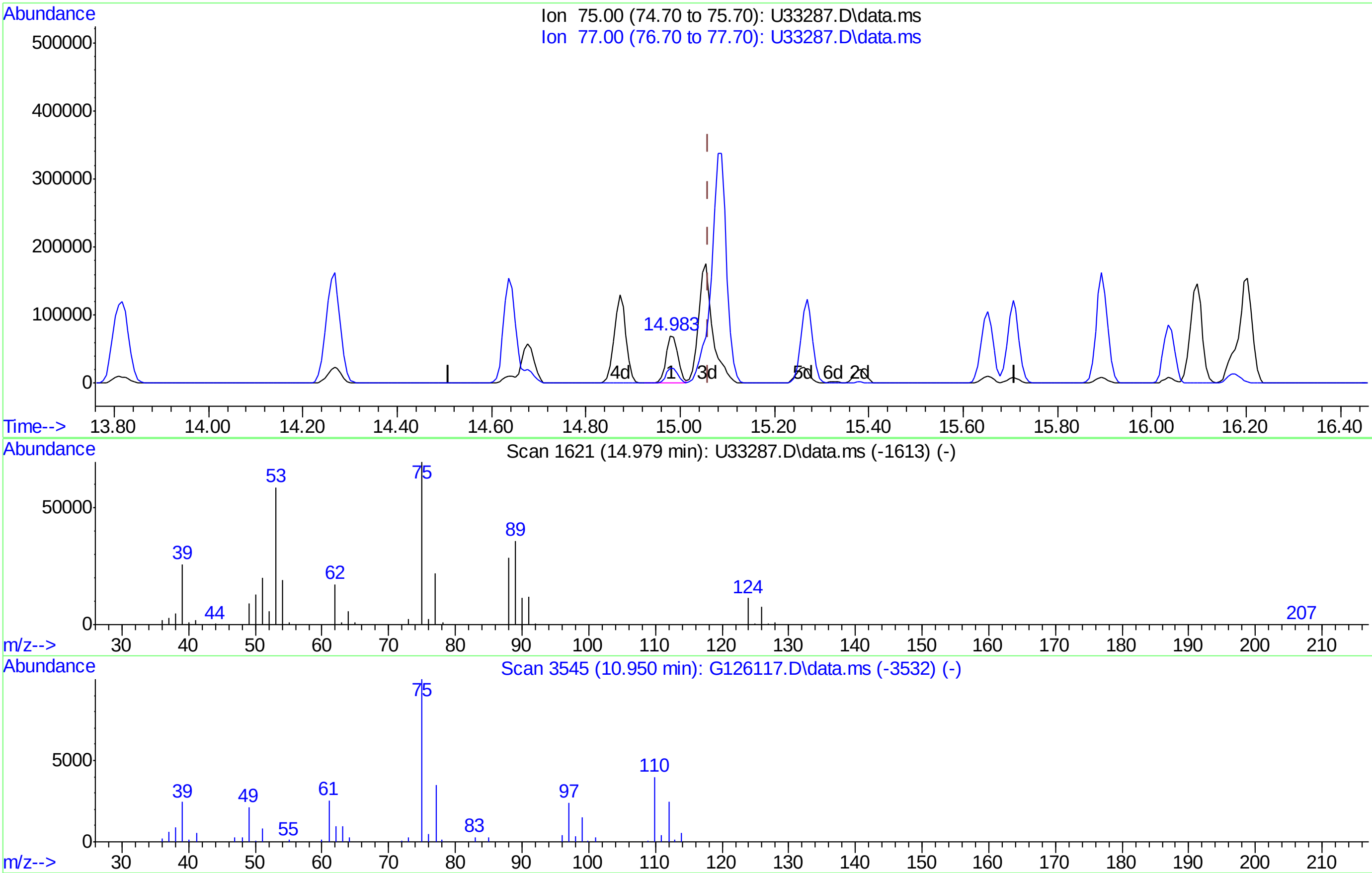
14.677min (-0.000) 49.36 ppb m

response 102341

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	99.59#
89.00	64.60	42.81
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:15:43 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:09:49 2015
Response via : Initial Calibration
```



TIC: U33287.D\data.ms

(85) 1,2,3-trichloropropane (P)

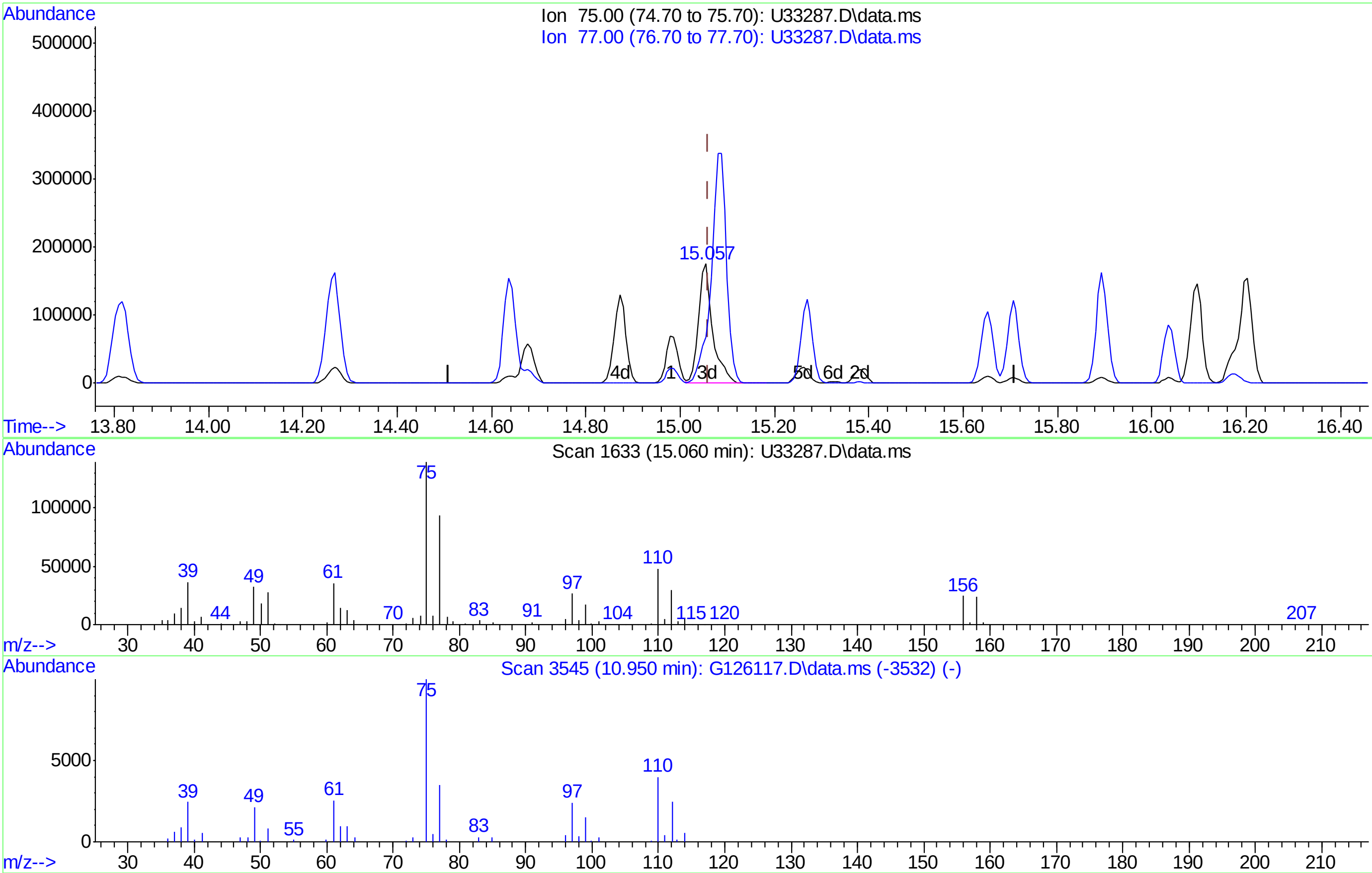
14.983min (-0.077) 16.77 ppb

response 121702

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	31.73
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33287.D
Acq On    : 26 Oct 2015  11:36 pm
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Oct 27 10:15:43 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:09:49 2015
Response via : Initial Calibration
```



TIC: U33287.D\data.ms

(85) 1,2,3-trichloropropane (P)

15.060min (+ 0.000) 50.90 ppb m

response 369348

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	66.99#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 15:45

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On : 27 Oct 2015 12:03 am
Operator : andrewd1
Sample : icv1360-50
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Oct 27 10:35:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) tert butyl alcohol-d9	7.548	65	363858	500.00	ppb	0.08
4) pentafluorobenzene	9.493	168	564524	50.00	ppb	0.00
43) 1,4-difluorobenzene	10.387	114	911678	50.00	ppb	0.00
66) chlorobenzene-d5	13.595	82	505587	50.00	ppb	0.00
80) 1,4-dichlorobenzene-d4	16.173	152	638063	50.00	ppb	0.00
System Monitoring Compounds						
40) dibromofluoromethane (s)	9.559	113	340421	48.75	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.50%			
60) toluene-d8 (s)	11.993	98	1076575	49.31	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 98.62%			
82) bromofluorobenzene (s)	14.874	95	482282	48.85	ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 97.70%			
Target Compounds						Qvalue
2) tertiary butyl alcohol	7.643	59	391688	532.28	ppb	55
5) dichlorodifluoromethane	4.364	85	594458	48.19	ppb	99
6) chloromethane	4.745	50	394475	58.74	ppb	100
7) vinyl chloride	4.988	62	483102	53.91	ppb	98
8) bromomethane	5.594	96	268869	51.90	ppb	100
9) chloroethane	5.748	64	230991	53.53	ppb	96
10) ethyl ether	6.513	59	262364	48.87	ppb	89
11) acetonitrile	7.365	41	527563	46.85	ppb #	14
12) trichlorofluoromethane	6.175	101	662089	49.79	ppb	99
13) freon-113	6.897	101	407548	49.31	ppb	96
15) 1,1-dichloroethene	6.907	96	315897	49.74	ppb	95
16) acetone	6.963	58	40437	49.01	ppb	98
17) Methyl Acetate	6.959	43	126665	46.51	ppb #	71
18) methylene chloride	7.530	84	372387	49.62	ppb	84
19) methyl tert butyl ether	7.830	73	1041226	52.72	ppb	94
20) acrylonitrile	7.808	53	147560	50.08	ppb	85
21) allyl chloride	7.365	41	534430	46.22	ppb	77
22) trans-1,2-dichloroethene	7.879	96	303352	45.68	ppb	90
23) iodomethane	7.157	142	630040	50.82	ppb	95
24) carbon disulfide	7.288	76	1097119m	46.78	ppb	
25) propionitrile	8.481	54	22894	45.24	ppb	100
26) vinyl acetate	8.303	43	528061m	56.72	ppb	
27) chloroprene	8.483	53	510744	46.09	ppb	93
28) di-isopropyl ether	8.345	45	1143299	50.37	ppb	94
29) methacrylonitrile	9.227	41	230293	51.74	ppb	91
30) 2-butanone	8.991	72	45924	55.43	ppb #	1
32) Hexane	8.174	41	305755	41.62	ppb #	65
33) 1,1-dichloroethane	8.398	63	612763	46.93	ppb	97
34) tert-butyl ethyl ether	8.763	59	1104860	48.91	ppb	92
35) isobutyl alcohol	8.763	43	115524	225.02	ppb #	66
36) 2,2-dichloropropane	9.076	77	471534	44.40	ppb	97
37) cis-1,2-dichloroethene	9.037	96	381437	51.74	ppb	92
38) bromochloromethane	9.318	128	183534	51.45	ppb #	72
39) chloroform	9.378	83	626663	48.09	ppb	98

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:35:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) Tetrahydrofuran	9.351	42	123265	52.73 ppb	83
42) 1,1,1-trichloroethane	9.636	97	586730	50.58 ppb	99
44) Cyclohexane	9.743	56	622924	45.27 ppb #	89
45) carbon tetrachloride	9.819	117	491262	49.89 ppb	100
46) 1,1-dichloropropene	9.784	75	441741	48.30 ppb	97
47) benzene	10.024	78	1206503	48.96 ppb	99
48) 1,2-dichloroethane	10.047	62	505906	49.30 ppb	100
49) tert-amyl methyl ether	10.064	73	1023754	49.33 ppb	94
50) heptane	10.219	43	440865m	49.71 ppb	
51) trichloroethene	10.692	95	339460	52.76 ppb	96
52) 1,2-dichloropropane	10.982	63	320302	51.12 ppb	100
53) dibromomethane	11.093	93	212816	51.02 ppb	93
54) bromodichloromethane	11.226	83	442138	49.88 ppb	98
55) Methylcyclohexane	10.986	83	576858	48.83 ppb	88
57) methyl methacrylate	10.902	69	186099	52.63 ppb	90
59) cis-1,3-dichloropropene	11.676	75	457462	50.70 ppb	98
61) 4-methyl-2-pentanone	11.760	43	382007	55.51 ppb	98
62) toluene	12.070	92	673861	49.87 ppb	97
63) trans-1,3-dichloropropene	12.249	75	375504	50.41 ppb	94
64) 1,1,2-trichloroethane	12.489	83	212064	50.90 ppb	99
65) ethyl methacrylate	12.213	69	348361	53.50 ppb	83
67) tetrachloroethene	12.645	166	298195	51.24 ppb	99
68) 1,3-dichloropropane	12.682	76	424460	55.27 ppb	95
69) dibromochloromethane	12.951	129	306476	54.90 ppb	98
70) 1,2-dibromoethane	13.129	107	265020	54.20 ppb	100
71) 2-hexanone	12.638	43	240671	55.97 ppb #	17
72) chlorobenzene	13.631	112	777850	51.08 ppb	99
73) 1,1,1,2-tetrachloroethane	13.697	131	344862	52.44 ppb	98
74) ethylbenzene	13.686	91	1372861	50.35 ppb	98
75) m,p-xylene	13.815	106	1056395	100.88 ppb	97
76) o-xylene	14.258	106	590155	50.69 ppb	100
77) styrene	14.271	104	860133	49.52 ppb	90
78) bromoform	14.544	173	223636	52.88 ppb	99
79) trans-1,4-dichloro-2-b...	14.677	53	116393m	53.22 ppb	
81) isopropylbenzene	14.639	105	1654734	52.76 ppb	100
83) bromobenzene	15.085	156	413157	51.52 ppb	95
84) 1,1,2,2-tetrachloroethane	14.946	83	394140	51.63 ppb	99
85) 1,2,3-trichloropropane	15.060	75	397482m	51.66 ppb	
86) n-propylbenzene	15.100	91	1897208	50.54 ppb	98
87) 2-chlorotoluene	15.259	91	1375880	50.92 ppb	98
88) 4-chlorotoluene	15.382	91	1189793	49.95 ppb	99
89) 1,3,5-trimethylbenzene	15.269	105	1623495	56.06 ppb	98
90) tert-butylbenzene	15.651	91	969191	53.61 ppb	100
91) 1,2,4-trimethylbenzene	15.707	105	1656737	52.26 ppb	100
92) sec-butylbenzene	15.895	105	2090115	55.26 ppb	98
93) 1,3-dichlorobenzene	16.096	146	895885	50.20 ppb	99
94) p-isopropyltoluene	16.038	119	1835454	55.38 ppb	100
95) 1,4-dichlorobenzene	16.202	146	919481	50.62 ppb	98
96) 1,2-dichlorobenzene	16.616	146	997715	51.47 ppb	97
97) n-butylbenzene	16.493	91	1843376	53.14 ppb	98

Quantitation Report (QT Reviewed)

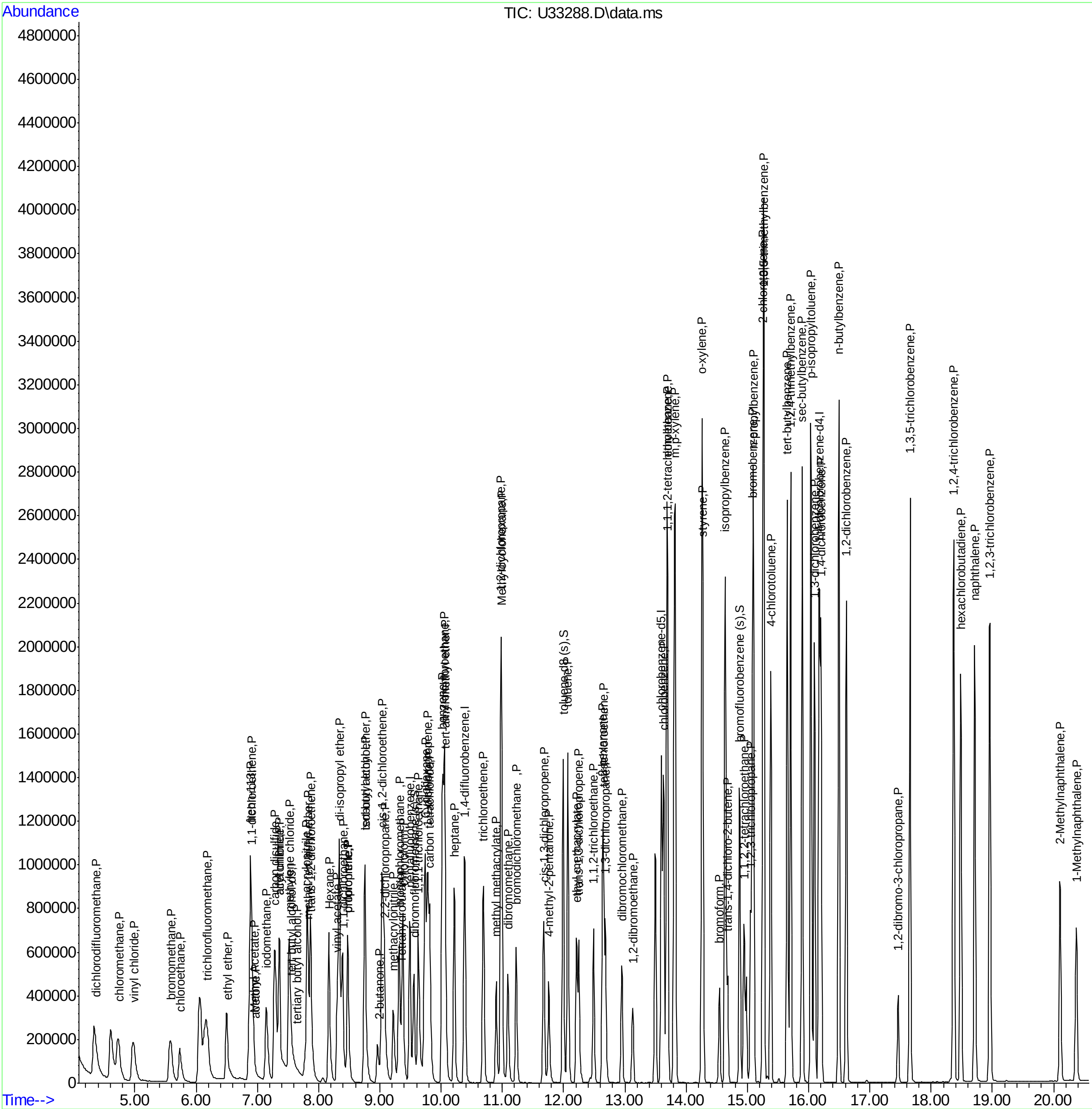
```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:35:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
98) 1,2-dibromo-3-chloropr...	17.460	75	106290	53.59 ppb	94
99) 1,3,5-trichlorobenzene	17.656	180	899700	50.24 ppb	98
100) 1,2,4-trichlorobenzene	18.368	180	882009	53.64 ppb	95
101) hexachlorobutadiene	18.484	225	416006	53.19 ppb	99
102) naphthalene	18.712	128	1816712	51.40 ppb	100
103) 2-Methylnaphthalene	20.108	142	569826	30.88 ppb	97
104) 1-Methylnaphthalene	20.372	142	441279	32.63 ppb	99
105) 1,2,3-trichlorobenzene	18.959	180	797742	54.99 ppb	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

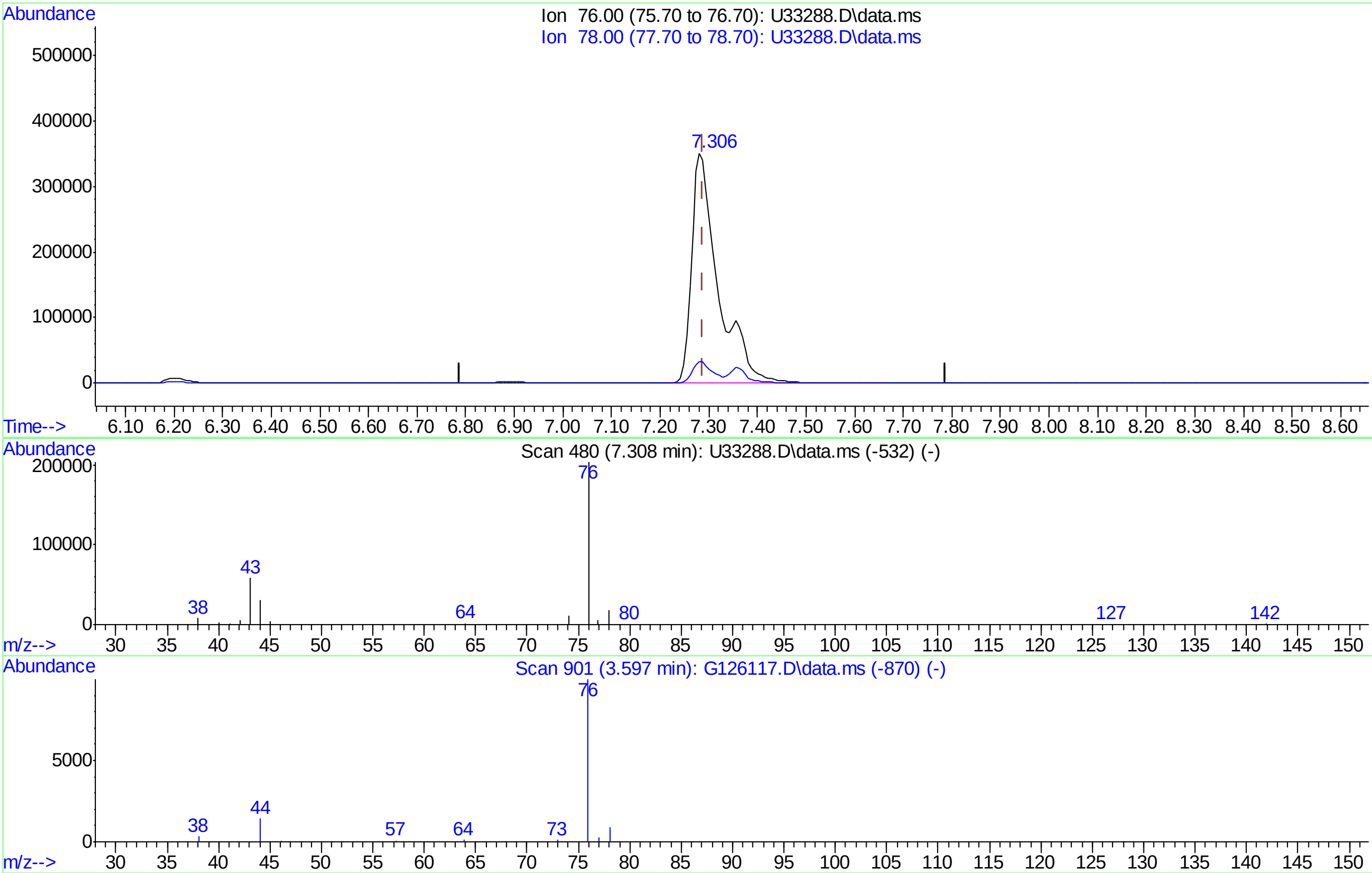
Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:35:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:20:36 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33288.D\data.ms

(24) carbon disulfide (P)

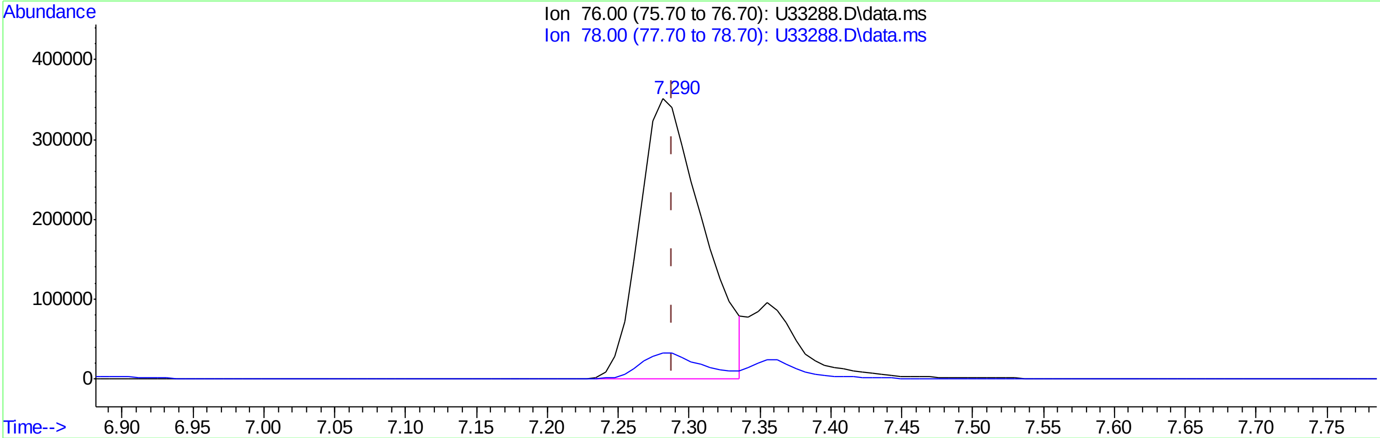
7.306min (+ 0.018) 57.56 ppb

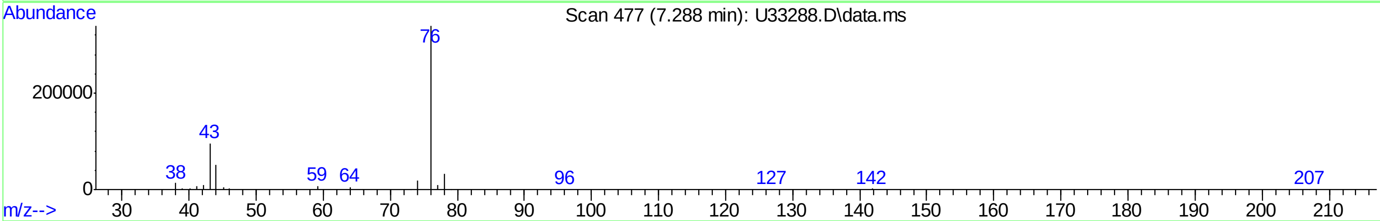
response 1350140

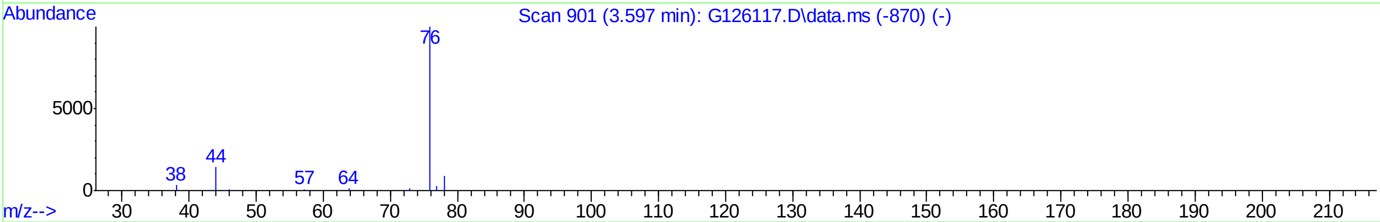
Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	8.78
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:20:36 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```







TIC: U33288.D\data.ms

(24) carbon disulfide (P)

7.288min (-0.000) 46.78 ppb m

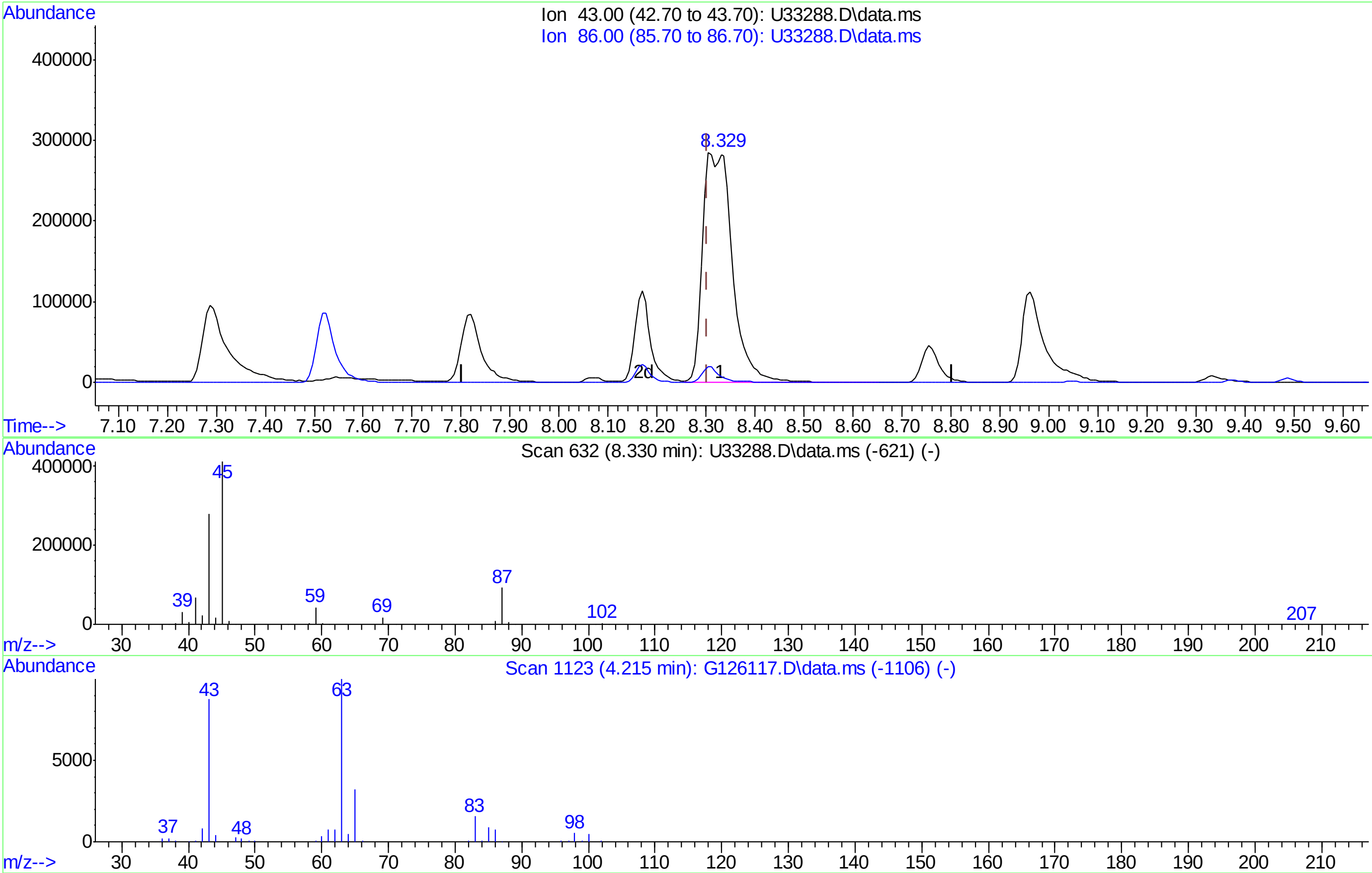
response 1097119

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.49
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On : 27 Oct 2015 12:03 am
Operator : andrewd1
Sample : icv1360-50
Misc : ms34382,msu1360,,,,5,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Oct 27 10:20:36 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration



(26) vinyl acetate (P)

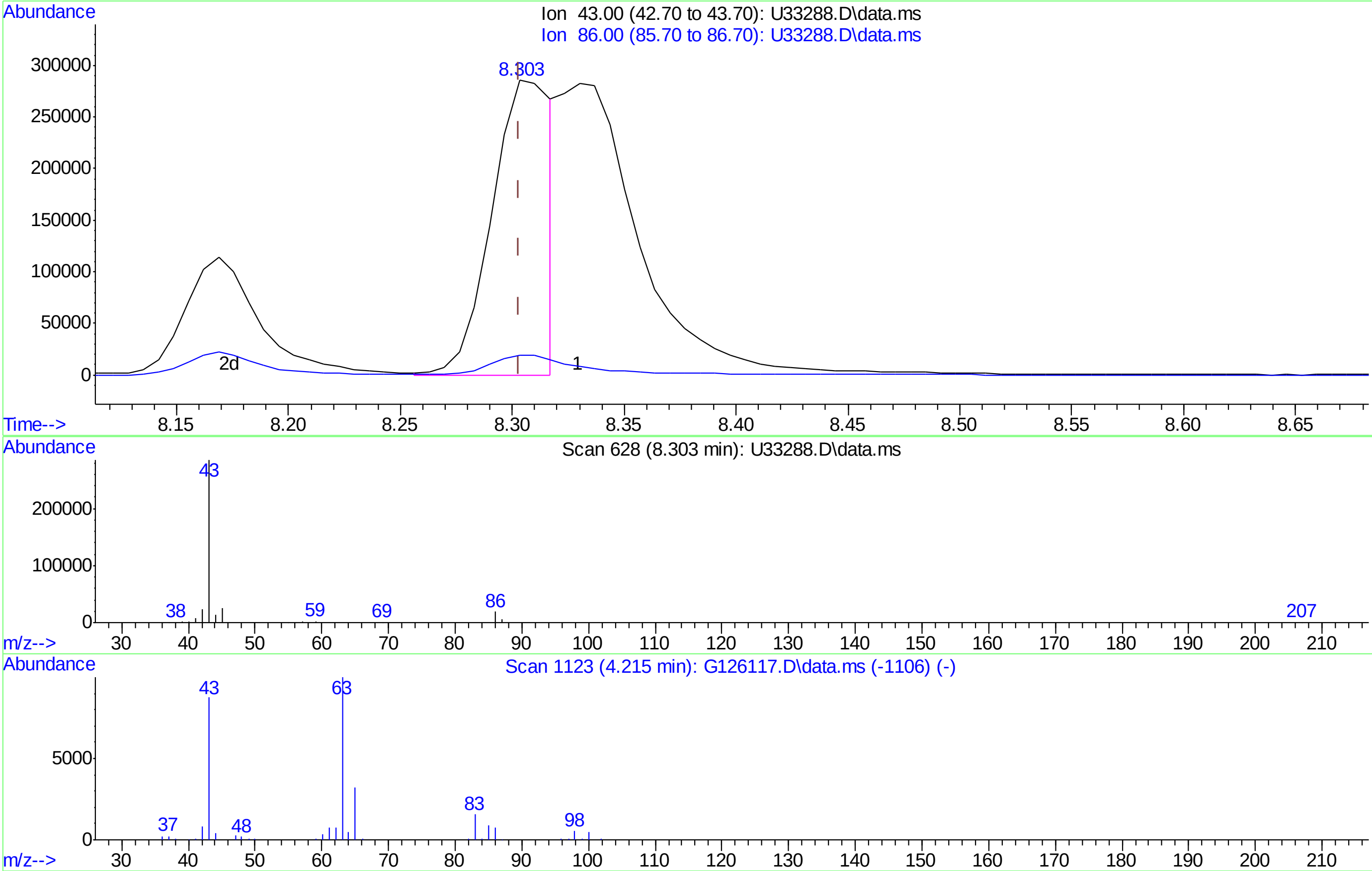
8.329min (+ 0.026) 132.02 ppb

response 1228991

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.79
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:20:36 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33288.D\data.ms

(26) vinyl acetate (P)

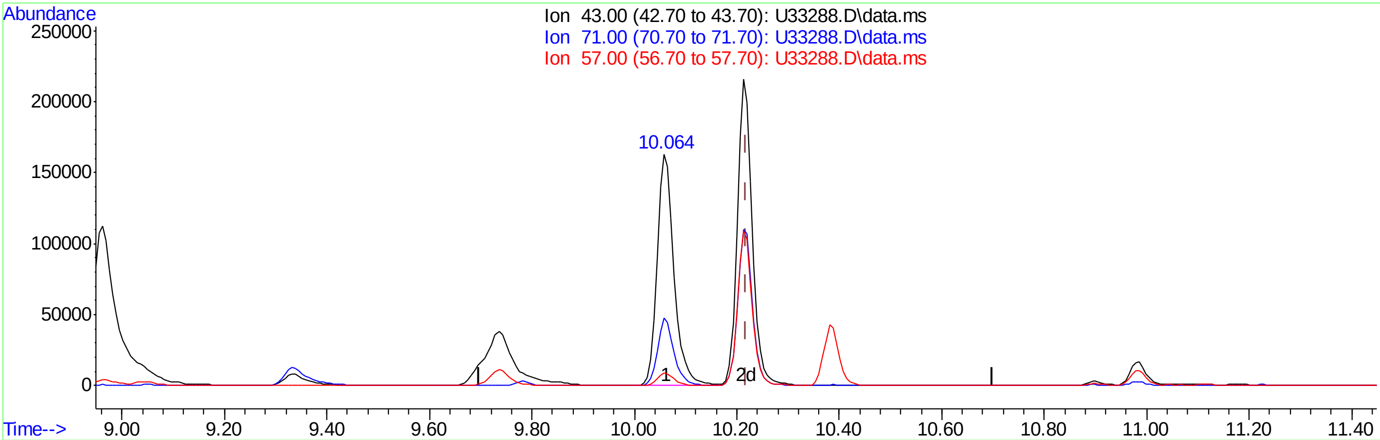
8.303min (+ 0.000) 56.72 ppb m

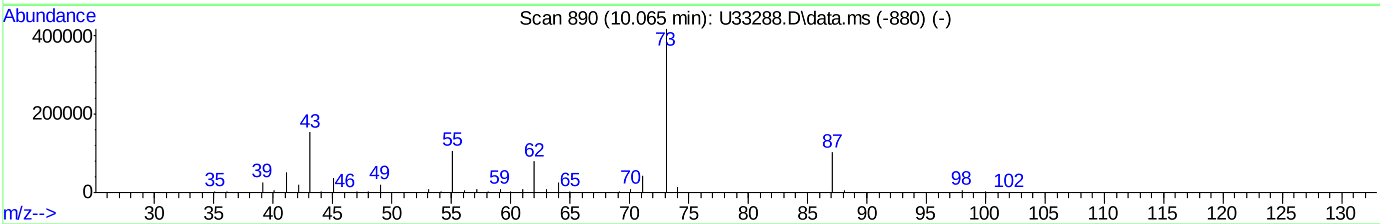
response 528061

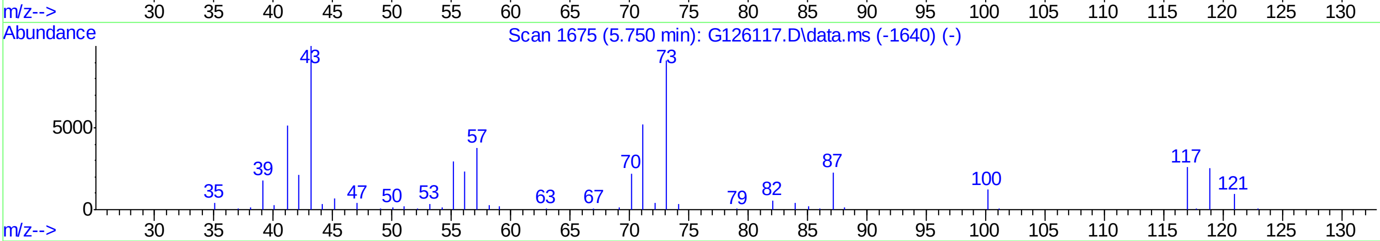
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.80
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015   12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:20:36 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```







TIC: U33288.D\data.ms

(50) heptane (P)

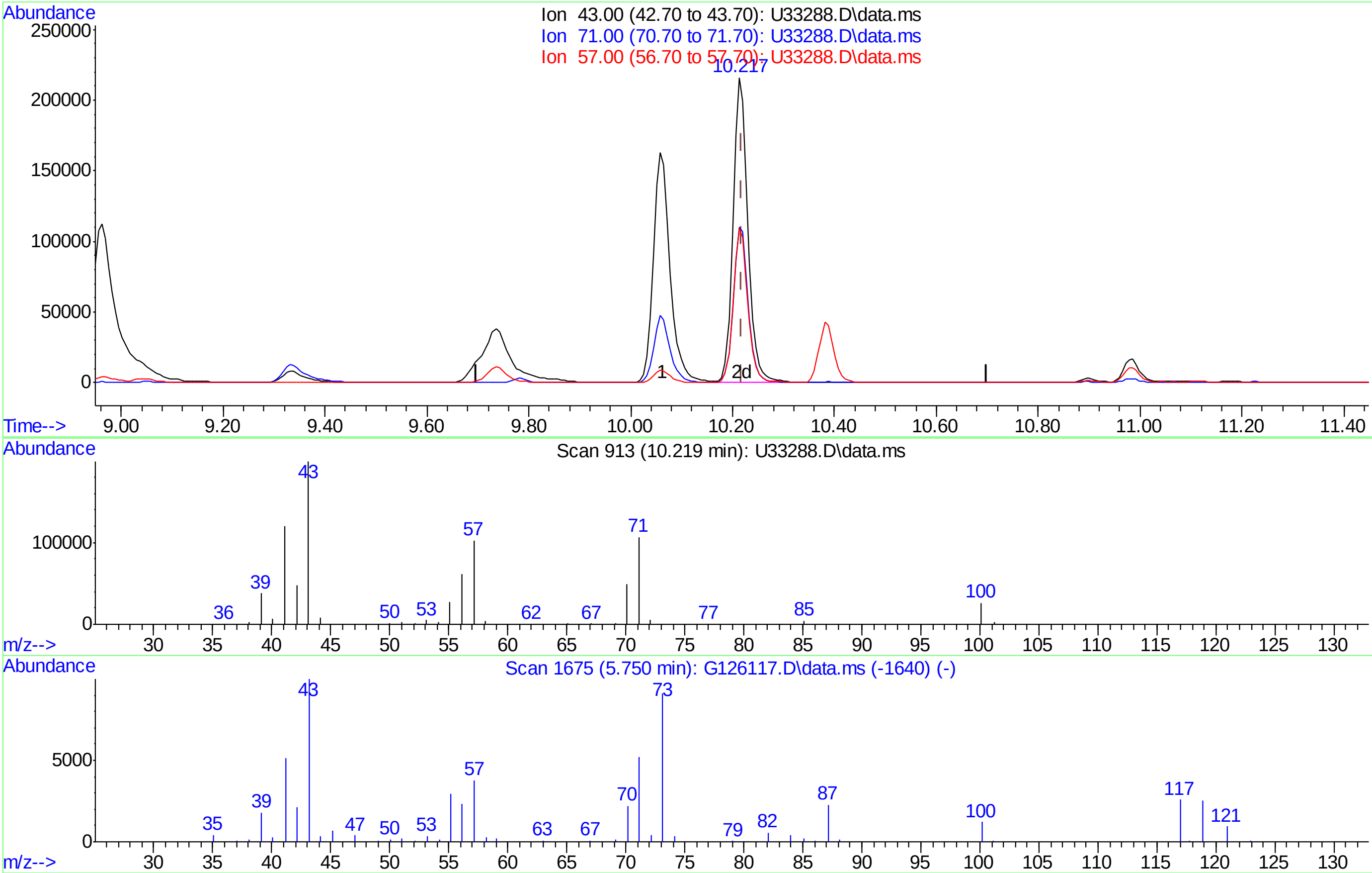
10.063min (-0.155) 42.50 ppb

response 376930

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	28.75
57.00	5.80	5.53
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:20:36 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33288.D\data.ms

(50) heptane (P)

10.219min (+ 0.000) 49.71 ppb m

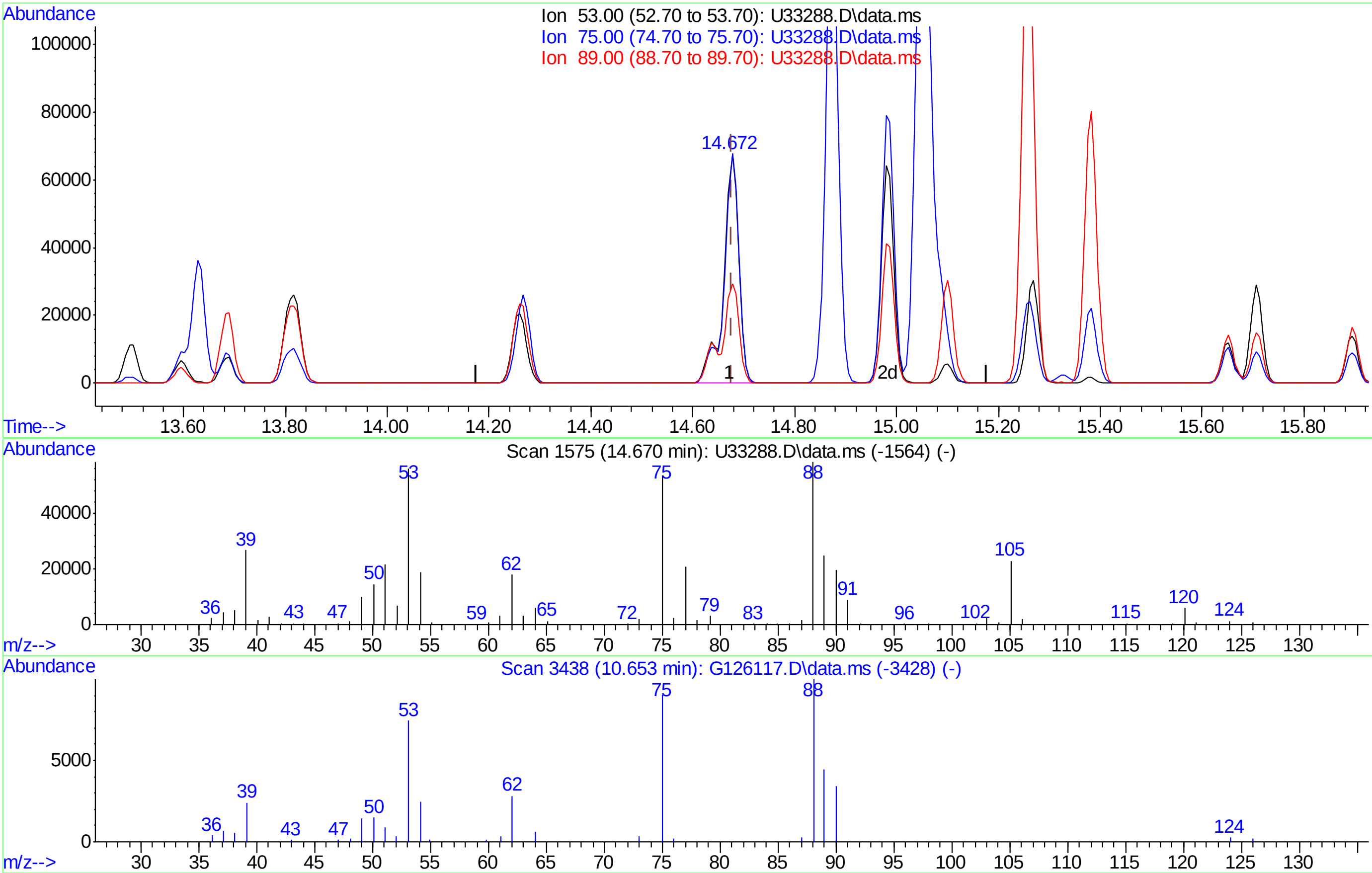
response 440865

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	53.73
57.00	5.80	51.67#
0.00	0.00	0.00

U33288.D edits: heptane

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:20:36 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33288.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

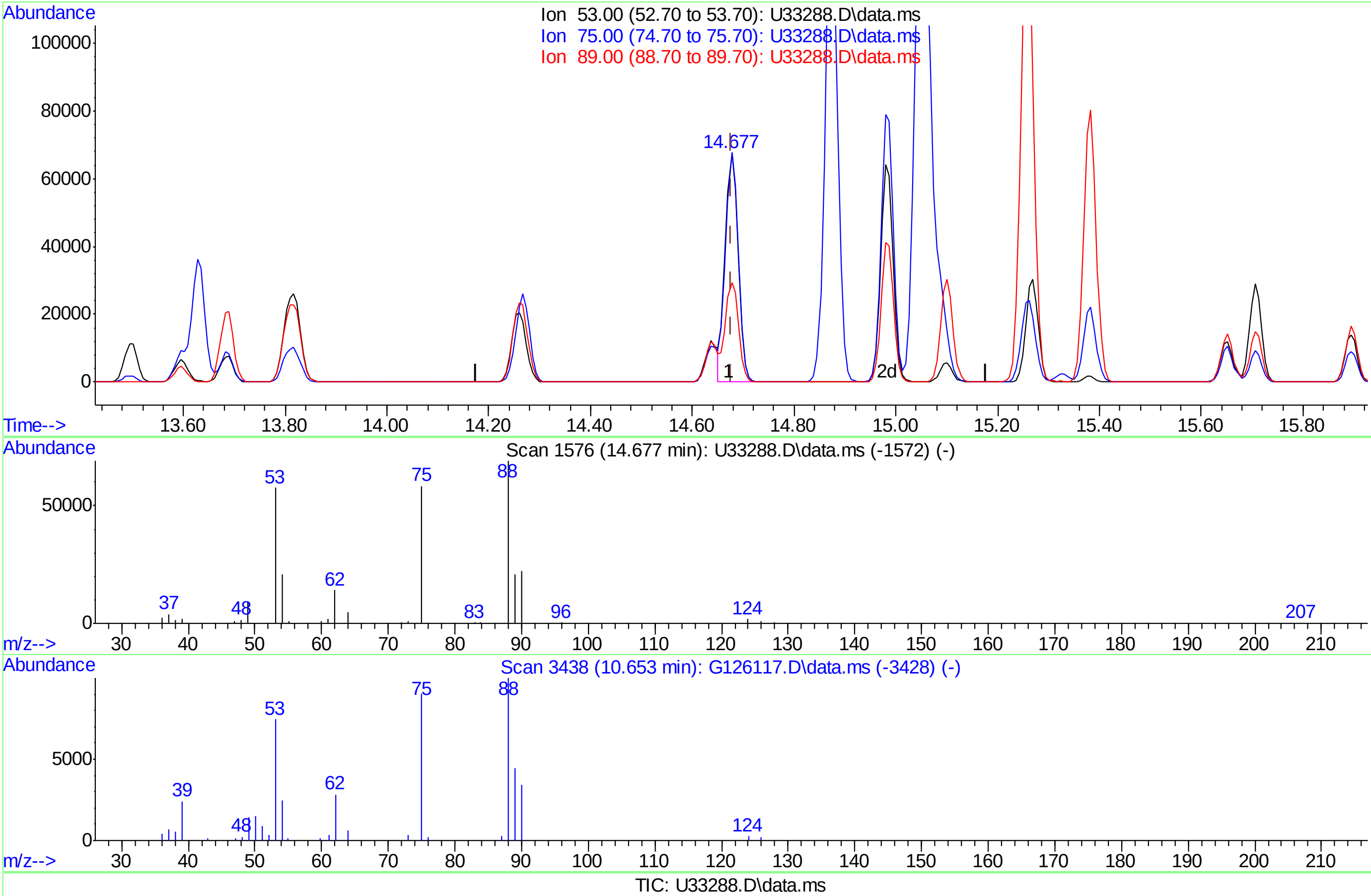
14.672min (-0.005) 62.49 ppb

response 136661

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	95.84#
89.00	64.60	44.51
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:20:36 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(79) trans-1,4-dichloro-2-butene (P)

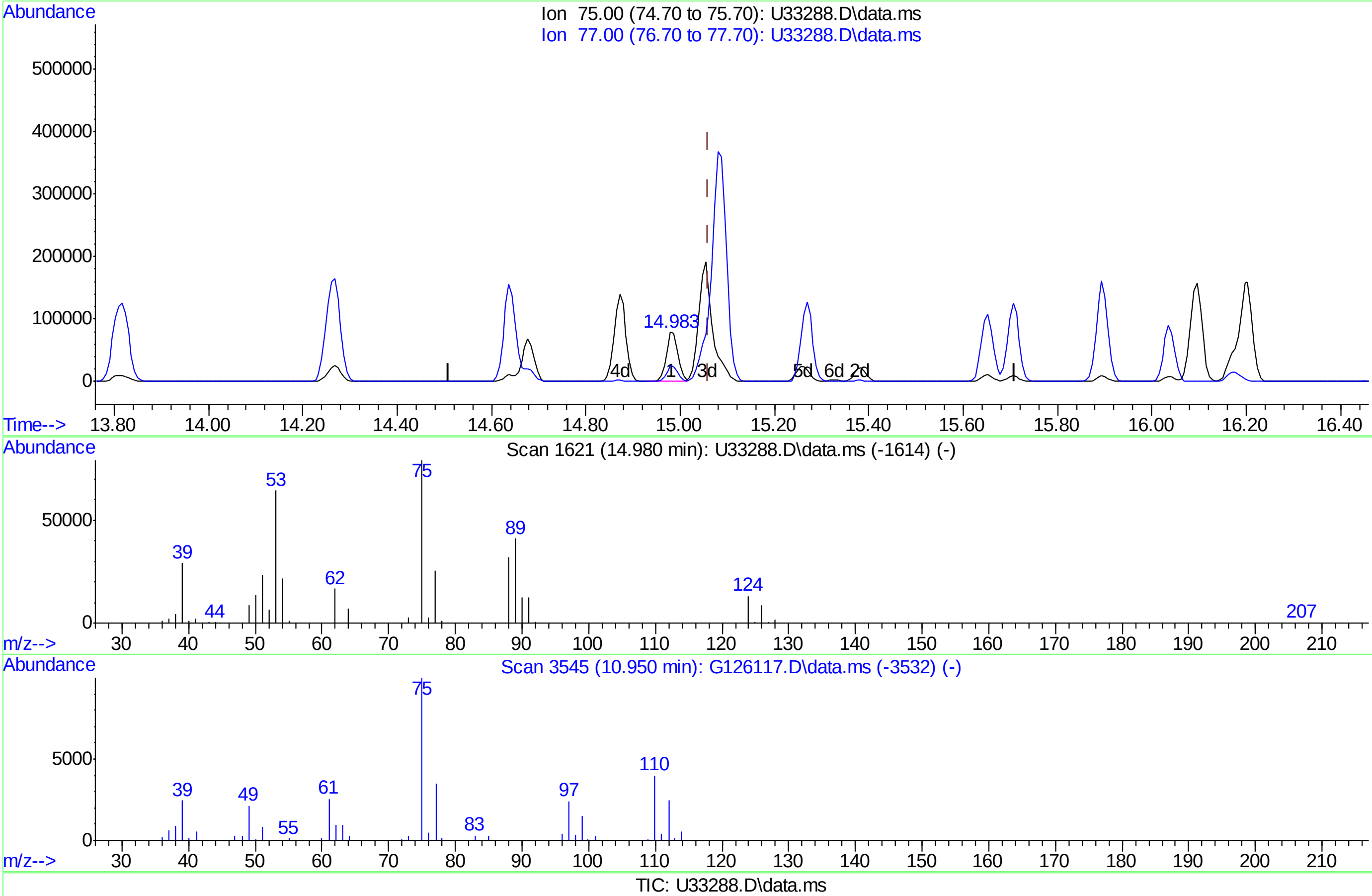
14.677min (+ 0.000) 53.22 ppb m

response 116393

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	100.43#
89.00	64.60	43.52
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:20:36 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

(85) 1,2,3-trichloropropane (P)

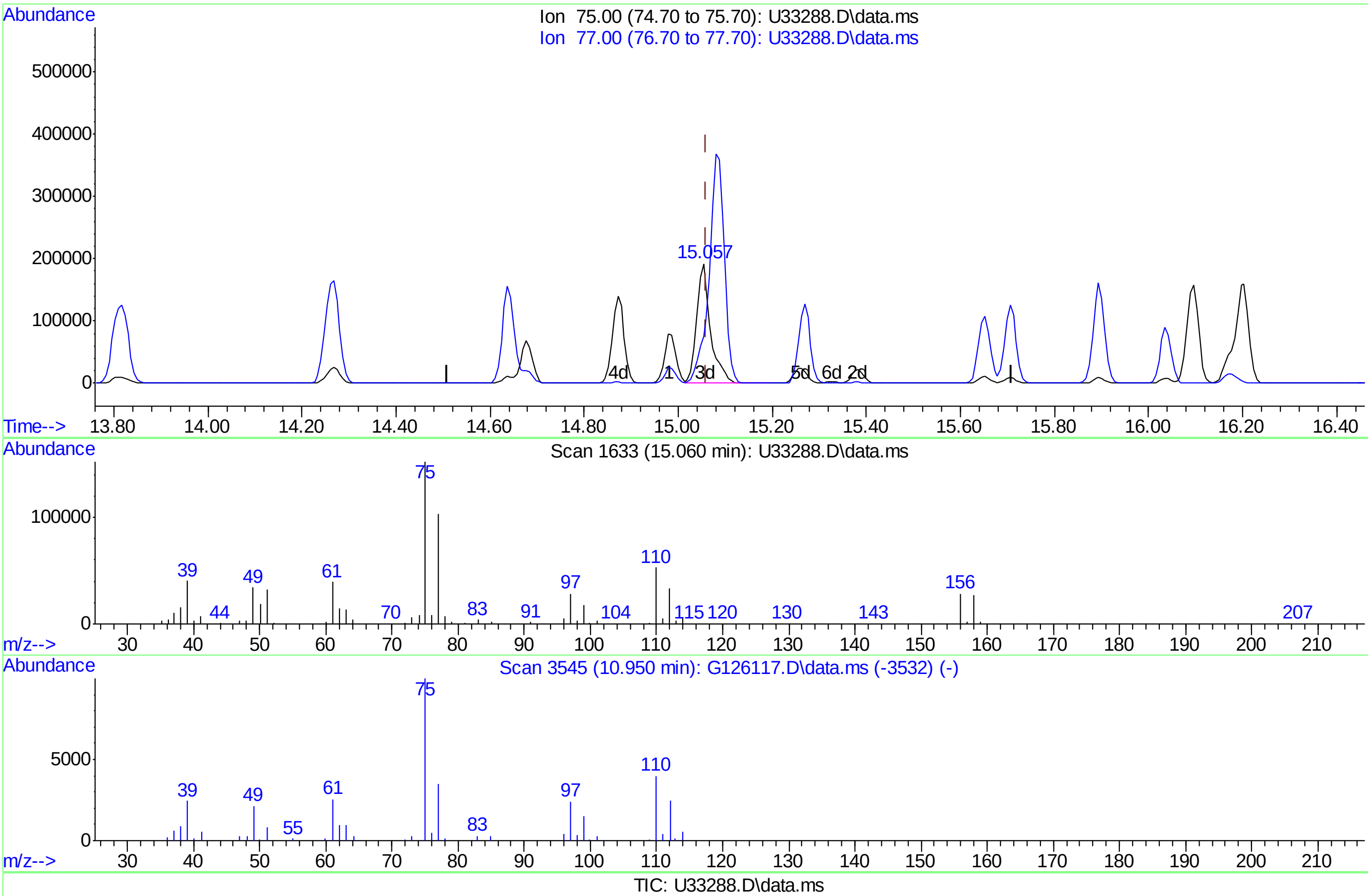
14.983min (-0.077) 17.88 ppb

response 137549

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	32.39
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151026\
Data File : U33288.D
Acq On    : 27 Oct 2015  12:03 am
Operator  : andrewd1
Sample    : icv1360-50
Misc      : ms34382,msu1360,,,,5,1
ALS Vial  : 18   Sample Multiplier: 1

Quant Time: Oct 27 10:20:36 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

(85) 1,2,3-trichloropropane (P)

15.060min (+ 0.000) 51.66 ppb m

response 397482

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	67.84#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integrations
APPROVED
(compounds with "m" flag)
Sona Liskova
10/29/15 14:38

Quantitation Report (QT Reviewed)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:39:57 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```


Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) tert butyl alcohol-d9	7.592	65	145736	500.00 ppb	0.12
4) pentafluorobenzene	9.495	168	371874	50.00 ppb	0.00
43) 1,4-difluorobenzene	10.389	114	628713	50.00 ppb	0.00
66) chlorobenzene-d5	13.597	82	411820	50.00 ppb	0.00
80) 1,4-dichlorobenzene-d4	16.174	152	493257	50.00 ppb	0.00
System Monitoring Compounds					
40) dibromofluoromethane (s)	9.561	113	236626	51.44 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 102.88%		
60) toluene-d8 (s)	11.994	98	820496	54.50 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 109.00%		
82) bromofluorobenzene (s)	14.875	95	380986	49.92 ppb	0.00
Spiked Amount 50.000	Range 70 - 130		Recovery = 99.84%		

Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
2) tertiary butyl alcohol	7.646	59	72801	251.45 ppb		51
5) dichlorodifluoromethane	4.358	85	487009	59.94 ppb		100
6) chloromethane	4.735	50	261207	59.04 ppb		99
7) vinyl chloride	4.979	62	342323	57.99 ppb		98
8) bromomethane	5.588	96	196557	57.59 ppb		97
9) chloroethane	5.747	64	152625	53.69 ppb		100
10) ethyl ether	6.513	59	176043	49.78 ppb		92
11) acetonitrile	7.367	41	373918	50.41 ppb	#	12
12) trichlorofluoromethane	6.170	101	526282	60.08 ppb		98
13) freon-113	6.895	101	302477	55.56 ppb		97
15) 1,1-dichloroethene	6.906	96	217864	52.08 ppb		97
16) acetone	6.985	58	28730m	52.86 ppb		
17) Methyl Acetate	6.971	43	94395	52.51 ppb	#	73
18) methylene chloride	7.531	84	256363	51.85 ppb		89
19) methyl tert butyl ether	7.848	73	694582	53.39 ppb		90
20) acrylonitrile	7.840	53	98488	50.74 ppb		84
21) allyl chloride	7.367	41	380421	49.94 ppb		80
22) trans-1,2-dichloroethene	7.880	96	219838	50.26 ppb		90
23) iodomethane	7.159	142	429088	52.55 ppb		88
24) carbon disulfide	7.288	76	783866m	50.73 ppb		
25) propionitrile	8.482	54	17061	51.18 ppb		100
26) vinyl acetate	8.310	43	400013m	65.23 ppb		
27) chloroprene	8.485	53	373608	51.18 ppb		98
28) di-isopropyl ether	8.349	45	805659	53.88 ppb		94
29) methacrylonitrile	9.228	41	137533	46.91 ppb		92
30) 2-butanone	9.018	72	29363	53.80 ppb	#	1
32) Hexane	8.176	41	237387	49.06 ppb	#	77
33) 1,1-dichloroethane	8.400	63	438575	51.00 ppb		98
34) tert-butyl ethyl ether	8.769	59	805128	54.10 ppb		92
35) isobutyl alcohol	8.766	43	91958	271.91 ppb	#	68
36) 2,2-dichloropropane	9.074	77	394491	56.39 ppb		98
37) cis-1,2-dichloroethene	9.039	96	242103	49.86 ppb		96
38) bromochloromethane	9.322	128	122371	52.07 ppb	#	73
39) chloroform	9.381	83	454550	52.95 ppb		96

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On : 28 Oct 2015 9:56 am
Operator : andrewd1
Sample : cc1360-50
Misc : ms35520,msu1363,,,,5,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 28 10:39:57 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
41) Tetrahydrofuran	9.375	42	78638	51.06 ppb		57
42) 1,1,1-trichloroethane	9.637	97	432844	56.64 ppb		99
44) Cyclohexane	9.744	56	467361	49.25 ppb	#	91
45) carbon tetrachloride	9.820	117	367326	54.09 ppb		96
46) 1,1-dichloropropene	9.786	75	308034	48.84 ppb		97
47) benzene	10.027	78	826685	48.65 ppb		99
48) 1,2-dichloroethane	10.051	62	381239	53.87 ppb		97
49) tert-amyl methyl ether	10.068	73	714539	49.93 ppb		97
50) heptane	10.219	43	319226m	52.20 ppb		
51) trichloroethene	10.694	95	224963	50.68 ppb		94
52) 1,2-dichloropropane	10.984	63	229170	53.04 ppb		100
53) dibromomethane	11.095	93	152088	52.87 ppb		96
54) bromodichloromethane	11.228	83	328808	53.79 ppb		97
55) Methylcyclohexane	10.987	83	407441	50.01 ppb		90
56) 2-chloroethyl vinyl ether	11.443	63	110444	48.96 ppb		96
57) methyl methacrylate	10.901	69	130756	53.62 ppb		96
59) cis-1,3-dichloropropene	11.678	75	352936	56.72 ppb		99
61) 4-methyl-2-pentanone	11.768	43	239642	50.50 ppb		97
62) toluene	12.072	92	510079	54.74 ppb		98
63) trans-1,3-dichloropropene	12.251	75	324825	63.24 ppb		92
64) 1,1,2-trichloroethane	12.492	83	162572	56.59 ppb		100
65) ethyl methacrylate	12.216	69	253192	56.38 ppb		86
67) tetrachloroethene	12.647	166	227574	48.01 ppb		98
68) 1,3-dichloropropane	12.685	76	318891	50.98 ppb		95
69) dibromochloromethane	12.953	129	232826	51.21 ppb		97
70) 1,2-dibromoethane	13.131	107	198418	49.82 ppb		98
71) 2-hexanone	12.643	43	173050	49.41 ppb	#	22
72) chlorobenzene	13.633	112	606187	48.88 ppb		99
73) 1,1,1,2-tetrachloroethane	13.699	131	258928	48.33 ppb		98
74) ethylbenzene	13.687	91	1069376	48.15 ppb		98
75) m,p-xylene	13.816	106	810634	95.04 ppb		98
76) o-xylene	14.259	106	454844	47.96 ppb		98
77) styrene	14.273	104	682598	48.25 ppb		86
78) bromoform	14.546	173	156242	45.36 ppb		99
79) trans-1,4-dichloro-2-b...	14.677	53	84921m	47.67 ppb		
81) isopropylbenzene	14.640	105	1243254	51.27 ppb		99
83) bromobenzene	15.086	156	305407	49.26 ppb		98
84) 1,1,2,2-tetrachloroethane	14.948	83	305778	51.81 ppb		99
85) 1,2,3-trichloropropane	15.060	75	291565	49.02 ppb		55
86) n-propylbenzene	15.102	91	1465709	50.51 ppb		99
87) 2-chlorotoluene	15.260	91	1057407	50.62 ppb		97
88) 4-chlorotoluene	15.383	91	906113	49.21 ppb		100
89) 1,3,5-trimethylbenzene	15.271	105	1179198	52.67 ppb		99
90) tert-butylbenzene	15.653	91	722635	51.71 ppb		97
91) 1,2,4-trimethylbenzene	15.709	105	1241951	50.68 ppb		97
92) sec-butylbenzene	15.896	105	1559769	53.34 ppb		99
93) 1,3-dichlorobenzene	16.097	146	670543	48.60 ppb		98
94) p-isopropyltoluene	16.039	119	1345598	52.52 ppb		99
95) 1,4-dichlorobenzene	16.204	146	682601	48.61 ppb		98
96) 1,2-dichlorobenzene	16.617	146	744880	49.71 ppb		97

Quantitation Report (QT Reviewed)

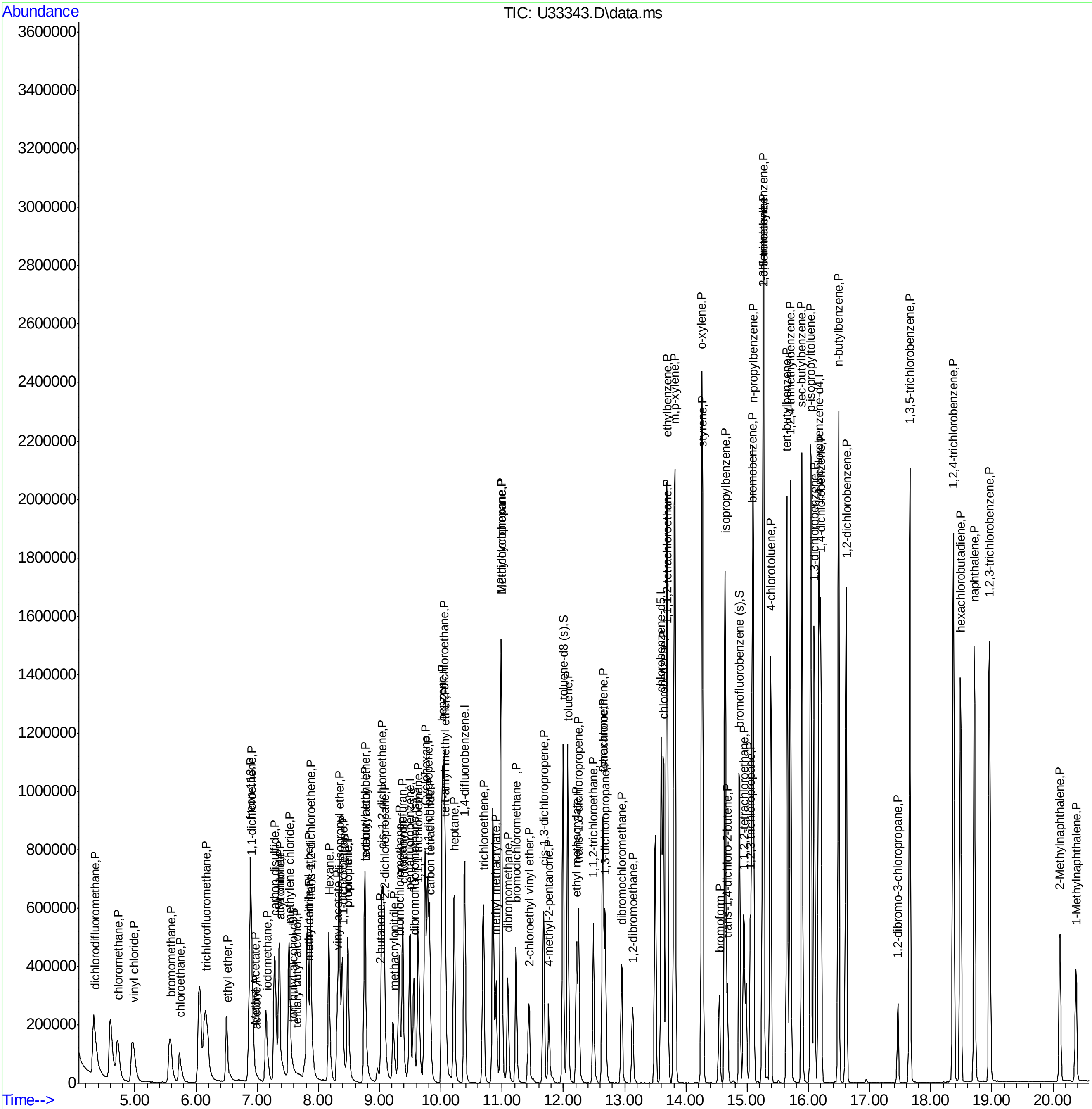
```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:39:57 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
97) n-butylbenzene	16.494	91	1350656	50.37 ppb	100
98) 1,2-dibromo-3-chloropr...	17.462	75	72515	47.29 ppb	90
99) 1,3,5-trichlorobenzene	17.657	180	688825	49.76 ppb	97
100) 1,2,4-trichlorobenzene	18.370	180	632986	49.79 ppb	96
101) hexachlorobutadiene	18.484	225	291530	48.22 ppb	97
102) naphthalene	18.713	128	1312172	48.02 ppb	100
103) 2-Methylnaphthalene	20.109	142	315102	22.09 ppb	98
104) 1-Methylnaphthalene	20.374	142	228150	21.82 ppb	98
105) 1,2,3-trichlorobenzene	18.960	180	545334	48.63 ppb	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

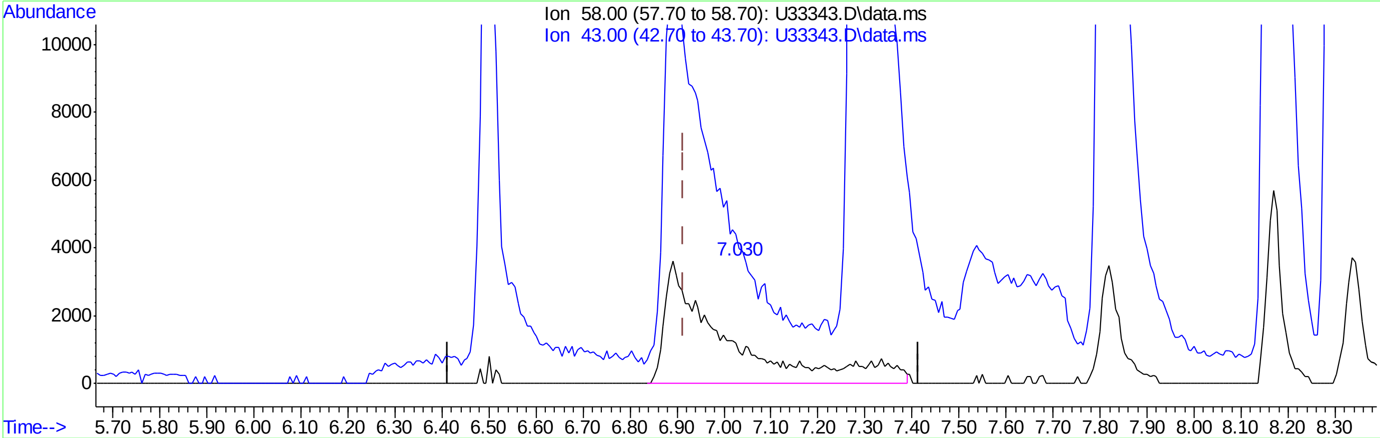
Quantitation Report (QT Reviewed)

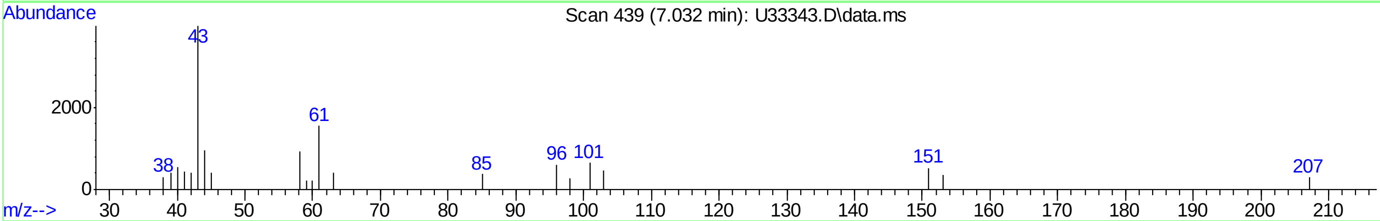
```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:39:57 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

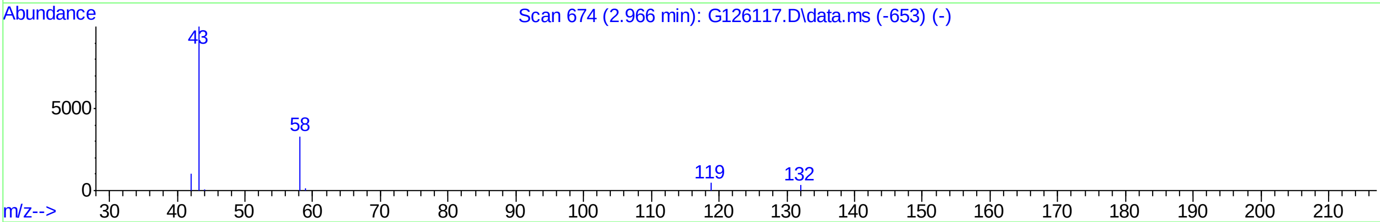


Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:24:22 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```





TIC: U33343.D\data.ms

(16) acetone (P)

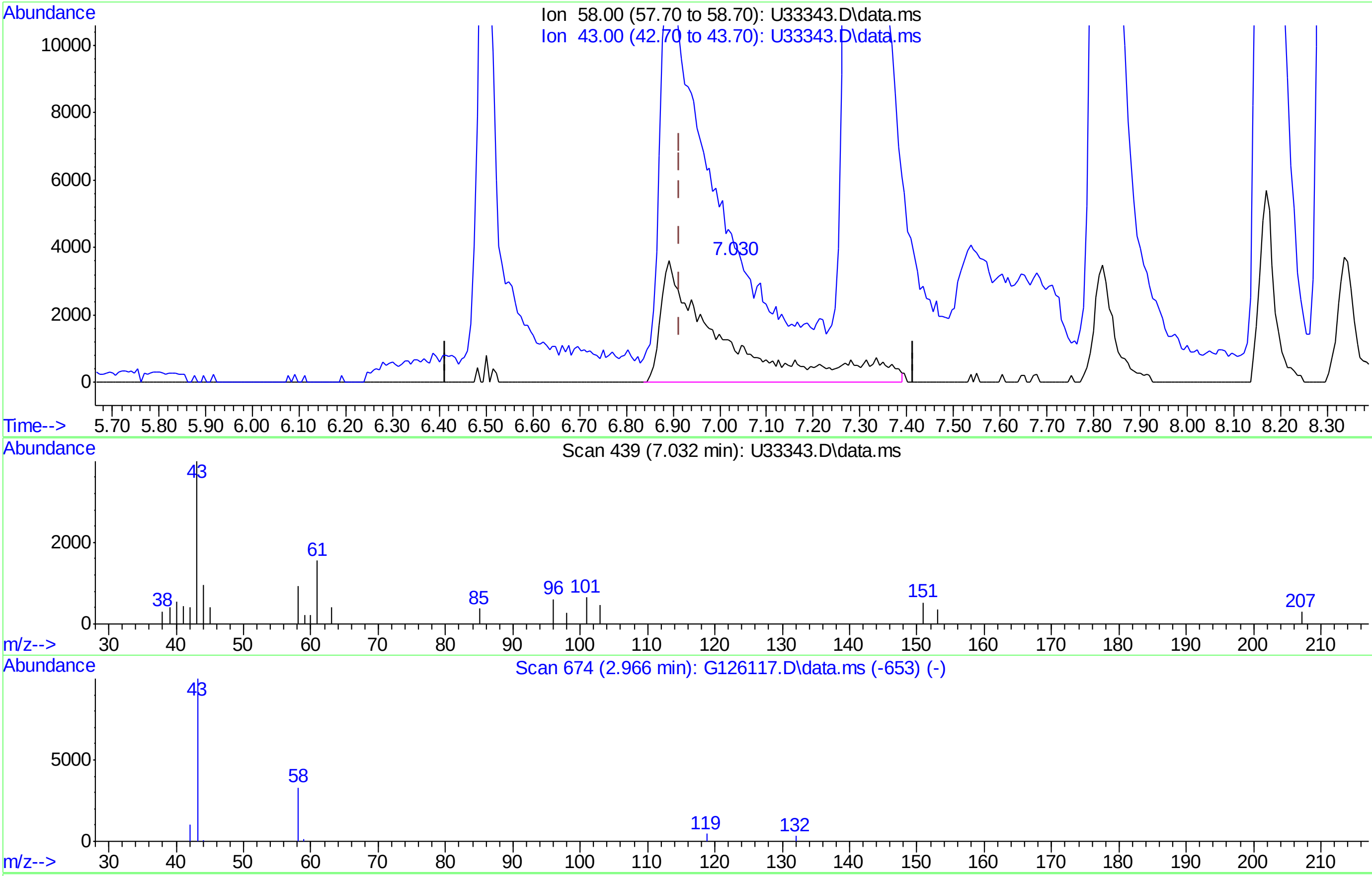
7.030min (+ 0.116) 60.84 ppb

response 33065

Ion	Exp%	Act%
58.00	100.00	100.00
43.00	308.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(16) acetone (P)

7.030min (+ 0.116) 60.84 ppb

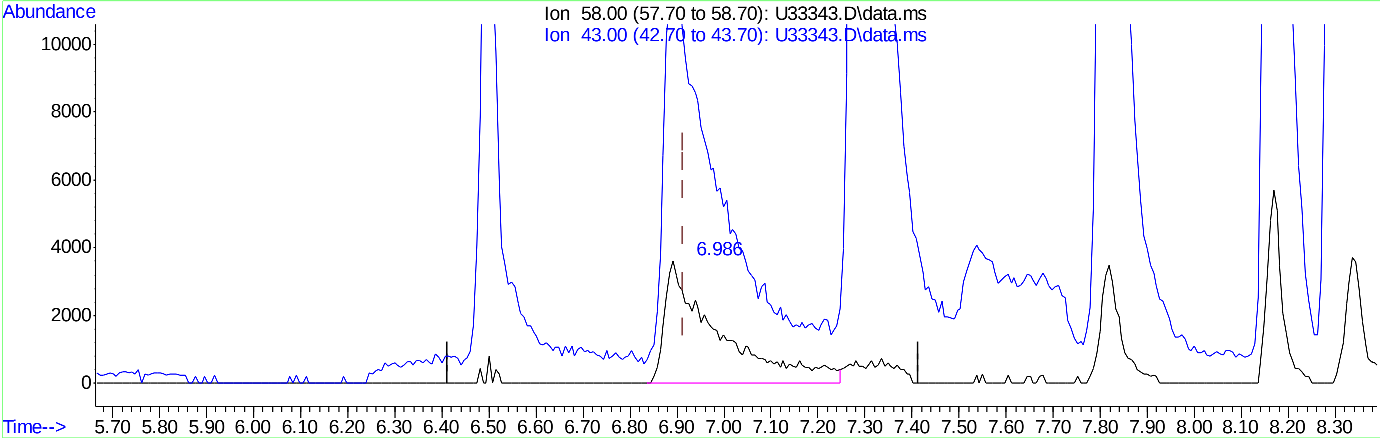
response 33065

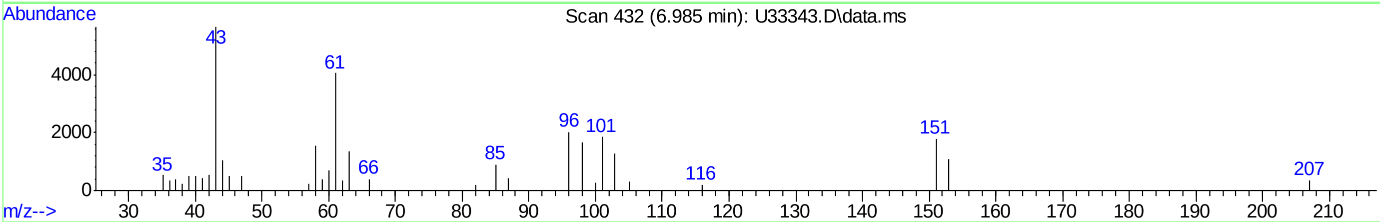
Ion	Exp%	Act%
58.00	100.00	100.00
43.00	308.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

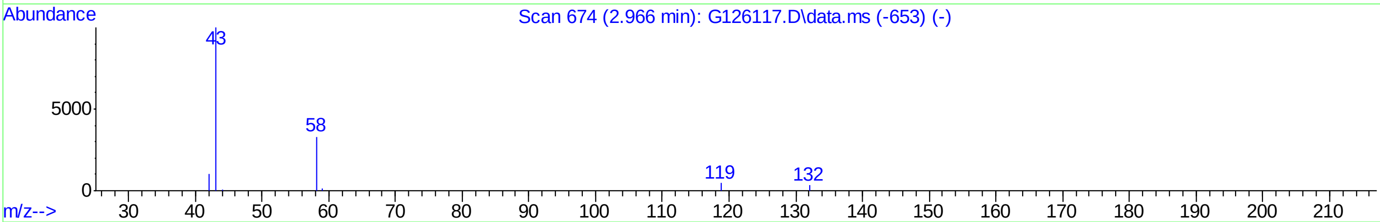
U33343.D edits: acetone

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```







TIC: U33343.D\data.ms

(16) acetone (P)

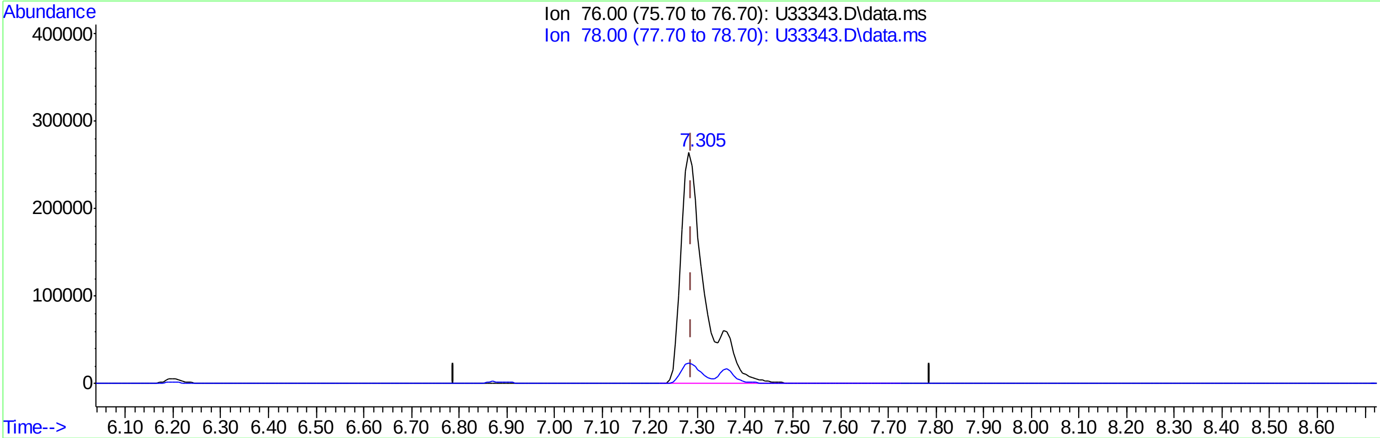
6.985min (+ 0.071) 52.86 ppb m

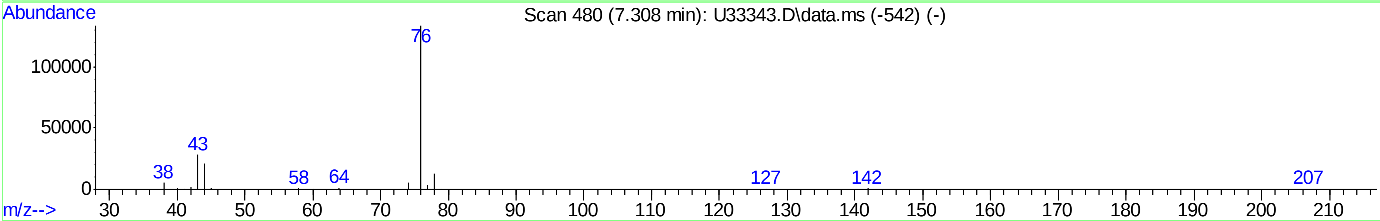
response 28730

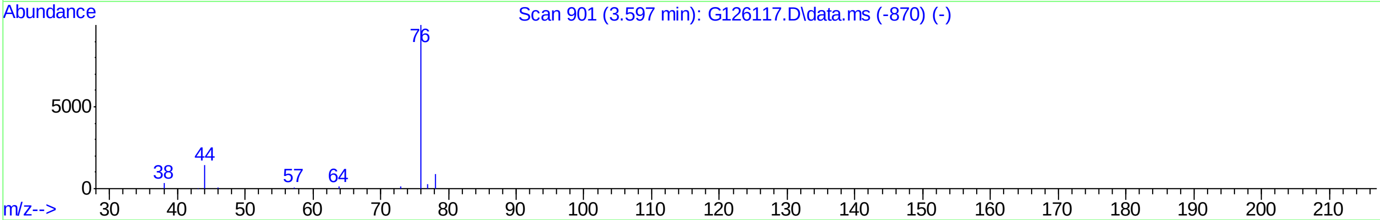
Ion	Exp%	Act%
58.00	100.00	100.00
43.00	308.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```





TIC: U33343.D\data.ms

(24) carbon disulfide (P)

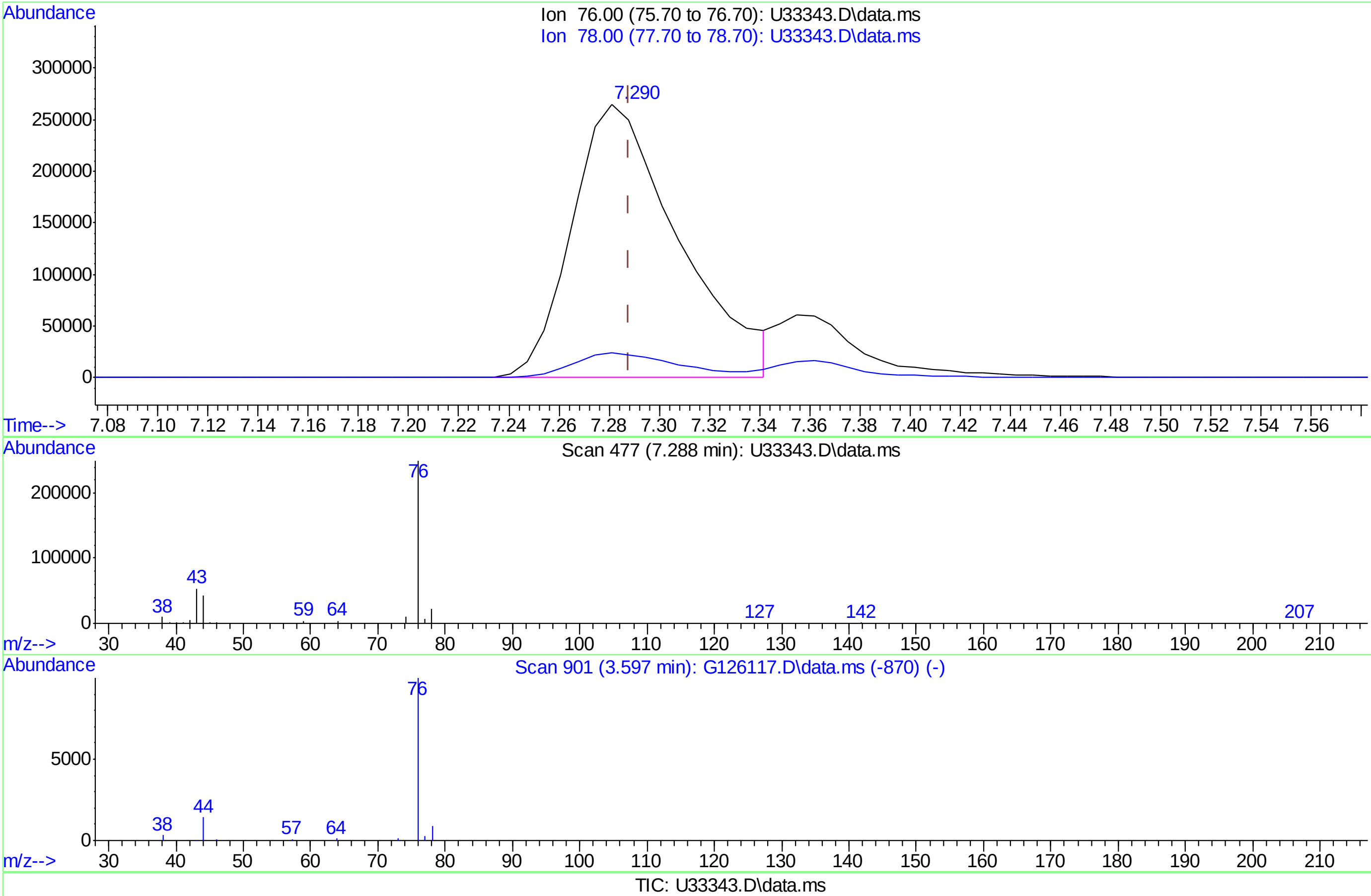
7.305min (+ 0.017) 60.67 ppb

response 937350

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.64
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(24) carbon disulfide (P)

7.288min (-0.000) 50.73 ppb m

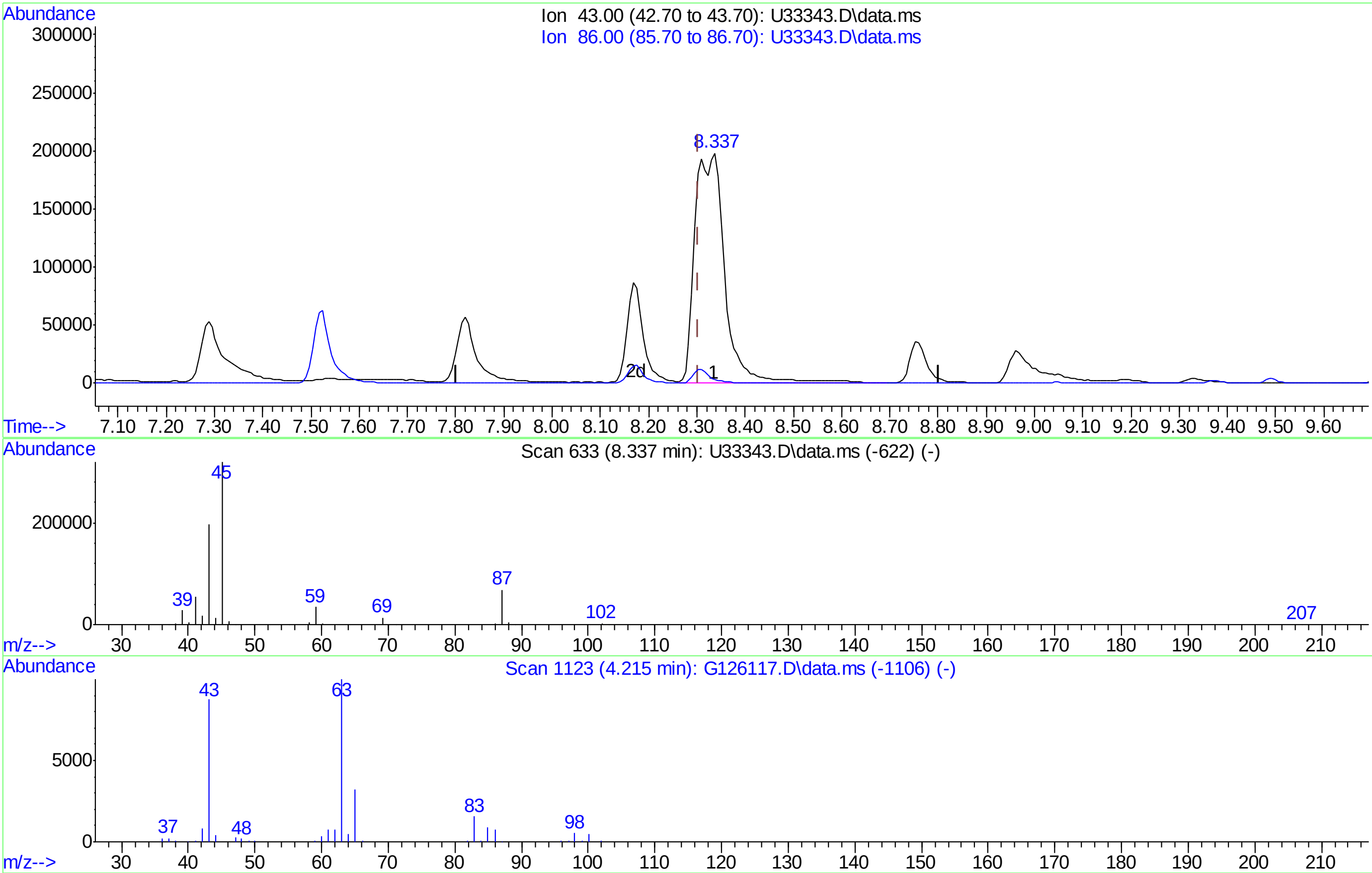
response 783866

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	8.82
0.00	0.00	0.00
0.00	0.00	0.00

U33343.D edits: carbon disulfide

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33343.D\data.ms

(26) vinyl acetate (P)

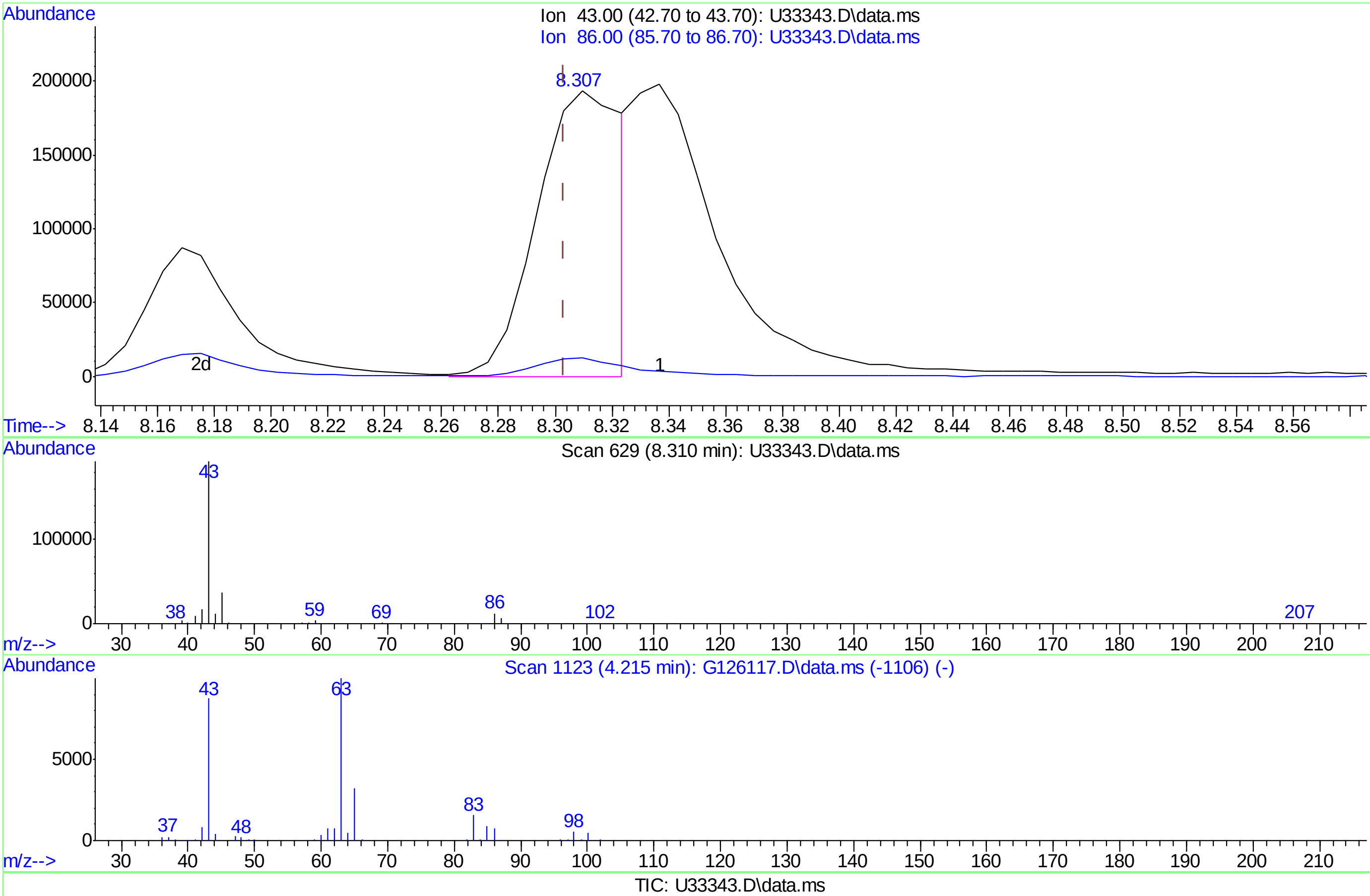
8.337min (+ 0.034) 138.47 ppb

response 849141

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	1.75
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

(26) vinyl acetate (P)

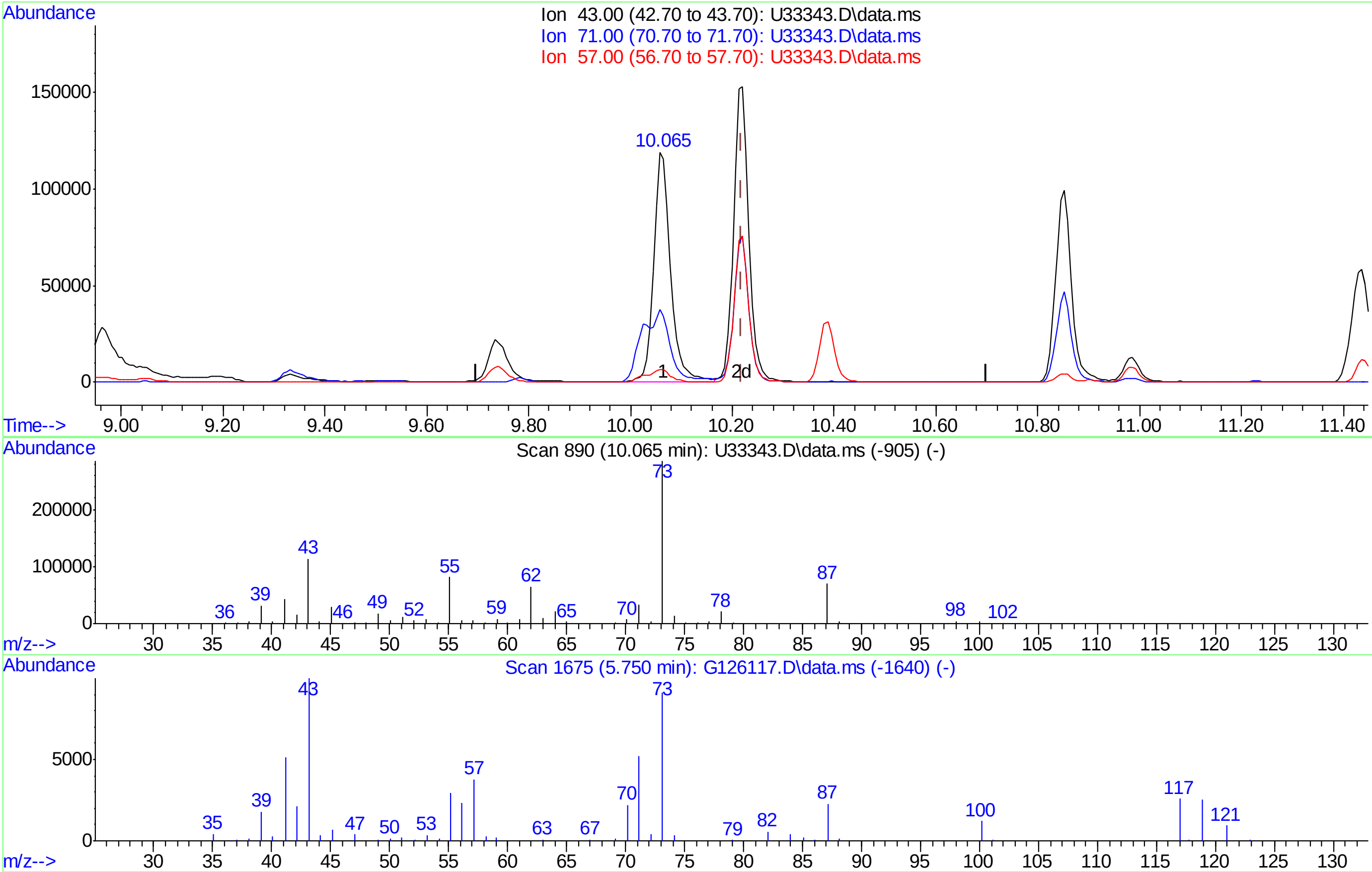
8.310min (+ 0.007) 65.23 ppb m

response 400013

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.36
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33343.D\data.ms

(50) heptane (P)

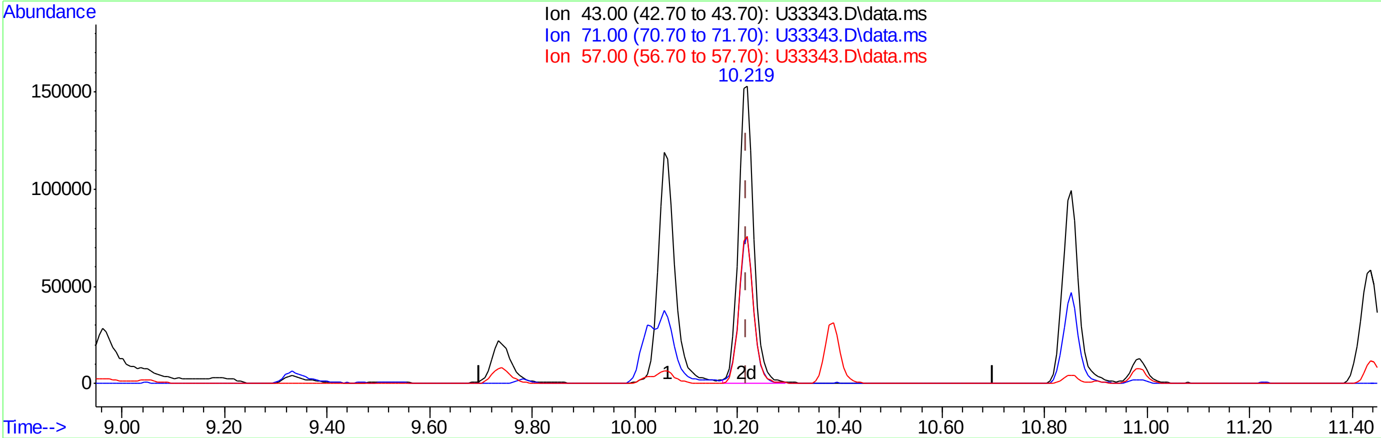
10.065min (-0.154) 45.89 ppb

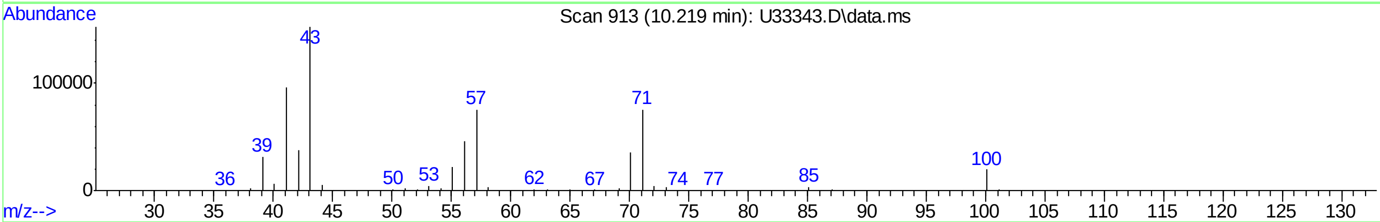
response 280673

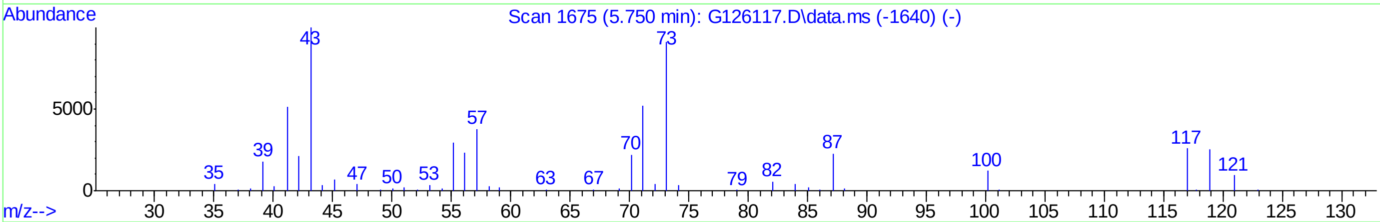
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	29.89
57.00	5.80	5.92
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```







TIC: U33343.D\data.ms

(50) heptane (P)

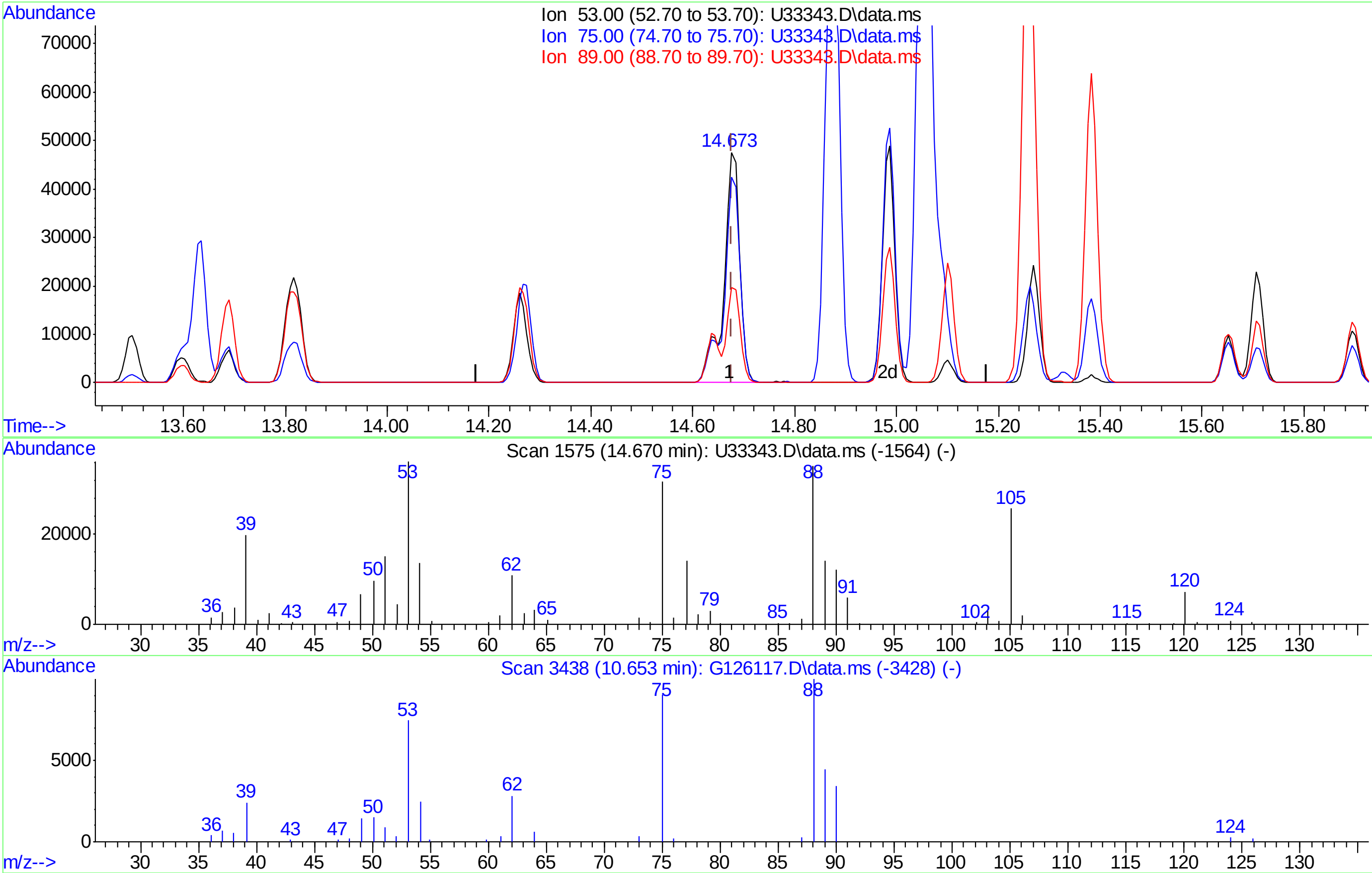
10.219min (+ 0.000) 52.20 ppb m

response 319226

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	49.58
57.00	5.80	49.63#
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33343.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

14.673min (-0.004) 56.49 ppb

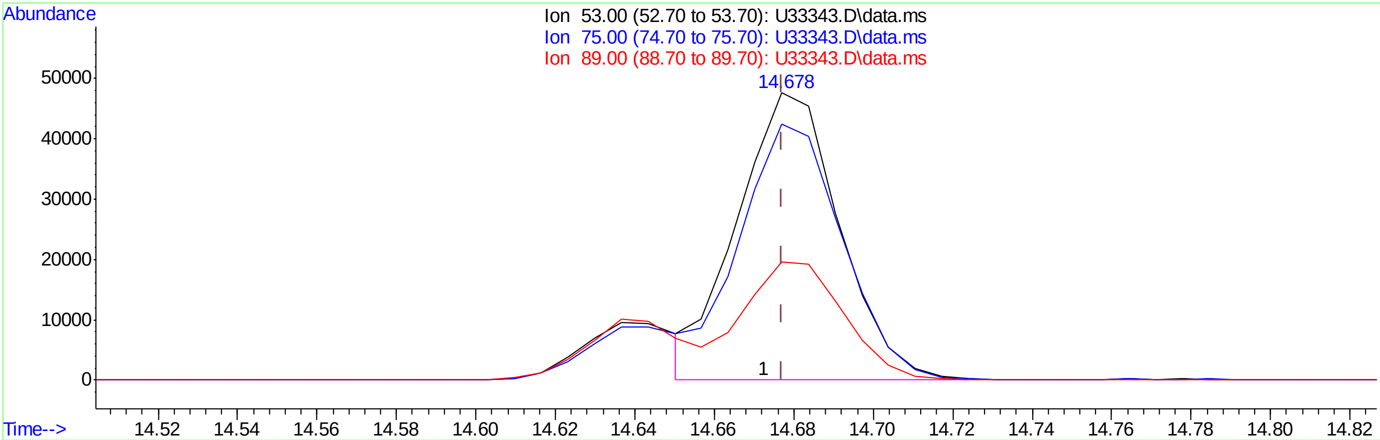
response 100625

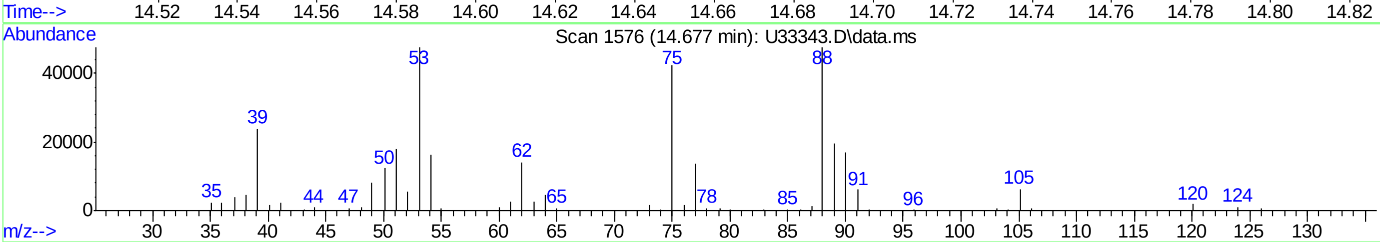
Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	87.41#
89.00	64.60	39.29
0.00	0.00	0.00

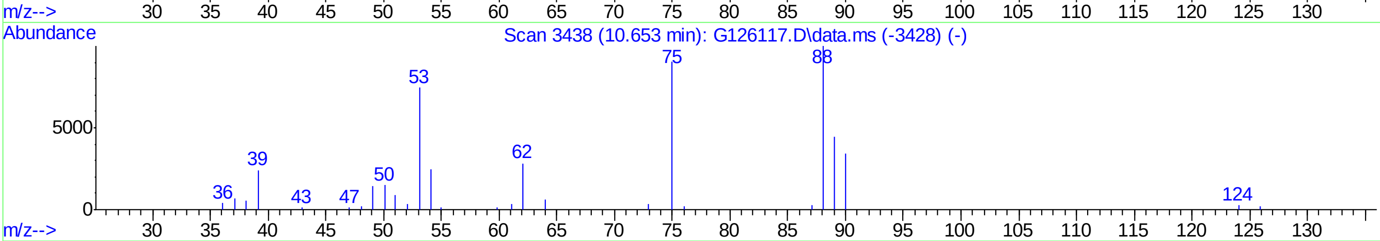
U33343.D edits: trans-1,4-dichloro-2-butene

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33343.D
Acq On    : 28 Oct 2015   9:56 am
Operator  : andrewd1
Sample    : cc1360-50
Misc      : ms35520,msu1363,,,,5,1
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: Oct 28 10:32:37 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```







TIC: U33343.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

14.677min (-0.000) 47.67 ppb m

response 84921

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	88.99#
89.00	64.60	41.21
0.00	0.00	0.00

Manual Integrations APPROVED (compounds with "m" flag)
Sona Liskova
10/29/15 14:38

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On : 28 Oct 2015 10:09 pm
Operator : andrewd1
Sample : ecc1360-50
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 29 08:46:02 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) tert butyl alcohol-d9	7.483	65	331485	500.00	ppb		0.01
4) pentafluorobenzene	9.494	168	484929	50.00	ppb		0.00
43) 1,4-difluorobenzene	10.388	114	810151	50.00	ppb		0.00
66) chlorobenzene-d5	13.596	82	508777	50.00	ppb		0.00
80) 1,4-dichlorobenzene-d4	16.173	152	614435	50.00	ppb		0.00
System Monitoring Compounds							
40) dibromofluoromethane (s)	9.560	113	295530	49.27	ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	98.54%			
60) toluene-d8 (s)	11.993	98	1021873	52.67	ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	105.34%			
82) bromofluorobenzene (s)	14.874	95	488257	51.36	ppb		0.00
Spiked Amount 50.000	Range 70 - 130		Recovery =	102.72%			
Target Compounds							Qvalue
2) tertiary butyl alcohol	7.573	59	348075	519.41	ppb		88
5) dichlorodifluoromethane	4.364	85	425100	40.12	ppb		98
6) chloromethane	4.743	50	209296	35.99	ppb		99
7) vinyl chloride	4.989	62	357486	46.44	ppb		100
8) bromomethane	5.596	96	182107	40.92	ppb		98
9) chloroethane	5.753	64	202257	54.56	ppb		99
10) ethyl ether	6.511	59	205986	44.66	ppb		94
11) acetonitrile	7.366	41	423997	43.83	ppb	#	13
12) trichlorofluoromethane	6.179	101	528302	46.25	ppb		99
13) freon-113	6.900	101	323936	45.63	ppb		96
15) 1,1-dichloroethene	6.911	96	254200	46.60	ppb		96
16) acetone	6.935	58	32744	46.20	ppb	#	71
17) Methyl Acetate	6.941	43	120276	51.33	ppb	#	63
18) methylene chloride	7.532	84	310484	48.16	ppb		85
19) methyl tert butyl ether	7.837	73	879475	51.84	ppb		93
20) acrylonitrile	7.799	53	127281	50.29	ppb		90
21) allyl chloride	7.366	41	427925	43.08	ppb		71
22) trans-1,2-dichloroethene	7.879	96	243602	42.71	ppb		91
23) iodomethane	7.161	142	502829	47.22	ppb		93
24) carbon disulfide	7.295	76	802244m	39.82	ppb		
25) propionitrile	8.481	54	18363	42.24	ppb		100
26) vinyl acetate	8.310	43	572914m	71.64	ppb		
27) chloroprene	8.484	53	413592	43.44	ppb		96
28) di-isopropyl ether	8.346	45	976944	50.11	ppb		94
29) methacrylonitrile	9.224	41	185950	48.64	ppb		93
30) 2-butanone	8.981	72	35847	50.37	ppb	#	1
32) Hexane	8.175	41	236300	37.45	ppb	#	68
33) 1,1-dichloroethane	8.399	63	505421	45.07	ppb		97
34) tert-butyl ethyl ether	8.765	59	940726	48.48	ppb		92
35) isobutyl alcohol	8.764	43	100526	227.94	ppb	#	67
36) 2,2-dichloropropane	9.076	77	391097	42.87	ppb		98
37) cis-1,2-dichloroethene	9.038	96	310792	49.08	ppb		96
38) bromochloromethane	9.318	128	156059	50.93	ppb	#	78
39) chloroform	9.379	83	528636	47.23	ppb		98

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On : 28 Oct 2015 10:09 pm
Operator : andrewd1
Sample : ecc1360-50
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 29 08:46:02 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
41) Tetrahydrofuran	9.340	42	94130	46.87 ppb		94
42) 1,1,1-trichloroethane	9.638	97	489591	49.13 ppb		99
44) Cyclohexane	9.745	56	495257	40.50 ppb	#	89
45) carbon tetrachloride	9.820	117	407168	46.53 ppb		99
46) 1,1-dichloropropene	9.785	75	366984	45.16 ppb		98
47) benzene	10.025	78	1018768	46.52 ppb		98
48) 1,2-dichloroethane	10.047	62	429361	47.08 ppb		99
49) tert-amyl methyl ether	10.065	73	864041	46.85 ppb		96
50) heptane	10.219	43	368072m	46.71 ppb		
51) trichloroethene	10.692	95	276271	48.27 ppb		96
52) 1,2-dichloropropane	10.982	63	288278	51.78 ppb		100
53) dibromomethane	11.093	93	183243	49.44 ppb		94
54) bromodichloromethane	11.226	83	387769	49.23 ppb		98
55) Methylcyclohexane	10.987	83	459846	43.80 ppb		89
56) 2-chloroethyl vinyl ether	11.439	63	144206	49.59 ppb		95
57) methyl methacrylate	10.901	69	170573	54.29 ppb		90
59) cis-1,3-dichloropropene	11.676	75	428788	53.48 ppb		99
61) 4-methyl-2-pentanone	11.760	43	324562	53.08 ppb		98
62) toluene	12.070	92	639404	53.25 ppb		99
63) trans-1,3-dichloropropene	12.249	75	370879	56.03 ppb		93
64) 1,1,2-trichloroethane	12.489	83	209433	56.57 ppb		98
65) ethyl methacrylate	12.213	69	342163	59.13 ppb		82
67) tetrachloroethene	12.646	166	282003	48.16 ppb		96
68) 1,3-dichloropropane	12.682	76	420640	54.43 ppb		95
69) dibromochloromethane	12.951	129	287022	51.10 ppb		96
70) 1,2-dibromoethane	13.129	107	257197	52.27 ppb		98
71) 2-hexanone	12.637	43	210598	48.67 ppb	#	15
72) chlorobenzene	13.632	112	765542	49.96 ppb		99
73) 1,1,1,2-tetrachloroethane	13.698	131	311241	47.03 ppb		98
74) ethylbenzene	13.686	91	1344407	49.00 ppb		98
75) m,p-xylene	13.815	106	1024373	97.21 ppb		97
76) o-xylene	14.258	106	547840	46.76 ppb		97
77) styrene	14.272	104	864941	49.49 ppb		91
78) bromoform	14.545	173	200623	47.14 ppb		99
79) trans-1,4-dichloro-2-b...	14.677	53	110629m	50.27 ppb		
81) isopropylbenzene	14.639	105	1502066	49.73 ppb		100
83) bromobenzene	15.085	156	399039	51.67 ppb		96
84) 1,1,2,2-tetrachloroethane	14.946	83	420580	57.21 ppb		99
85) 1,2,3-trichloropropane	15.060	75	377296m	50.92 ppb		
86) n-propylbenzene	15.100	91	1801517	49.84 ppb		98
87) 2-chlorotoluene	15.259	91	1296412	49.82 ppb		98
88) 4-chlorotoluene	15.382	91	1156368	50.41 ppb		99
89) 1,3,5-trimethylbenzene	15.270	105	1491834	53.49 ppb		98
90) tert-butylbenzene	15.652	91	874246	50.22 ppb		99
91) 1,2,4-trimethylbenzene	15.707	105	1521516	49.84 ppb		98
92) sec-butylbenzene	15.895	105	1897017	52.08 ppb		99
93) 1,3-dichlorobenzene	16.096	146	848984	49.40 ppb		99
94) p-isopropyltoluene	16.038	119	1672709	52.41 ppb		99
95) 1,4-dichlorobenzene	16.202	146	874698	50.01 ppb		99
96) 1,2-dichlorobenzene	16.616	146	924390	49.52 ppb		95

Quantitation Report (QT Reviewed)

Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On : 28 Oct 2015 10:09 pm
Operator : andrewd1
Sample : ecc1360-50
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 16 Sample Multiplier: 1

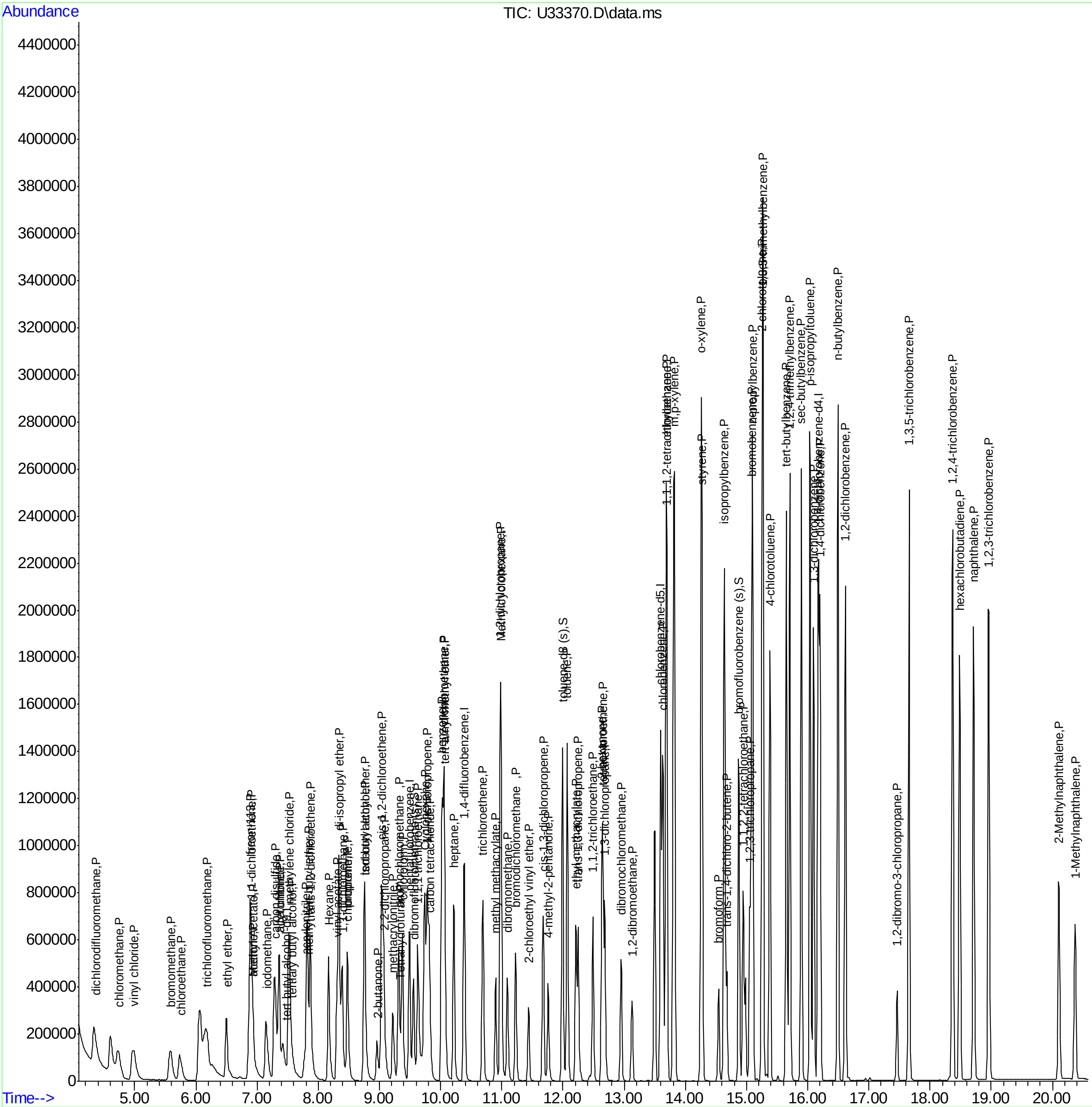
Quant Time: Oct 29 08:46:02 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
97) n-butylbenzene	16.493	91	1692658	50.67 ppb	98
98) 1,2-dibromo-3-chloropr...	17.460	75	102306	53.56 ppb	93
99) 1,3,5-trichlorobenzene	17.656	180	844971	49.00 ppb	99
100) 1,2,4-trichlorobenzene	18.368	180	819654	51.76 ppb	96
101) hexachlorobutadiene	18.484	225	391071	51.92 ppb	98
102) naphthalene	18.712	128	1720732	50.56 ppb	100
103) 2-Methylnaphthalene	20.107	142	528447	29.74 ppb	96
104) 1-Methylnaphthalene	20.372	142	409917	31.48 ppb	99
105) 1,2,3-trichlorobenzene	18.958	180	751055	53.76 ppb	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report   (QT Reviewed)

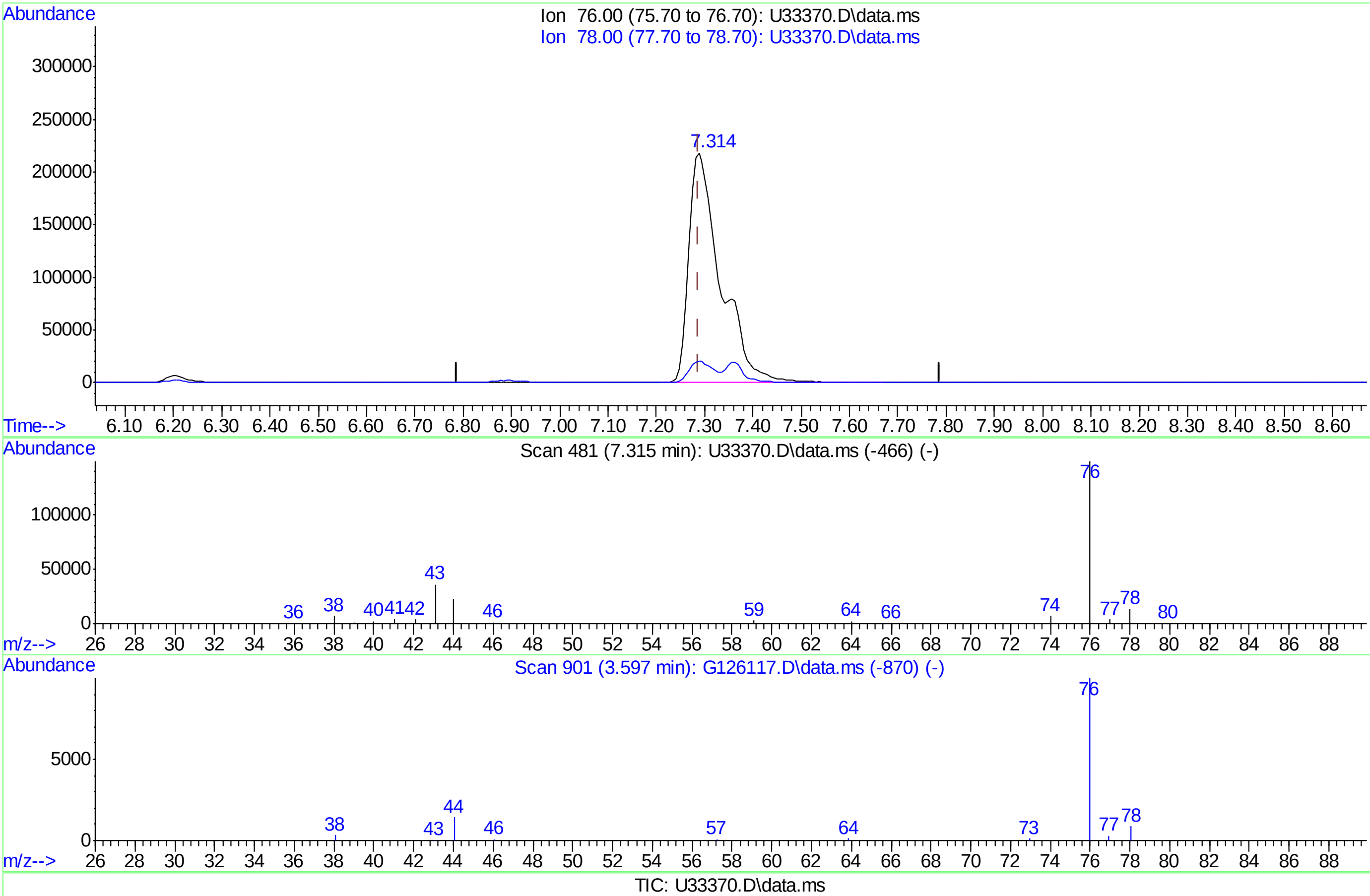
```
Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On    : 28 Oct 2015  10:09 pm
Operator  : andrewd1
Sample    : ecc1360-50
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 16   Sample Multiplier: 1

Quant Time: Oct 29 08:46:02 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```




```
U151027.m Thu Oct 29 08:46:46 2015                                  Page: 4
```

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On    : 28 Oct 2015  10:09 pm
Operator  : andrewd1
Sample    : ecc1360-50
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 16   Sample Multiplier: 1

Quant Time: Oct 29 08:44:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(24) carbon disulfide (P)

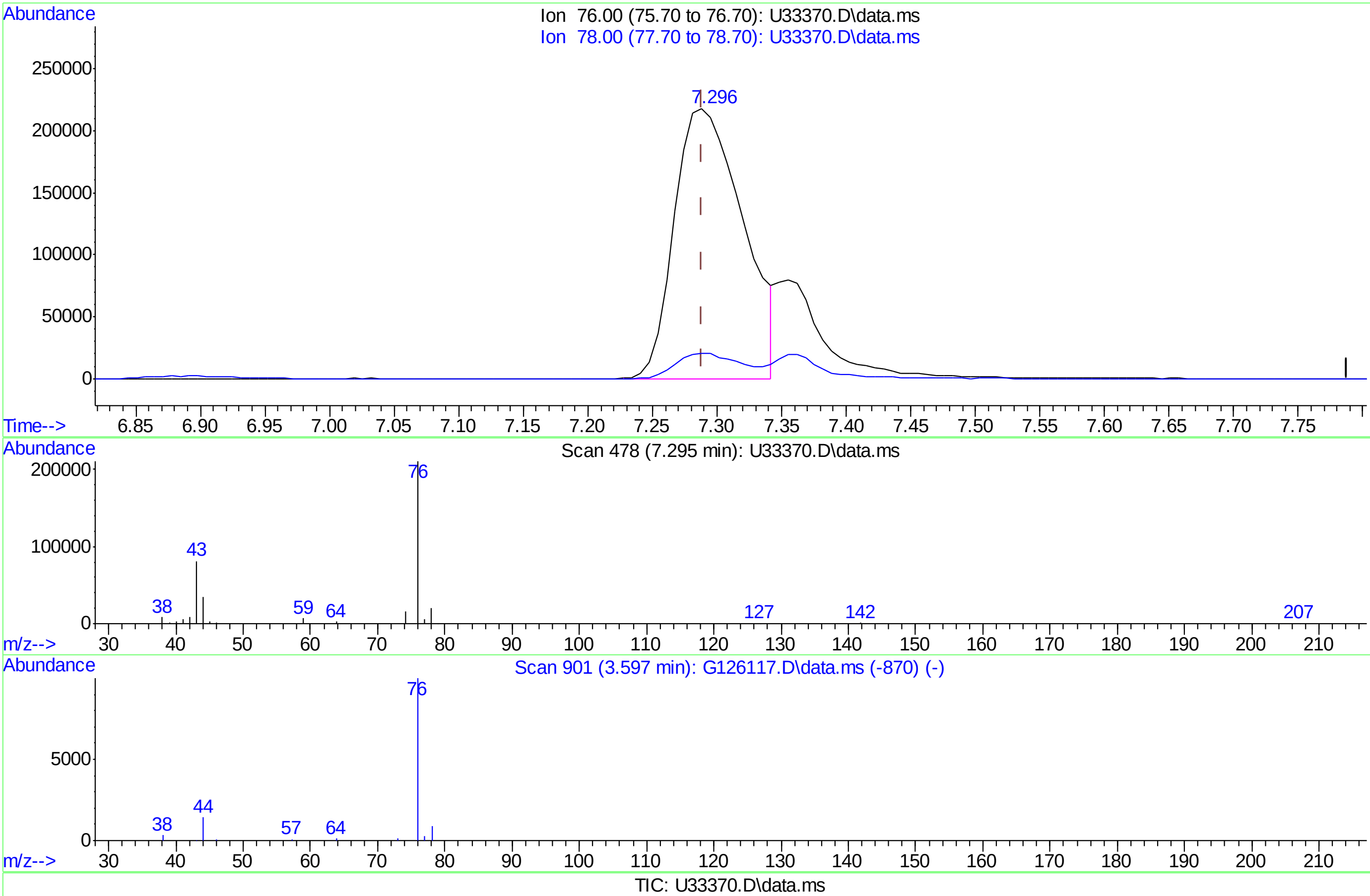
7.314min (+ 0.026) 50.05 ppb

response 1008478

Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.16
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On    : 28 Oct 2015  10:09 pm
Operator  : andrewd1
Sample    : ecc1360-50
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 16   Sample Multiplier: 1

Quant Time: Oct 29 08:44:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



(24) carbon disulfide (P)

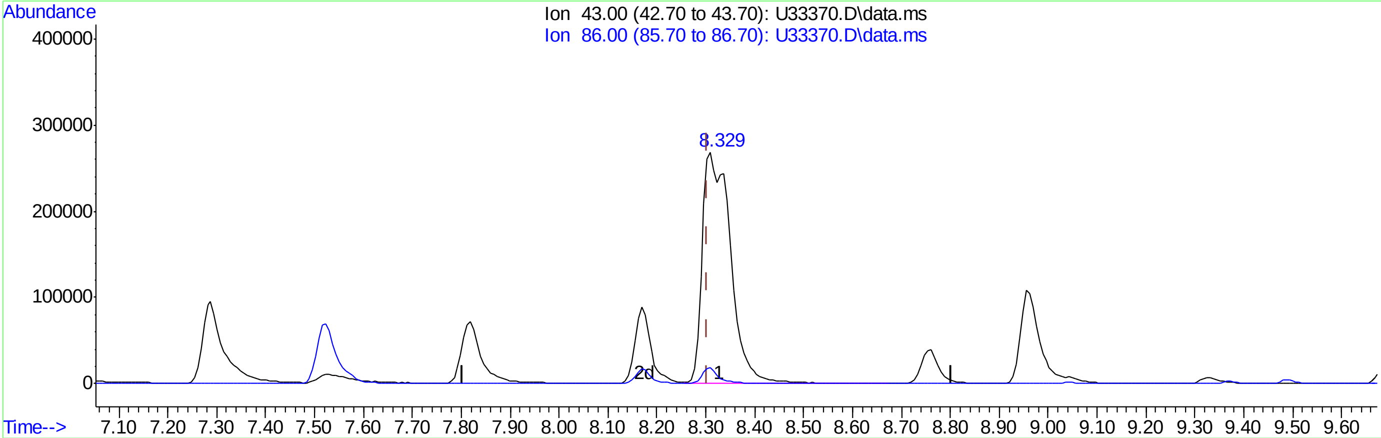
7.295min (+ 0.007) 39.82 ppb m

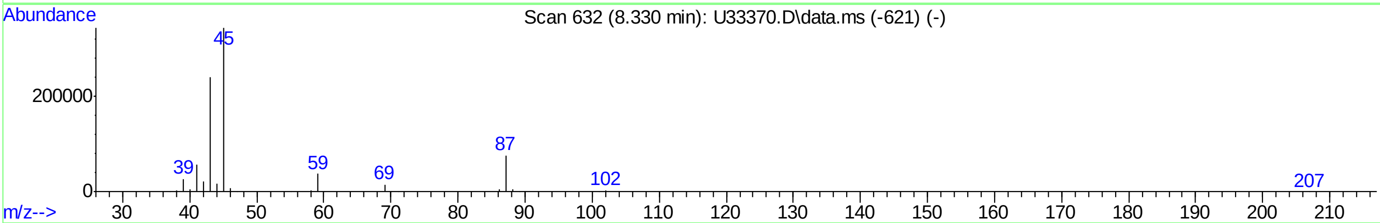
response 802244

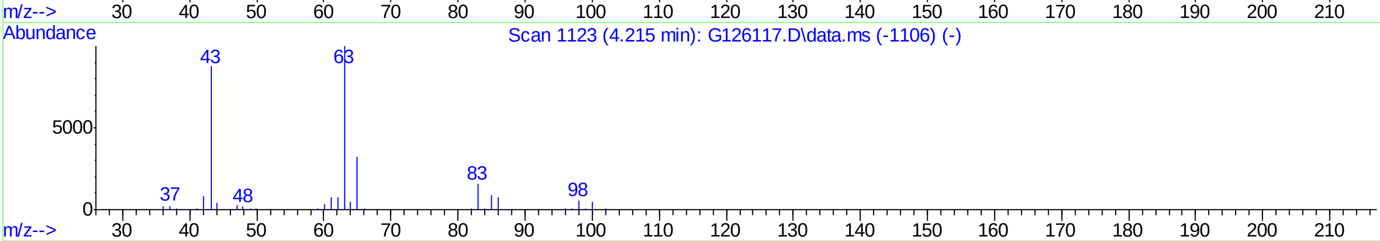
Ion	Exp%	Act%
76.00	100.00	100.00
78.00	8.80	9.64
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On    : 28 Oct 2015  10:09 pm
Operator  : andrewd1
Sample    : ecc1360-50
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 16   Sample Multiplier: 1

Quant Time: Oct 29 08:44:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```







TIC: U33370.D\data.ms

(26) vinyl acetate (P)

8.329min (+ 0.026) 135.14 ppb

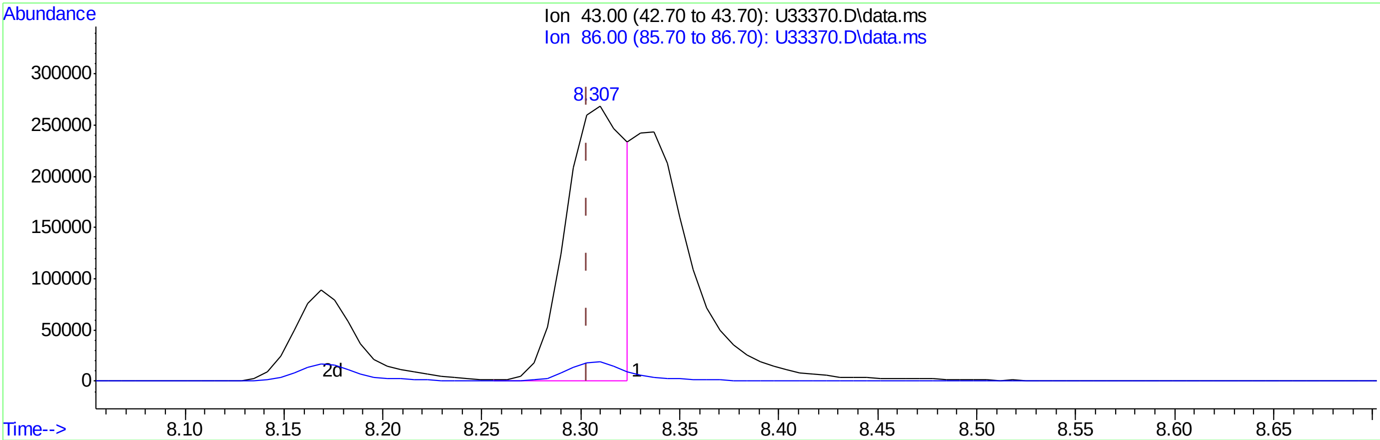
response 1080638

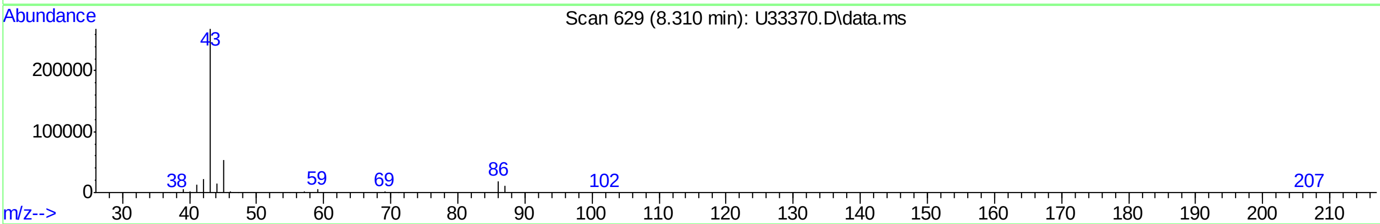
Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	2.54
0.00	0.00	0.00
0.00	0.00	0.00

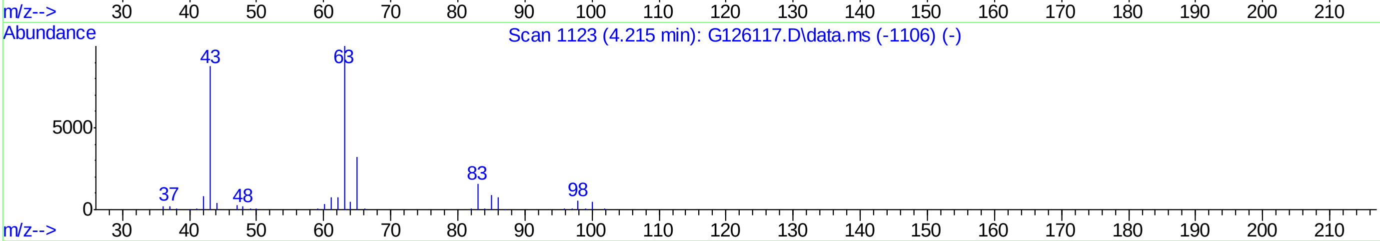
U33370.D edits: vinyl acetate

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On    : 28 Oct 2015  10:09 pm
Operator  : andrewd1
Sample    : ecc1360-50
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 16   Sample Multiplier: 1

Quant Time: Oct 29 08:44:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```







TIC: U33370.D\data.ms

(26) vinyl acetate (P)

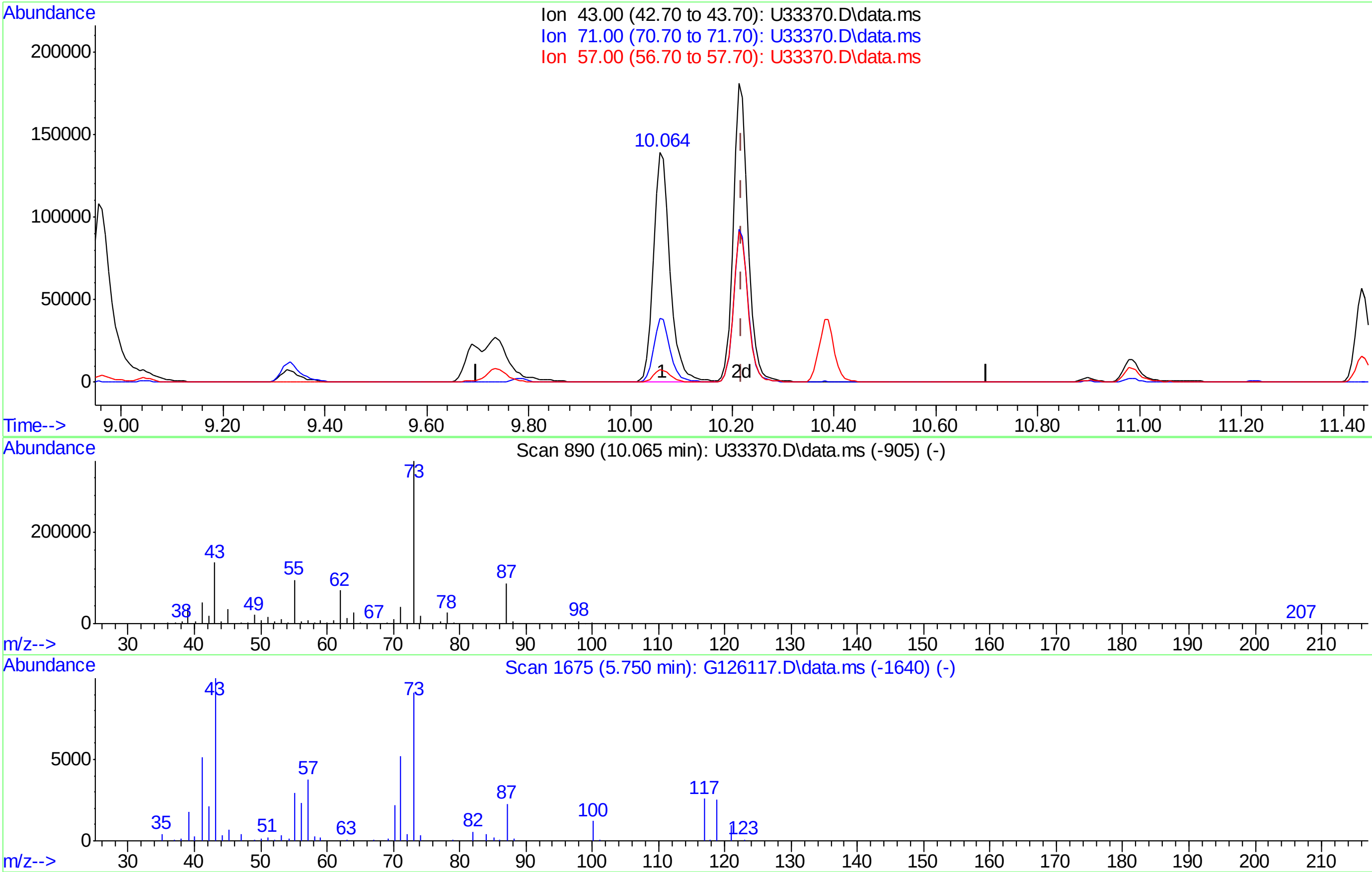
8.310min (+ 0.007) 71.64 ppb m

response 572914

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	6.40	6.93
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On    : 28 Oct 2015  10:09 pm
Operator  : andrewd1
Sample    : ecc1360-50
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 16   Sample Multiplier: 1

Quant Time: Oct 29 08:44:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33370.D\data.ms

(50) heptane (P)

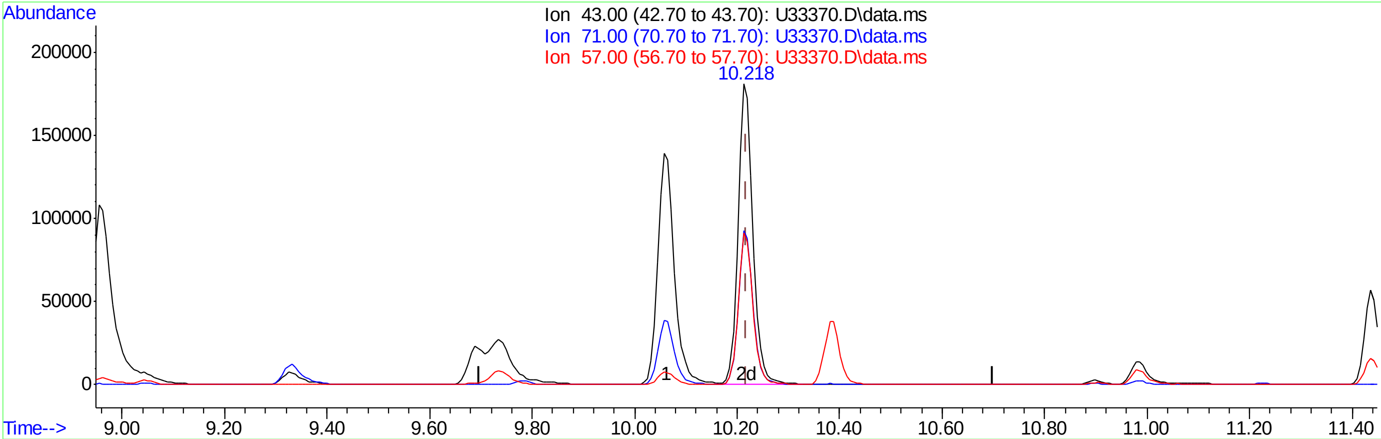
10.064min (-0.155) 40.81 ppb

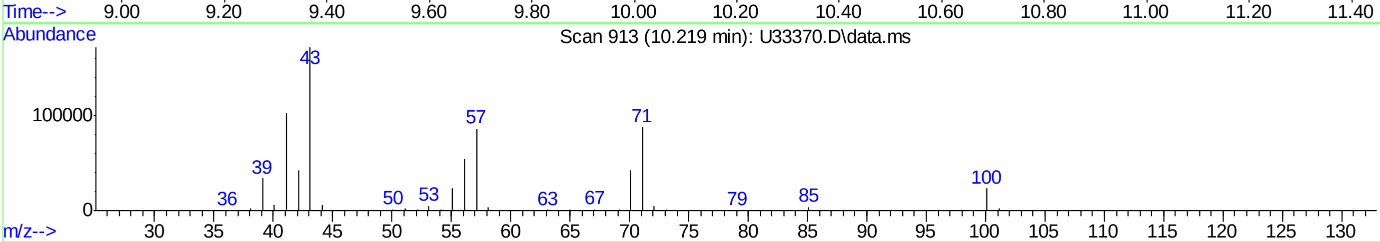
response 321643

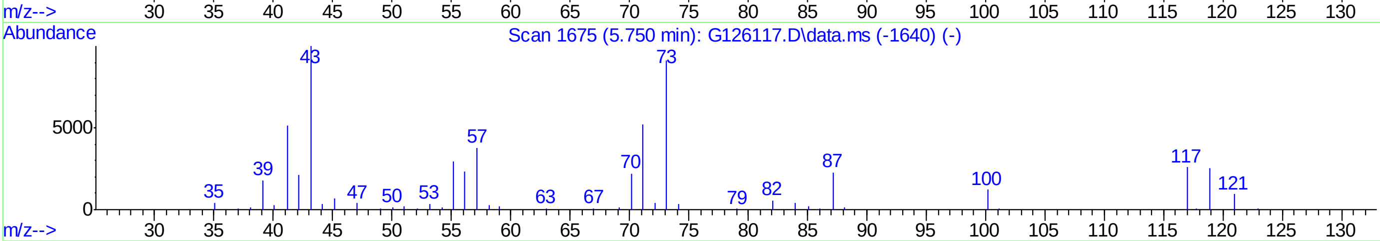
Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	28.16
57.00	5.80	5.17
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On    : 28 Oct 2015  10:09 pm
Operator  : andrewd1
Sample    : ecc1360-50
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 16   Sample Multiplier: 1

Quant Time: Oct 29 08:44:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```







TIC: U33370.D\data.ms

(50) heptane (P)

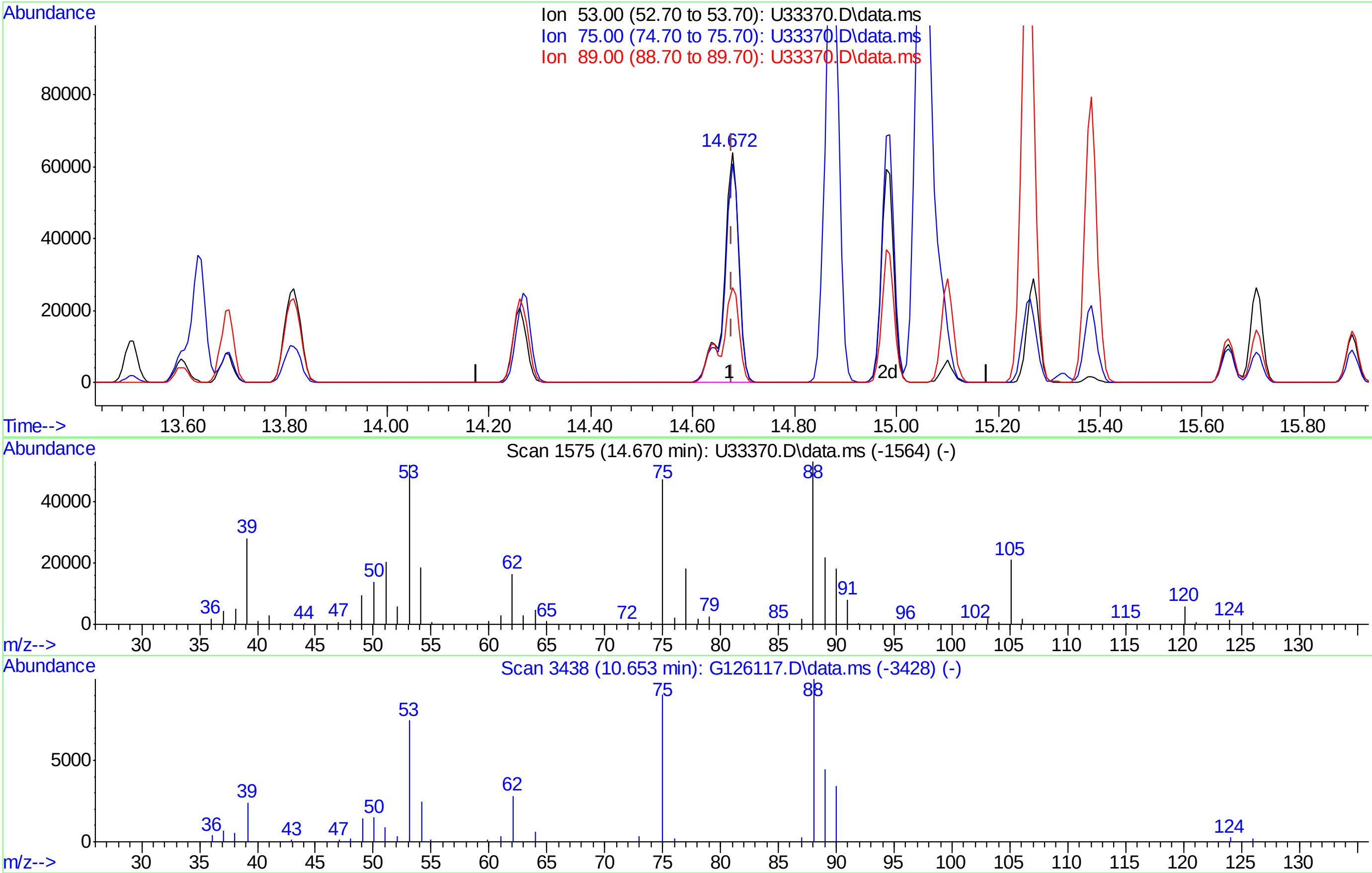
10.219min (+ 0.000) 46.71 ppb m

response 368072

Ion	Exp%	Act%
43.00	100.00	100.00
71.00	26.10	51.12
57.00	5.80	50.14#
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On    : 28 Oct 2015  10:09 pm
Operator  : andrewd1
Sample    : ecc1360-50
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 16   Sample Multiplier: 1

Quant Time: Oct 29 08:44:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33370.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

14.672min (-0.005) 57.29 ppb

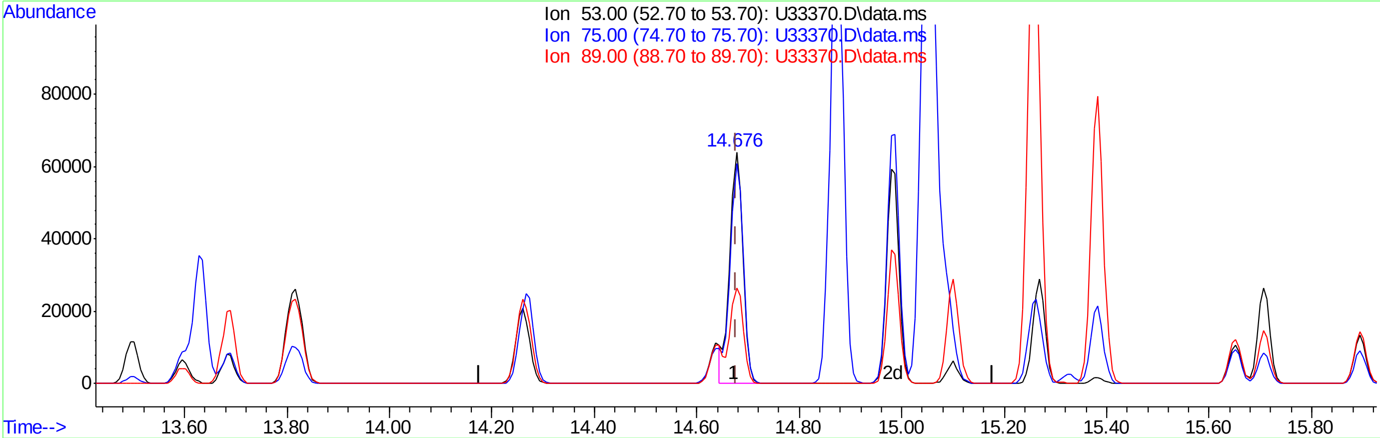
response 126072

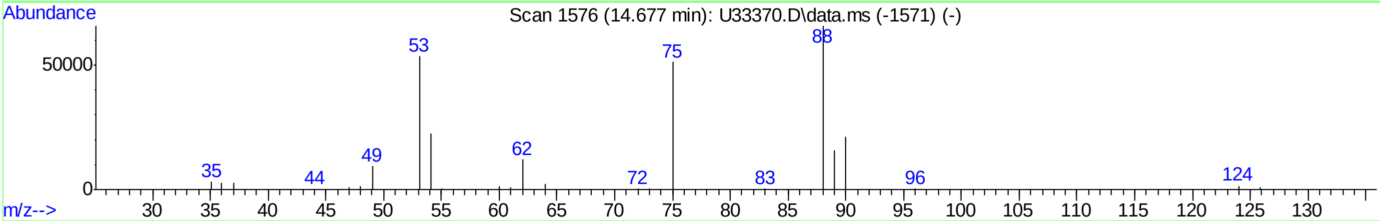
Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	91.87#
89.00	64.60	41.99
0.00	0.00	0.00

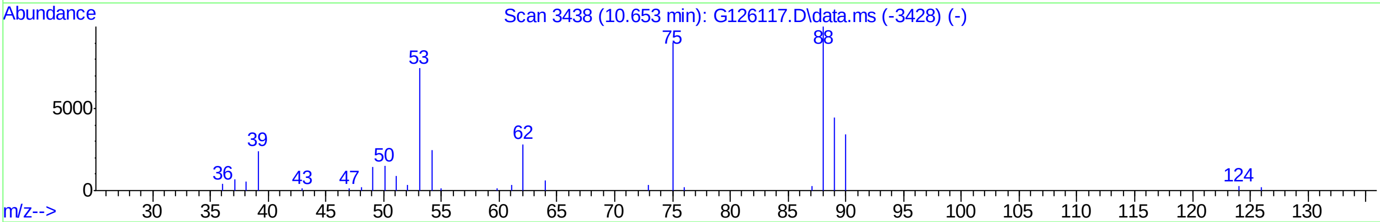
Quantitation Report (Qedit)

Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On : 28 Oct 2015 10:09 pm
Operator : andrewd1
Sample : ecc1360-50
Misc : ms35525,msu1363,,,,5,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 29 08:44:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration







TIC: U33370.D\data.ms

(79) trans-1,4-dichloro-2-butene (P)

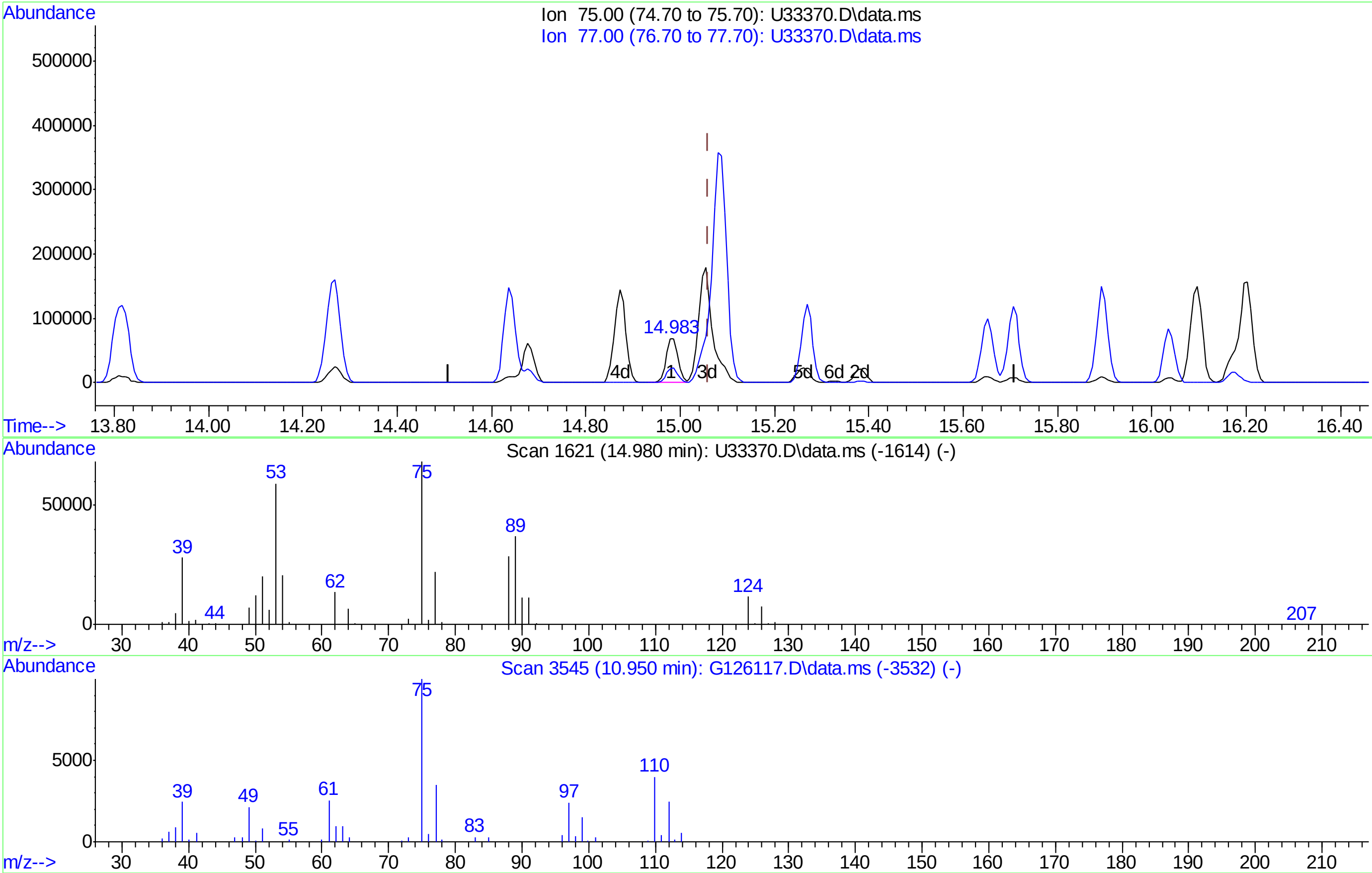
14.677min (+ 0.000) 50.27 ppb m

response 110629

Ion	Exp%	Act%
53.00	100.00	100.00
75.00	321.20	94.82#
89.00	64.60	41.31
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On    : 28 Oct 2015  10:09 pm
Operator  : andrewd1
Sample    : ecc1360-50
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 16   Sample Multiplier: 1

Quant Time: Oct 29 08:44:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```



TIC: U33370.D\data.ms

(85) 1,2,3-trichloropropane (P)

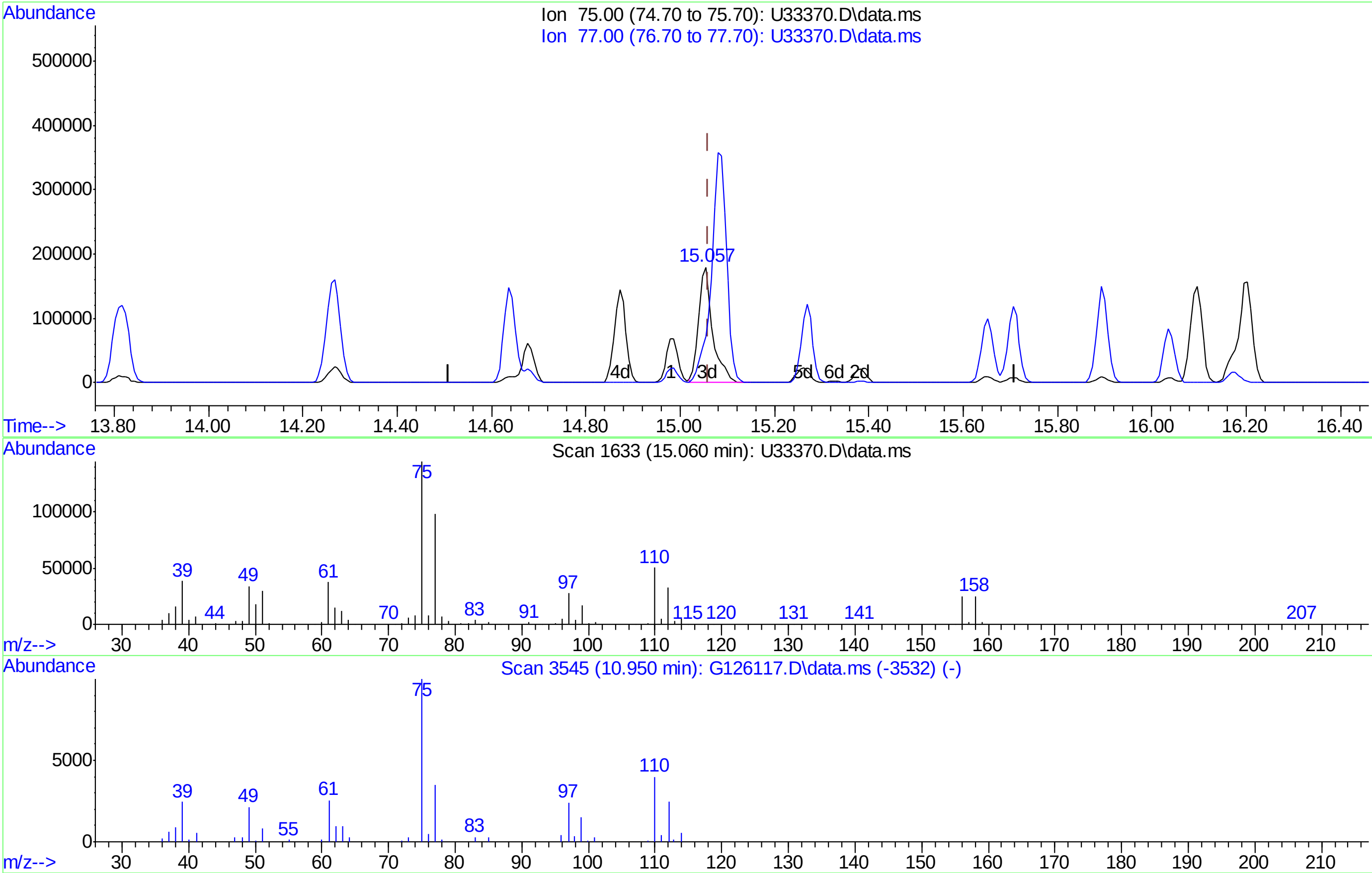
14.983min (-0.077) 16.20 ppb

response 120006

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	32.46
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : R:\1\data\U151028\
Data File : U33370.D
Acq On    : 28 Oct 2015  10:09 pm
Operator  : andrewd1
Sample    : ecc1360-50
Misc      : ms35525,msu1363,,,,5,1
ALS Vial  : 16   Sample Multiplier: 1

Quant Time: Oct 29 08:44:20 2015
Quant Method : R:\1\methods\U151027.m
Quant Title  : SW-846 Method 8260
QLast Update : Tue Oct 27 10:20:21 2015
Response via : Initial Calibration
```

TIC: U33370.D\data.ms

(85) 1,2,3-trichloropropane (P)

15.060min (+ 0.000) 50.92 ppb m

response 377296

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	32.00	67.56#
0.00	0.00	0.00
0.00	0.00	0.00

Accutest Laboratories of New England, Inc. Instrument: GCMS U

VOLATILE ORGANICS BY GC/MS ANALYSIS LOG

Standards Data

Lot #	Description	Conc
MSID 366	8260CC	200ug/mL
356	CCgas	
383	BS	
369	BSgas	
384	BS(bromo)	
370	IS+SS	250ug/mL

Daily Saved File

Tune file 1:	U33275
Tune file 2:	NA
Initial Cal:	10/26/15
ID File:	U151022W.M
ICAL Verified:	AD
Sequence verified:	AC

Date: 10/26/15

Batch ID: MSU1360

Analysts KH / AD

Signature: [signature] / [signature]

*Note: If sample matrix is soil – method SW846 5035 used for preparation. SW846 5030 is purge and trap method for soil and water

pH paper LOT# exp:

Data File	Sample ID	Bot No.	Work Group	Test	ALS #	*MTX	Samp Amt.	% Sol	Dil. Fact.	pH	Comments
U33271	iblk	NA	NA	8260W	1	W	5mL	NA	1:1	NA	
72	cctestpoint			curve	2						
73	iblk				3						
74	↓	↓			4						
75	IC1360-0.5	3,2			5						b/b
76	1				6						
77	2				7						
78	5				8						
79	10				9						
80	20				10						
81	ICC1360-50				11						
82	IC1360-100				12						
83	200				13						
84	400	↓			14						
85	blank	NA			15						
86	↓	↓			16						
87	ICV1360-50	1,2			17						2 cvs 001
88	↓	↓			18						
89	blank	NA			19						
90	↓	↓	↓	↓	20	↓	↓	↓	↓	↓	

10-27-15 a

MTX = Matrix: Designate **W** for water, **S** for soil, **O** for oil.

Sample amount is reported in grams (wet) for soil and oil, mls for water.

MS001-06 Date: 11/20/14

Review:

Accutest Laboratories of New England, Inc. **Instrument: GCMS U**

VOLATILE ORGANICS BY GC/MS ANALYSIS LOG

Standards Data

Lot #	Description	Conc
MS10366	8260 cc	200 ug/mL
350	cc gas	
383	bs	
369	bs gas	
384	bs (bromos)	
370	IS/SS	250 ug/mL

Daily Saved File

Tune file 1: u33343
Tune file 2: N/A
Initial Cal: 10-26-15
ID File: u151027.M
ICAL Verified: AD
Sequence verified: AD

Date: ~~MSU1363~~ 10-28-15

Batch ID: MSU1363

Analysts AD

Signature: AD

*Note: If sample matrix is soil – method SW846 5035 used for preparation. SW846 5030 is purge and trap method for soil and water

pH paper LOT# exp:

Data File	Sample ID	Bot No.	Work Group	Test	ALS #	*MTX	Samp Amt.	% Sol	Dil. Fact.	pH	Comments
u33343	CC1360-50	3,2	N/A	8260	1	N/A	5mL	N/A	1:1	N/A	bfb //
344	bs	1,2			2						10-29-15 AD ~~bfb~~ //
345	bsd	1			3						//
346	iblk	N/A			4						
347	mb	1			5						
348	MC42178-13	2/	MS35525	STD+MTBE	6	WTB					//
349	MC42228-3	2/		TCL42	7					<2	//
350	MC42197-12	2/		SL	8						//
351	-11	1/			9	WFB					//
352	MC42228-1	1/			10	WEB					//
353	-2	2/			11	GW					//
354	MC42178-3	3/		STD+MTBE	12					>2	//
355	-1	2/			1					>2	//
356	-2	1/			2						//
357	-4	1/			3						//
358	-5	3/			4						//
359	-7	4/			5						//
360	-9	3/			6						//
361	-10	2/			7						//
362	-6	1/			8						//
363	-12	3/			9						//
364	-8	2/			10						//
365	-11	4/			11		1mL		1:5		Foamy //
366	MC42197-8	1/		SL	12		5mL		1:1		old 1 rr 1:50 //
367	-9	1/			13		200uL		1:25		//
368	MC42178-3MS	9,6,2/		STD+MTBE	14		5mL		1:1		//
369	-3MSD	9,6,2			15						//
370	CCC1360-50	1,2	N/A	8260	16	N/A			N/A		

10-29-15 AD

MTX = Matrix: Designate **W** for water, **S** for soil, **O** for oil.

Sample amount is reported in grams (wet) for soil and oil, mls for water.

MS001-06 Date: 11/20/14

Review:

New England
ACCUTEST
LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1548-MB	BA22764.D	1	10/21/15	AF	n/a	n/a	GBA1548

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42178-7, MC42178-8, MC42178-10, MC42178-11

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1548-BSP	BA22766.D	1	10/21/15	AF	n/a	n/a	GBA1548

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42178-7, MC42178-8, MC42178-10, MC42178-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	88.8	100	50-150
74-84-0	Ethane	166	167	101	50-150
74-85-1	Ethene	155	185	119	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42178-7DUP	BA22769.D	1	10/21/15	AF	n/a	n/a	GBA1548
MC42178-7	BA22767.D	1	10/21/15	AF	n/a	n/a	GBA1548
MC42178-7	BA22768.D	1	10/21/15	AF	n/a	n/a	GBA1548

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42178-7, MC42178-8, MC42178-10, MC42178-11

CAS No.	Compound	MC42178-7 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	8190 [a]		8570	E	5	30
74-84-0	Ethane	10 U		ND		nc	30
74-85-1	Ethene	10 U		ND		nc	30

(a) Result is from Run #2.

* = Outside of Control Limits.

Initial Calibration Summary

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Sample: GBA871-ICC871
Lab FileID: GBA13933B.D

```
                         Response Factor Report   gcba

  Method       : C:\MSDCHEM\2\METHODS\80910R.M (Chemstation Integrator)
  Title        : V8015,master
  Last Update  : Mon Oct 04 11:36:14 2010
  Response via : Initial Calibration

  Calibration Files
  1   =GBA13930B.D  2   =GBA13931B.D  3   =GBA13932B.D  4   =GBA13933B.D
  5   =GBA13936B.D  6   =GBA13935B.D  7   =GBA13938B.D  8   =GBA13939B.D
  9   =GBA13940B.D  10  =GBA13941B.D      =                  =

  Compound
          1     2     3     4     5     6     7     8     9     10     Avg   %RSD
  ---------------------------------------------------------------------------
  1)  methane
       4.491 4.542 4.433 4.208 5.121 4.080 3.921 3.836 4.137        4.308 E3   9.09
         Linear regr.,Force(0,0)for methane
               Coefficient =  1.0000
               Response Ratio = 0.00000 + 4492.98820 *A

  2)  Acetylene
                                                                    0.000   -1.00
         Linear regr.,Force(0,0)for Acetylene
               Coefficient =  0.0000
               Response Ratio = 0.00000 + 0.00000 *A

  3)  Ethylene
       8.686 8.699 8.534 7.943 9.519 7.426 7.301 6.469 6.428 5.709  7.671 E3  15.88
         Linear regr.,Force(0,0)for Ethylene
               Coefficient =  1.0000
               Response Ratio = 0.00000 + 8684.67230 *A

  4)  Ethane
       8.710 8.691 8.461 7.787 9.297 7.281 7.146 6.380 5.679 5.393  7.482 E3  17.98
         Linear regr.,Force(0,0)for Ethane
               Coefficient =  1.0000
               Response Ratio = 0.00000 + 8705.85108 *A


Signal #2

  6)  carbon dioxide
       2.080 2.060 2.007 1.916 2.289 1.887 2.556                    2.113 E2  11.14
         Linear regr.,Force(0,0)for carbon dioxide
               Coefficient =  1.0000
               Response Ratio = 0.00000 + 207.83580 *A

 ---------------------------------------------------------------------------
 (#) = Out of Range   ###  Number of calibration levels exceeded format  ###

          80910R.M          Mon Oct 04 11:44:34 2010    RPT1
```

Initial Calibration Verification

Job Number: MC42178
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Sample: GBA871-ICV871
Lab FileID: GBA13942B.D

```
                     Evaluate Continuing Calibration Report

  Signal #1 : C:\MSDCHEM\2\DATA\GBA13942B.D\FID1A.CH       Vial: 13
  Signal #2 : C:\MSDCHEM\2\DATA\GBA13942B.D\TCD2B.CH
  Acq On    : 09 Aug 2010  12:11 pm                    Operator: tonyf
  Sample    : icv871-250                               Inst    : gcba
  Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
  IntFile Signal #1: events.e     IntFile Signal #2: events2.e

  Method       : C:\MSDCHEM\2\METHODS\80910R.M (Chemstation Integrator)
  Title        : V8015,master
  Last Update  : Mon Oct 04 11:36:14 2010
  Response via : Multiple Level Calibration

  Min. RRF     :   0.000  Min. Rel. Area :  80%  Max. R.T. Dev  0.50min
  Max. RRF Dev :  30%     Max. Rel. Area : 120%

        Compound                      AvgRF    CCRF       %Dev  Area% Dev(Min)
  -------------------------------------------------------------------------
  1 t   methane                       4.308    4.062 E3    5.7    97  -0.03
  3     Ethylene                      7.671    7.618 E3    0.7    96   0.00
  4     Ethane                        7.482    7.432 E3    0.7    95   0.00

  Signal #2

  6 t   carbon dioxide              211.340 184.603      12.7    96   0.00


        Evaluate Continuing Calibration Report - Not Founds

  Signal #1 : C:\MSDCHEM\2\DATA\GBA13942B.D\FID1A.CH       Vial: 13
  Signal #2 : C:\MSDCHEM\2\DATA\GBA13942B.D\TCD2B.CH
  Acq On    : 09 Aug 2010  12:11 pm                    Operator: tonyf
  Sample    : icv871-250                               Inst    : gcba
  Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
  IntFile Signal #1: events.e     IntFile Signal #2: events2.e

  Method       : C:\MSDCHEM\2\METHODS\80910R.M (Chemstation Integrator)
  Title        : V8015,master
  Last Update  : Mon Oct 04 11:36:14 2010
  Response via : Multiple Level Calibration

  Min. RRF     :   0.000  Min. Rel. Area :  80%  Max. R.T. Dev  0.50min
  Max. RRF Dev :  30%     Max. Rel. Area : 120%

        Compound                      AvgRF    CCRF       %Dev  Area% Dev(Min)
  -------------------------------------------------------------------------
  2     Acetylene                     0.000    0.000       0.0     0#  0.00

  Signal #2

 --------------------------------------------------------------------------

    (#) = Out of Range              SPCC's out = 0  CCC's out = 0
     GBA13933B.D 80910R.M         Mon Oct 04 11:44:34 2010   RPT1
```

8.4.2

8

Continuing Calibration Summary

Job Number: MC42178 **Sample:** GBA1548-CC871
Account: HSMAW H&S Environmental **Lab FileID:** BA22762.D
Project: Fort Devens, AOC50, Devens, MA

```
                   Evaluate Continuing Calibration Report

  Signal #1 : E:\msdchem\1\data\BA...21\ba22762.d\FID1A.CH Vial: 1
  Signal #2 : E:\msdchem\1\data\BA151021\ba22762.d\TCD2B.CH
  Acq On    : 21-Oct-15, 08:03:17                          Operator: tonyf
  Sample    : cc871-250                                    Inst    : GCBA
  Misc      : gc25539,gba1548,,,,1,1                       Multiplr: 1.00
  IntFile Signal #1: events.e     IntFile Signal #2: events2.e

  Method       : E:\msdchem\1\met...1021vrsk175ch4.M (ChemStation Integrator)
  Title        : vrsk175ch4+vrsk147co2
  Last Update  : Fri Oct 09 09:45:53 2015
  Response via : Multiple Level Calibration

  Min. RRF     :   0.000  Min. Rel. Area :  80%  Max. R.T. Dev  0.50min
  Max. RRF Dev :  20%     Max. Rel. Area : 120%

         Compound                    Amount  Calc.     %Dev Area%  Dev(min)R.T.
  ----------------------------------------------------------------------------


            ----------------------- True    Calc.   % Drift  ------------
  1 t   methane                    252.500 242.804      3.8  103  -0.06    2.47
  2     Acetylene                                ----------NA----------
  3     Ethylene                   250.000 231.965      7.2  101  -0.06    5.09
  4     Ethane                     250.000 236.116      5.6  106  -0.06    5.55

 *****  Signal #2 *****
  6 t   carbon dioxide             250.000 256.032     -2.4  111  -0.06    3.55
 --------------------------------------------------------------------------

  (  0.0 %)  0 of   4 compounds'%D > 20
 --------------------------------------------------------------------------

    (#) = Out of Range               SPCC's out = 0  CCC's out = 0
     ba22606.d  ba151021vrsk175ch4.M       Wed Oct 21 08:55:18 2015
```

8.4.3

8

Continuing Calibration Summary

Job Number: MC42178 **Sample:** GBA1548-CC871
Account: HSMAW H&S Environmental **Lab FileID:** BA22777.D
Project: Fort Devens, AOC50, Devens, MA

```
                    Evaluate Continuing Calibration Report

  Signal #1 : E:\msdchem\1\data\BA...21\ba22777.d\FID1A.CH Vial: 16
  Signal #2 : E:\msdchem\1\data\BA151021\ba22777.d\TCD2B.CH
  Acq On    : 21-Oct-15, 12:02:43                        Operator: tonyf
  Sample    : cc871-250                                  Inst    : GCBA
  Misc      : gc25539,gba1548,,,,1,1                     Multiplr: 1.00
  IntFile Signal #1: events.e     IntFile Signal #2: events2.e

  Method       : E:\msdchem\1\met...1021vrsk175ch4.M (ChemStation Integrator)
  Title        : vrsk175ch4+vrsk147co2
  Last Update  : Fri Oct 09 09:45:53 2015
  Response via : Multiple Level Calibration

  Min. RRF     :   0.000  Min. Rel. Area :  80%  Max. R.T. Dev  0.50min
  Max. RRF Dev :  20%     Min. Rel. Area : 120%

         Compound                         Amount  Calc.     %Dev Area%  Dev(min)R.T.
  ----------------------------------------------------------------------------

            ----------------------- True    Calc.   % Drift  ------------
  1 t   methane                     252.500 289.612    -14.7  122  -0.07    2.46
  2     Acetylene                                 ----------NA----------
  3     Ethylene                    250.000 277.849    -11.1  122  -0.07    5.08
  4     Ethane                      250.000 275.719    -10.3  123  -0.07    5.54

 *****  Signal #2 *****
  6 t   carbon dioxide                            ----------NA----------
 --------------------------------------------------------------------------

  (  0.0 %)  0 of   3 compounds'%D > 20
 --------------------------------------------------------------------------

    (#) = Out of Range               SPCC's out = 0  CCC's out = 0
     ba22606.d  ba151021vrsk175ch4.M       Wed Oct 21 15:53:08 2015
```

New England ACCUTEST LABORATORIES

GC Volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/29/15 12:35

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22767.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 09:22:18
Operator  : tonyf
Sample    : mc42178-7,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 6 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 09:32:37 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

	Compound	R.T.	Response	Conc Units	
Target Compounds					
1) t	methane	2.443	310931750	69203.776 ppmv	m
3)	Ethylene	5.091	44539	5.129 ppmv	m
4)	Ethane	5.551	3316	0.381 ppmv	m

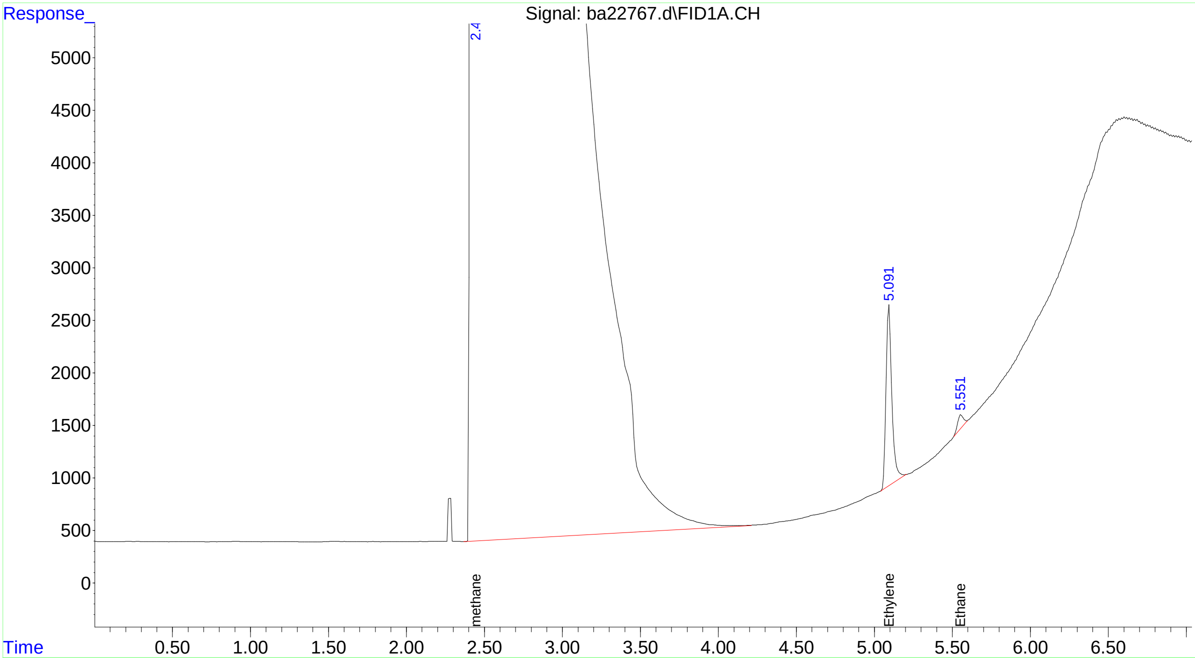
(f)=RT Delta > 1/2 Window (m)=manual int.

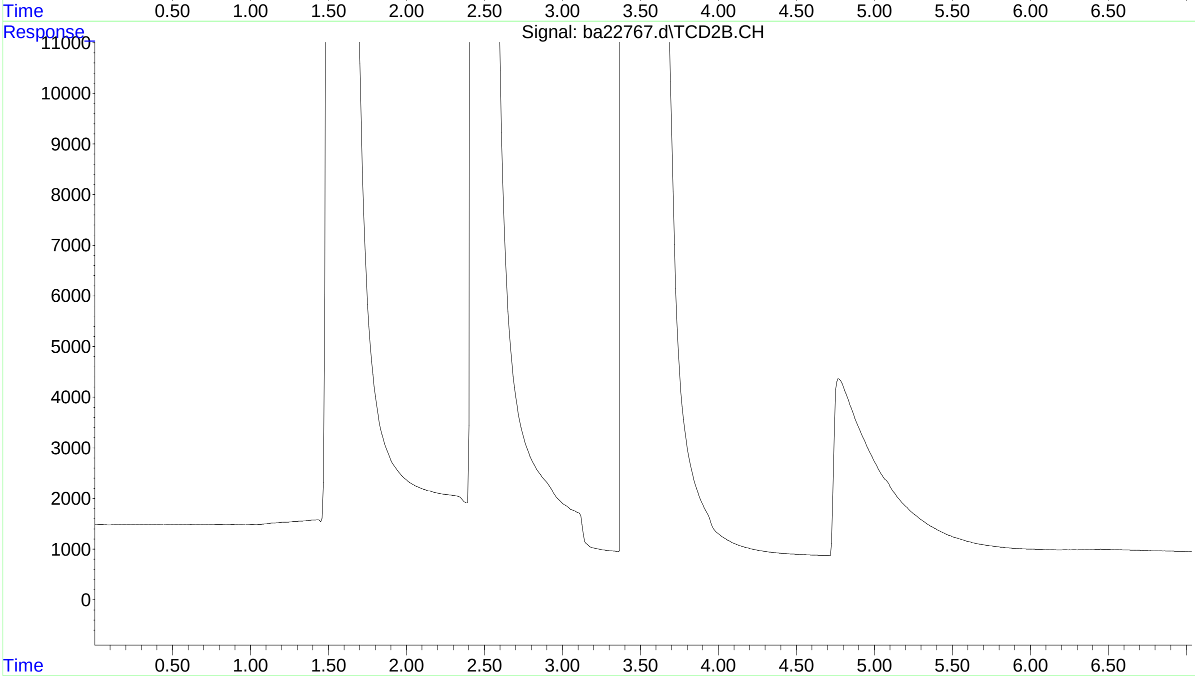
9.1.1

9

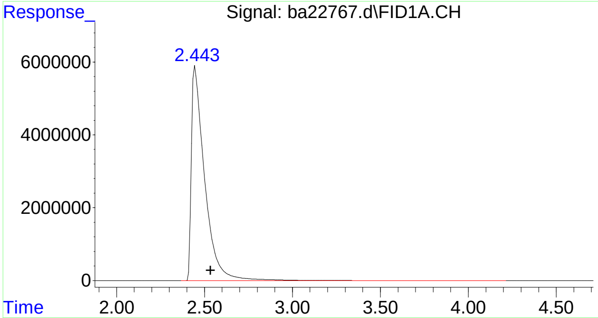
Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22767.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 09:22:18
Operator  : tonyf
Sample    : mc42178-7,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 6 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 09:32:37 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                Signal #2 Phase:
Signal #1 Info  :                Signal #2 Info :
```

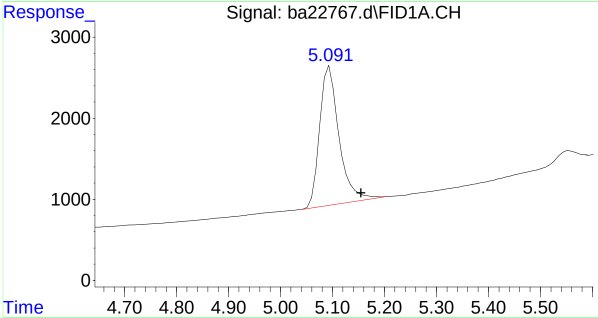




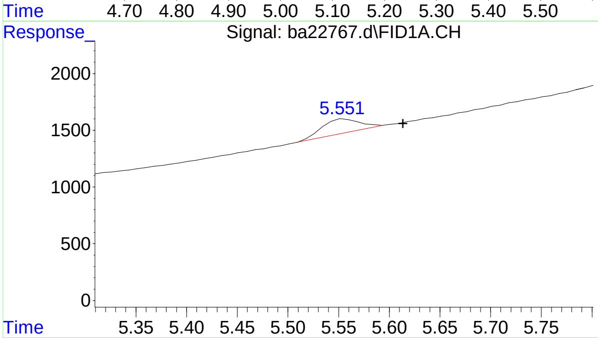
9.1.1
9




```
#1  methane

       R.T.:    2.443 min
Delta R.T.:   -0.092 min
   Response: 310931750
       Conc: 69203.78 ppmv m
```




```
#3  Ethylene

       R.T.:    5.091 min
Delta R.T.:   -0.064 min
   Response:     44539
       Conc:   5.13 ppmv m
```




```
#4  Ethane

       R.T.:    5.551 min
Delta R.T.:   -0.062 min
   Response:      3316
       Conc:   0.38 ppmv m
```

Dissolved Gases Raw Data Summary

Sample Number: MC42178-7
Lab FileID: BA22767.D
Injection Time: 10/21/15 09:22
Method: VRSK 175
Sample Volume: 37.0 ml
Headspace: 5.0 ml
Volume Injected: 200 ul
Temperature: 23 Deg. C

Parameter	CAS	MW	Result (ppmv)	Henry's Constant	Total	Units
Methane	74-82-8	16	69203.78	39820	7700	ug/l
Ethane	74-84-0	30	0.38	28640	0.0	ug/l
Ethene	74-85-1	28	5.13	10920	0.0	ug/l
Carbon Dioxide	124-38-9	44	0	15520	0.0	ug/l

Henry's Constants	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Carbon Dioxide	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/29/15 12:35

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22768.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 09:42:04
Operator  : tonyf
Sample    : mc42178-7,1:10,w,vrsk175dgmee (Sig #1); mc42178-7dup,w,vrsk175dgmee (Sig #2)
Misc      : gc25539,gba1548,37,23,20,5,1
ALS Vial  : 7 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 09:59:27 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.472	33058690	7357.840 ppmv m
3) Ethylene	5.093	4273	0.492 ppmv m

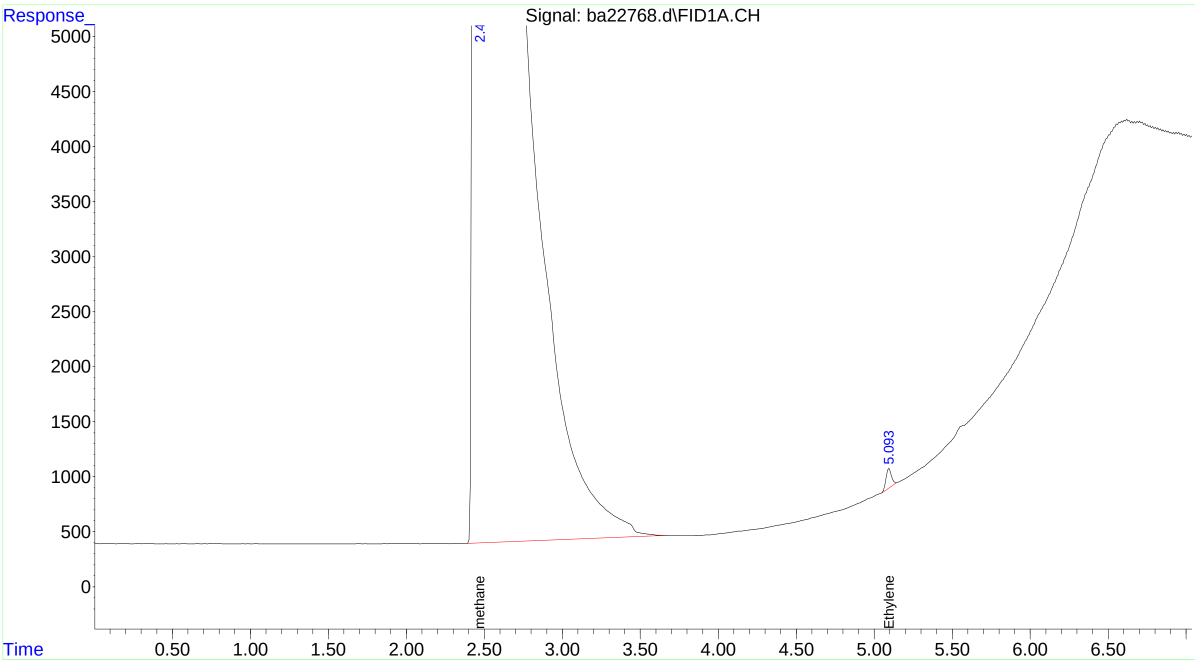
(f)=RT Delta > 1/2 Window (m)=manual int.

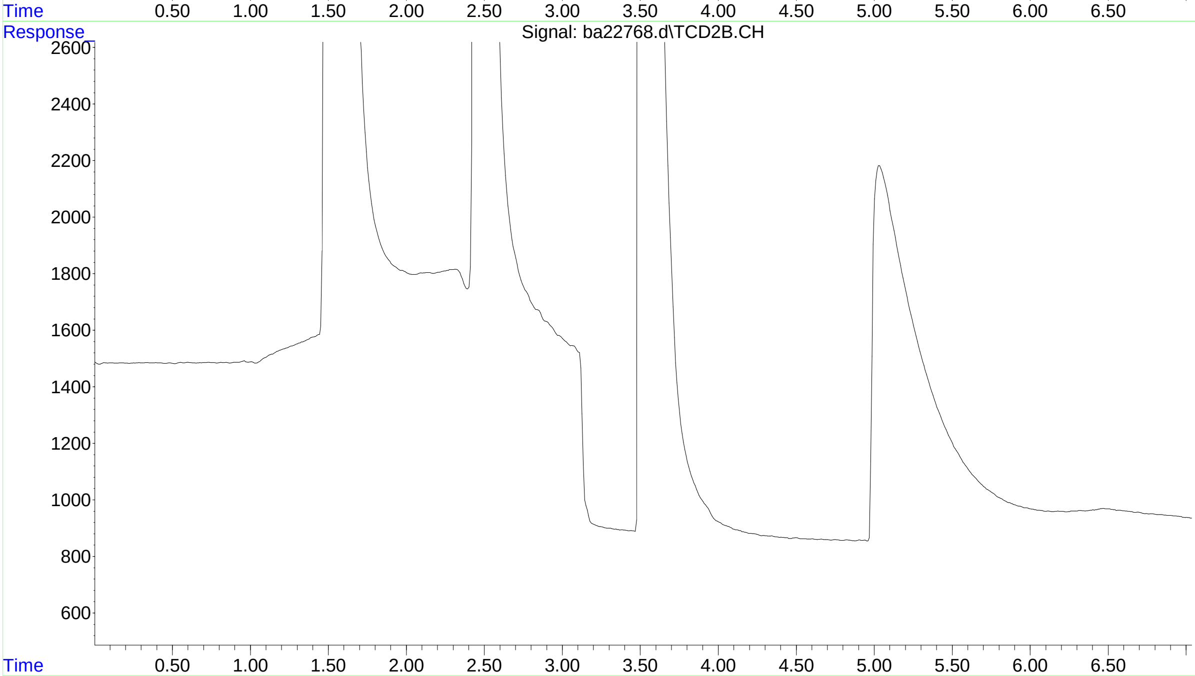
9.1.2

9

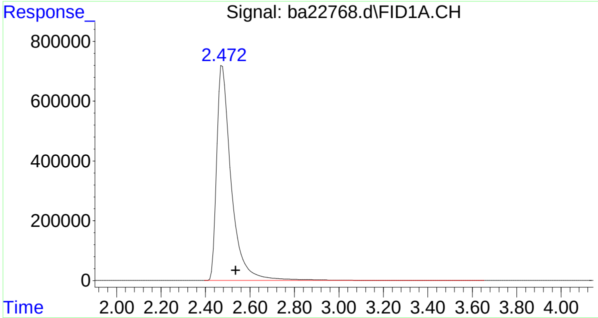
Quantitation Report   (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22768.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 09:42:04
Operator  : tonyf
Sample    : mc42178-7,1:10,w,vrsk175dgmee (Sig #1); mc42178-7dup,w,vrsk175dgmee (Sig #2)
Misc      : gc25539,gba1548,37,23,20,5,1
ALS Vial  : 7 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 09:59:27 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

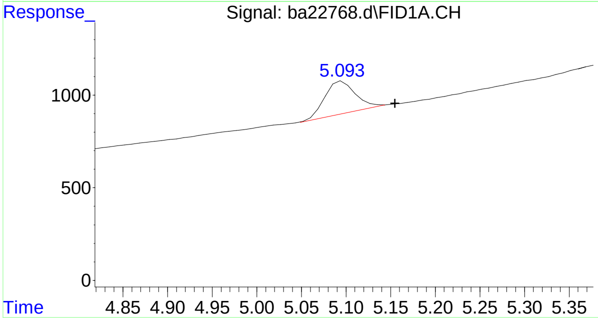




ba151021vrsk175ch4.M Wed Oct 21 14:52:10 2015   Page: 2




```
#1  methane

       R.T.:    2.472 min
Delta R.T.:   -0.063 min
   Response:  33058690
       Conc: 7357.84 ppmv m
```




```
#3  Ethylene

       R.T.:    5.093 min
Delta R.T.:   -0.062 min
   Response:      4273
       Conc:    0.49 ppmv m
```

9.1.2

9

Dissolved Gases Raw Data Summary

Sample Number:	MC42178-7	**Sample Volume:**	37.0 ml
Lab FileID:	BA22768.D	**Headspace:**	5.0 ml
Injection Time:	10/21/15 09:42	**Volume Injected:**	20.0 ul
Method:	VRSK 175	**Temperature:**	23 Deg. C

Parameter	CAS	MW	Result (ppmv)	Henry's Constant	Total	Units
Methane	74-82-8	16	7357.84	39820	8190	ug/l
Ethane	74-84-0	30	0	28640	0.0	ug/l
Ethene	74-85-1	28	0.49	10920	0.0	ug/l
Carbon Dioxide	124-38-9	44	0	15520	0.0	ug/l

Henry's Constants	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Carbon Dioxide	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/29/15 12:35

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22770.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 10:14:38
Operator  : tonyf
Sample    : mc42178-8,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 9 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 10:26:15 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.411f	752605648	167506.705 ppmv m
3) Ethylene	5.091	188950	21.757 ppmv m
4) Ethane	5.552	8965	1.030 ppmv m

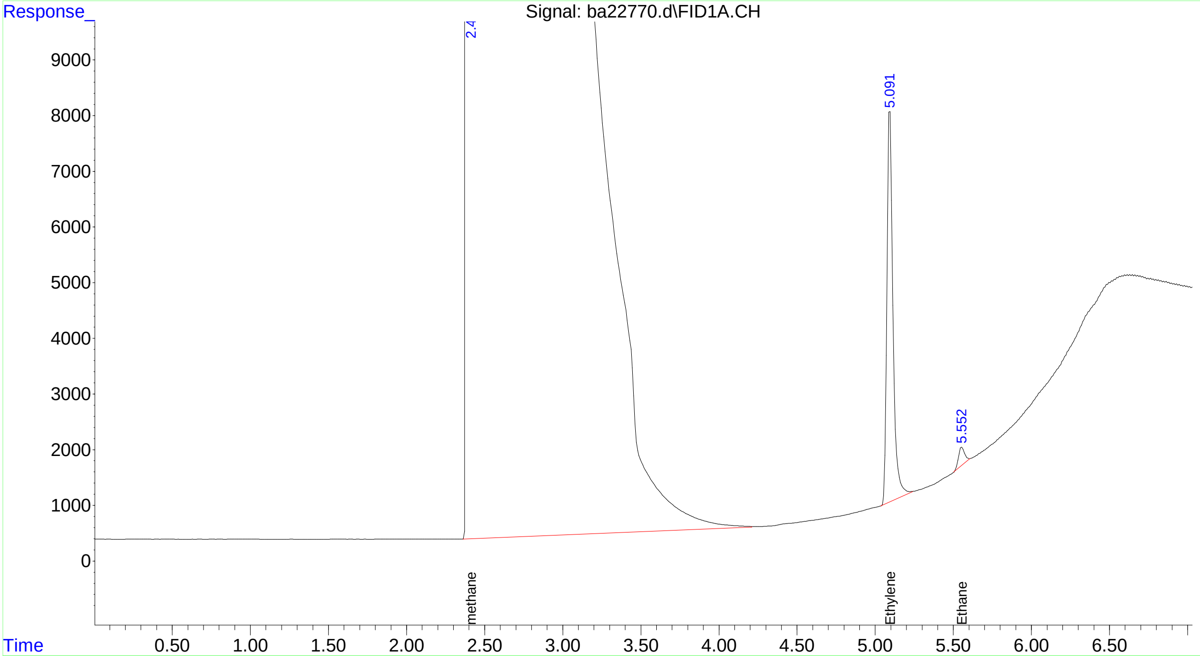
(f)=RT Delta > 1/2 Window (m)=manual int.

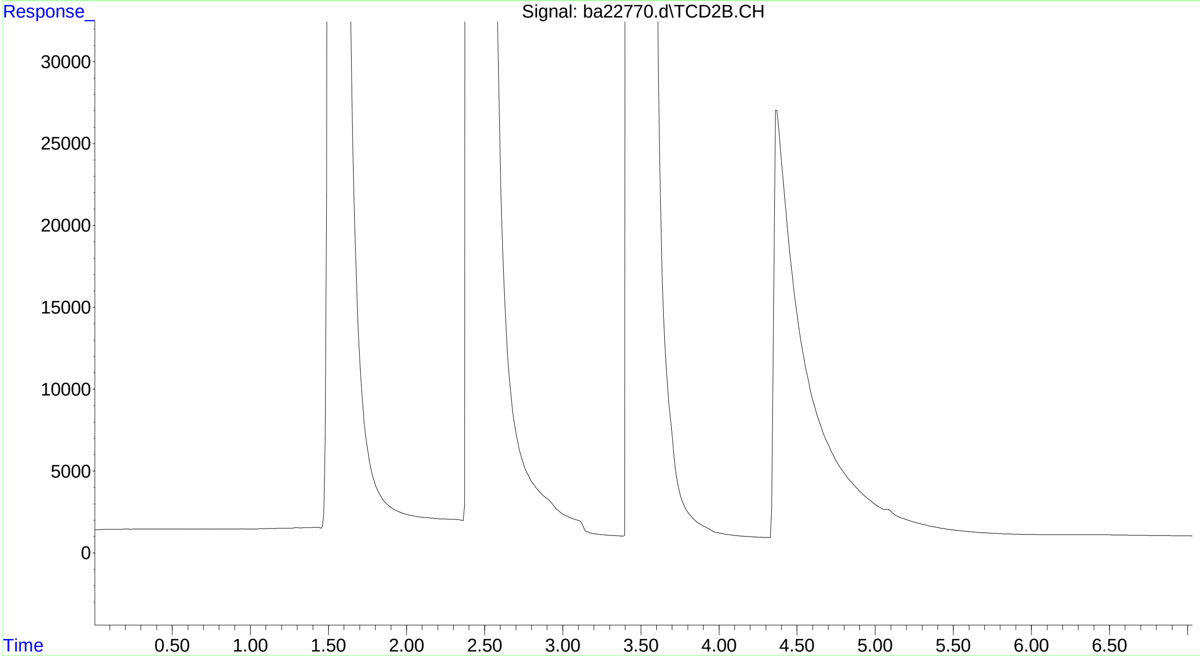
9.1.3

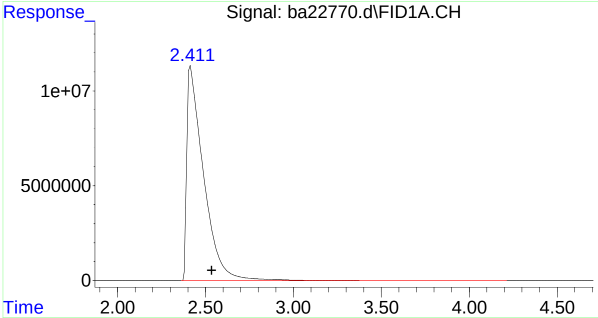
9

Quantitation Report (QT Reviewed)

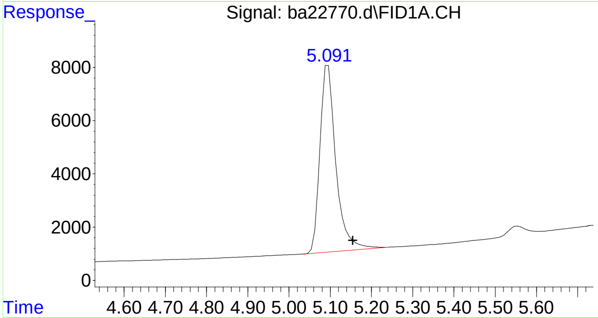
```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22770.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 10:14:38
Operator  : tonyf
Sample    : mc42178-8,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 9 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 10:26:15 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```



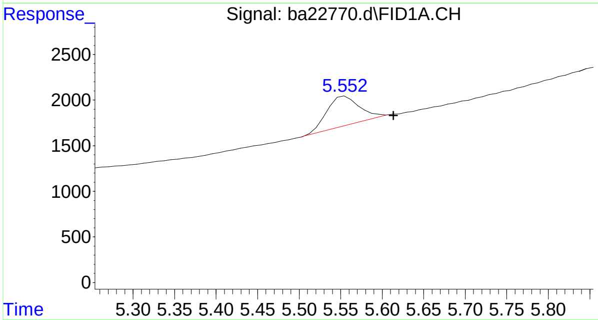





```
#1   methane

       R.T.:     2.411 min
Delta R.T.:    -0.124 min
  Response: 752605648
      Conc: 167506.70 ppmv m
```




```
#3   Ethylene

       R.T.:     5.091 min
Delta R.T.:    -0.064 min
  Response:     188950
      Conc:   21.76 ppmv m
```




```
#4   Ethane

       R.T.:     5.552 min
Delta R.T.:    -0.061 min
  Response:       8965
      Conc:    1.03 ppmv m
```

9.1.3

9

Dissolved Gases Raw Data Summary

Sample Number:	MC42178-8	**Sample Volume:**	37.0 ml
Lab FileID:	BA22770.D	**Headspace:**	5.0 ml
Injection Time:	10/21/15 10:14	**Volume Injected:**	200 ul
Method:	VRSK 175	**Temperature:**	23 Deg. C

Parameter	**CAS**	**MW**	**Result (ppmv)**	**Henry's Constant**	**Total**	**Units**
Methane	74-82-8	16	167506.7	39820	18600	ug/l
Ethane	74-84-0	30	1.03	28640	0.0	ug/l
Ethene	74-85-1	28	21.76	10920	6.5	ug/l
Carbon Dioxide	124-38-9	44	0	15520	0.0	ug/l

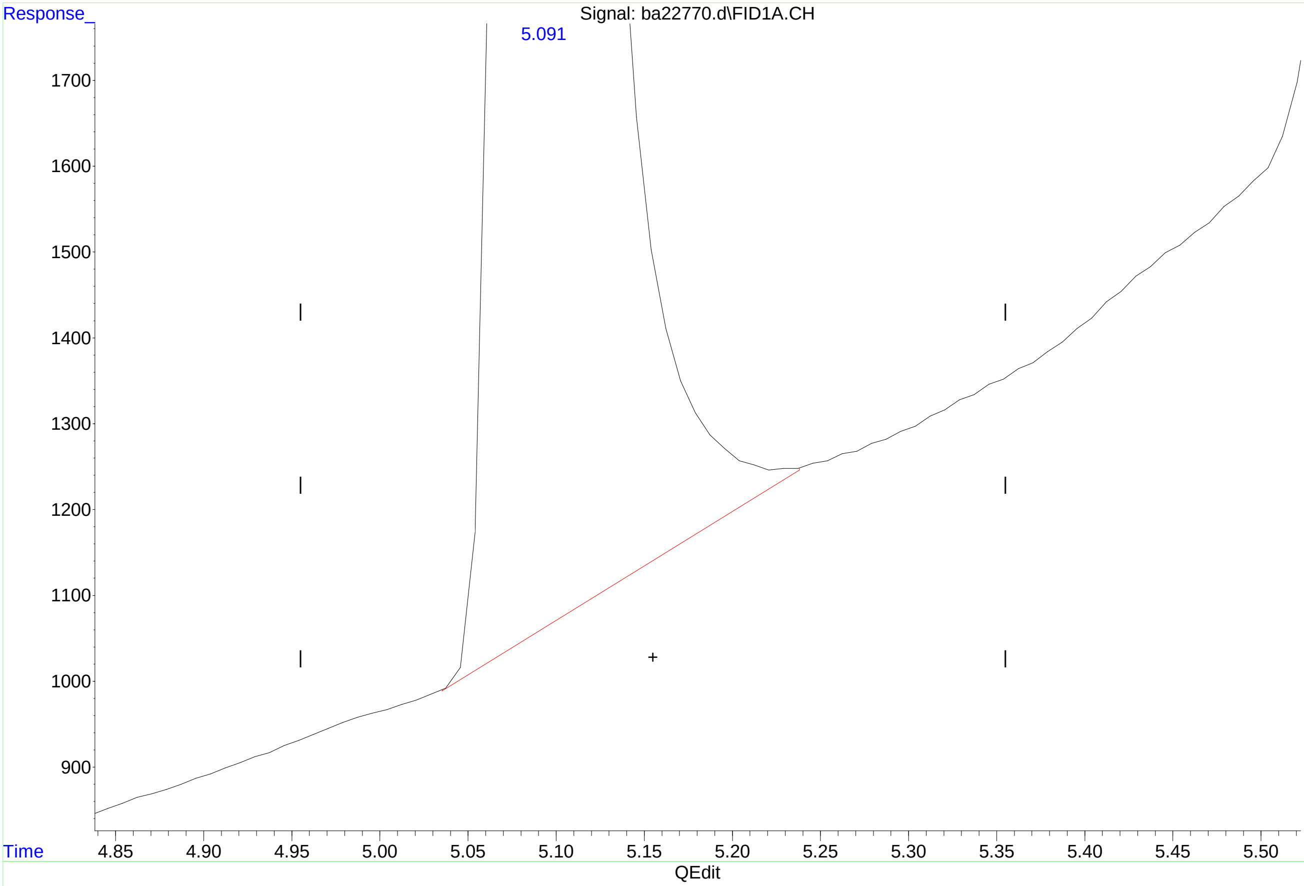
Henry's Constants	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Carbon Dioxide	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600

9.1.3.1

9

Quantitation Report (Qedit)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22770.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 10:14:38
Operator  : tonyf
Sample    : mc42178-8,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 9 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 10:26:15 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                   Signal #2 Phase:
Signal #1 Info  :                   Signal #2 Info :
```



(3) Ethylene

5.091min 21.757 ppmv m

response 188950

(+) = Expected Retention Time

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/29/15 12:35

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22772.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 10:49:02
Operator  : tonyf
Sample    : mc42178-8,1:20,w,vrsk175dgmee (Sig #1); mc42178-10,w,vrsk175dgmee (Sig #2)
Misc      : gc25539,gba1548,37,23,10,5,1
ALS Vial  : 11 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 10:59:55 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) t	methane	2.486	33548039	7466.754 ppmv m
3)	Ethylene	5.091	7333	0.844 ppmv m

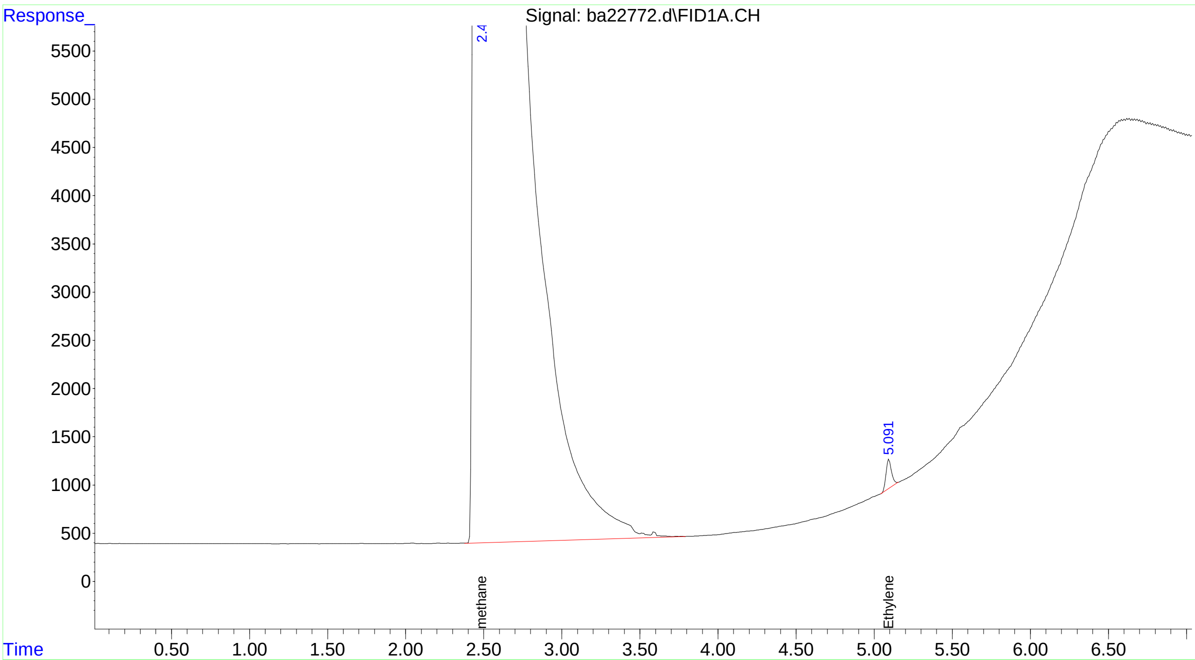
(f)=RT Delta > 1/2 Window (m)=manual int.

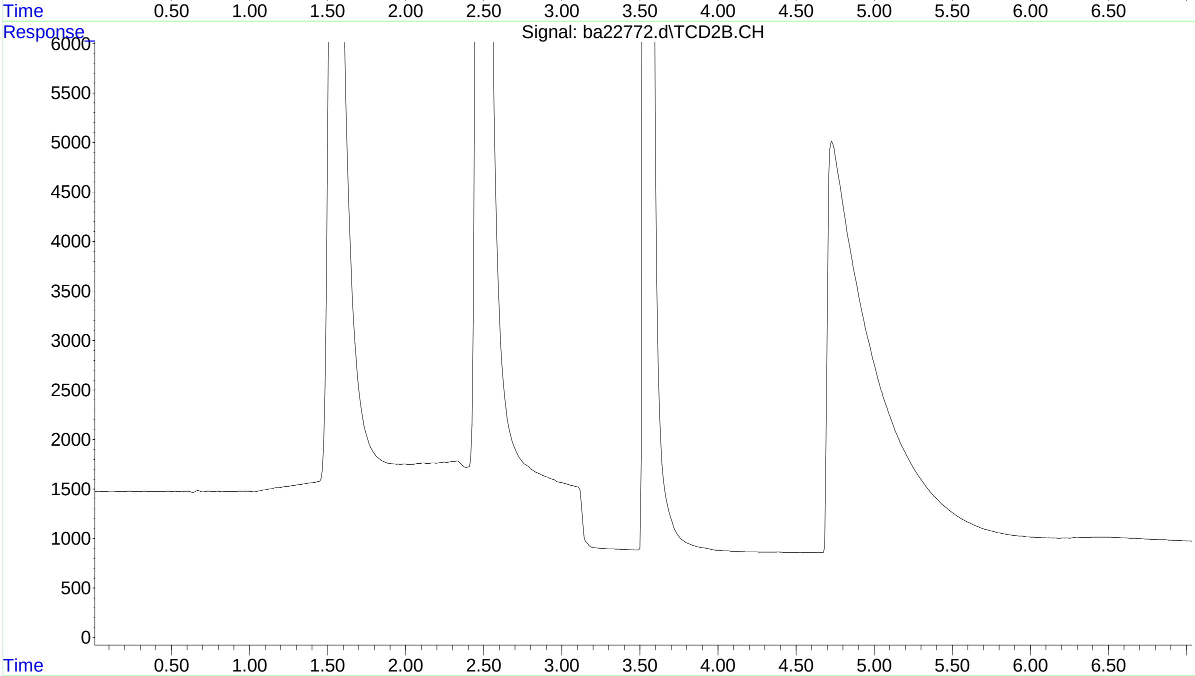
9.1.4

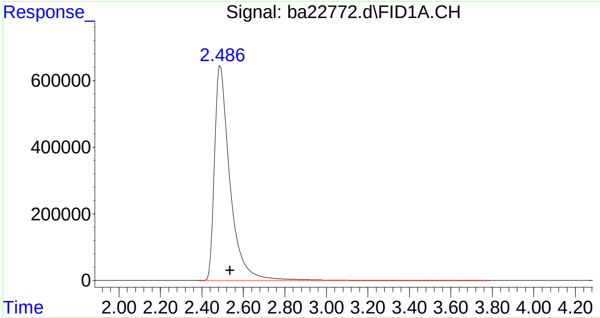
9

Quantitation Report (QT Reviewed)

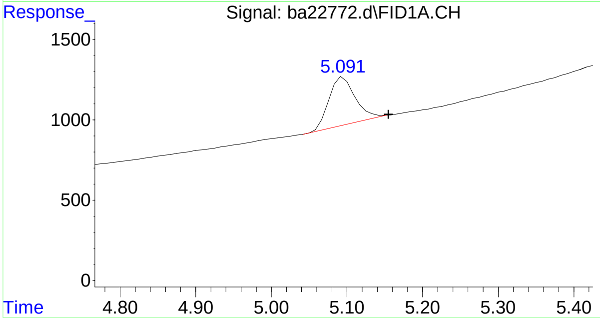
```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22772.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 10:49:02
Operator  : tonyf
Sample    : mc42178-8,1:20,w,vrsk175dgmee (Sig #1); mc42178-10,w,vrsk175dgmee (Sig #2)
Misc      : gc25539,gba1548,37,23,10,5,1
ALS Vial  : 11 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 10:59:55 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                 Signal #2 Phase:
Signal #1 Info  :                 Signal #2 Info :
```








```
#1  methane

        R.T.:    2.486 min
Delta R.T.:   -0.049 min
   Response:  33548039
       Conc: 7466.75 ppmv m
```




```
#3  Ethylene

        R.T.:    5.091 min
Delta R.T.:   -0.064 min
   Response:      7333
       Conc:    0.84 ppmv m
```

9.1.4

9

Dissolved Gases Raw Data Summary

Sample Number: MC42178-8
Lab FileID: BA22772.D
Injection Time: 10/21/15 10:49
Method: VRSK 175
Sample Volume: 37.0 ml
Headspace: 5.0 ml
Volume Injected: 10.0 ul
Temperature: 23 Deg. C

Parameter	CAS	MW	Result (ppmv)	Henry's Constant	Total	Units
Methane	74-82-8	16	7466.75	39820	16600	ug/l
Ethane	74-84-0	30	0	28640	0.0	ug/l
Ethene	74-85-1	28	0.84	10920	0.0	ug/l
Carbon Dioxide	124-38-9	44	0	15520	0.0	ug/l

Henry's Constants	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Carbon Dioxide	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/29/15 12:35

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22773.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 11:04:06
Operator  : tonyf
Sample    : mc42178-10,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 12 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 11:31:13 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

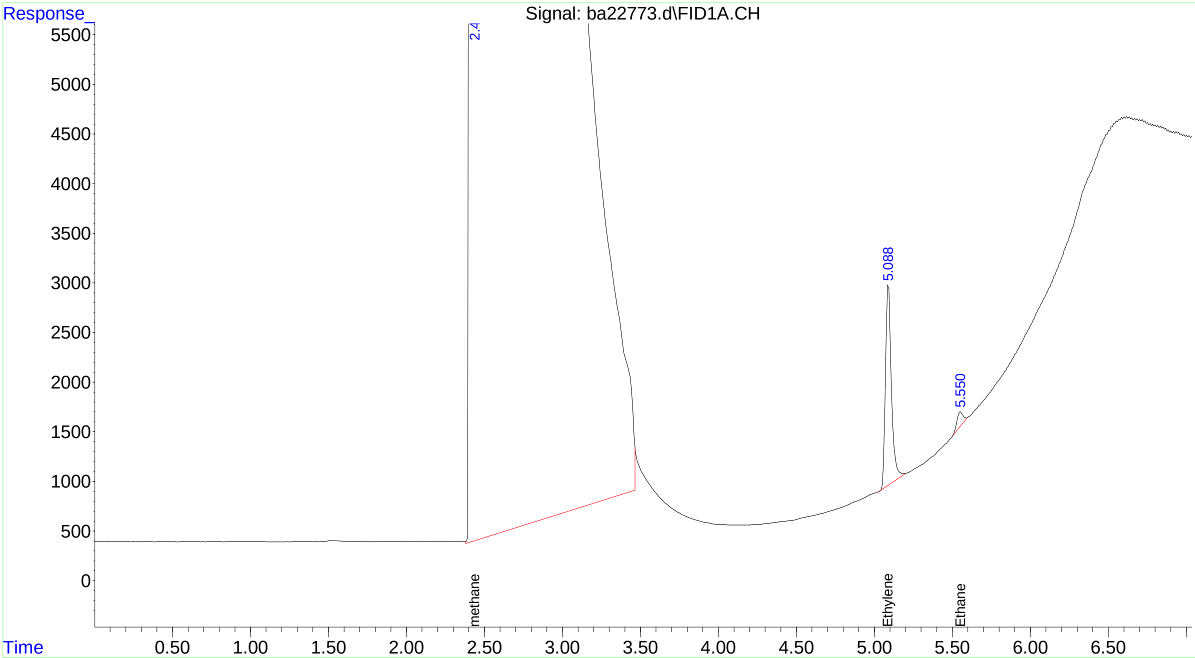
	Compound	R.T.	Response	Conc Units
Target Compounds				
1) t	methane	2.438	376860086	83877.382 ppmv m
3)	Ethylene	5.088	52899	6.091 ppmv m
4)	Ethane	5.550	3885	0.446 ppmv m

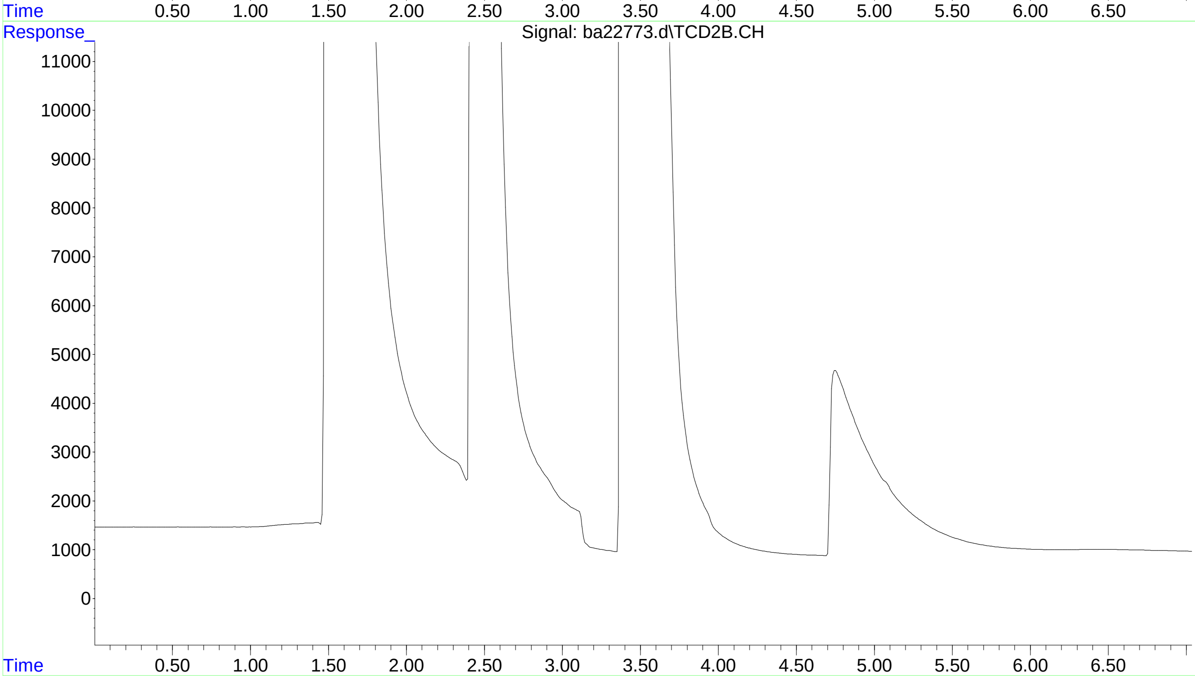
(f)=RT Delta > 1/2 Window (m)=manual int.

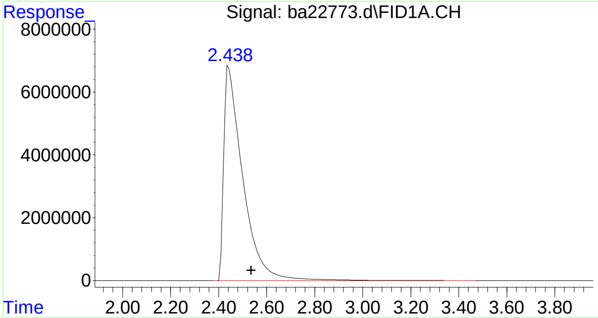
9.1.5
9

Quantitation Report (QT Reviewed)

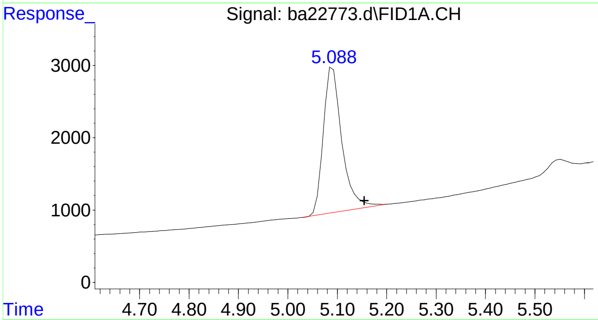
```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22773.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 11:04:06
Operator  : tonyf
Sample    : mc42178-10,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 12 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 11:31:13 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                Signal #2 Phase:
Signal #1 Info  :                Signal #2 Info :
```



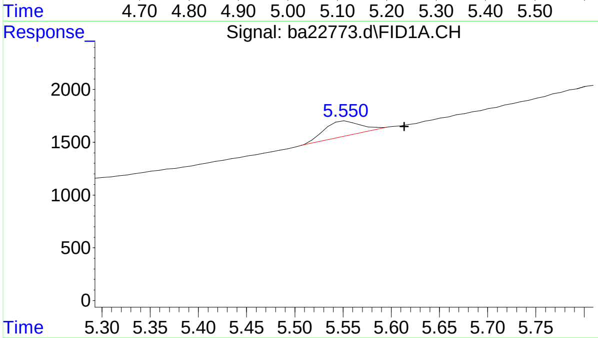





```
#1  methane

      R.T.:    2.438 min
Delta R.T.:   -0.097 min
  Response: 376860086
      Conc: 83877.38 ppmv m
```




```
#3  Ethylene

      R.T.:    5.088 min
Delta R.T.:   -0.067 min
  Response:     52899
      Conc:   6.09 ppmv m
```




```
#4  Ethane

      R.T.:    5.550 min
Delta R.T.:   -0.064 min
  Response:      3885
      Conc:   0.45 ppmv m
```

Dissolved Gases Raw Data Summary

Sample Number:	MC42178-10	**Sample Volume:**	37.0 ml
Lab FileID:	BA22773.D	**Headspace:**	5.0 ml
Injection Time:	10/21/15 11:04	**Volume Injected:**	200 ul
Method:	VRSK 175	**Temperature:**	23 Deg. C

Parameter	CAS	MW	Result (ppmv)	Henry's Constant	Total	Units
Methane	74-82-8	16	83877.38	39820	9340	ug/l
Ethane	74-84-0	30	0.45	28640	0.0	ug/l
Ethene	74-85-1	28	6.09	10920	1.8	ug/l
Carbon Dioxide	124-38-9	44	0	15520	0.0	ug/l

Henry's Constants	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Carbon Dioxide	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600

9.1.5.1

9

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/29/15 12:35

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22774.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 11:18:08
Operator  : tonyf
Sample    : mc42178-10,1:10,w,vrsk175dgmee (Sig #1); mc42178-11,w,vrsk175dgmee (Sig #2)
Misc      : gc25539,gba1548,37,23,20,5,1
ALS Vial  : 13 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 11:32:50 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

	Compound	R.T.	Response	Conc	Units	
Target Compounds						
1) t	methane	2.462	41338285	9200.622	ppmv	m
3)	Ethylene	5.085	5434	0.626	ppmv	m

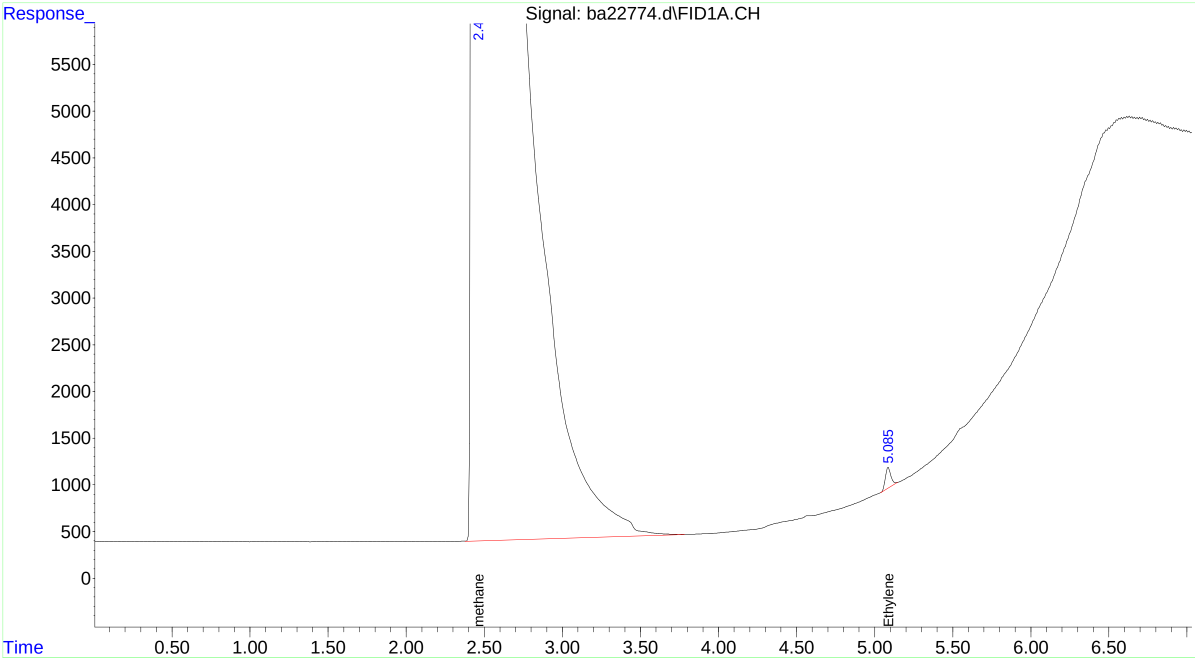
(f)=RT Delta > 1/2 Window (m)=manual int.

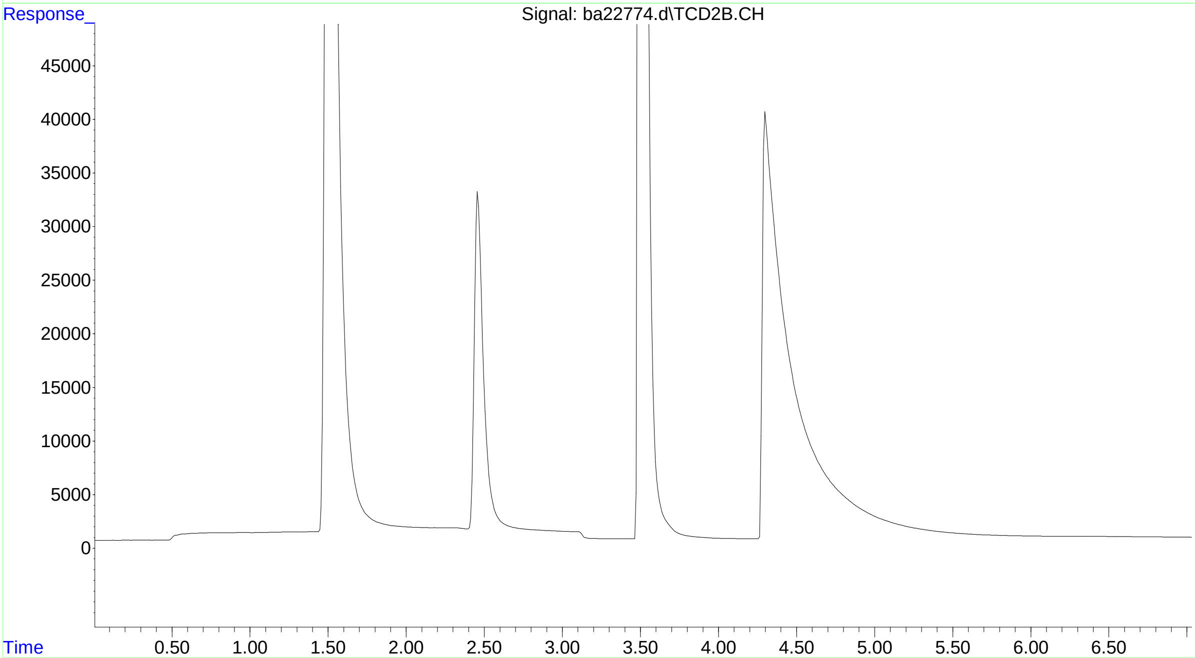
9.1.6

9

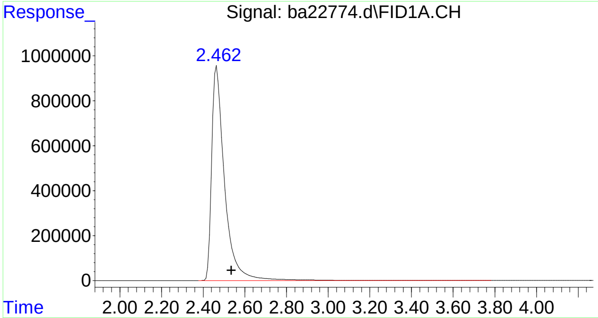
Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22774.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 11:18:08
Operator  : tonyf
Sample    : mc42178-10,1:10,w,vrsk175dgmee (Sig #1); mc42178-11,w,vrsk175dgmee (Sig #2)
Misc      : gc25539,gba1548,37,23,20,5,1
ALS Vial  : 13 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 11:32:50 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

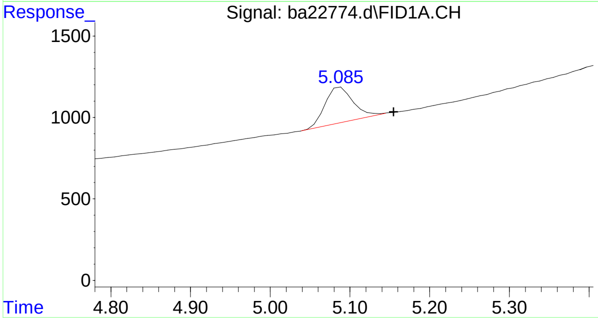




ba151021vrsk175ch4.M Wed Oct 21 14:52:26 2015 Page: 2




```
#1  methane

      R.T.:    2.462 min
Delta R.T.:   -0.073 min
  Response:  41338285
      Conc: 9200.62 ppmv m
```




```
#3  Ethylene

      R.T.:    5.085 min
Delta R.T.:   -0.070 min
  Response:      5434
      Conc:    0.63 ppmv m
```

Dissolved Gases Raw Data Summary

Sample Number:	MC42178-10	**Sample Volume:**	37.0 ml
Lab FileID:	BA22774.D	**Headspace:**	5.0 ml
Injection Time:	10/21/15 11:18	**Volume Injected:**	20.0 ul
Method:	VRSK 175	**Temperature:**	23 Deg. C

Parameter	CAS	MW	Result (ppmv)	Henry's Constant	Total	Units
Methane	74-82-8	16	9200.62	39820	10200	ug/l
Ethane	74-84-0	30	0	28640	0.0	ug/l
Ethene	74-85-1	28	0.63	10920	0.0	ug/l
Carbon Dioxide	124-38-9	44	0	15520	0.0	ug/l

Henry's Constants	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Carbon Dioxide	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/29/15 12:35

Quantitation Report (QT Reviewed)

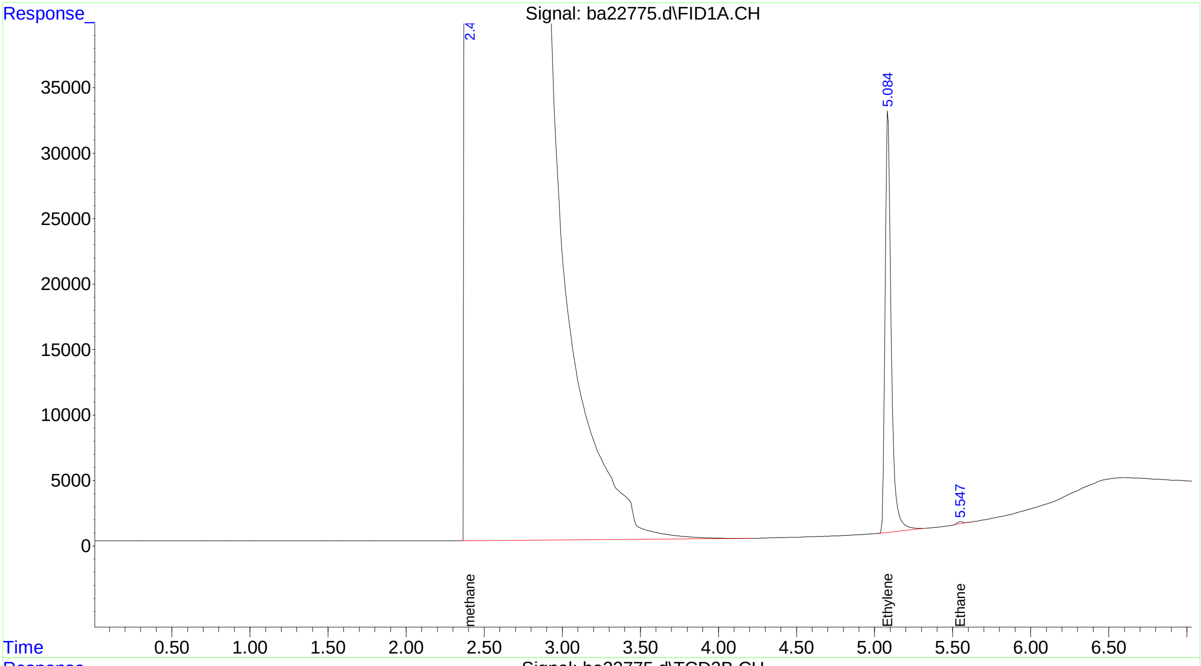
```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22775.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 11:32:18
Operator  : tonyf
Sample    : mc42178-11,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 14 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 11:41:10 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

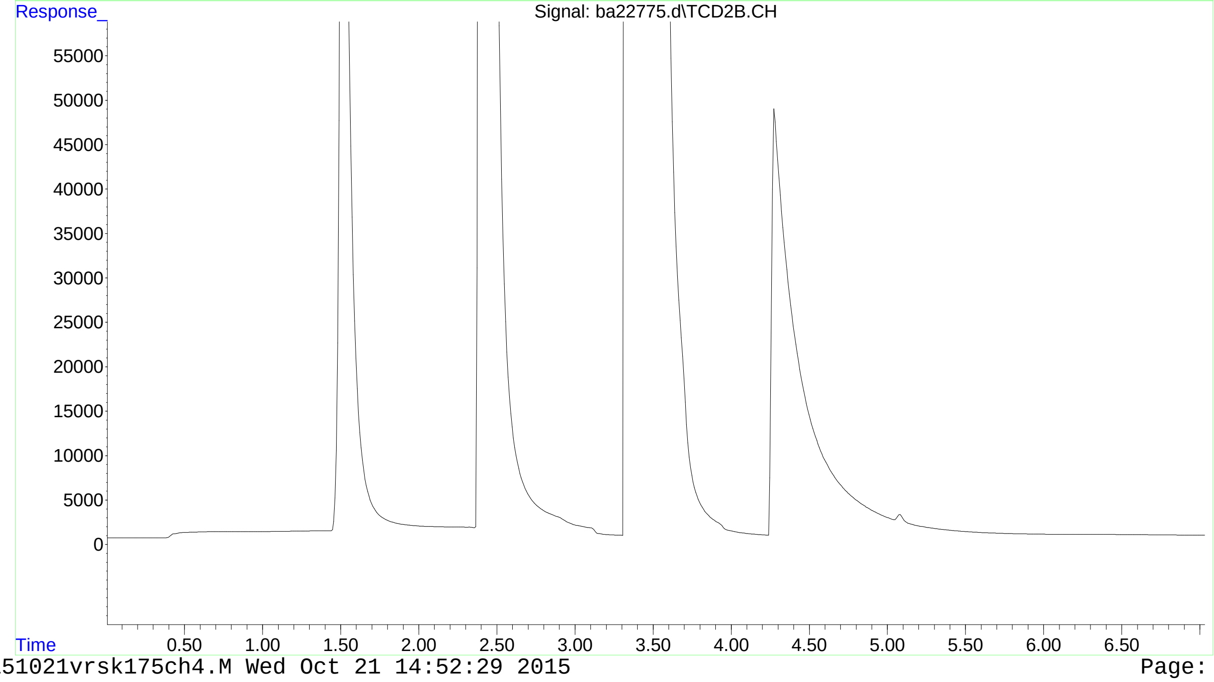
	Compound	R.T.	Response	Conc Units	
Target Compounds					
1) t	methane	2.408f	523926401	116609.788 ppmv	m
3)	Ethylene	5.084	879613	101.283 ppmv	m
4)	Ethane	5.547	3820	0.439 ppmv	m

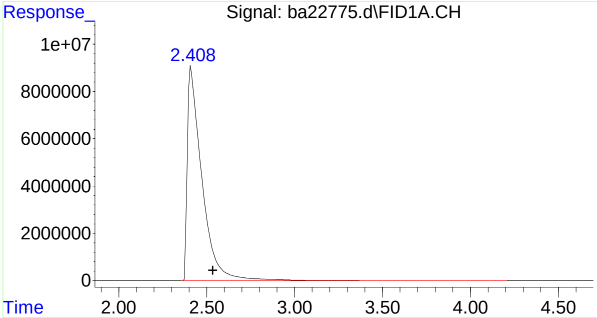
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

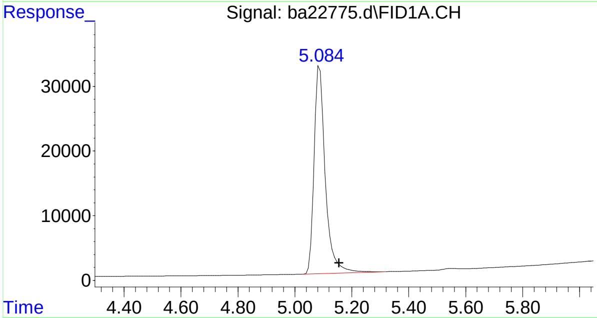
```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22775.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 11:32:18
Operator  : tonyf
Sample    : mc42178-11,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 14 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 11:41:10 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                Signal #2 Phase:
Signal #1 Info  :                Signal #2 Info :
```



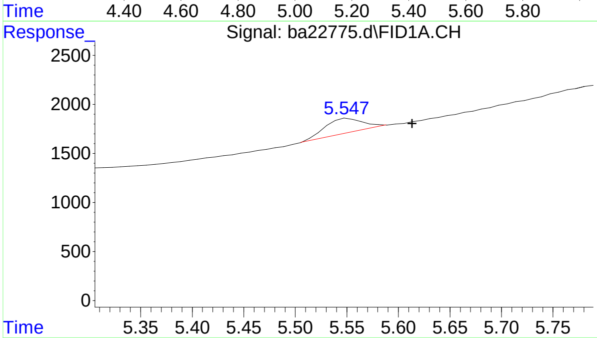





```
#1  methane

      R.T.:    2.408 min
Delta R.T.:   -0.127 min
  Response: 523926401
      Conc: 116609.79 ppmv m
```




```
#3  Ethylene

      R.T.:    5.084 min
Delta R.T.:   -0.071 min
  Response:    879613
      Conc: 101.28 ppmv m
```




```
#4  Ethane

      R.T.:    5.547 min
Delta R.T.:   -0.066 min
  Response:      3820
      Conc:   0.44 ppmv m
```

Dissolved Gases Raw Data Summary

Sample Number:	MC42178-11	**Sample Volume:**	37.0 ml
Lab FileID:	BA22775.D	**Headspace:**	5.0 ml
Injection Time:	10/21/15 11:32	**Volume Injected:**	200 ul
Method:	VRSK 175	**Temperature:**	23 Deg. C

Parameter	CAS	MW	Result (ppmv)	Henry's Constant	Total	Units
Methane	74-82-8	16	116609.79	39820	13000	ug/l
Ethane	74-84-0	30	0.44	28640	0.0	ug/l
Ethene	74-85-1	28	101.28	10920	30.2	ug/l
Carbon Dioxide	124-38-9	44	0	15520	0.0	ug/l

Henry's Constants	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Carbon Dioxide	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/29/15 12:35

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22776.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 11:47:16
Operator  : tonyf
Sample    : mc42178-11,1:20,w,vrsk175dgmee (Sig #1); mc42231-6,w,vrsk175dgmee (Sig #2)
Misc      : gc25539,gba1548,37,23,10,5,1
ALS Vial  : 15 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 11:57:46 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

	Compound	R.T.	Response	Conc	Units	
	Target Compounds					
1) t	methane	2.481	22902051	5097.287	ppmv	m
3)	Ethylene	5.088	37393	4.306	ppmv	m

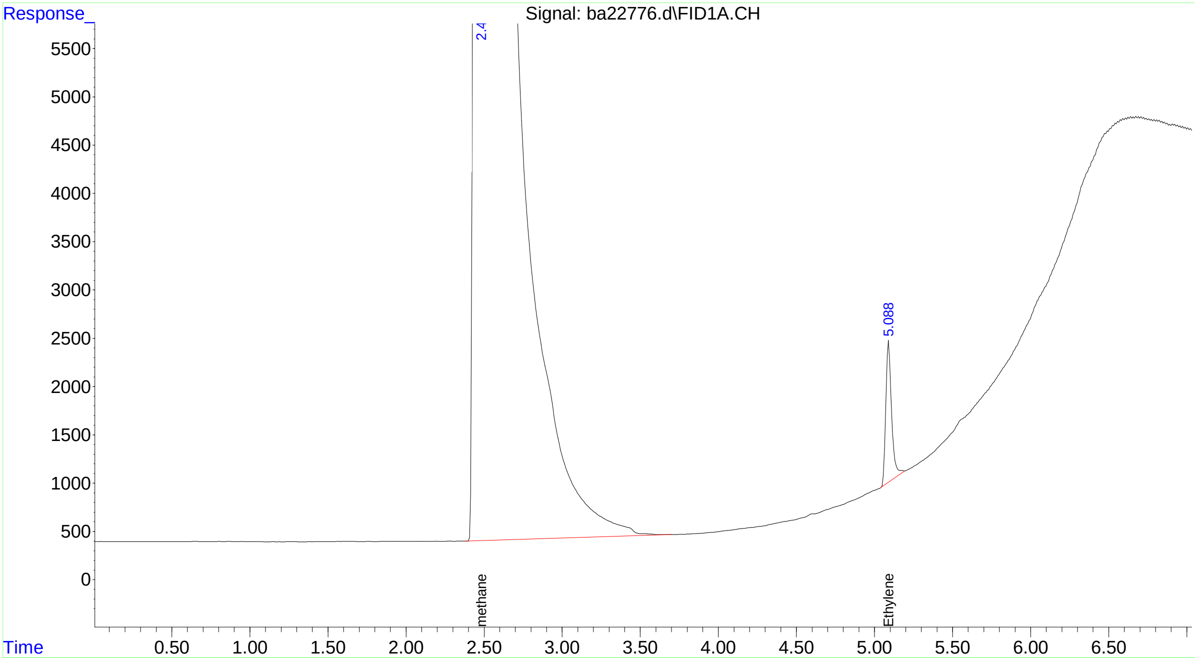
(f)=RT Delta > 1/2 Window (m)=manual int.

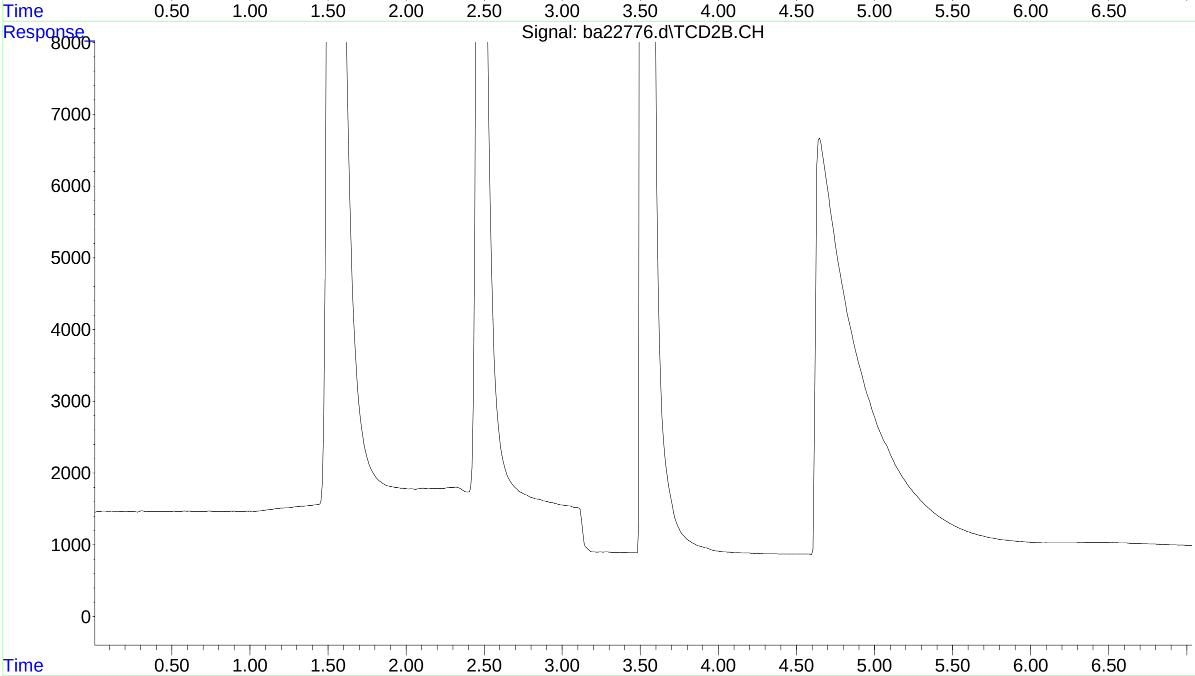
9.1.8

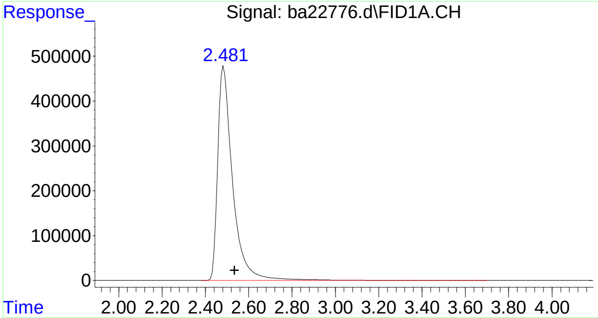
9

Quantitation Report (QT Reviewed)

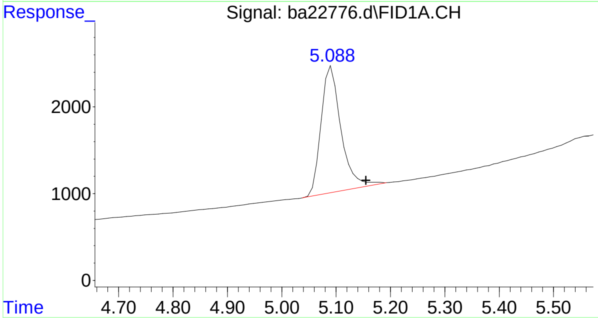
```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22776.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 11:47:16
Operator  : tonyf
Sample    : mc42178-11,1:20,w,vrsk175dgmee (Sig #1); mc42231-6,w,vrsk175dgmee (Sig #2)
Misc      : gc25539,gba1548,37,23,10,5,1
ALS Vial  : 15 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 11:57:46 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                 Signal #2 Phase:
Signal #1 Info  :                 Signal #2 Info :
```








```
#1  methane

       R.T.:     2.481 min
Delta R.T.:    -0.054 min
   Response:  22902051
       Conc: 5097.29 ppmv m
```




```
#3  Ethylene

       R.T.:     5.088 min
Delta R.T.:    -0.066 min
   Response:     37393
       Conc:    4.31 ppmv m
```

Dissolved Gases Raw Data Summary

Sample Number:	MC42178-11	**Sample Volume:**	37.0 ml
Lab FileID:	BA22776.D	**Headspace:**	5.0 ml
Injection Time:	10/21/15 11:47	**Volume Injected:**	10.0 ul
Method:	VRSK 175	**Temperature:**	23 Deg. C

Parameter	CAS	MW	Result (ppmv)	Henry's Constant	Total	Units
Methane	74-82-8	16	5097.29	39820	11300	ug/l
Ethane	74-84-0	30	0	28640	0.0	ug/l
Ethene	74-85-1	28	4.31	10920	0.0	ug/l
Carbon Dioxide	124-38-9	44	0	15520	0.0	ug/l

Henry's Constants	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Carbon Dioxide	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/27/15 09:02

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22764.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 08:32:09
Operator  : tonyf
Sample    : mb,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 3 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 08:42:15 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) t	methane	2.502	25106	5.588 ppmv m
6) t	carbon dioxide	3.558	14687	70.668 ppmv m

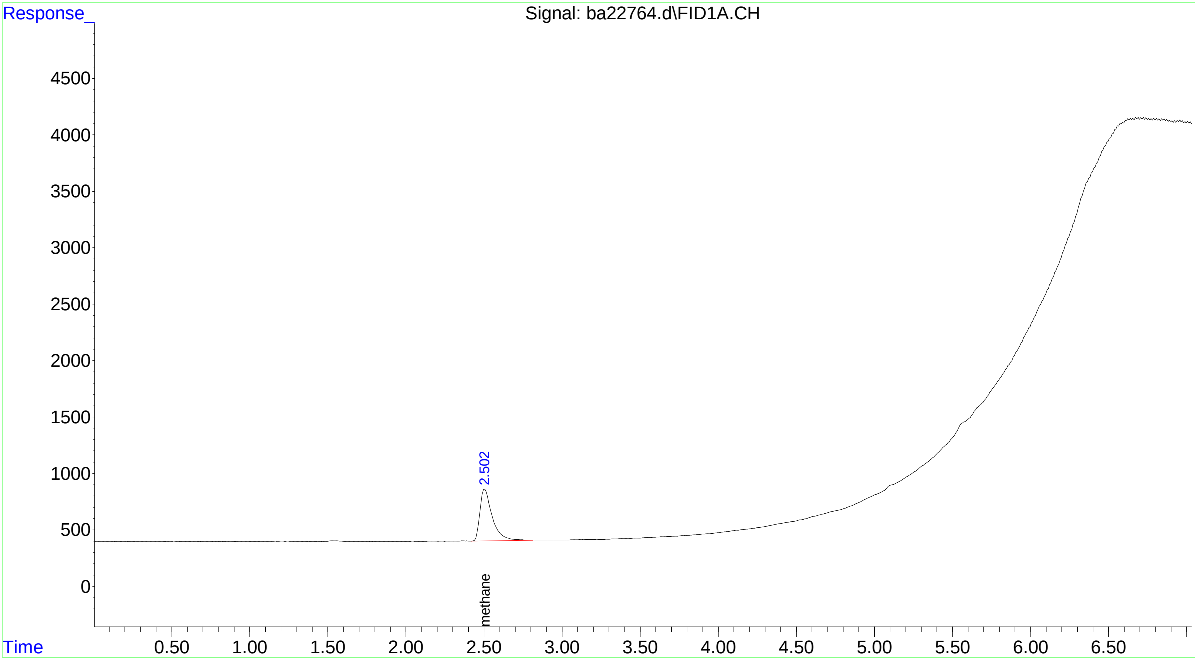
(f)=RT Delta > 1/2 Window (m)=manual int.

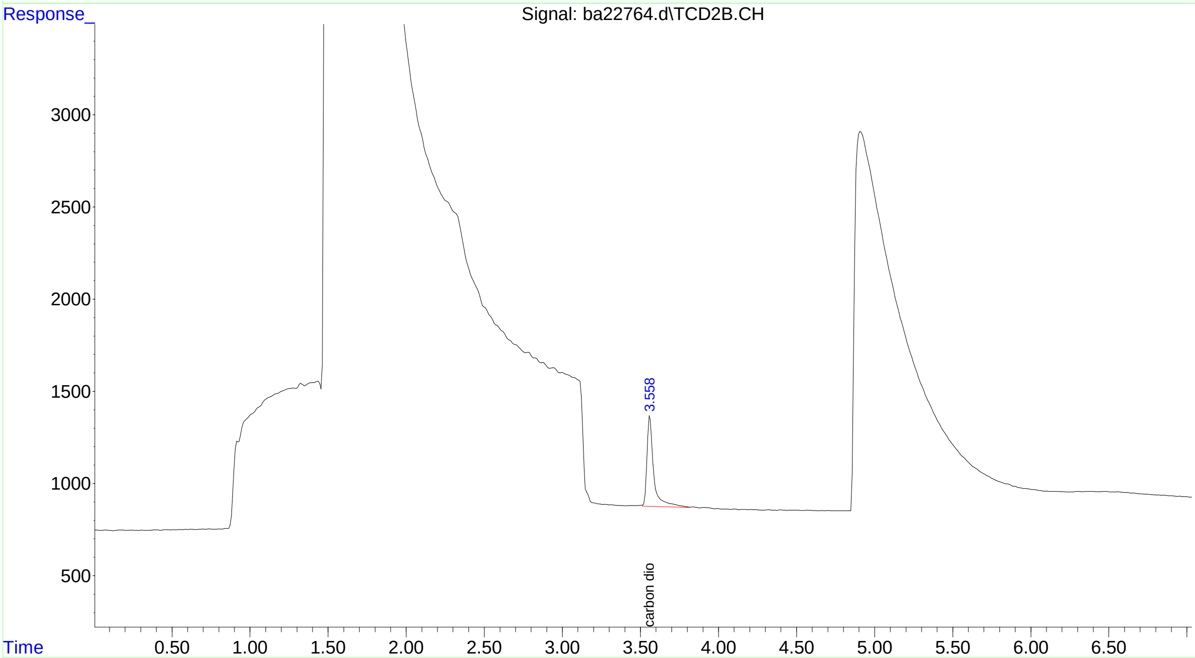
9.2.1

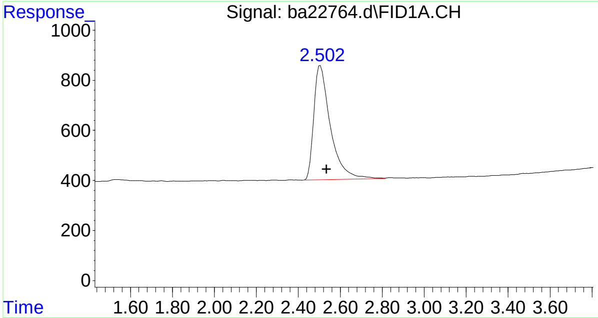
9

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22764.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 08:32:09
Operator  : tonyf
Sample    : mb,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 3 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 08:42:15 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

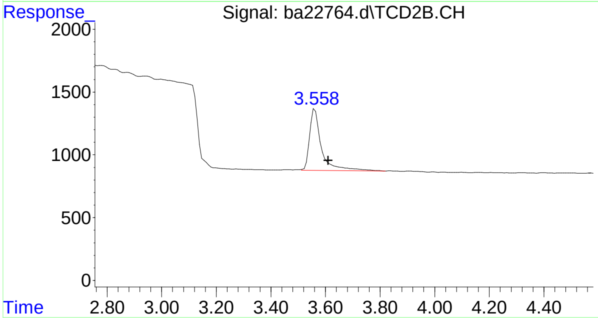






#1 methane

```
      R.T.:    2.502 min
Delta R.T.:   -0.033 min
  Response:     25106
      Conc:   5.59 ppmv m
```



#6 carbon dioxide

```
      R.T.:    3.558 min
Delta R.T.:   -0.052 min
  Response:     14687
      Conc:  70.67 ppmv m
```

Dissolved Gases Raw Data Summary

Sample Number:	GBA1548-MB	**Sample Volume:**	37.0 ml
Lab FileID:	BA22764.D	**Headspace:**	5.0 ml
Injection Time:	10/21/15 08:32	**Volume Injected:**	200 ul
Method:	VRSK 175	**Temperature:**	23 Deg. C

Parameter	**CAS**	**MW**	**Result (ppmv)**	**Henry's Constant**	**Total**	**Units**
Methane	74-82-8	16	5.59	39820	0.0	ug/l
Ethane	74-84-0	30	0	28640	0.0	ug/l
Ethene	74-85-1	28	0	10920	0.0	ug/l
Carbon Dioxide	124-38-9	44	70.67	15520	0.0	ug/l

Henry's Constants	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Carbon Dioxide	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600

9.2.1.1

9

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/27/15 09:02

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22766.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 09:03:17
Operator  : tonyf
Sample    : bsp,w,vrsk175dgmee (Sig #1); mc42178-7,w,vrsk175dgmee (Sig #2)
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 5 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 09:13:43 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.      :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

	Compound	R.T.	Response	Conc Units
Target Compounds				
1) t	methane	2.481	3582146	797.275 ppmv m
3)	Ethylene	5.089	5376262	619.052 ppmv m
4)	Ethane	5.550	6469935	743.171 ppmv
6) t	carbon dioxide	3.553	30015	144.415 ppmv m

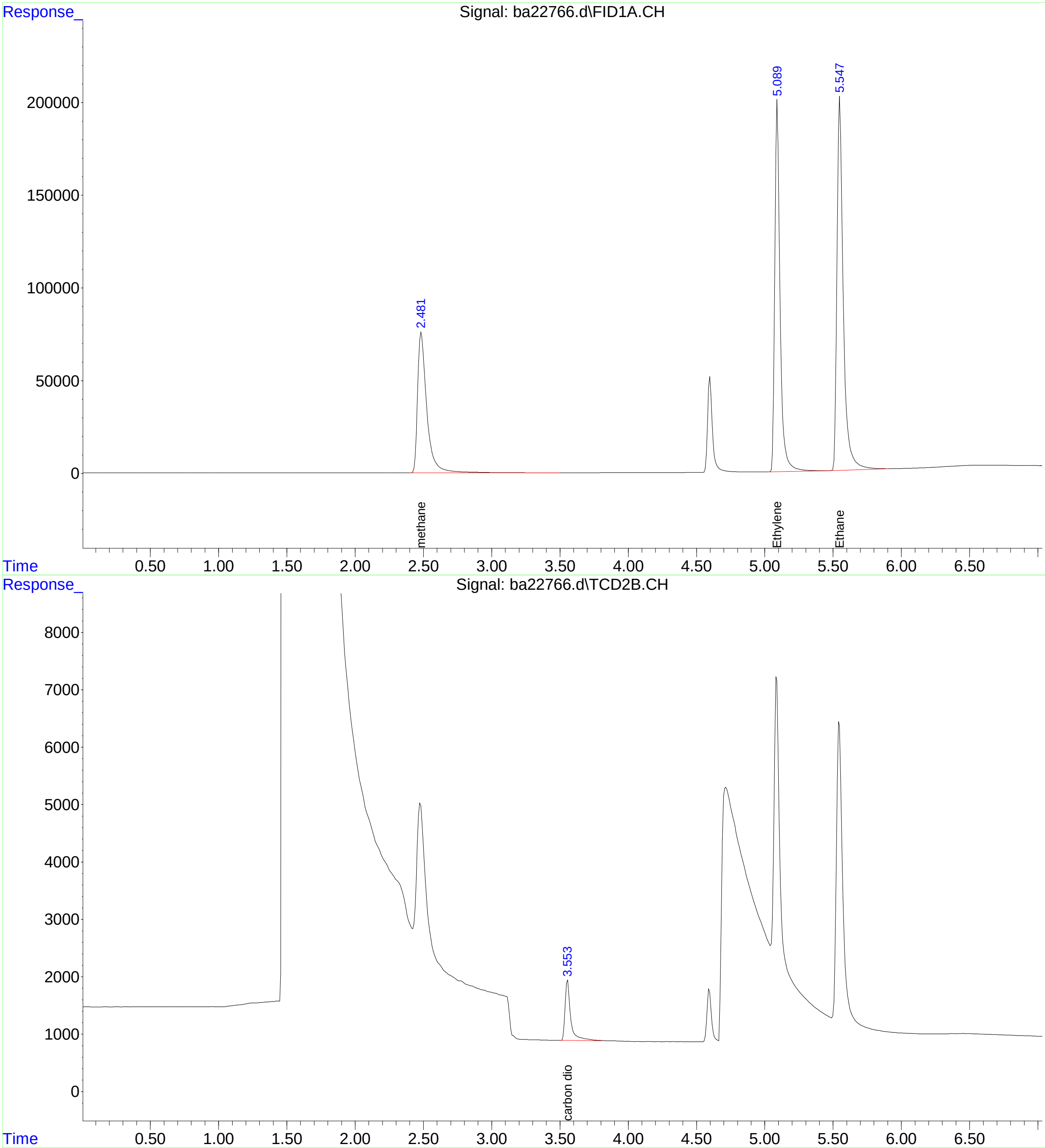
(f)=RT Delta > 1/2 Window (m)=manual int.

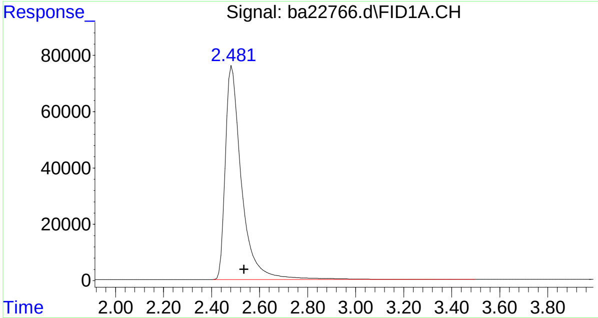
9.3.1

9

Quantitation Report (QT Reviewed)

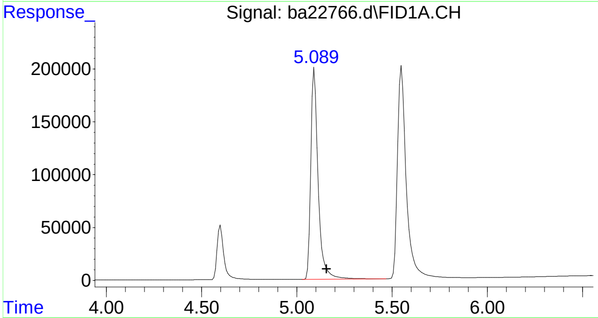
```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22766.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 09:03:17
Operator  : tonyf
Sample    : bsp,w,vrsk175dgmee (Sig #1); mc42178-7,w,vrsk175dgmee (Sig #2)
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 5 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 09:13:43 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                   Signal #2 Phase:
Signal #1 Info  :                   Signal #2 Info :
```





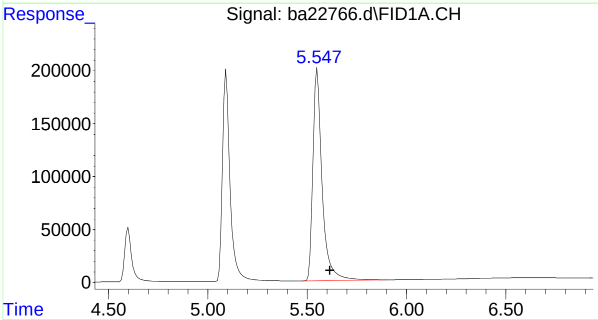
#1 methane

R.T.: 2.481 min
Delta R.T.: -0.054 min
Response: 3582146
Conc: 797.27 ppmv m



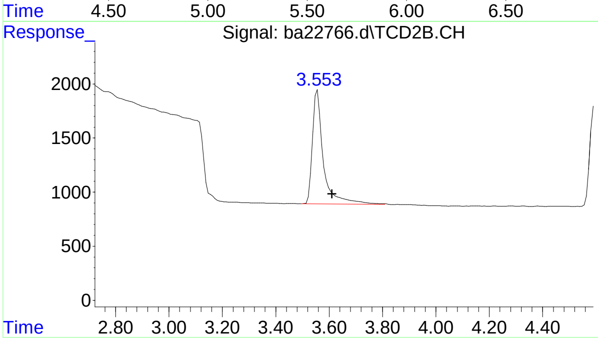
#3 Ethylene

R.T.: 5.089 min
Delta R.T.: -0.066 min
Response: 5376262
Conc: 619.05 ppmv m



#4 Ethane

R.T.: 5.550 min
Delta R.T.: -0.063 min
Response: 6469935
Conc: 743.17 ppmv



#6 carbon dioxide

R.T.: 3.553 min
Delta R.T.: -0.057 min
Response: 30015
Conc: 144.42 ppmv m

9.3.1
9

Dissolved Gases Raw Data Summary

Sample Number:	GBA1548-BSP	**Sample Volume:**	37.0 ml
Lab FileID:	BA22766.D	**Headspace:**	5.0 ml
Injection Time:	10/21/15 09:03	**Volume Injected:**	200 ul
Method:	VRSK 175	**Temperature:**	23 Deg. C

Parameter	CAS	MW	Result (ppmv)	Henry's Constant	Total	Units
Methane	74-82-8	16	797.27	39820	88.8	ug/l
Ethane	74-84-0	30	743.17	28640	167	ug/l
Ethene	74-85-1	28	619.05	10920	185	ug/l

Henry's Constants	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/29/15 12:35

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22769.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 10:00:05
Operator  : tonyf
Sample    : mc42178-7dup,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 8 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 10:14:15 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.435f	345988745	77006.377 ppmv m
3) Ethylene	5.087	47268	5.443 ppmv m
4) Ethane	5.551	3467	0.398 ppmv m

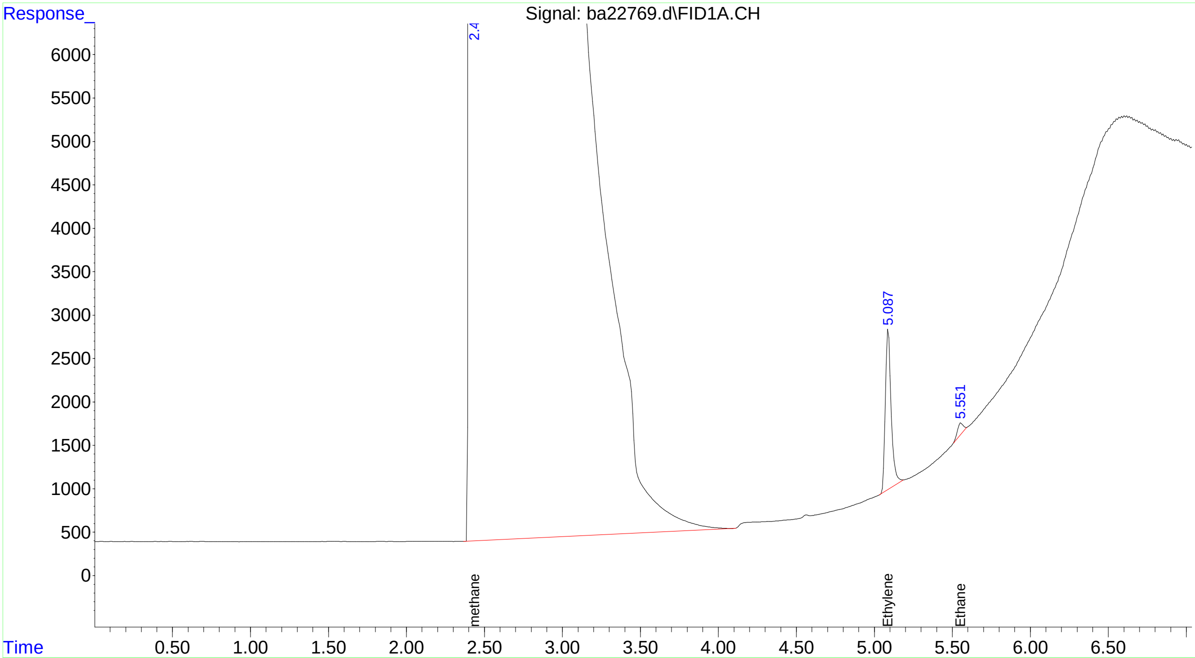
(f)=RT Delta > 1/2 Window (m)=manual int.

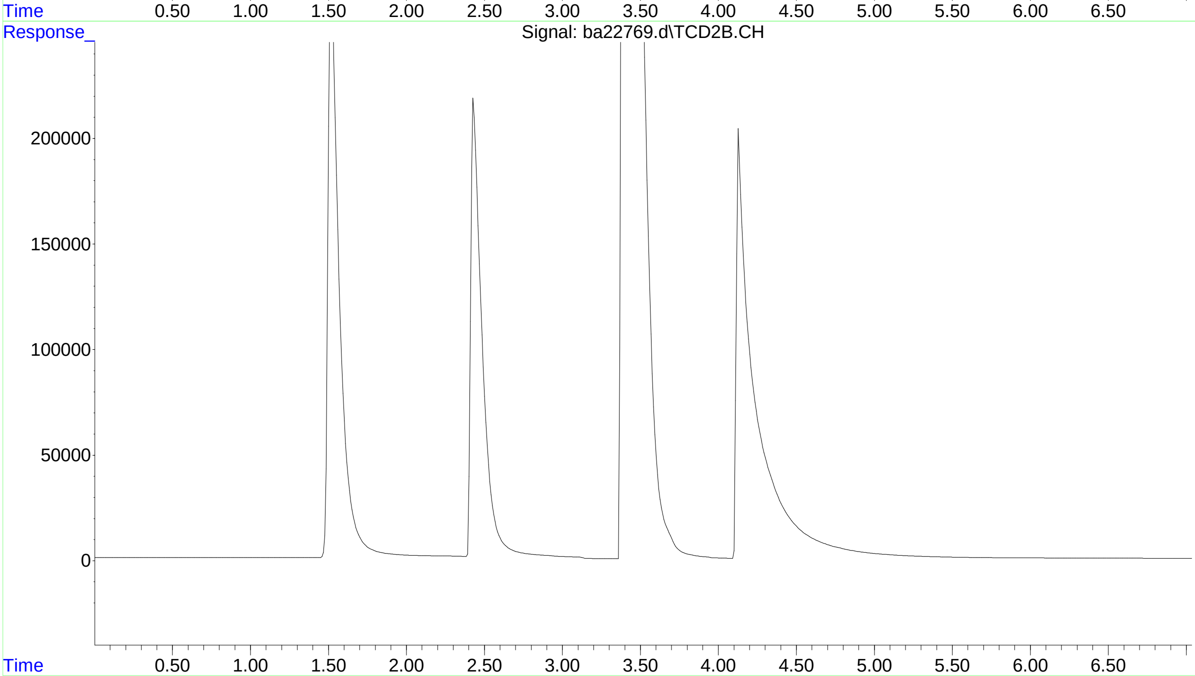
9.4.1

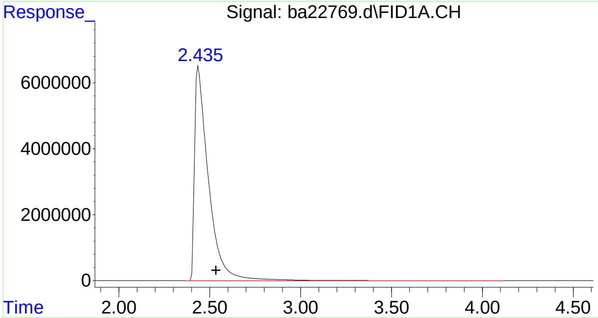
9

Quantitation Report (QT Reviewed)

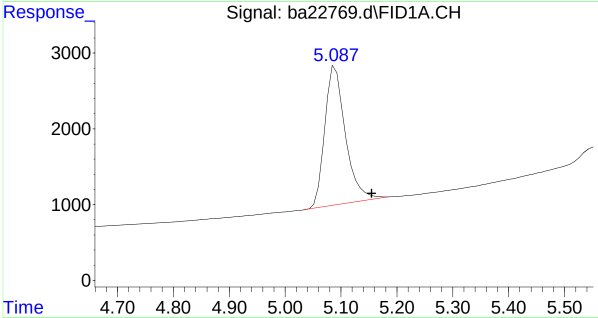
```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22769.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 10:00:05
Operator  : tonyf
Sample    : mc42178-7dup,w,vrsk175dgmee
Misc      : gc25539,gba1548,37,23,200,5,1
ALS Vial  : 8 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 10:14:15 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                   Signal #2 Phase:
Signal #1 Info  :                   Signal #2 Info :
```



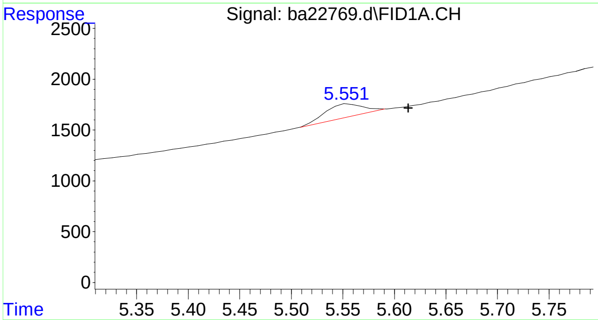





```
#1  methane

      R.T.:    2.435 min
Delta R.T.:   -0.100 min
  Response: 345988745
      Conc: 77006.38 ppmv m
```




```
#3  Ethylene

      R.T.:    5.087 min
Delta R.T.:   -0.068 min
  Response:     47268
      Conc:    5.44 ppmv m
```




```
#4  Ethane

      R.T.:    5.551 min
Delta R.T.:   -0.062 min
  Response:      3467
      Conc:    0.40 ppmv m
```

9.4.1

9

Dissolved Gases Raw Data Summary

Sample Number:	MC42178-7DUP	**Sample Volume:**	37.0 ml
Lab FileID:	BA22769.D	**Headspace:**	5.0 ml
Injection Time:	10/21/15 10:00	**Volume Injected:**	200 ul
Method:	VRSK 175	**Temperature:**	23 Deg. C

Parameter	CAS	MW	Result (ppmv)	Henry's Constant	Total	Units
Methane	74-82-8	16	77006.38	39820	8570	ug/l
Ethane	74-84-0	30	0.4	28640	0.0	ug/l
Ethene	74-85-1	28	5.44	10920	0.0	ug/l
Carbon Dioxide	124-38-9	44	0	15520	0.0	ug/l

Henry's Constants	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43360	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Carbon Dioxide	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600

Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

Quantitation Report (QT Reviewed)

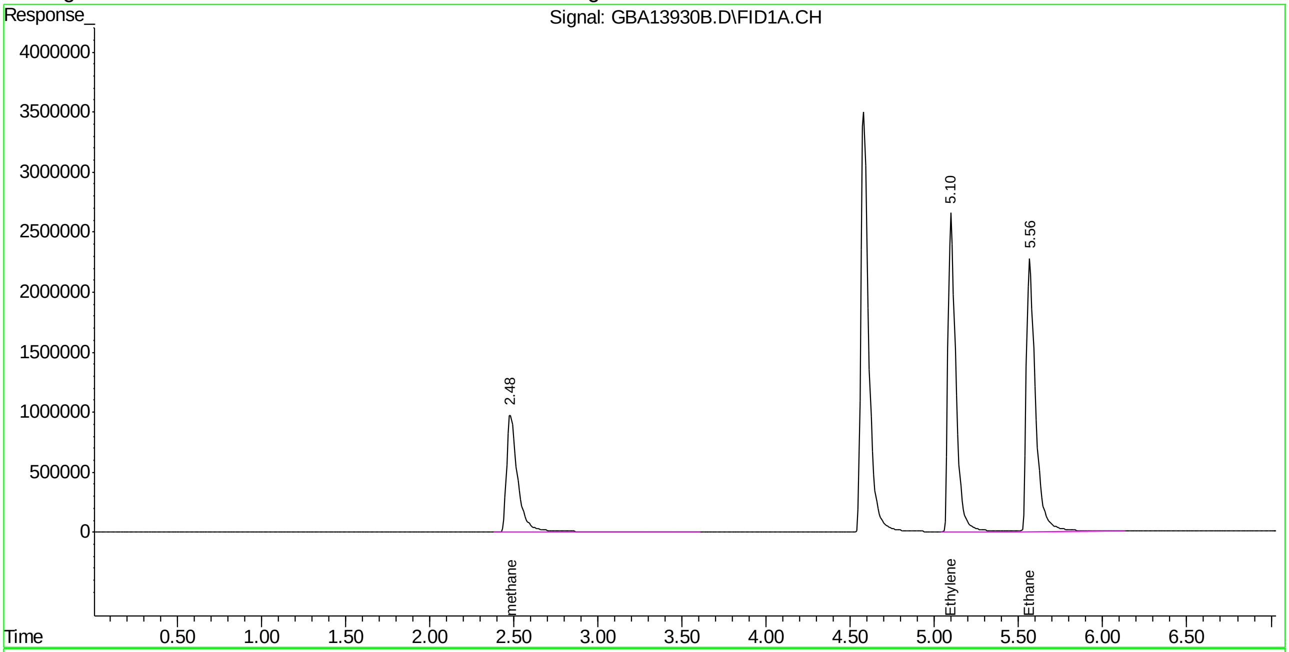
```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13930B.D\FID1A.CH       Vial: 1
Signal #2 : C:\MSDCHEM\2\DATA\GBA13930B.D\TCD2B.CH
Acq On    : 8-9-10 08:51:34 AM                        Operator: tonyf
Sample    : ic871-10000                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                     Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug 09 09:07:00 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 09:06:48 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

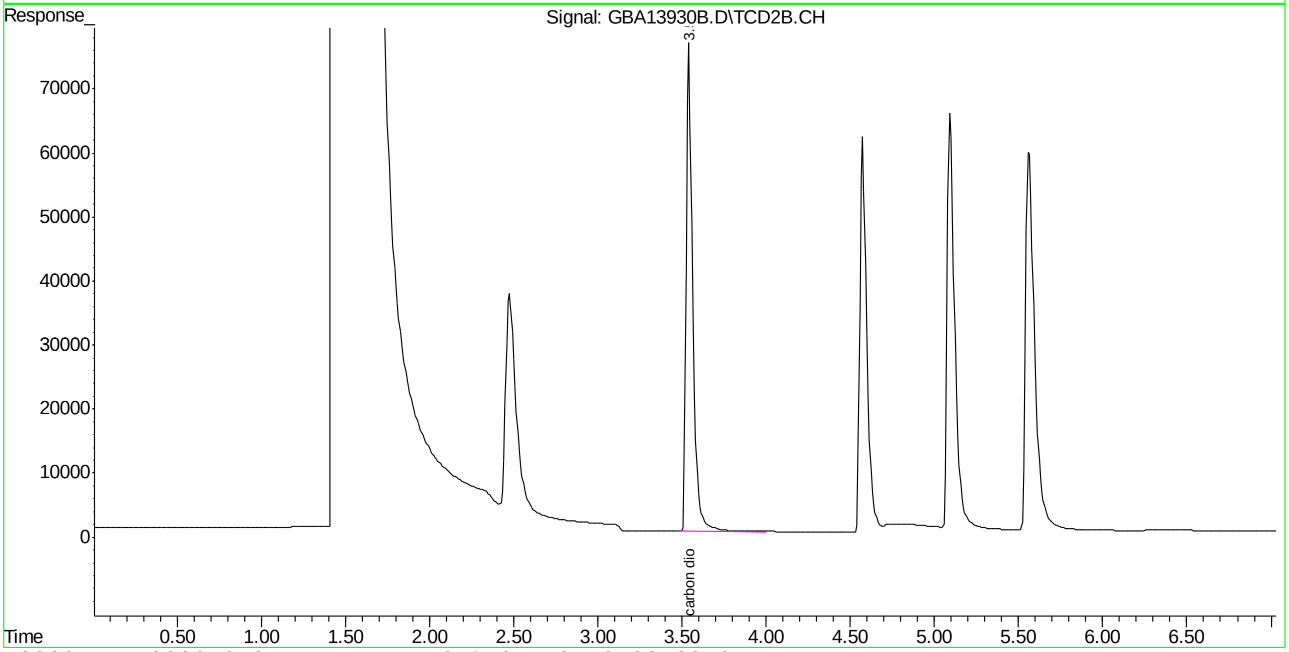
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) t	methane	2.48	45355551	10099.448 ppmv m
3)	Ethylene	5.10	86856971	10037.632 ppmv m
4)	Ethane	5.56	87097952	10107.058 ppmv m
6) t	carbon dioxide	3.54	2080335	9999.374 ppmv m

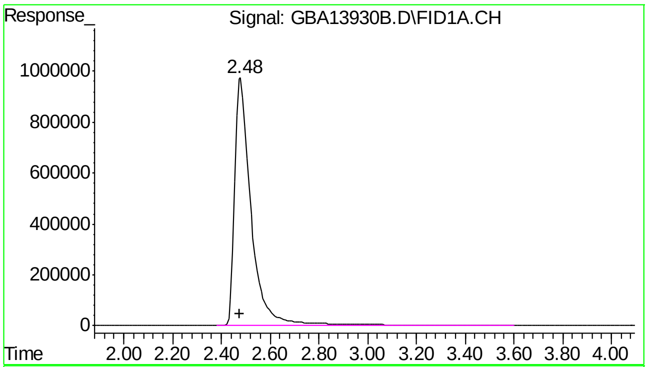
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13930B.D\FID1A.CH       Vial: 1
Signal #2 : C:\MSDCHEM\2\DATA\GBA13930B.D\TCD2B.CH
Acq On    : 8-9-10 08:51:34 AM                       Operator: tonyf
Sample    : ic871-10000                              Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug  9  9:12 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 09:06:48 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                   Signal #2 Phase:
Signal #1 Info  :                   Signal #2 Info :
```

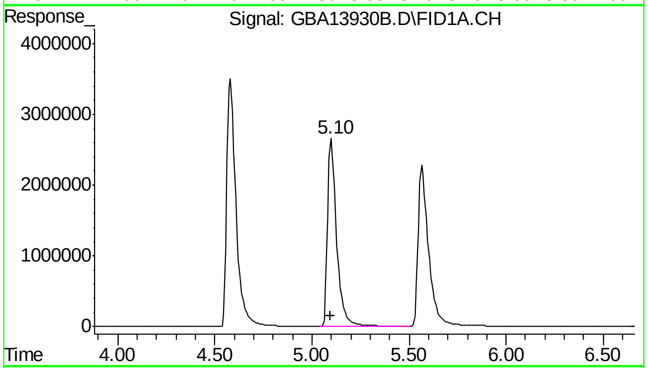






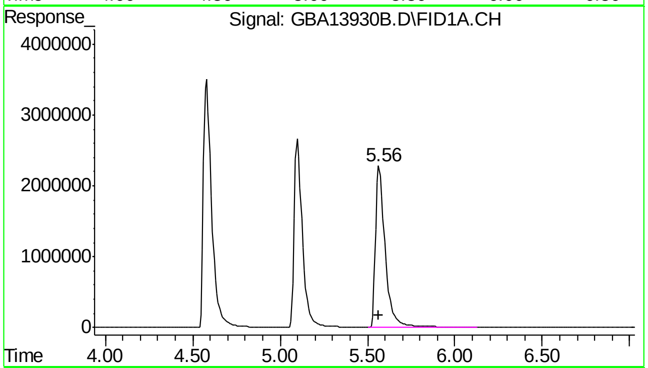
#1 methane

```
     R.T.:   2.476 min
Delta R.T.:   0.000 min
  Response:  45355551
     Conc: 10099.45 ppmv m
```



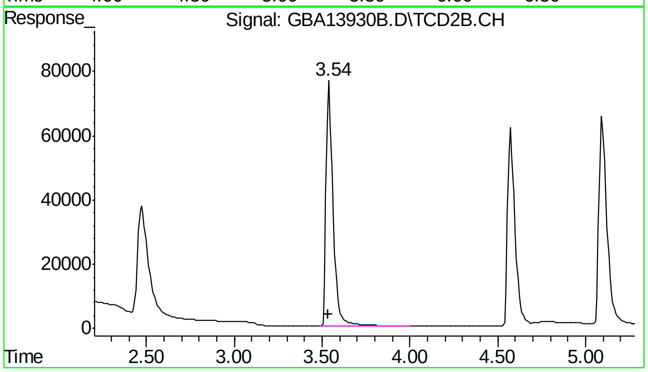
#3 Ethylene

```
     R.T.:   5.097 min
Delta R.T.:   0.000 min
  Response:  86856971
     Conc: 10037.63 ppmv m
```



#4 Ethane

```
     R.T.:   5.564 min
Delta R.T.:   0.000 min
  Response:  87097952
     Conc: 10107.06 ppmv m
```



#6 carbon dioxide

```
     R.T.:   3.538 min
Delta R.T.:   0.000 min
  Response:   2080335
     Conc: 9999.37 ppmv m
```

9.5.1
9

Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13931B.D\FID1A.CH       Vial: 2
Signal #2 : C:\MSDCHEM\2\DATA\GBA13931B.D\TCD2B.CH
Acq On    : 8-9-10 09:08:31 AM                       Operator: tonyf
Sample    : ic871-2500                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug 09 09:21:35 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 09:12:26 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                 Signal #2 Phase:
Signal #1 Info  :                 Signal #2 Info :
```

Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.47	11468987	2553.971 ppmv m
3) Ethylene	5.12f	21748056	2503.893 ppmv m
4) Ethane	5.59f	21727411	2494.595 ppmv m
6) t carbon dioxide	3.55	514876	2474.965 ppmv m

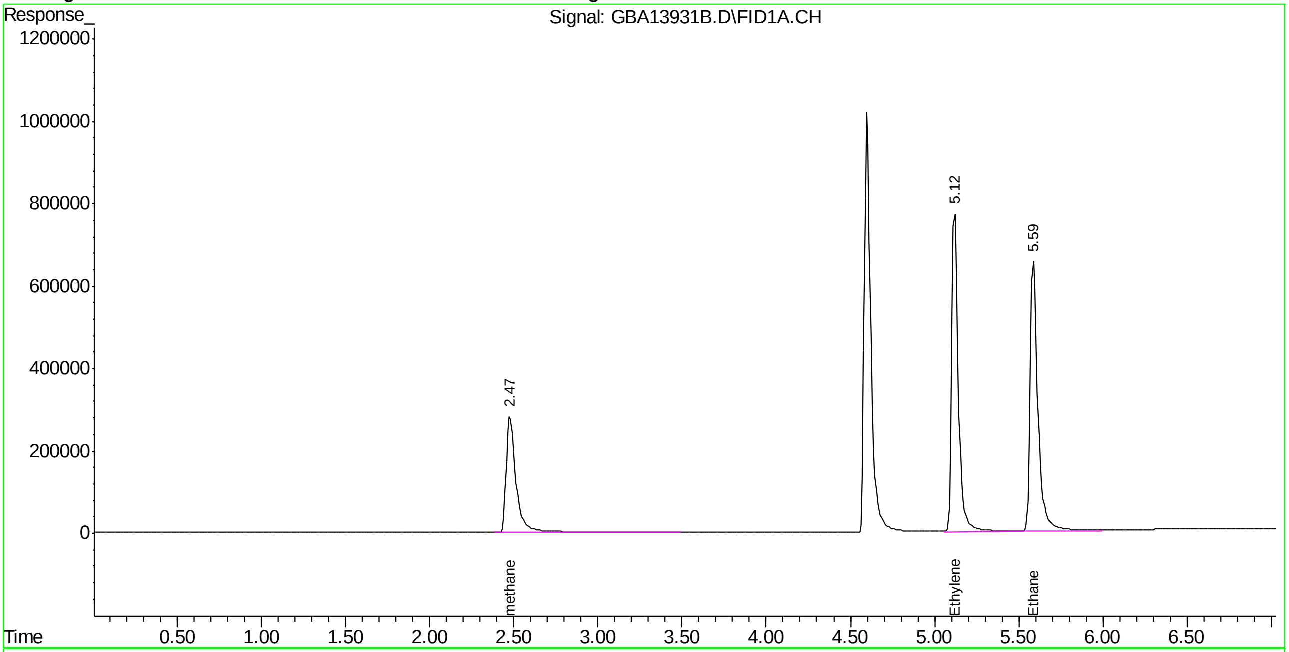
9.5.2

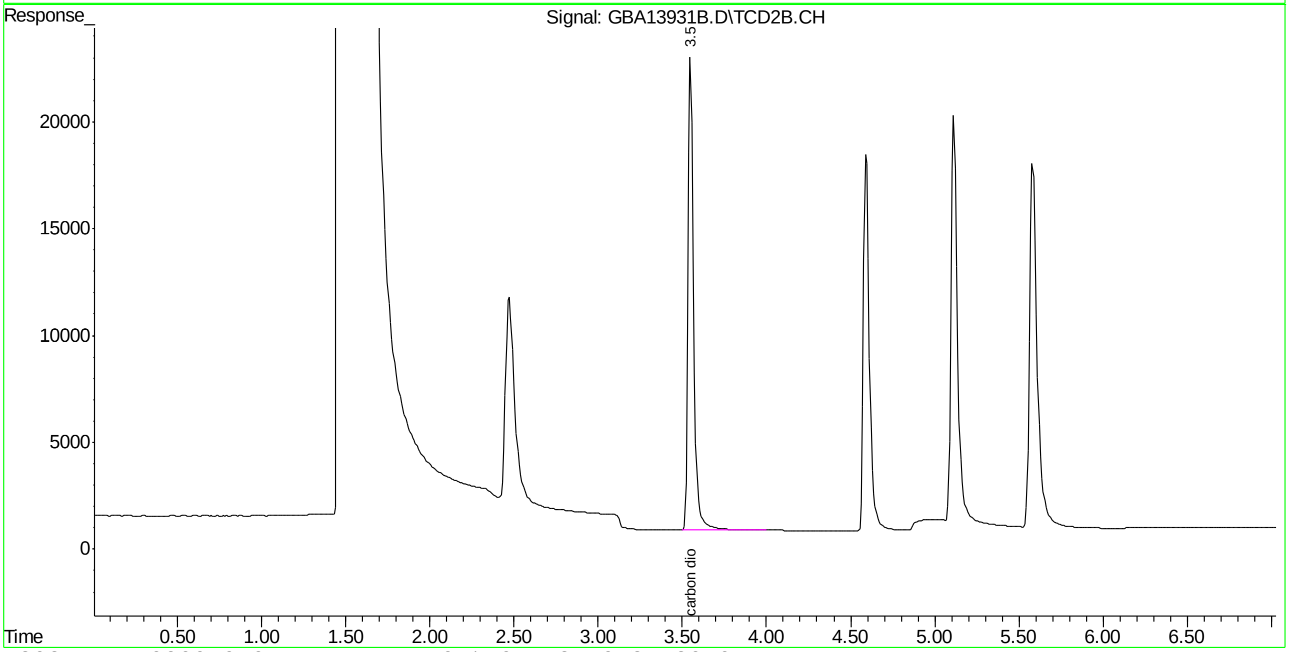
9

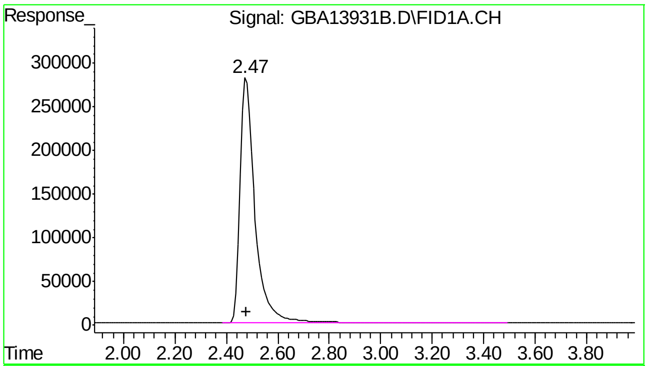
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13931B.D\FID1A.CH       Vial: 2
Signal #2 : C:\MSDCHEM\2\DATA\GBA13931B.D\TCD2B.CH
Acq On    : 8-9-10 09:08:31 AM                       Operator: tonyf
Sample    : ic871-2500                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug  9  9:30 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 09:12:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

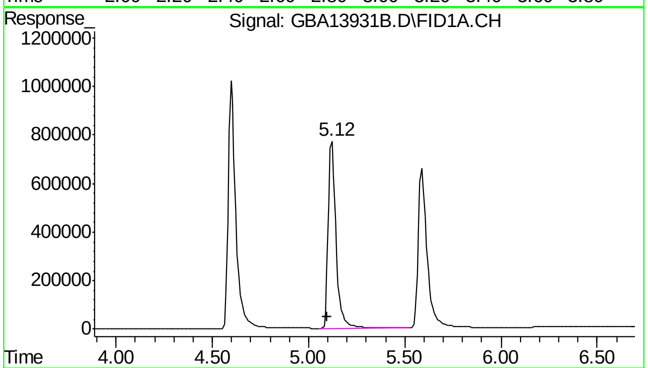






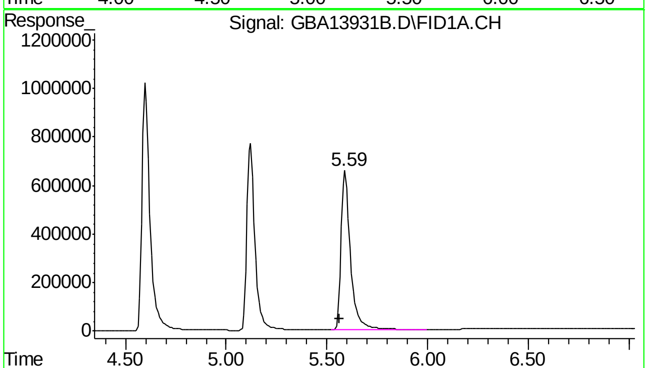
#1 methane

```
      R.T.:   2.474 min
Delta R.T.:  -0.002 min
  Response:  11468987
      Conc: 2553.97 ppmv m
```



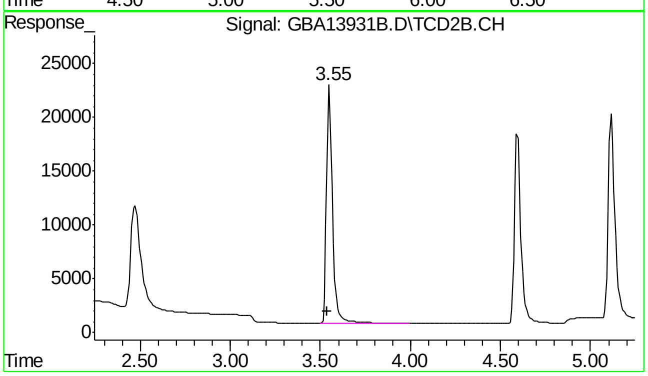
#3 Ethylene

```
      R.T.:   5.118 min
Delta R.T.:   0.022 min
  Response:  21748056
      Conc: 2503.89 ppmv m
```



#4 Ethane

```
      R.T.:   5.587 min
Delta R.T.:   0.023 min
  Response:  21727411
      Conc: 2494.59 ppmv m
```



#6 carbon dioxide

```
      R.T.:   3.547 min
Delta R.T.:   0.009 min
  Response:    514876
      Conc: 2474.96 ppmv m
```

Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13932B.D\FID1A.CH       Vial: 3
Signal #2 : C:\MSDCHEM\2\DATA\GBA13932B.D\TCD2B.CH
Acq On    : 8-9-10 09:23:04 AM                       Operator: tonyf
Sample    : ic871-1000                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug 09 09:30:34 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 09:30:26 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

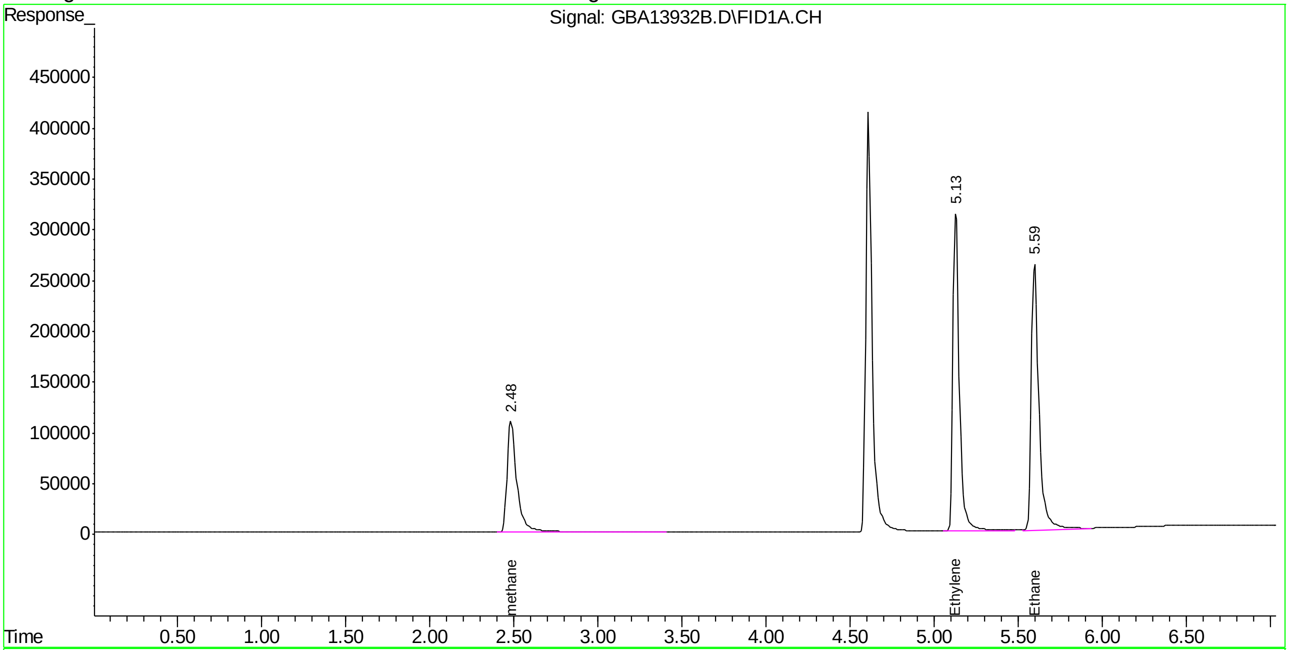
Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.48	4476870	991.245 ppmv m
3) Ethylene	5.13	8533559	981.720 ppmv m
4) Ethane	5.59	8460814	972.465 ppmv m
6) t carbon dioxide	3.55	200670	969.458 ppmv m

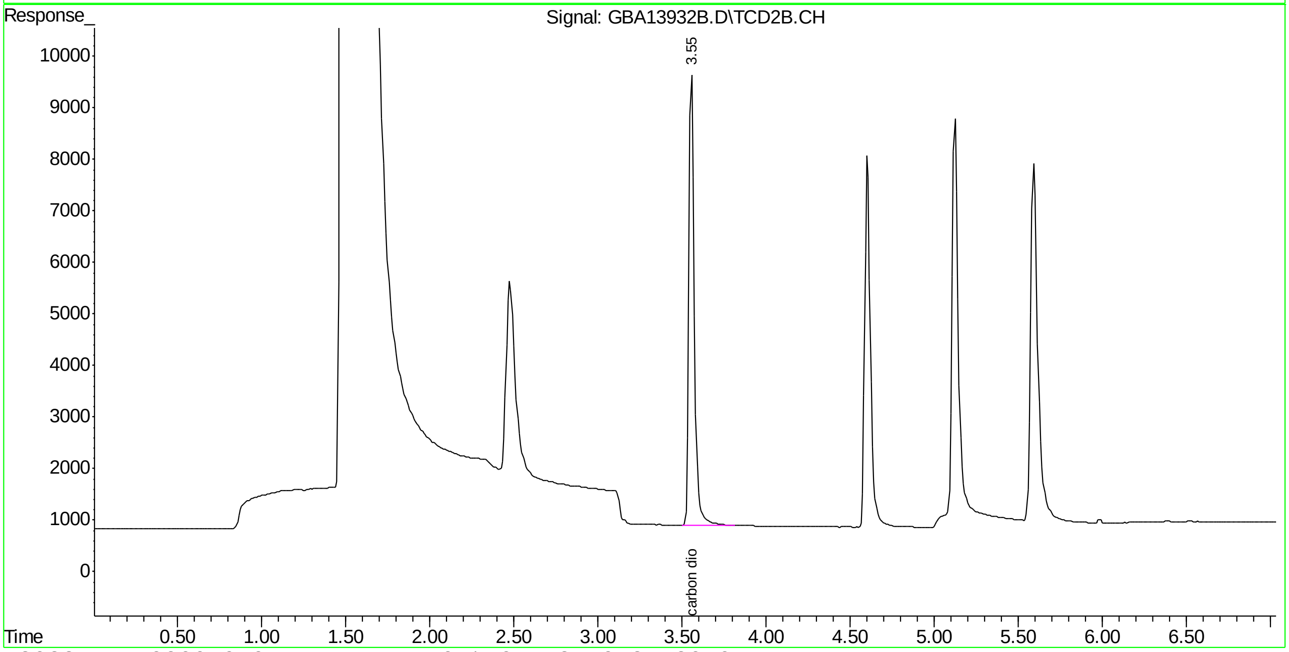
9.5.3

9

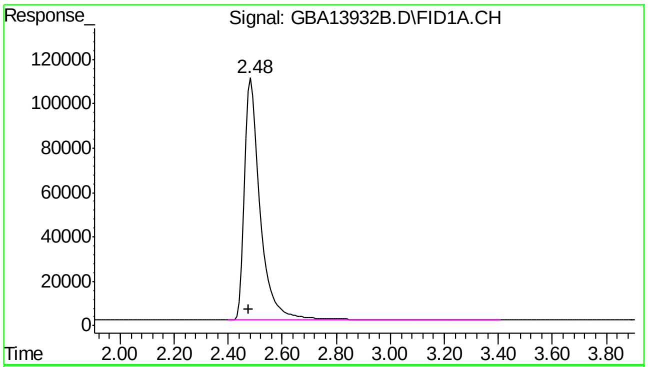
Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13932B.D\FID1A.CH       Vial: 3
Signal #2 : C:\MSDCHEM\2\DATA\GBA13932B.D\TCD2B.CH
Acq On    : 8-9-10 09:23:04 AM                       Operator: tonyf
Sample    : ic871-1000                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug  9  9:31 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 09:30:26 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.      :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

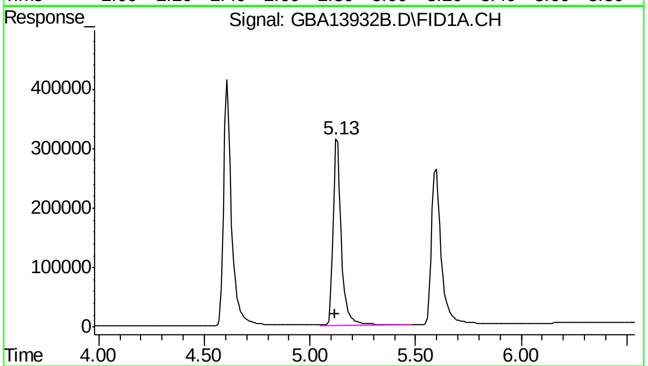




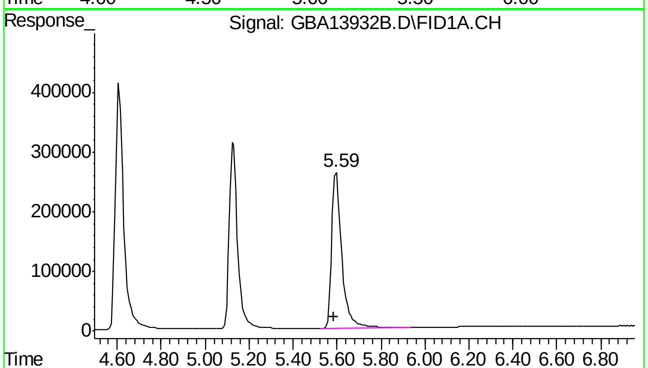
GBA13932B.D 080910AQ.M Mon Oct 04 13:59:37 2010 RPT1 Page 2



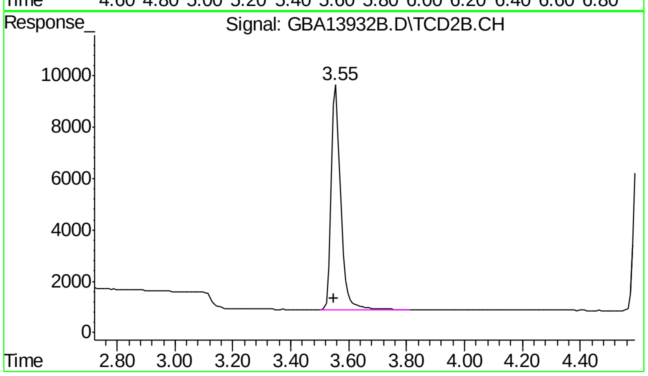

```
#1  methane

      R.T.:    2.479 min
Delta R.T.:    0.005 min
  Response:    4476870
      Conc: 991.25 ppmv m
```




```
#3  Ethylene

      R.T.:    5.125 min
Delta R.T.:    0.007 min
  Response:    8533559
      Conc: 981.72 ppmv m
```




```
#4  Ethane

      R.T.:    5.594 min
Delta R.T.:    0.007 min
  Response:    8460814
      Conc: 972.46 ppmv m
```




```
#6  carbon dioxide

      R.T.:    3.553 min
Delta R.T.:    0.006 min
  Response:     200670
      Conc: 969.46 ppmv m
```

9.5.3

9

Manual Integrations
APPROVED
(compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13933B.D\FID1A.CH       Vial: 4
Signal #2 : C:\MSDCHEM\2\DATA\GBA13933B.D\TCD2B.CH
Acq On    : 8-9-10 09:37:58 AM                       Operator: tonyf
Sample    : icc871-250                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug 09 09:46:40 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 09:32:00 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                   Signal #2 Phase:
Signal #1 Info  :                   Signal #2 Info :
```

Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.48	1062472	236.712 ppmv m
3) Ethylene	5.13	1985663	229.836 ppmv m
4) Ethane	5.60	1946719	225.824 ppmv m
6) t carbon dioxide	3.55	47891	233.748 ppmv m

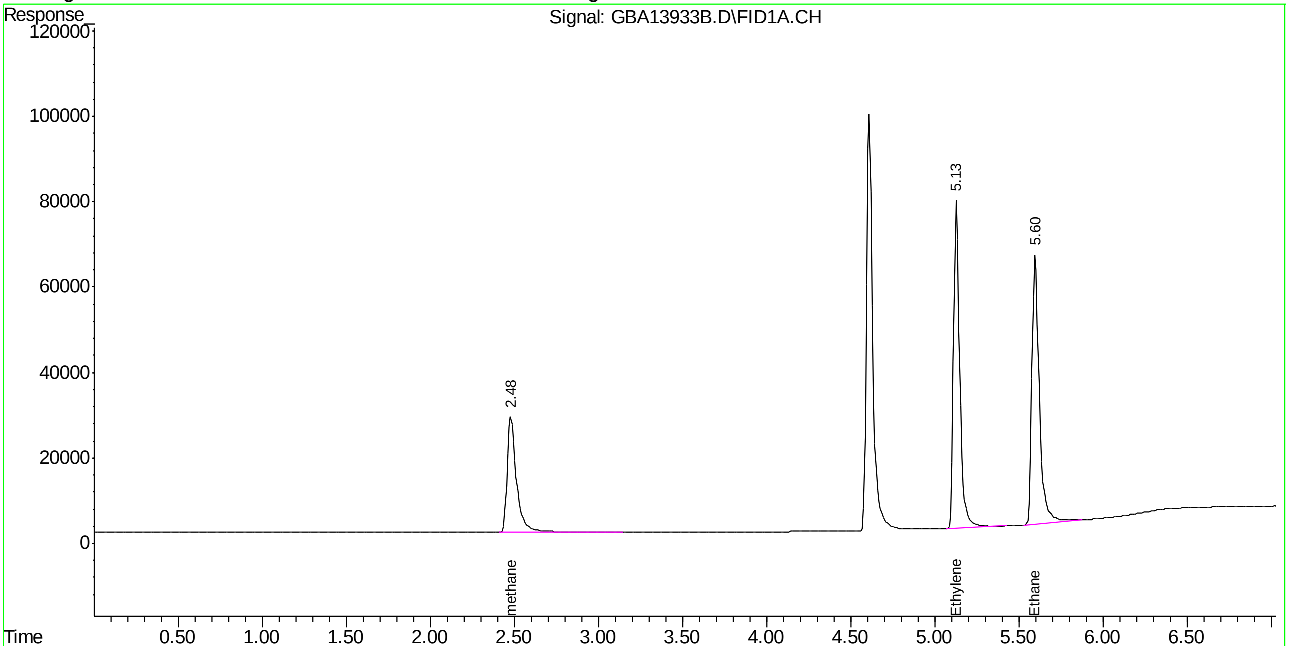
9.5.4

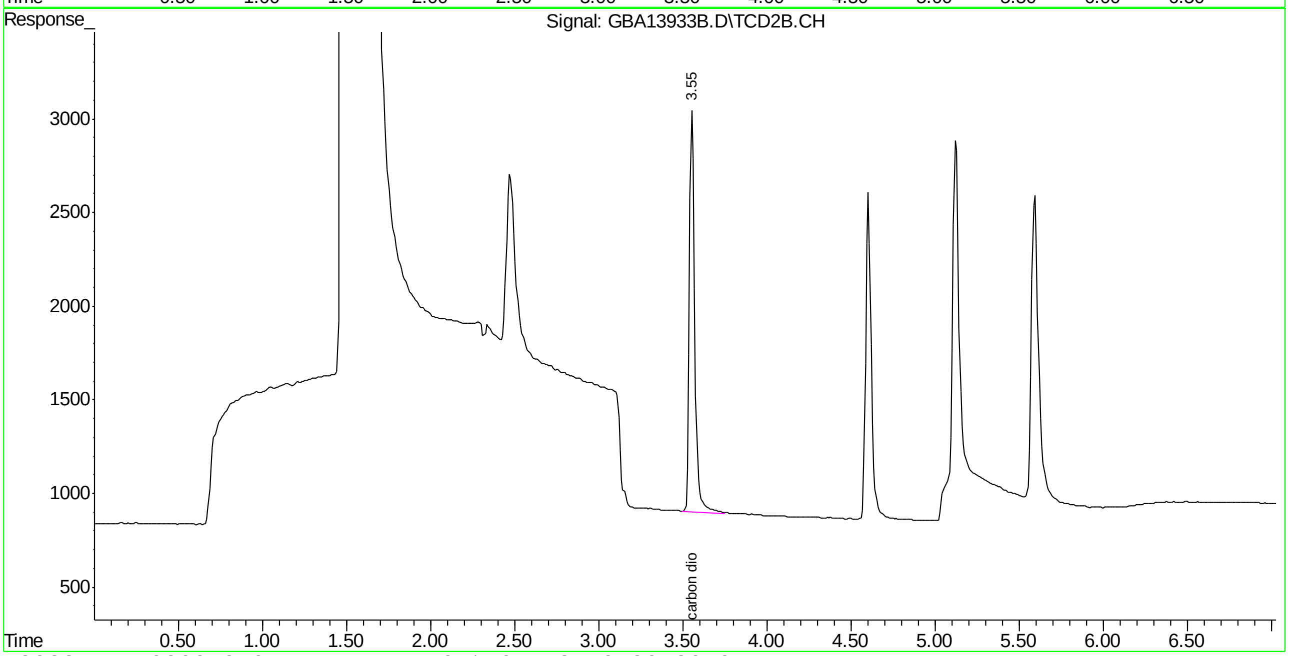
9

(f)=RT Delta > 1/2 Window (m)=manual int.

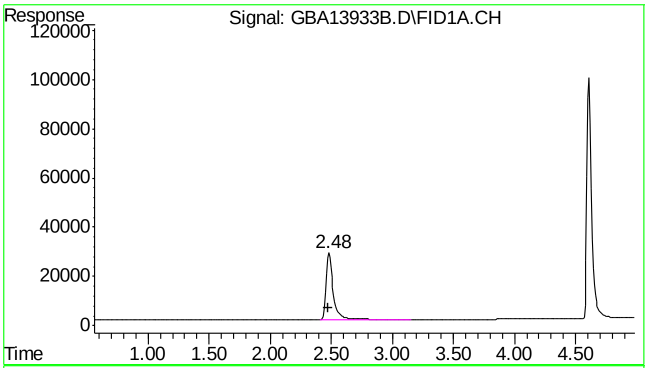
Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13933B.D\FID1A.CH       Vial: 4
Signal #2 : C:\MSDCHEM\2\DATA\GBA13933B.D\TCD2B.CH
Acq On    : 8-9-10 09:37:58 AM                       Operator: tonyf
Sample    : icc871-250                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug  9  9:47 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 09:32:00 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```



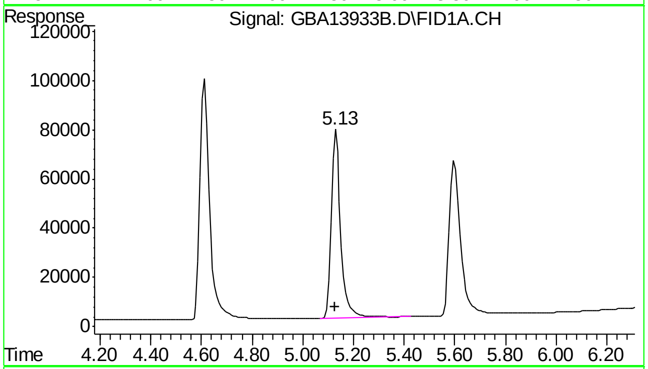


GBA13933B.D 080910AQ.M Mon Oct 04 13:59:39 2010 RPT1 Page 2



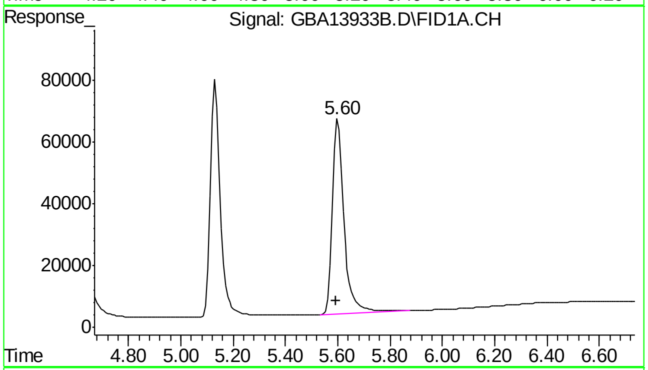
#1 methane

R.T.: 2.479 min
Delta R.T.: 0.000 min
Response: 1062472
Conc: 236.71 ppmv m



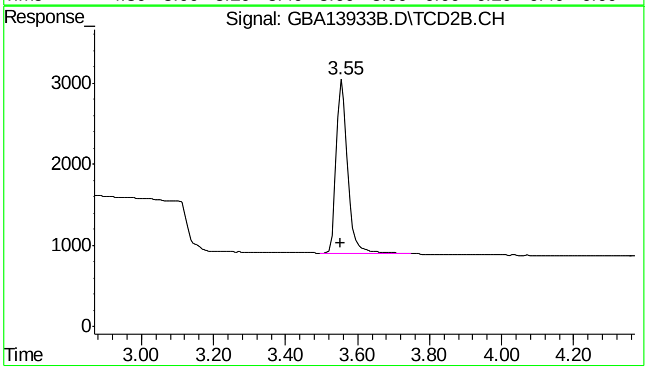
#3 Ethylene

R.T.: 5.129 min
Delta R.T.: 0.003 min
Response: 1985663
Conc: 229.84 ppmv m



#4 Ethane

R.T.: 5.597 min
Delta R.T.: 0.003 min
Response: 1946719
Conc: 225.82 ppmv m



#6 carbon dioxide

R.T.: 3.554 min
Delta R.T.: 0.000 min
Response: 47891
Conc: 233.75 ppmv m

9.5.4

9

Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

Quantitation Report (QT Reviewed)

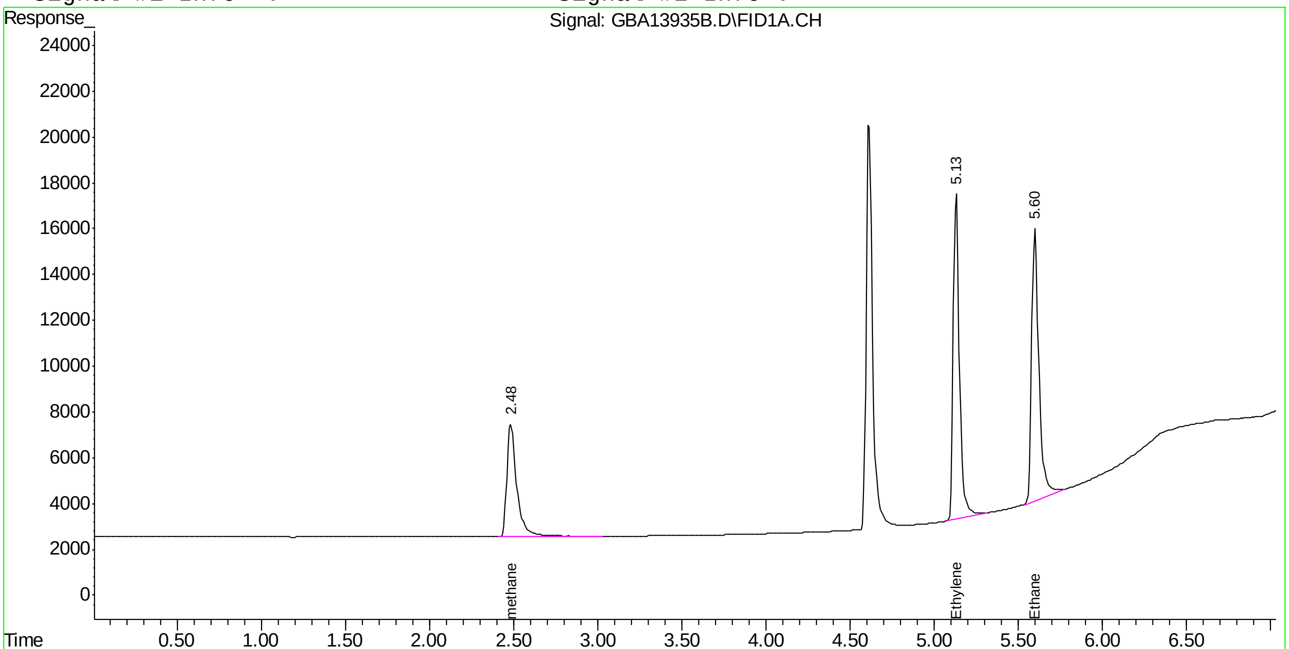
```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13935B.D\FID1A.CH       Vial: 6
Signal #2 : C:\MSDCHEM\2\DATA\GBA13935B.D\TCD2B.CH
Acq On    : 09 Aug 2010  10:10 am                    Operator: tonyf
Sample    : ic871-49.4                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug 09 10:18:17 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 09:47:39 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

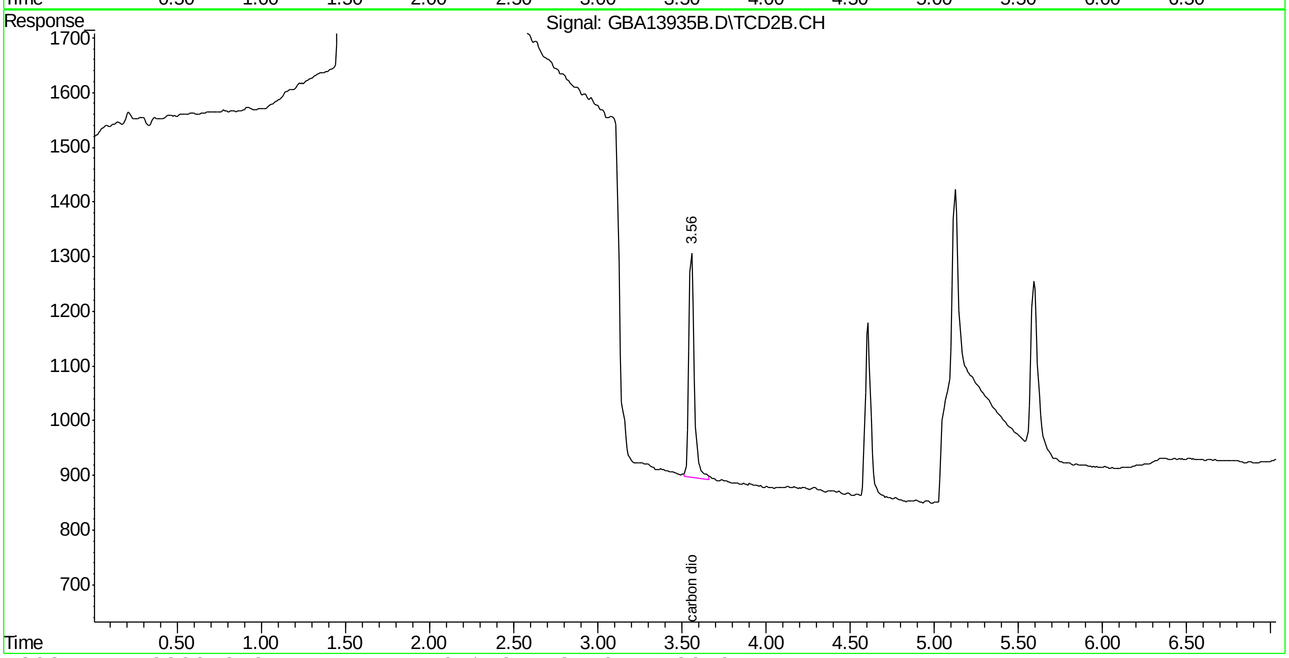
Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.48	203580	46.077 ppmv m
3) Ethylene	5.13	366859	43.337 ppmv m
4) Ethane	5.60	359691	42.759 ppmv m
6) t carbon dioxide	3.56	9321	46.245 ppmv m

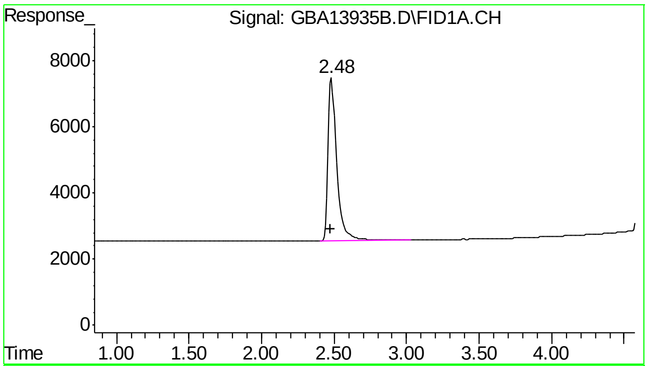
9.5.5
9

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13935B.D\FID1A.CH       Vial: 6
Signal #2 : C:\MSDCHEM\2\DATA\GBA13935B.D\TCD2B.CH
Acq On    : 09 Aug 2010  10:10 am                    Operator: tonyf
Sample    : ic871-49.4                               Inst    : gcba
Misc      : gc18373,gba871,,,,,1,1                   Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug  9 10:18 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 09:47:39 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                   Signal #2 Phase:
Signal #1 Info  :                   Signal #2 Info :
```

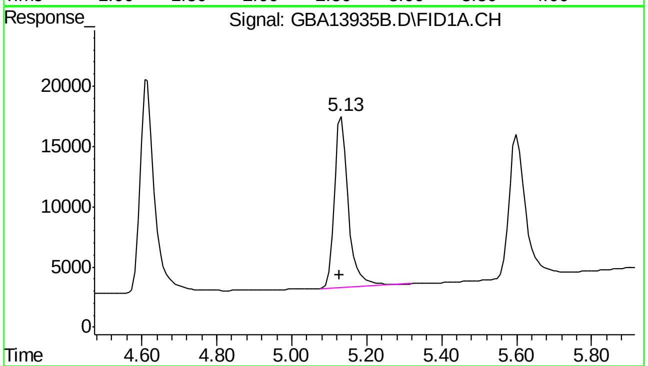






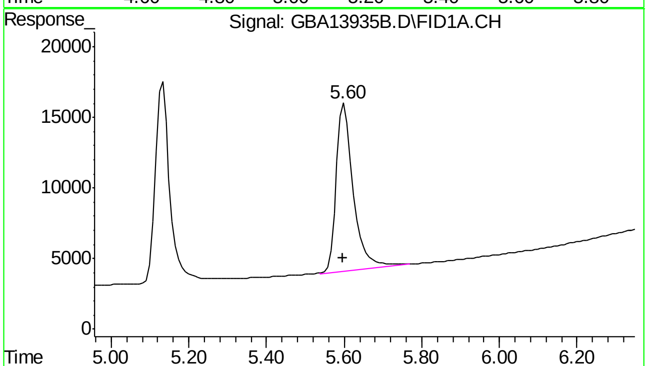
#1 methane

R.T.: 2.480 min
Delta R.T.: 0.002 min
Response: 203580
Conc: 46.08 ppmv m



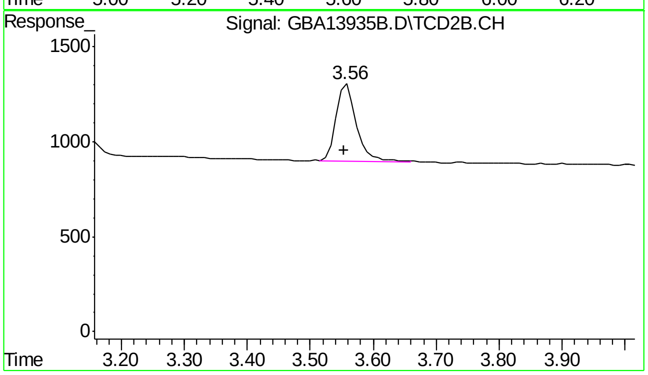
#3 Ethylene

R.T.: 5.130 min
Delta R.T.: 0.001 min
Response: 366859
Conc: 43.34 ppmv m



#4 Ethane

R.T.: 5.598 min
Delta R.T.: 0.001 min
Response: 359691
Conc: 42.76 ppmv m



#6 carbon dioxide

R.T.: 3.555 min
Delta R.T.: 0.001 min
Response: 9321
Conc: 46.25 ppmv m

9.5.5

6

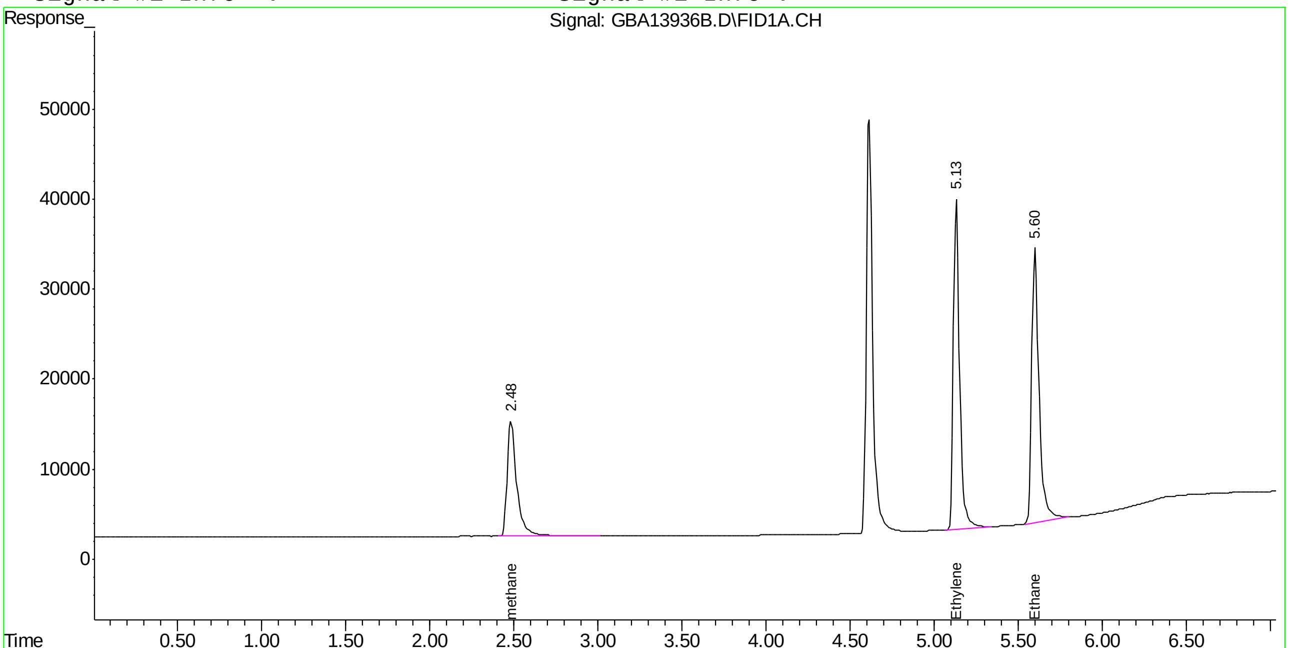
Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

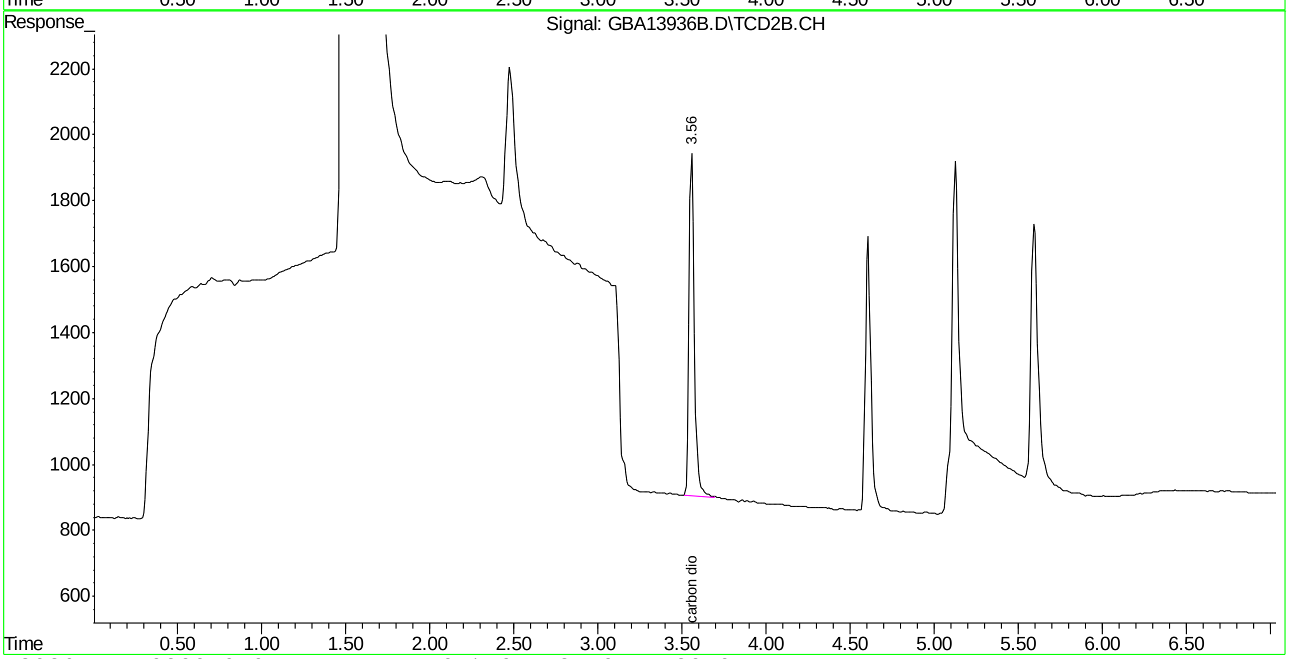
Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13936B.D\FID1A.CH       Vial: 7
Signal #2 : C:\MSDCHEM\2\DATA\GBA13936B.D\TCD2B.CH
Acq On    : 09 Aug 2010  10:25 am                    Operator: tonyf
Sample    : ic871-100                                Inst    : gcba
Misc      : gc18373,gba871,,,,,1,1                   Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug 09 10:36:01 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 10:35:29 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                   Signal #2 Phase:
Signal #1 Info  :                   Signal #2 Info :
```

	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) t	methane	2.48	517175	118.875 ppmv m
3)	Ethylene	5.13	951926	115.280 ppmv m
4)	Ethane	5.60	929674	113.570 ppmv m
6) t	carbon dioxide	3.56	22890	115.037 ppmv m

```
                         Quantitation Report    (QT Reviewed)

Signal #1 : C:\MSDCHEM\2\DATA\GBA13936B.D\FID1A.CH       Vial: 7
Signal #2 : C:\MSDCHEM\2\DATA\GBA13936B.D\TCD2B.CH
Acq On    : 09 Aug 2010  10:25 am                    Operator: tonyf
Sample    : ic871-100                                Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug  9 10:36 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 10:35:29 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

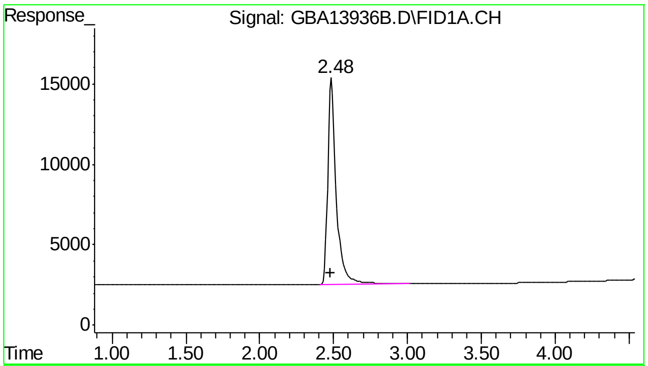





```
GBA13936B.D  080910AQ.M     Mon Oct 04 13:59:44 2010     RPT1                  Page 2
```

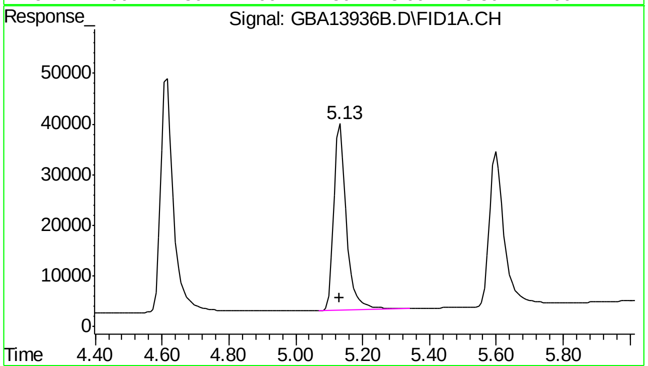
9.5.6

9



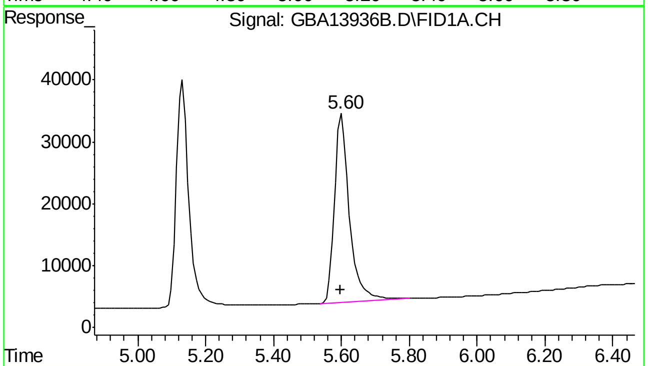
#1 methane

```
     R.T.:    2.481 min
Delta R.T.:    0.000 min
  Response:     517175
     Conc:  118.87 ppmv m
```



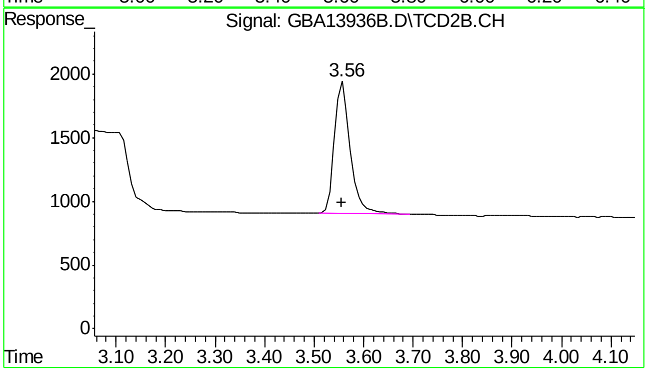
#3 Ethylene

```
     R.T.:    5.130 min
Delta R.T.:    0.000 min
  Response:     951926
     Conc:  115.28 ppmv m
```



#4 Ethane

```
     R.T.:    5.597 min
Delta R.T.:    0.000 min
  Response:     929674
     Conc:  113.57 ppmv m
```



#6 carbon dioxide

```
     R.T.:    3.556 min
Delta R.T.:    0.000 min
  Response:      22890
     Conc:  115.04 ppmv m
```

9.5.6

6

Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13938B.D\FID1A.CH       Vial: 9
Signal #2 : C:\MSDCHEM\2\DATA\GBA13938B.D\TCD2B.CH
Acq On    : 09 Aug 2010  10:56 am                    Operator: tonyf
Sample    : ic871-24.7                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug 09 11:04:03 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 10:37:05 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                   Signal #2 Phase:
Signal #1 Info  :                   Signal #2 Info :
```

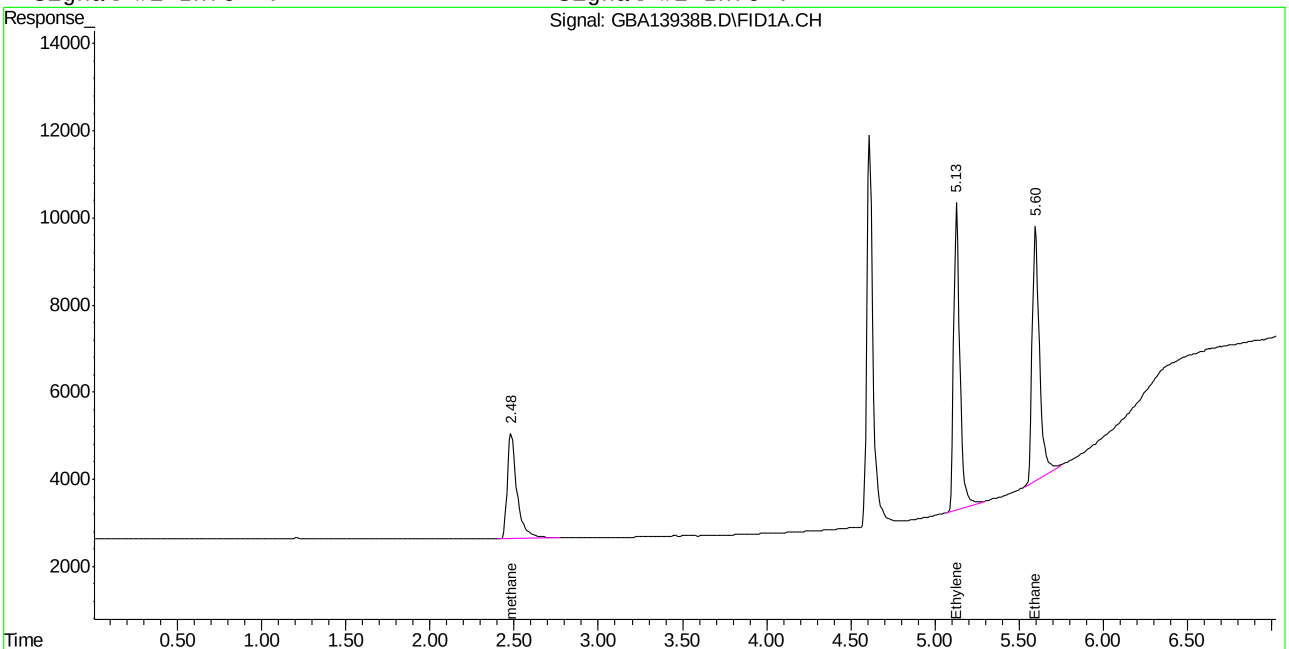
Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.48	97837	21.844 ppmv m
3) Ethylene	5.13	180343	21.298 ppmv m
4) Ethane	5.60	176502	21.085 ppmv m
6) t carbon dioxide	3.56	6313	30.949 ppmv m

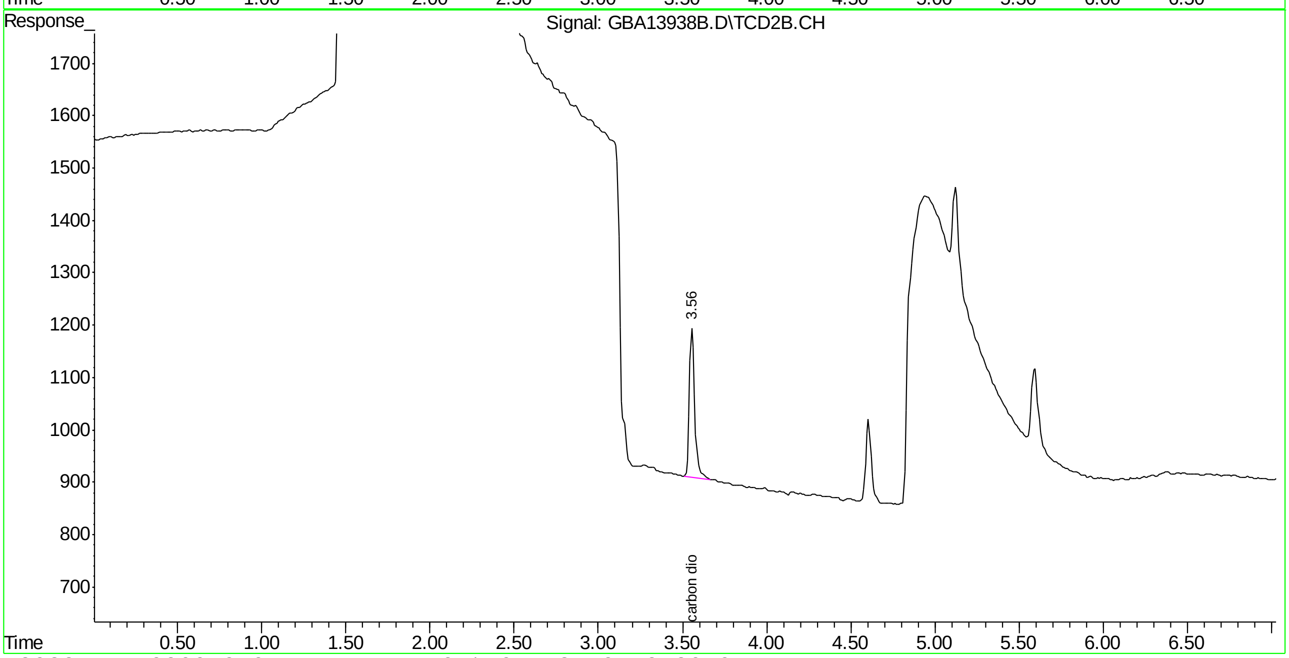
9.5.7

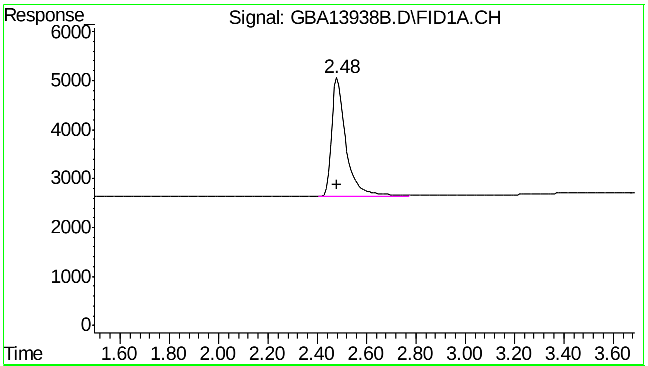
9

Quantitation Report (QT Reviewed)

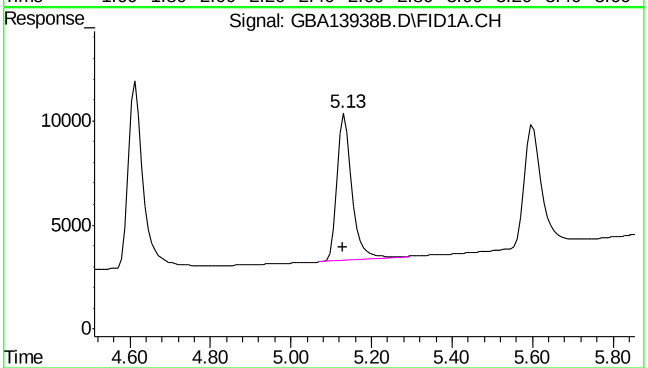
```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13938B.D\FID1A.CH       Vial: 9
Signal #2 : C:\MSDCHEM\2\DATA\GBA13938B.D\TCD2B.CH
Acq On    : 09 Aug 2010  10:56 am                    Operator: tonyf
Sample    : ic871-24.7                               Inst    : gcba
Misc      : gc18373,gba871,,,,,1,1                   Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug  9 11:04 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 10:37:05 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.      :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```



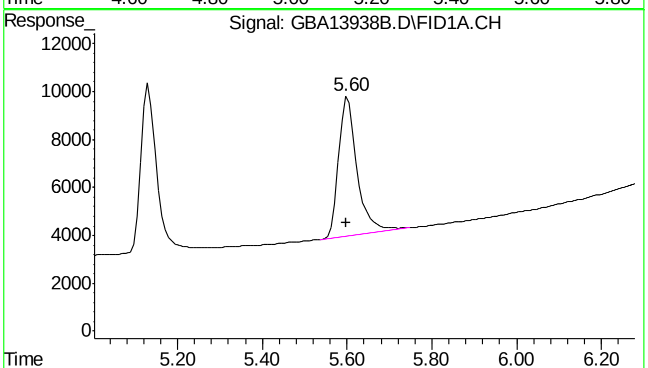




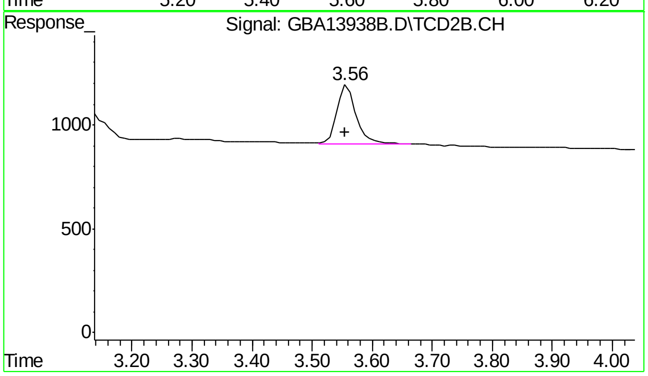

```
#1   methane

       R.T.:    2.479 min
Delta R.T.:   -0.002 min
   Response:     97837
       Conc:   21.84 ppmv m
```




```
#3   Ethylene

       R.T.:    5.129 min
Delta R.T.:    0.000 min
   Response:    180343
       Conc:   21.30 ppmv m
```




```
#4   Ethane

       R.T.:    5.598 min
Delta R.T.:    0.000 min
   Response:    176502
       Conc:   21.08 ppmv m
```




```
#6   carbon dioxide

       R.T.:    3.555 min
Delta R.T.:    0.000 min
   Response:      6313
       Conc:   30.95 ppmv m
```

9.5.7

9

Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

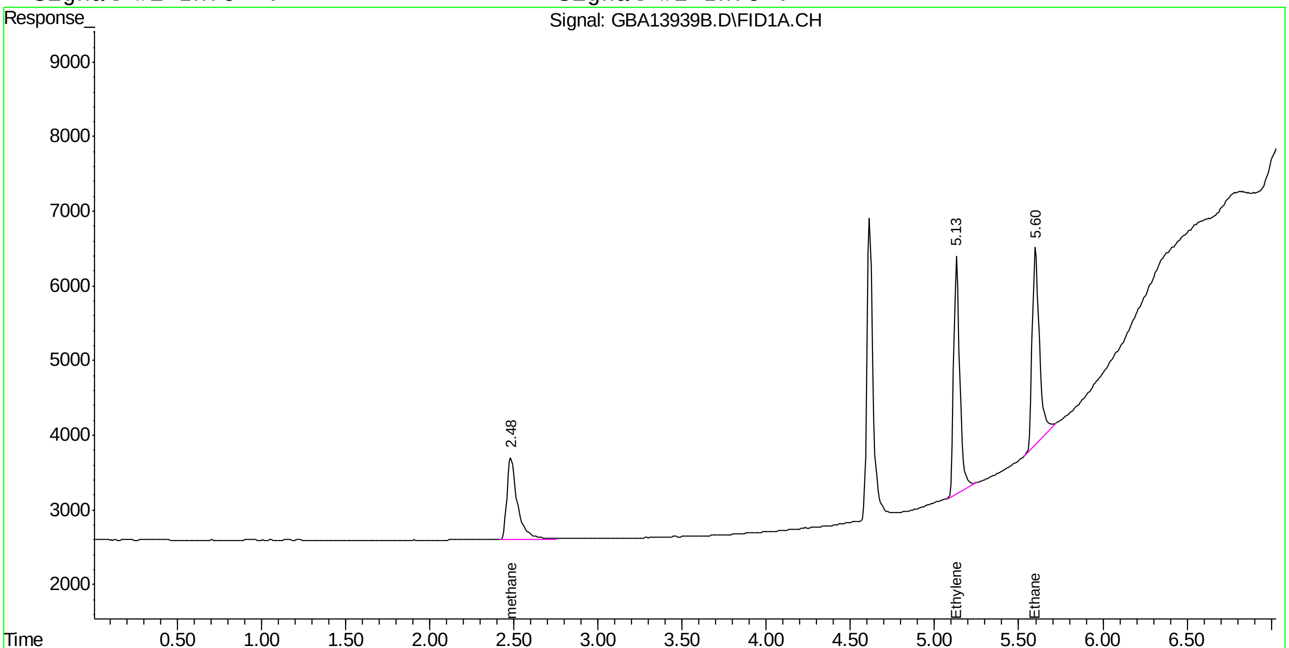
Quantitation Report (QT Reviewed)

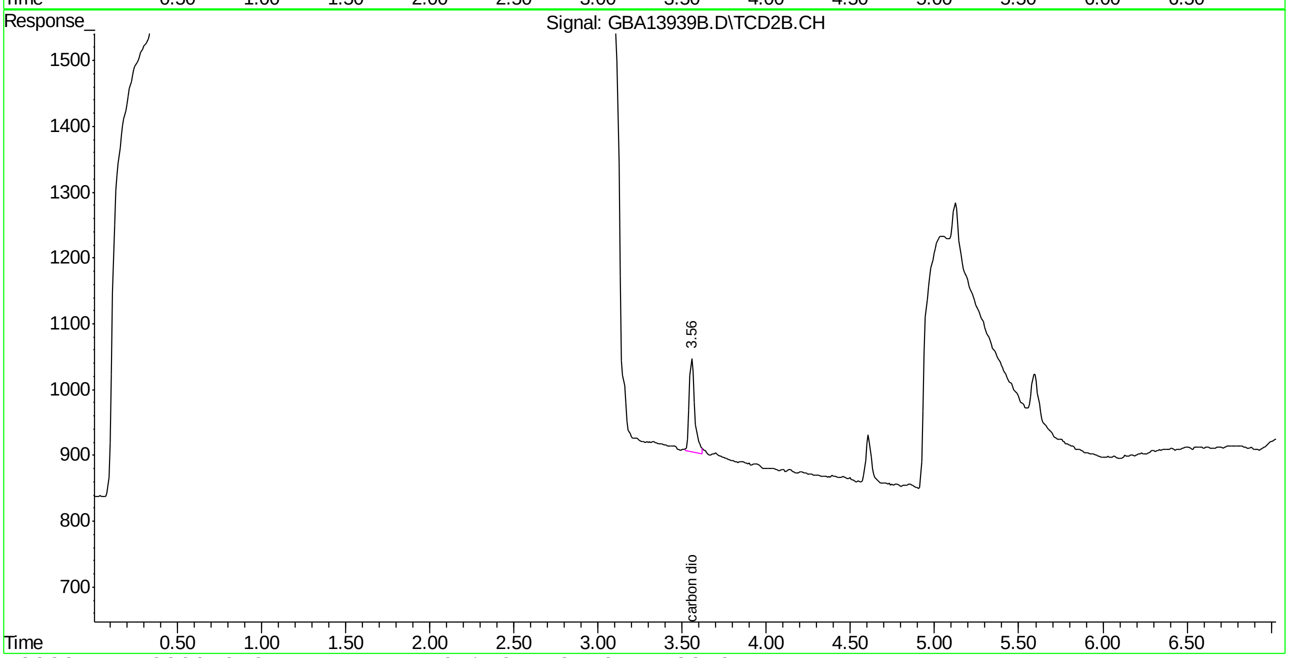
```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13939B.D\FID1A.CH       Vial: 10
Signal #2 : C:\MSDCHEM\2\DATA\GBA13939B.D\TCD2B.CH
Acq On    : 09 Aug 2010  11:11 am                    Operator: tonyf
Sample    : ic871-12.4                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug 09 11:19:53 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 11:05:42 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

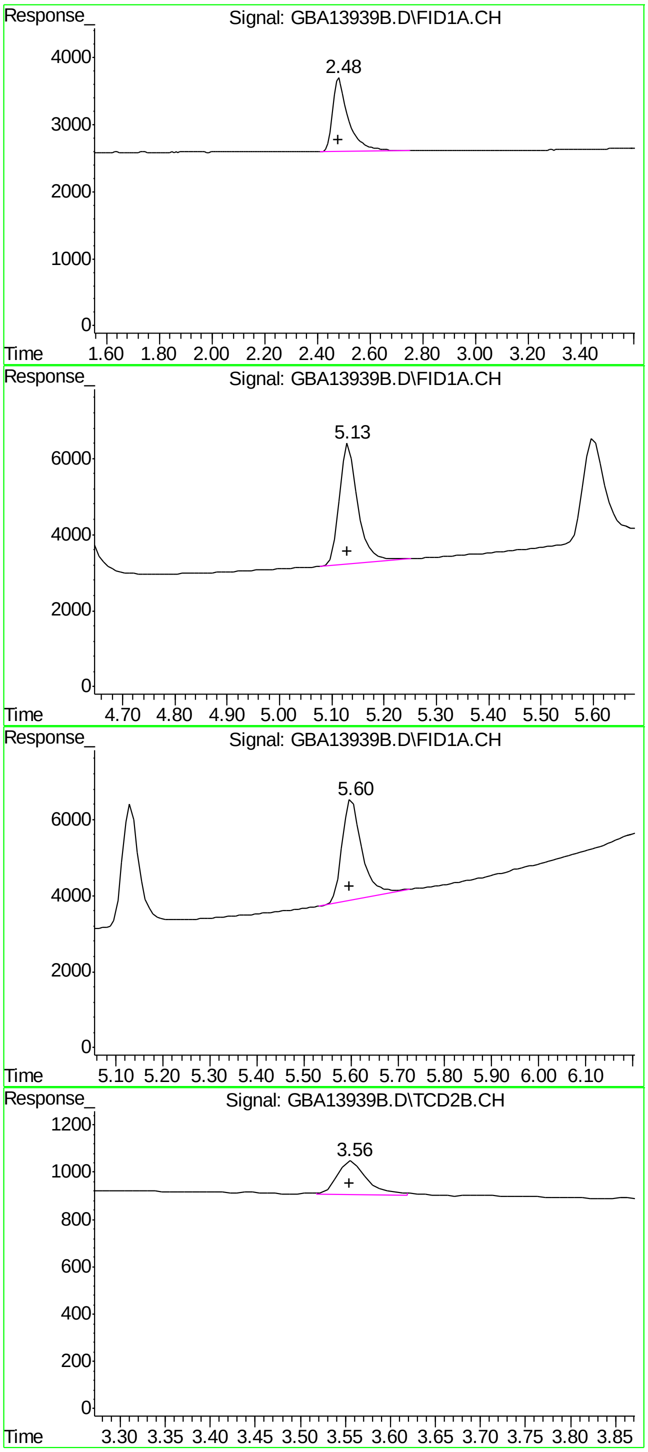
	Compound	R.T.	Response	Conc Units
	Target Compounds			
1) t	methane	2.48	47872	10.882 ppmv m
3)	Ethylene	5.13	80214	9.663 ppmv m
4)	Ethane	5.60	79110	9.652 ppmv m
6) t	carbon dioxide	3.56	3269	15.469 ppmv m

```
(f)=RT Delta > 1/2 Window                         (m)=manual int.
GBA13939B.D  080910AQ.M      Mon Oct 04 13:59:50 2010      RPT1                    Page 1
```

```
                              Quantitation Report    (QT Reviewed)

Signal #1 : C:\MSDCHEM\2\DATA\GBA13939B.D\FID1A.CH       Vial: 10
Signal #2 : C:\MSDCHEM\2\DATA\GBA13939B.D\TCD2B.CH
Acq On    : 09 Aug 2010  11:11 am                    Operator: tonyf
Sample    : ic871-12.4                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug  9 11:20 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 11:05:42 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```








```
#1  methane

       R.T.:   2.478 min
Delta R.T.:   0.000 min
   Response:     47872
       Conc:  10.88 ppmv m

#3  Ethylene

       R.T.:   5.130 min
Delta R.T.:   0.000 min
   Response:     80214
       Conc:   9.66 ppmv m

#4  Ethane

       R.T.:   5.599 min
Delta R.T.:   0.000 min
   Response:     79110
       Conc:   9.65 ppmv m

#6  carbon dioxide

       R.T.:   3.555 min
Delta R.T.:   0.000 min
   Response:      3269
       Conc:  15.47 ppmv m
```

9.5.8

6

Manual Integrations
APPROVED
(compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13940B.D\FID1A.CH       Vial: 11
Signal #2 : C:\MSDCHEM\2\DATA\GBA13940B.D\TCD2B.CH
Acq On    : 09 Aug 2010  11:28 am                    Operator: tonyf
Sample    : ic871-2.47                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug 09 11:38:01 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 11:20:34 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.      :
Signal #1 Phase :                 Signal #2 Phase:
Signal #1 Info  :                 Signal #2 Info :
```

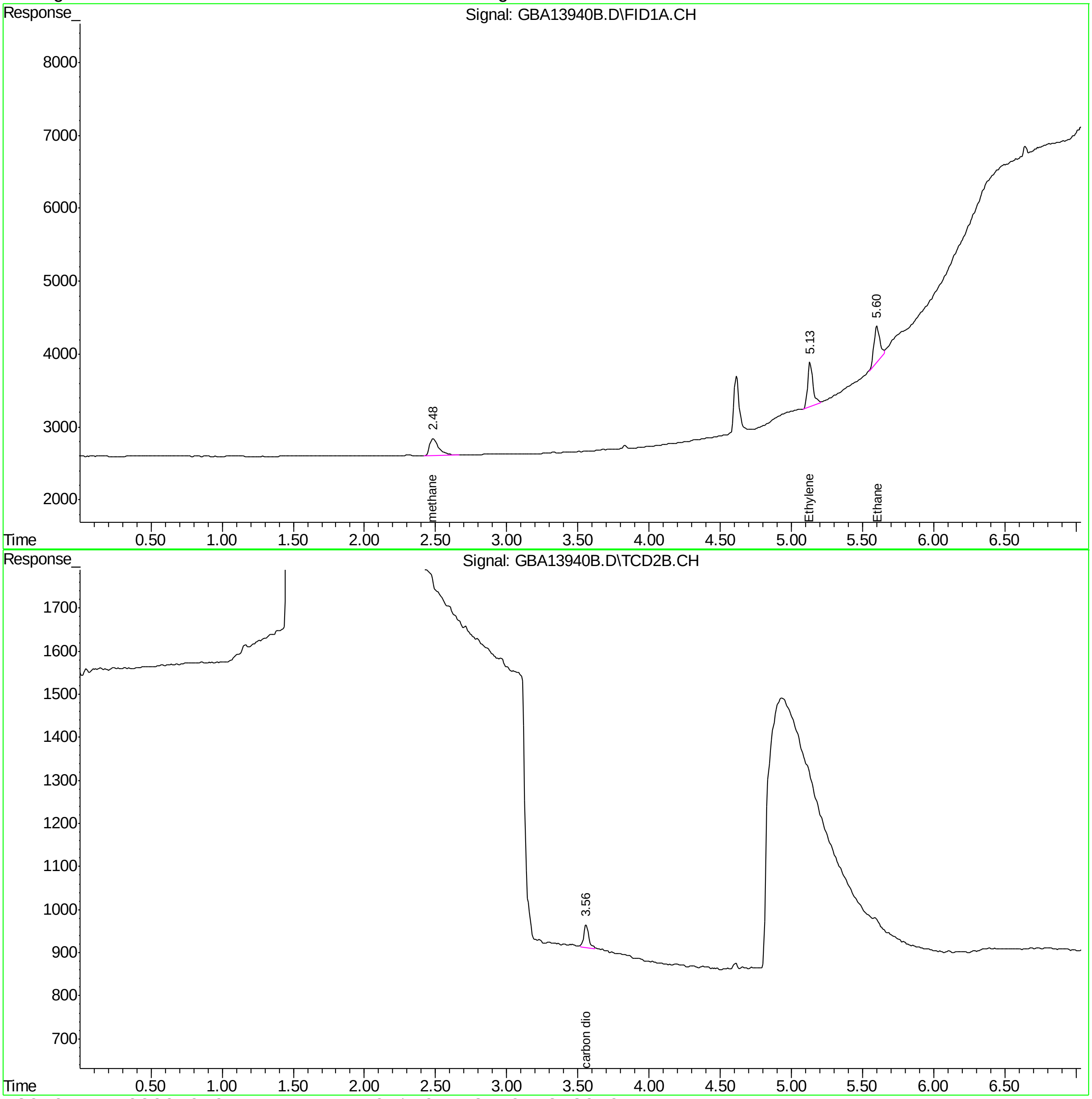
Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.48	10302	2.380 ppmv m
3) Ethylene	5.13	15877	1.967 ppmv m
4) Ethane	5.60	14028	1.760 ppmv m
6) t carbon dioxide	3.56	1286	5.903 ppmv m

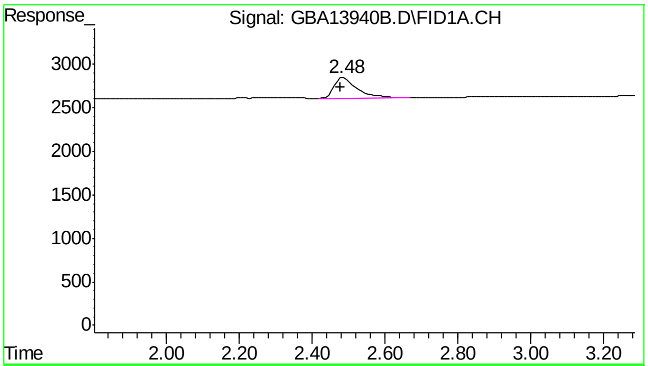
9.5.9

9

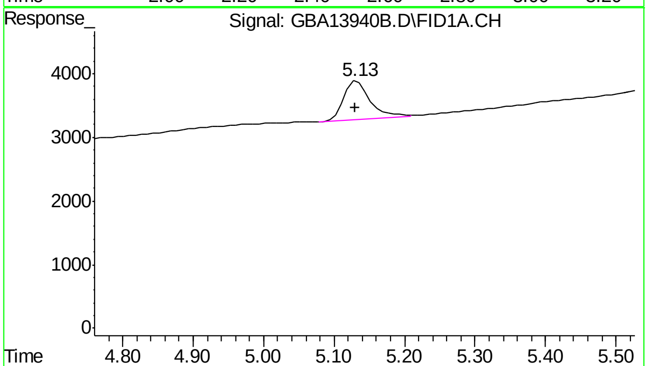
Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13940B.D\FID1A.CH       Vial: 11
Signal #2 : C:\MSDCHEM\2\DATA\GBA13940B.D\TCD2B.CH
Acq On    : 09 Aug 2010  11:28 am                    Operator: tonyf
Sample    : ic871-2.47                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug  9 11:38 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 11:20:34 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

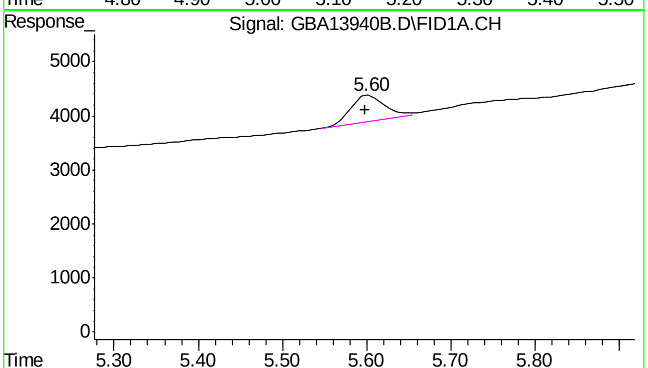




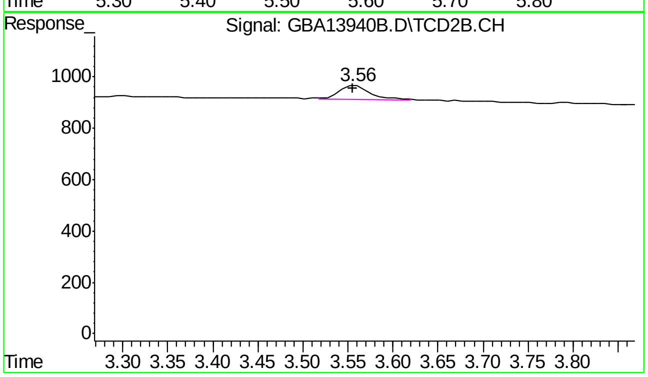

```
#1  methane

      R.T.:    2.481 min
Delta R.T.:    0.003 min
  Response:      10302
      Conc:    2.38 ppmv m
```




```
#3  Ethylene

      R.T.:    5.129 min
Delta R.T.:    0.000 min
  Response:      15877
      Conc:    1.97 ppmv m
```




```
#4  Ethane

      R.T.:    5.600 min
Delta R.T.:    0.000 min
  Response:      14028
      Conc:    1.76 ppmv m
```




```
#6  carbon dioxide

      R.T.:    3.556 min
Delta R.T.:    0.000 min
  Response:       1286
      Conc:    5.90 ppmv m
```

9.5.9
9

Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

Quantitation Report (QT Reviewed)

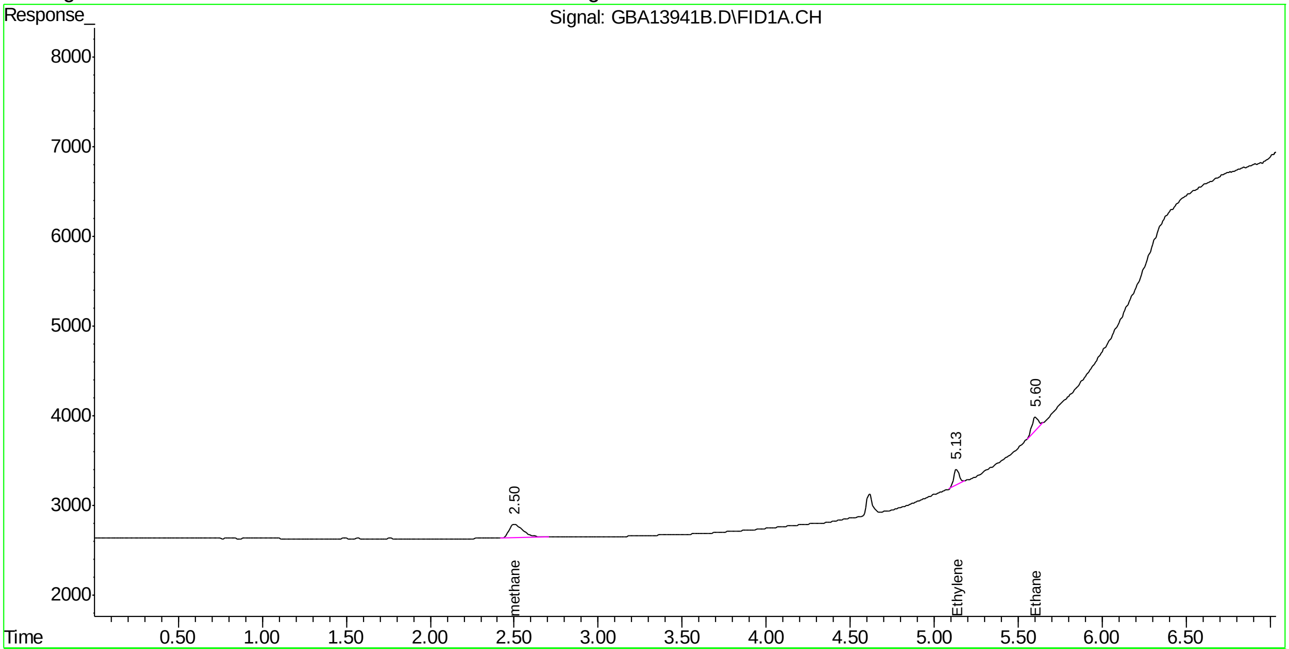
```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13941B.D\FID1A.CH       Vial: 12
Signal #2 : C:\MSDCHEM\2\DATA\GBA13941B.D\TCD2B.CH
Acq On    : 09 Aug 2010  11:45 am                    Operator: tonyf
Sample    : ic871-.741                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug 09 11:56:22 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 11:38:46 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.      :
Signal #1 Phase :                   Signal #2 Phase:
Signal #1 Info  :                   Signal #2 Info :
```

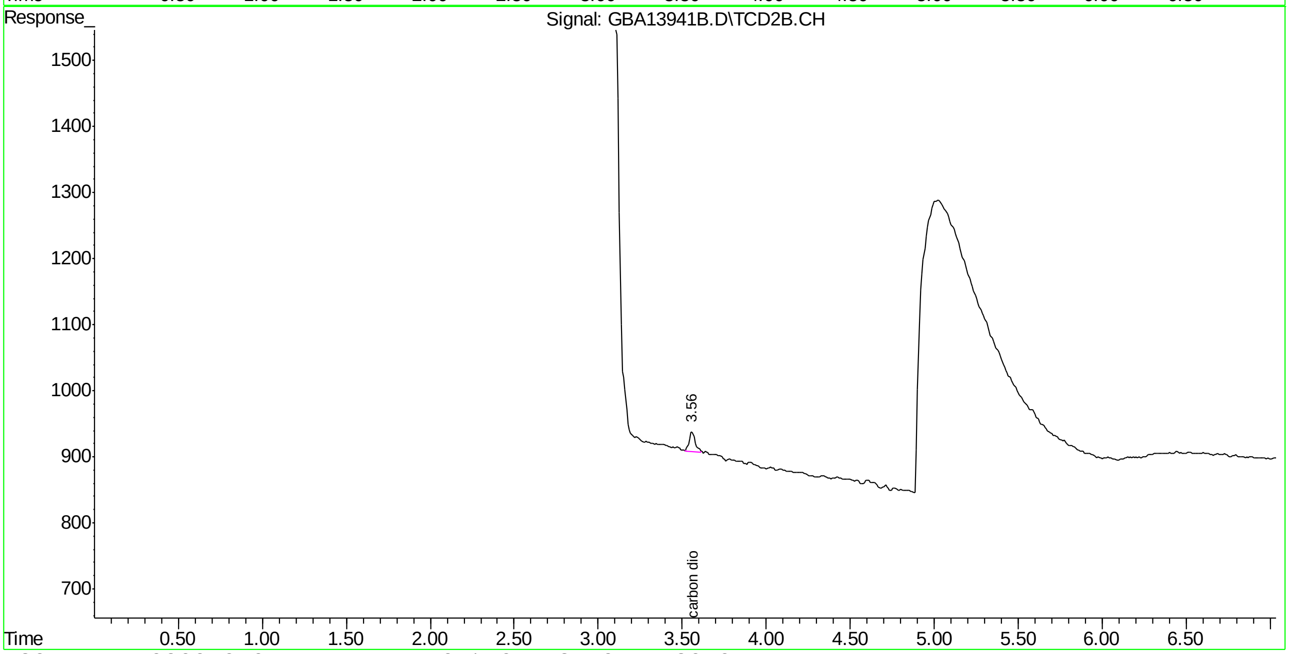
Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.50f	8928	2.073 ppmv m
3) Ethylene	5.13	4231	0.536 ppmv m
4) Ethane	5.60	3996	0.518 ppmv m
6) t carbon dioxide	3.56	746	2.964 ppmv m

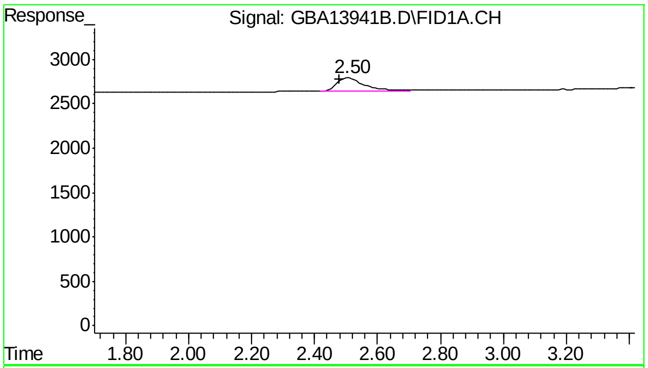
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13941B.D\FID1A.CH       Vial: 12
Signal #2 : C:\MSDCHEM\2\DATA\GBA13941B.D\TCD2B.CH
Acq On    : 09 Aug 2010  11:45 am                    Operator: tonyf
Sample    : ic871-.741                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Aug  9 11:57 2010  Quant Results File: 080910AQ.RES

Quant Method : C:\MSDCHEM\2\METHODS\080910AQ.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Aug 09 11:38:46 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

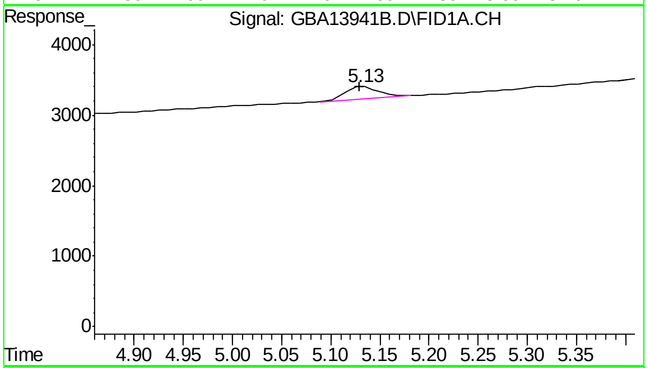






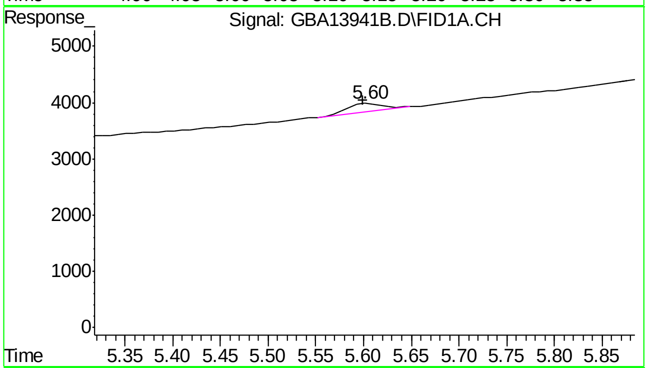
#1 methane

```
      R.T.:    2.503 min
Delta R.T.:    0.022 min
  Response:       8928
      Conc:    2.07 ppmv m
```



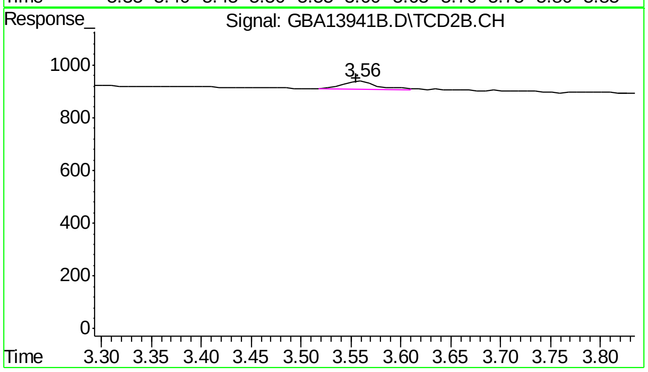
#3 Ethylene

```
      R.T.:    5.131 min
Delta R.T.:    0.001 min
  Response:       4231
      Conc:    0.54 ppmv m
```



#4 Ethane

```
      R.T.:    5.601 min
Delta R.T.:    0.001 min
  Response:       3996
      Conc:    0.52 ppmv m
```



#6 carbon dioxide

```
      R.T.:    3.557 min
Delta R.T.:    0.000 min
  Response:        746
      Conc:    2.96 ppmv m
```

9.5.10

9

Manual Integrations APPROVED (compounds with "m" flag)
Doug Yargeau
10/06/10 12:05

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13942B.D\FID1A.CH       Vial: 13
Signal #2 : C:\MSDCHEM\2\DATA\GBA13942B.D\TCD2B.CH
Acq On    : 09 Aug 2010  12:11 pm                    Operator: tonyf
Sample    : icv871-250                               Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                    Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Oct 04 11:37:45 2010  Quant Results File: 80910R.RES

Quant Method : C:\MSDCHEM\2\METHODS\80910R.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Oct 04 11:36:14 2010
Response via : Initial Calibration
DataAcq Meth : 080910M.M

Volume Inj.      :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

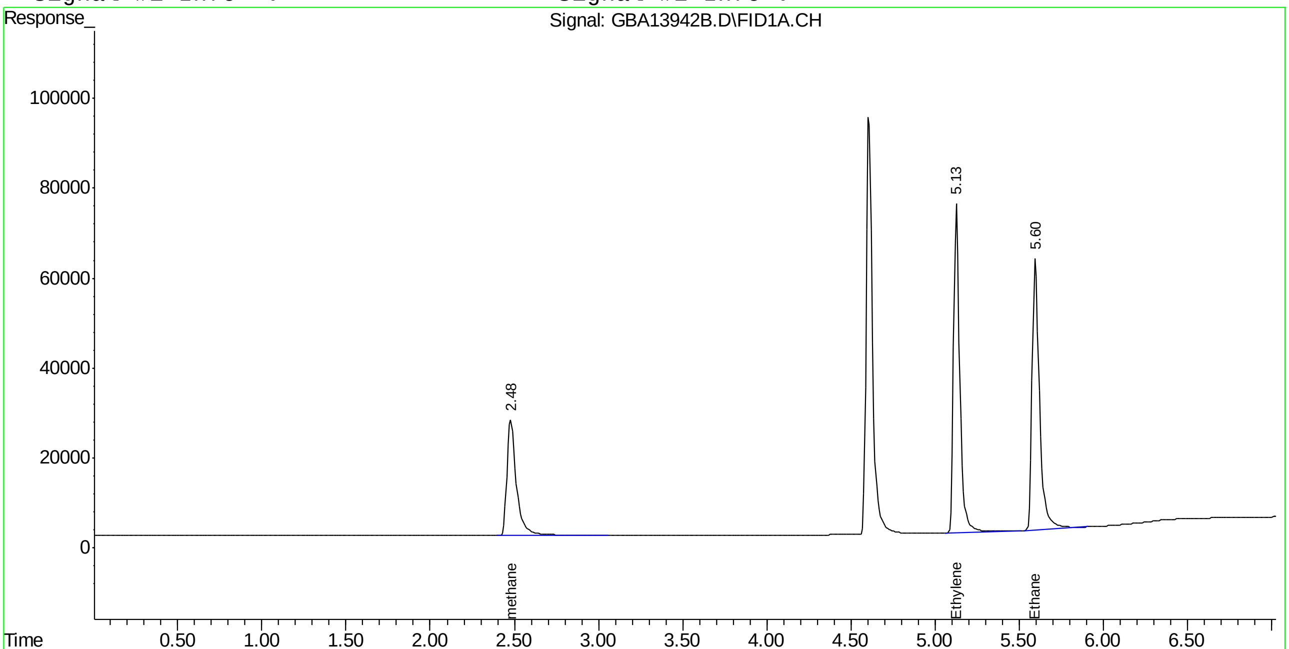
Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.48f	1025693	228.287 ppmv m
3) Ethylene	5.13	1904525	219.297 ppmv m
4) Ethane	5.60	1857925	213.411 ppmv m
6) t carbon dioxide	3.55	46151	222.054 ppmv m

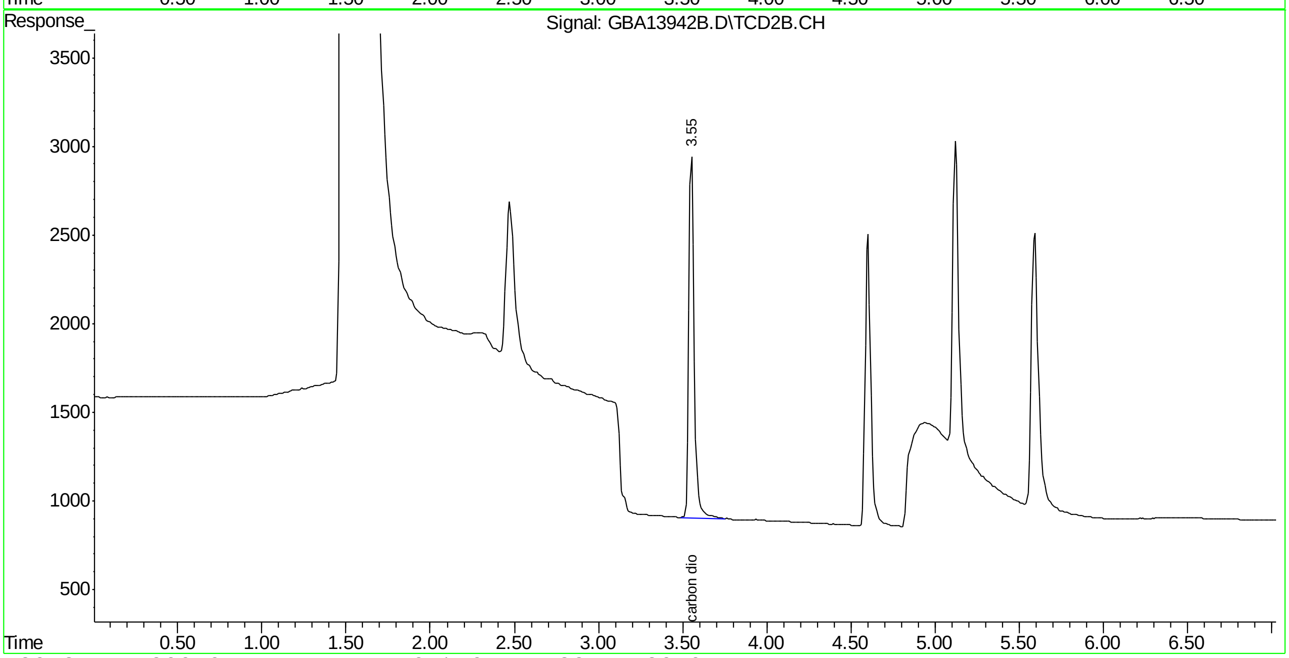
9.5.11

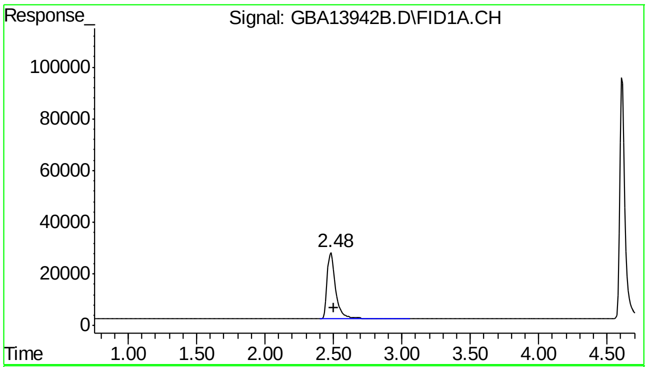
9

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\MSDCHEM\2\DATA\GBA13942B.D\FID1A.CH        Vial: 13
Signal #2 : C:\MSDCHEM\2\DATA\GBA13942B.D\TCD2B.CH
Acq On    : 09 Aug 2010  12:11 pm                     Operator: tonyf
Sample    : icv871-250                                Inst    : gcba
Misc      : gc18373,gba871,,,,1,1                     Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e
Quant Time: Oct  4 11:38 2010  Quant Results File: 80910R.RES

Quant Method : C:\MSDCHEM\2\METHODS\80910R.M (Chemstation Integrator)
Title        : V8015,master
Last Update  : Mon Oct 04 11:36:14 2010
Response via : Multiple Level Calibration
DataAcq Meth : 080910M.M

Volume Inj.     :
Signal #1 Phase :                  Signal #2 Phase:
Signal #1 Info  :                  Signal #2 Info :
```

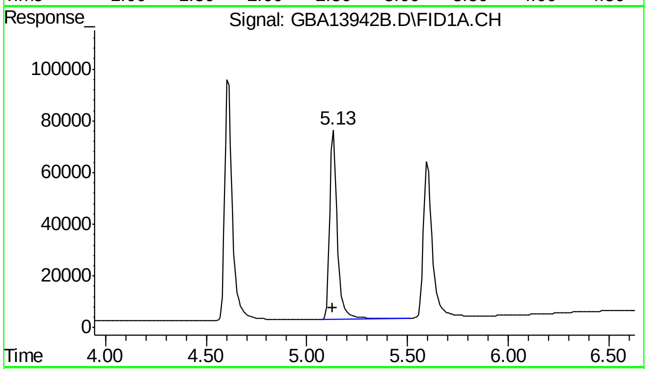






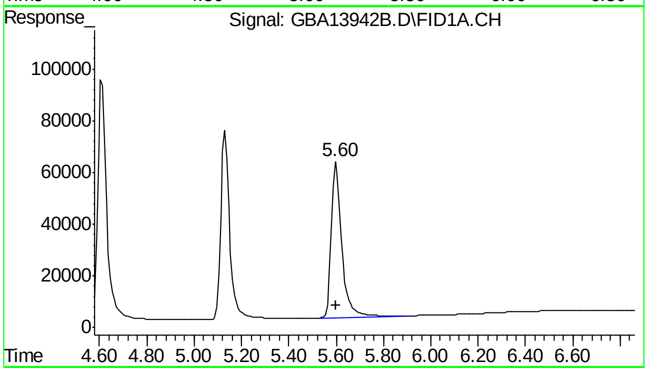
#1 methane

```
      R.T.:   2.477 min
Delta R.T.:  -0.026 min
  Response:   1025693
      Conc: 228.29 ppmv m
```



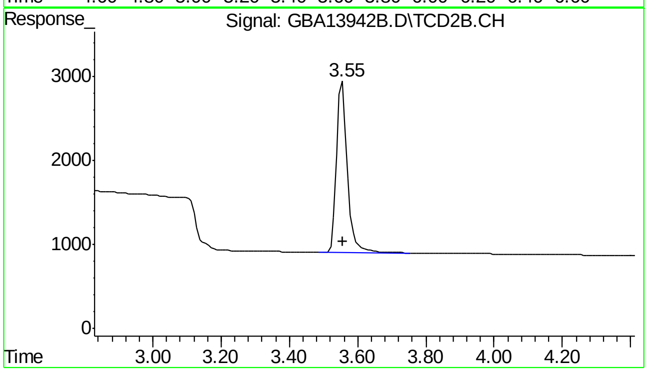
#3 Ethylene

```
      R.T.:   5.128 min
Delta R.T.:  -0.002 min
  Response:   1904525
      Conc: 219.30 ppmv m
```



#4 Ethane

```
      R.T.:   5.597 min
Delta R.T.:  -0.004 min
  Response:   1857925
      Conc: 213.41 ppmv m
```



#6 carbon dioxide

```
      R.T.:   3.552 min
Delta R.T.:  -0.004 min
  Response:     46151
      Conc: 222.05 ppmv m
```

9.5.11

9

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/27/15 09:02

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22762.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 08:03:17
Operator  : tonyf
Sample    : cc871-250
Misc      : gc25539,gba1548,,,,1,1
ALS Vial  : 1 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 08:11:14 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

	Compound	R.T.	Response	Conc Units	
Target Compounds					
1) t	methane	2.471	1090917	242.804 ppmv	m
3)	Ethylene	5.091	2014537	231.965 ppmv	m
4)	Ethane	5.549	2055587	236.116 ppmv	m
6) t	carbon dioxide	3.546	53213	256.032 ppmv	m

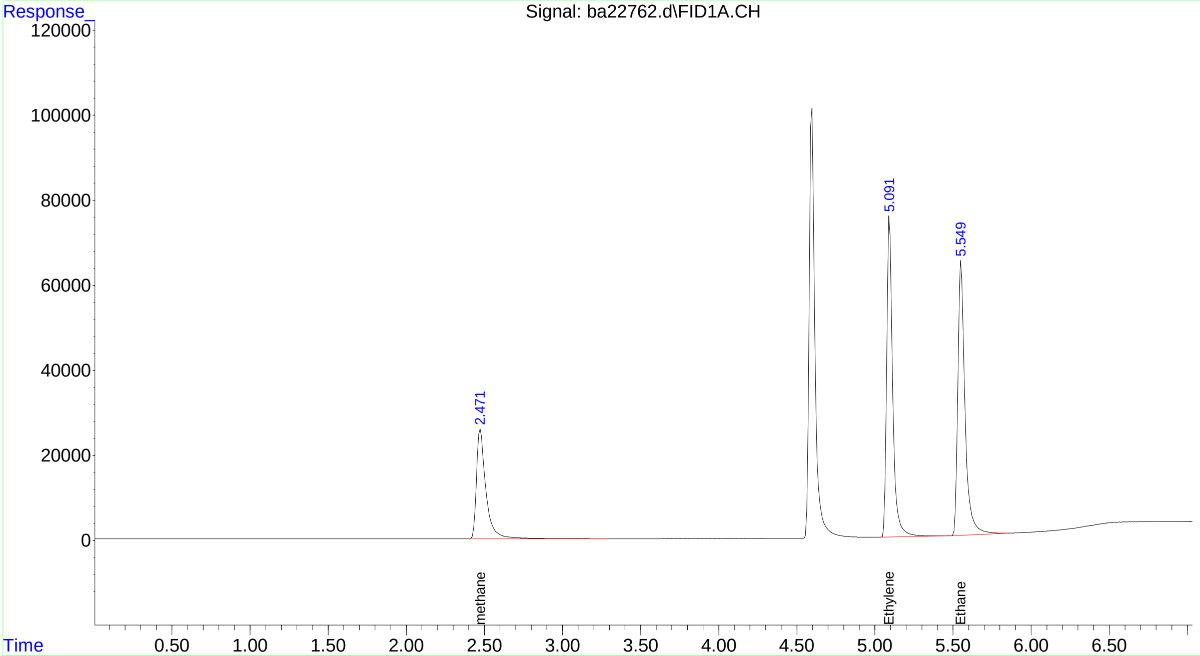
(f)=RT Delta > 1/2 Window (m)=manual int.

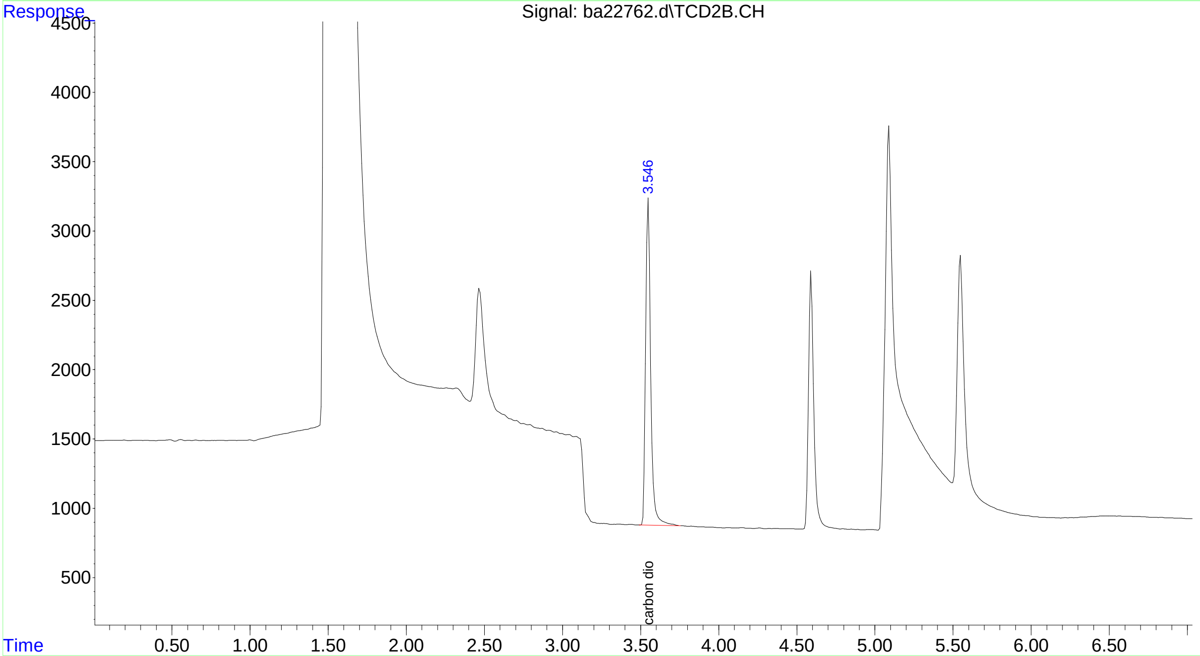
9.5.12

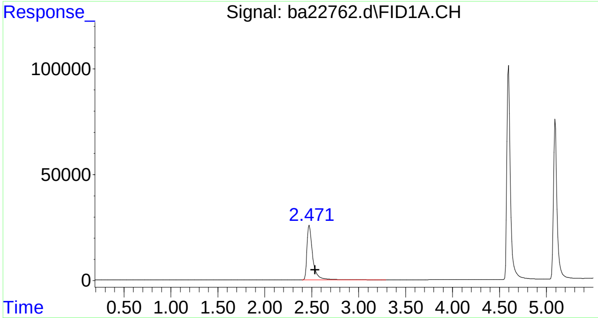
9

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22762.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 08:03:17
Operator  : tonyf
Sample    : cc871-250
Misc      : gc25539,gba1548,,,,1,1
ALS Vial  : 1 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 08:11:14 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation    6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

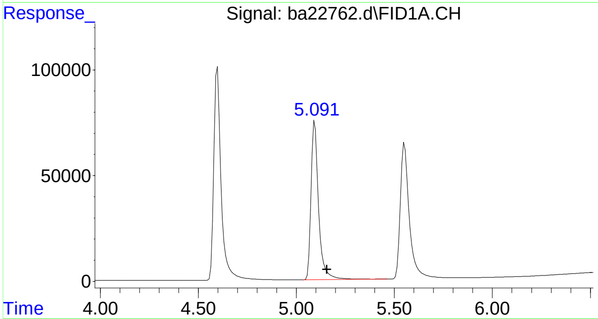






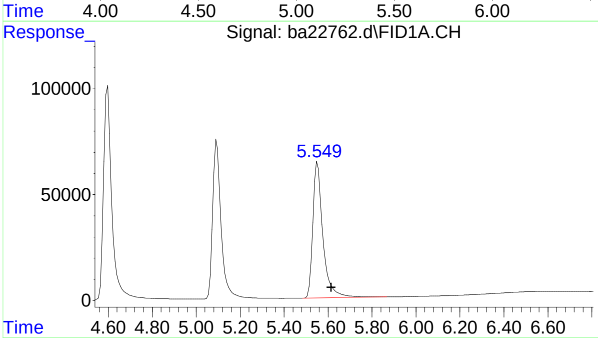
#1 methane

```
      R.T.:    2.471 min
Delta R.T.:   -0.064 min
  Response:   1090917
      Conc: 242.80 ppmv m
```



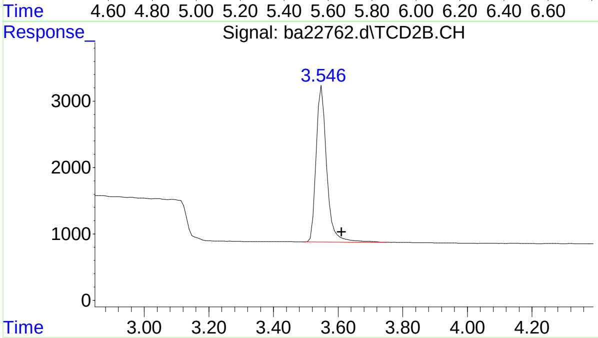
#3 Ethylene

```
      R.T.:    5.091 min
Delta R.T.:   -0.064 min
  Response:   2014537
      Conc: 231.96 ppmv m
```



#4 Ethane

```
      R.T.:    5.549 min
Delta R.T.:   -0.065 min
  Response:   2055587
      Conc: 236.12 ppmv m
```



#6 carbon dioxide

```
      R.T.:    3.546 min
Delta R.T.:   -0.064 min
  Response:     53213
      Conc: 256.03 ppmv m
```

Quantitation Report (QT Reviewed)

Manual Integrations APPROVED (compounds with "m" flag)
Andri Piluri
10/27/15 09:02

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22777.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 12:02:43
Operator  : tonyf
Sample    : cc871-250
Misc      : gc25539,gba1548,,,,1,1
ALS Vial  : 16 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 12:11:08 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :
```

Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.461	1301223	289.612 ppmv m
3) Ethylene	5.082	2413029	277.849 ppmv m
4) Ethane	5.541	2400368	275.719 ppmv m

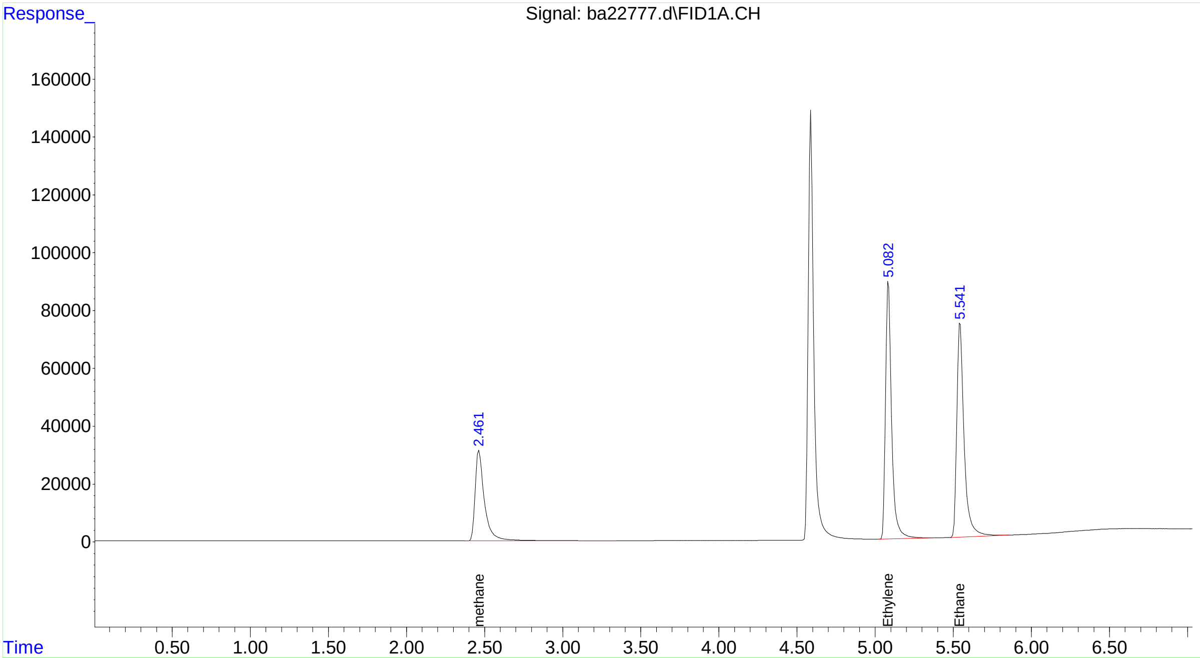
(f)=RT Delta > 1/2 Window (m)=manual int.

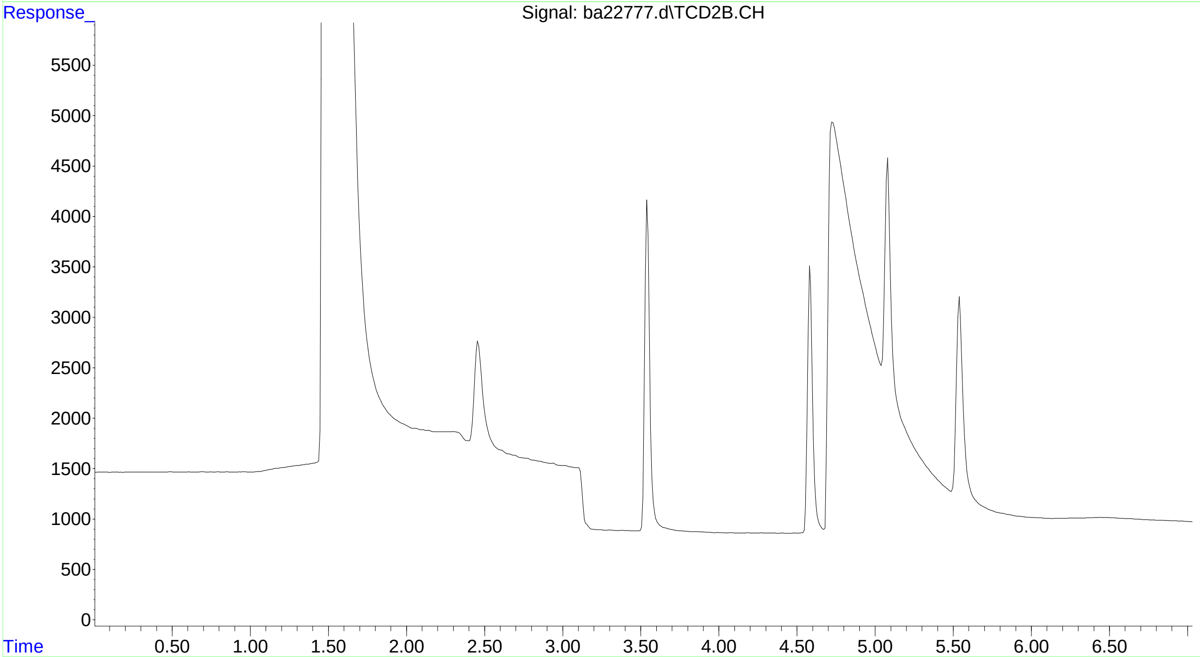
9.5.13

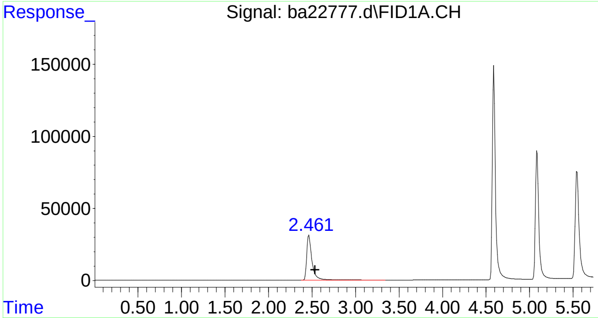
9

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22777.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 12:02:43
Operator  : tonyf
Sample    : cc871-250
Misc      : gc25539,gba1548,,,,1,1
ALS Vial  : 16 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 12:11:08 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                Signal #2 Phase:
Signal #1 Info  :                Signal #2 Info :
```

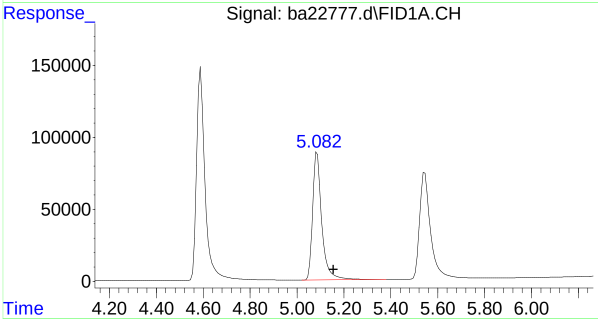






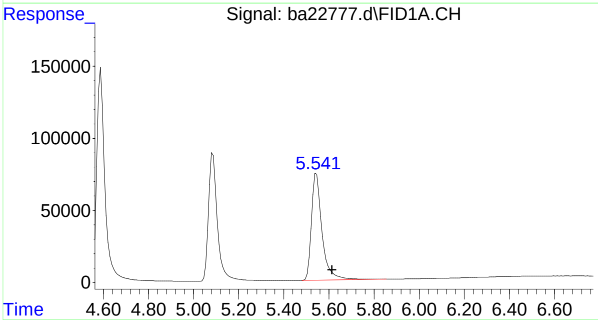
#1 methane

```
     R.T.:    2.461 min
Delta R.T.:   -0.074 min
  Response:   1301223
     Conc: 289.61 ppmv m
```



#3 Ethylene

```
     R.T.:    5.082 min
Delta R.T.:   -0.073 min
  Response:   2413029
     Conc: 277.85 ppmv m
```



#4 Ethane

```
     R.T.:    5.541 min
Delta R.T.:   -0.072 min
  Response:   2400368
     Conc: 275.72 ppmv m
```

ACCUTEST LABORATORIES

Instrument: GC 22 (BA)

VOLATILE ORGANICS BY GC ANALYSIS LOG

Date: 10/21/15 Analyst Signature: ag

Standards Data

Lot #	Description	Conc
VRSK175DAmee	gc25539 gbA	1548
VRSK175CHy		
VRSK147CHy		

Standards Data

Lot #	Description	Conc
gc16026	ccl6ep 10,000	ppmu

Column: carboxen 1006
Method: ag0410m.m
GC Seq. File: BA151021.S
Method Files: BA151021 VRSK175DAmee gc971-250
AS Seq. File: N/A

Date of ICAL: 08-09-10 ICAL Verified: Seq. Verification: ag

Data File	Sample ID	Bot No.	Work Group	Test	ALS #	*MTX	Samp Amt.	% SOL	Dil. Fact.	pH	Comments
bA 22,762	Ccal 250	N/A	gc25539	VRSK175 DAmee	N/A	N_2	5ul gc16026	N/A	N/A	N/A	Temp 23°C
63	Helium Blank	N/A				He	200ul	N/A	N/A	N/A	
64	mb					He	200ul		N/A	6	
65	bsp					He	200ul of	0.5ml gc16026 to 5ml He headspace		6	
66	bsd	1				He	200ul			6	
67	mc42178-7	1				He	200ul		N/A	<2	
68	-7	1				He	20ul		1:10	<2	
69	-7dup	2				He	200ul		N/A	<2	
70	-8	1				He	200ul		N/A	<2	
71	-8	1				He	~~10ul~~	10/21/15 ag	~~1:10~~	<2	DNR
72	-8	1				He	10ul		1:20	<2	
73	-10	1				He	200ul		N/A	<2	
74	-10	1				He	20ul		1:10	<2	
75	-11	1				He	200ul		N/A	<2	
76	-11	1				He	10ul		1:20	<2	
77	Ccal 250	N/A				N/A	5ul gc16026		N/A	N/A	Temp 23°C
78	mc42231-6	1				He	200ul		N/A	<2	
79	-10	1				He	200ul		N/A	<2	
80	-10	1				He	10ul		1:20	<2	
81	-13	1				He	200ul		N/A	<2	
82	-13	1				He	10ul		1:20	<2	
83	mc42269-7	10				He	200ul		N/A	<2	
84	-8	10				He	200ul		N/A	<2	
85	-8	10				He	20ul		1:10	<2	
86	mc42220-1	4		VRSK175CHy		He	200ul		N/A	<2	
87	mc42271-1	1		VRSK147CHy		He	200ul		N/A	<2	
88	-2	1				He	200ul		N/A	<2	
89	ccal 250					N_2	5ul gc16026		N/A	N/A	Temp 23°C

END 10/21/15 ag

GC001-05 Date: 12/02/08 Dilution Solvent:______ Lot Number:______ Review______

MTX = Matrix: Designate W for water, S for soil, O for oil. *Note: If sample matrix is soil - method SW846 5035 used for preparation SW846 5030 for water/soil P&T. Sample amount is reported in grams (wet) for soil and oil, mls for water.

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22763.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 08:18:39
Operator  : tonyf
Sample    : helium blank
Misc      : gc25539,gba1548,,,,1,1
ALS Vial  : 2 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 08:31:36 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation    6890 Scale Mode: Small noise peaks clipped

Volume Inj.      :
Signal #1 Phase :              Signal #2 Phase:
Signal #1 Info  :              Signal #2 Info :
```

Compound	R.T.	Response	Conc Units
Target Compounds			
1) t methane	2.504	17509	3.897 ppmv m
6) t carbon dioxide	3.556	9911	47.687 ppmv m

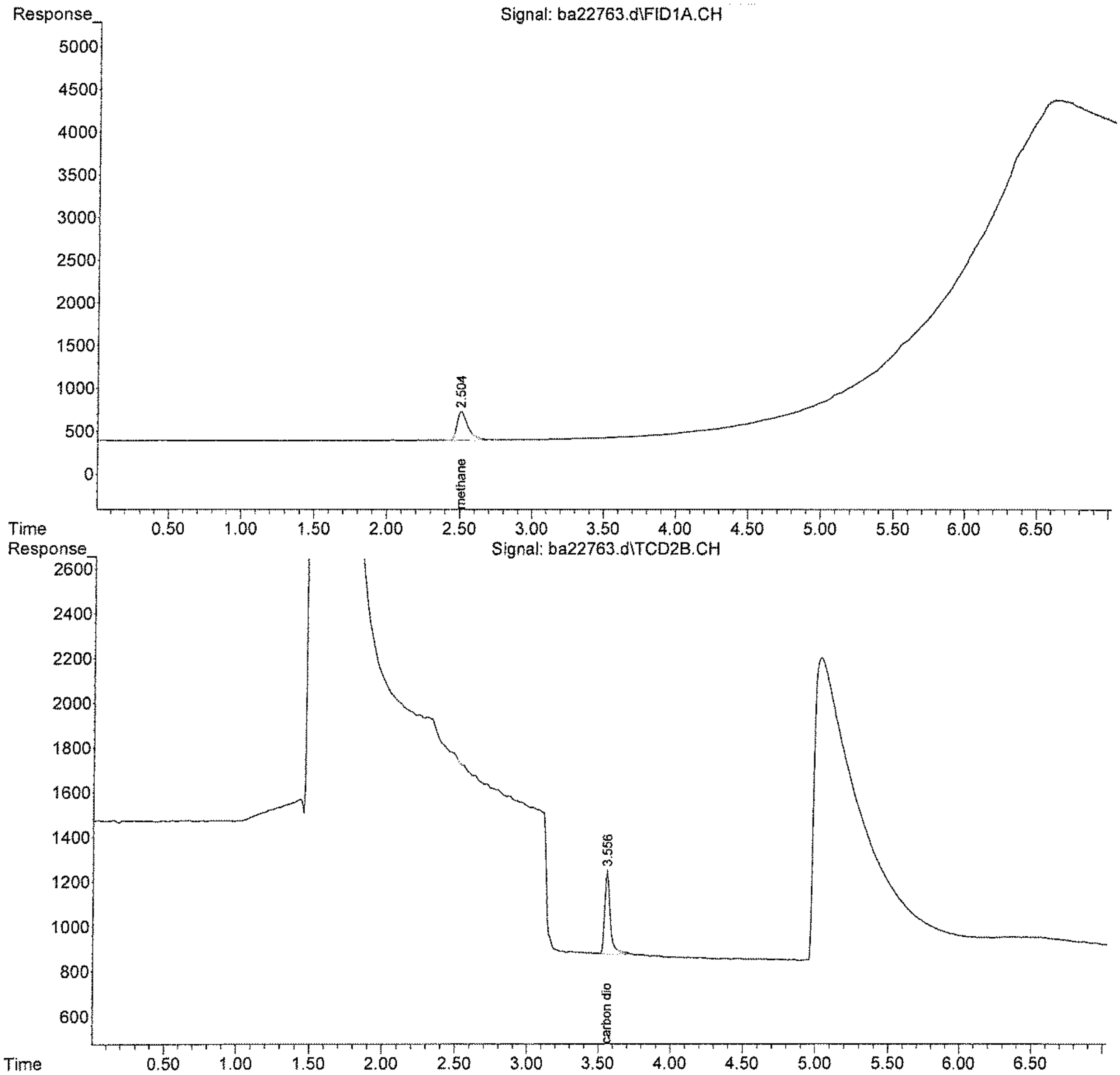
(f)=RT Delta > 1/2 Window (m)=manual int.

9.6.1

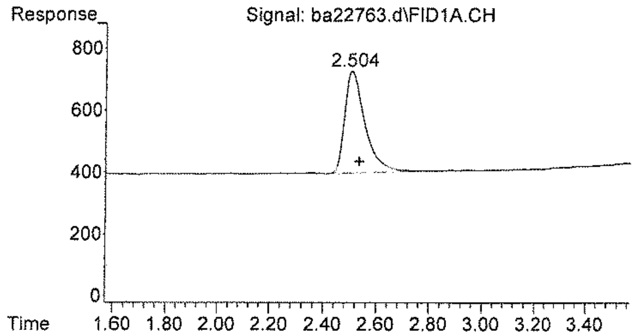
9

Quantitation Report (QT Reviewed)

```
Data Path : E:\msdchem\1\data\BA151021\
Data File : ba22763.d
Signal(s) : Signal #1: FID1A.CH  Signal #2: TCD2B.CH
Acq On    : 21-Oct-15, 08:18:39
Operator  : tonyf
Sample    : helium blank
Misc      : gc25539,gba1548,,,,1,1
ALS Vial  : 2 (Sig #1); 0 (Sig #2)   Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Oct 21 08:31:36 2015
Quant Method : E:\msdchem\1\methods\ba151021vrsk175ch4.M
Quant Title  : vrsk175ch4+vrsk147co2
QLast Update : Fri Oct 09 09:45:53 2015
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Small noise peaks clipped

Volume Inj.     :
Signal #1 Phase :                Signal #2 Phase:
Signal #1 Info  :                Signal #2 Info :
```

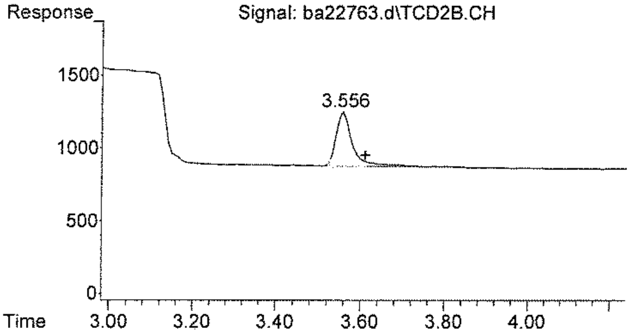


ba151021vrsk175ch4.M Wed Oct 21 15:53:52 2015 ✓ ay Page: 2



#1 methane

R.T.: 2.504 min
Delta R.T.: -0.031 min
Response: 17509
Conc: 3.90 ppmv m



#6 carbon dioxide

R.T.: 3.556 min
Delta R.T.: -0.055 min
Response: 9911
Conc: 47.69 ppmv m

ba22763.d ba151021vrsk175ch4.M ✓ ay Wed Oct 21 15:53:53 2015 Page 4

Accutest Laboratories of New England, Inc.

Instrument: GC22 (BA)

VOLATILE ORGANICS BY GC ANALYSIS LOG

Date: 10/4/10

Analyst Signature: af

Standards Data

Lot #	Description	Conc
VRSK14760 2	gc 18373 gbA 871	
	see above 080910	
	gc14140 gbA 863	

Standards Data

Lot #	Description	Conc
gV13661	Conal	10,000 ppmV
	CH4, Co2, ethane, ethene, acetylene	
gV13747	bsp	↓

Column: Carboxen 1006

Method: a809 10m.A

GC Seq. File: 100410

Method Files:

100410R   cc571-50

AS Seq. File: N/A

Date of ICAL: 080910

ICAL Verified:

Seq. Verification: af

Data File	Sample ID	Bot No.	Work Group	Test	ALS #	*MTX	Samp Amt.	% SOL	Dil. Fact.	pH	Comments
gbA14076	Concal 350	N/A	gc18373	VRSK14760 2	N/A	N_2	5ul	N/A	N/A	N/A	Temp 23°C
77	mb		gbA871			He	200ul			6	
78	bsp					He	200ul of 0.5ml to 42.5mlVial w/5ml He above 29psi	SV13747		6	co2 low
79	bsp	↓				He	↓	↓	↓	22	
80	F76883-19	2				He	20ul		1:10	6	
81	10/4/10 af F76961-7	1				He	20ul		1:10	6	
82	F76961-7dup	3				He	20ul		1:10	6	
83	F76961-6	2				He	20ul		1:10	6	
10/4/10 af 84	F76960-4	2				He	20ul		1:10	6	
85	F76960-8	3				He	20ul		1:10	6	
86	Concal 350	N/A	↓	↓	↓	N_2	5ul		N/A	N/A	

10/4/10 af

GC001-045 Date: 12/02/08

Review: AM 10/6/10

MTX = Matrix: Designate W for water, S for soil, O for oil. *Note: If sample matrix is soil - method SW846 5035 used for preparation, SW846 5030 for water/soil P&T. Sample amount is reported in grams (wet) for soil and oil, mls for water.

Accutest Laboratories of New England, Inc.

Instrument: GC22 (BA)

VOLATILE ORGANICS BY GC ANALYSIS LOG

Date: 8/9/10

Analyst Signature: ag

Page 1 of 2

Standards Data

Lot #	Description	Conc
V8015 CH_4, CO_2 DGmee	gc18140 gbA	863

Standards Data

Lot #	Description	Conc
gu13661	std's	10,000 ppm V
CH_4, CO_2, ethane ethene acetylene		
gu13747	bsp, icv	

Column: carboxen 1006

Method: 080910M.M

GC Seq. File: 080910

Method Files:

080910 AQ-mater

80910AQ - edited cc863-250

AS Seq. File: n/A

Date of ICAL: 080910

ICAL Verified:

Seq. Verification: ag

Data File	Sample ID	Bot No.	Work Group	Test	ALS #	*MTX	Samp Amt.	% SOL	Dil. Fact.	pH	Comments replaced septum
											Temp 23°C
gbA13930	ic 863-10,000	N/A	gc18140	V8015DGmee CH_4 + CO_2	N/A 8/9/10 g	N_2	200 ul	N/A	N/A	N/A	
31	-2,500		gbA863				50 ul				
32	-1,000				N/A		20 ul				
33	icc 863-250						5 ul				
34	~~ic 863-100~~						2 ul				no peaks changed Syringe
35	-49.4						200 ul of 0.21 ml ul to 42.5 ml Vial 8/9/10 g				evacuated w/ Helium
36	-100						2 ul				
37	-49.4						200 ul of 0.21 ul to 42.5 ml Vial				not needed run by mistake evacuated w Helium
38	-24.7						100 ul				
39	-12.4						50 ul				
40	-2.47						10 ul				curve ok CH_4 - cutoff 2.47 ppm v
41	-0.741						3 ul				ok CO_2 cutoff 12.4 ppm v
42	icv 863-250						5 ul				reshot
43	Helium blank			V8015CH_4 V4L+CO_2		He	200 ul			N/A	CH_4 1.15
44	mb	1				He	200 ul			6	CH_4 ~~lyz~~ 6.45
45	~~bsp~~ mb 8/9/10 g	2				He	200 ul			6	CH_4 7.34
46	Helium blank					He	250 ul			N/A	CH_4 1.57 deducted from sample
47	mb	3				He	200 ul			6	CH_4 ~~1.57~~ 1.90 ok
48	bsp	1				He	200 ul			6	ok
49	mg3348-1	7				He	20 ul		1:10	6	ok data file stopped gc not ready
50	-1dup	8				He	20 ul		1:10	6	
51	-1dup	8				He	20 ul		1:10	6	illegal stop start times
52	-1dup	8				He	20 ul		1:10	6	ok
53	-2	7				He	20 ul		1:10	6	ok
54	-3	7				He	20 ul		1:10	6	CO_2 ok rerun for CH_4
55	-3 ~~-8~~	7 ~~8~~ 8/9/10 ag				He	20 ul		start 1:10	6	illegal stop start time gc not ready
56	* -3	7				He	200 ul		8/9/10 ag start	6	*front inlet pressure shut down gc stopped early
57	Concal ~~250~~ ~~-3~~	~~7~~	clean	no injection		He	after ~~200 ul~~ septum change	replaced septum		N/A	Temp 23°C
58	m ~~93348-3~~ Concal 250	~~7~~ N/A				N_2	5 ul			N/A	continued check ok

GC001-045 Date: 12/02/08

Review: ________________

MTX = Matrix: Designate W for water, S for soil, O for oil. *Note: If sample matrix is soil - method SW846 5035 used for preparation SW846 5030 for water/soil P&T. Sample amount is reported in grams (wet) for soil and oil, mls for water.

Note! illegal stop/start times due to manual injections Run before gc ready 8/9/10 ag

4

9.6.2

9

Accutest Laboratories of New England, Inc.

Instrument: GC22 (BA)

VOLATILE ORGANICS BY GC ANALYSIS LOG

Date: 8/9/10 Analyst Signature: aof

page 2 of 2

Standards Data		
Lot #	Description	Conc
		See

Standards Data		
Lot #	Description	Conc
	prior	

Column:
Method:
GC Seq. File:
Method Files: page
AS Seq. File:

Date of ICAL: ICAL Verified: Seq. Verification:

Data File	Sample ID	Bot No.	Work Group	Test	ALS #	*MTX	Samp Amt.	% SOL	Dil. Fact.	pH	Comments
gbA13959	mg3348-3	7	gc18140	V8015CH4 V8LtCO2	N/A	He	200ul	N/A	N/A	6	
60	-4	8	gbA863			He	20ul		1:10	6	
61	-5	7				He	20ul		1:10	6	
62	-6	7				He	200ul		N/A	6	
63	-7	7				He	20ul		1:10	6	
64	-8	7				He	20ul		1:10	6	
65	-9	8				He	20ul		1:10	6	
66	-10	8				He	20ul		1:10	6	
67	-9	8				He	200ul		N/A	6	
68	-12	7				He	20ul		1:10	6	rerun for lower DL
69	-12	7				He	200ul		N/A	6	
70	-13	8		V8015CO2 only		He	20 ~~200ul~~ 8/9/10		1:10 ~~N/A~~	6	
71	-13-~~14~~	8 ~~7~~ 8/9/10 og				He	200ul ~~20ul~~ 8/9/10 og		N/A ~~1:10~~ 8/9/10 og	6	start
72	-14	7				He	200ul		N/A	6	
73	-15	7				He	200ul		N/A	6	
74	~~Concal 250~~ 8/9/10 og	N/A	stopped	run	did not	inject N2	STD 5ul 8/9/10 og		N/A	N/A	Temp 23°C
75	Cencal 250					N2	5ul				Temp ~~23°C~~ 23°C 8/9/10 og
											8/9/10 aof

GC001-045 Date: 12/02/08 Review:

MTX = Matrix: Designate W for water, S for soil, O for oil. *Note: If sample matrix is soil - method SW846 5035 used for preparation, SW846 5030 for water/soil P&T. Sample amount is reported in grams (wet) for soil and oil, mls for water.

gc18140, gbA 863

V8015 DGmEE, V8015 CH_4, VGC + CO_2 — cc 863-250

	ppmv cutoff AVERAGE Responses	@ 23°c ug/l	RL ug/l
CH_4	2.49	0.277	0.3
ethane	0.741	0.167	0.2
ethene	0.741	0.221	0.3
CO_2	12.40	4.987	100

all comps to 10,000 ppmv

concal + cc
± 30% RSD

AVG Responses
080910
gc18140
gbA 863

A files VASK 175 DGmee linear forced (0,0)

B files	ppmv cutoff	@ 23°c ug/l	RL ug/l
CH_4	2.49	0.277	10
Ethane	0.741	0.167	10
Ethene	0.741	0.221	10
CO_2	24.7	44.475	100

concal 80-120%
~~ccc~~ 80-120% bsp

gc 18373
gbA 871
10/4/10

all comps to 10,000 ppmv

A files

Air	AVG Response ppmv	mg/m^3	RL
CH_4	2.49	1.633	5.0 mg/m^3 (7.6 ppmv)
ethane	0.741	0.912	
ethene	0.741	0.851	
CO_2	24.7	44.475	100.0

gc 18179 gbA 865
cc 865 - 165
8/16/10

concal 70-130%
gc 70-130%

9.6.2
9

Dissolved Gas Calculation Worksheet

Data File Name **GBA14077.D**
Date Acquired **10/4/2010 12:24**
Sample Name **mb,w,vrsk147co2**
Sample Multiplier 1
Temperature(C) 23
Headspace Vol. (cc) 5
Sample Vol(cc) 37

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Sample Peak Area	Helium Blank Peak Area	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	MDL (ug/l)	Report (ug/l)
methane	16	22.4	55.5	296	24.29	14230.465	0	3.17	2.09	0.28	39820	0.071	0.353	0.10	0.353
ethane	30	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	28640	#DIV/0!	#DIV/0!	0.014	#DIV/0!
ethylene	28	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10920	#DIV/0!	#DIV/0!	0.014	#DIV/0!
co2	44	22.4	55.5	296	24.29	4705.07	0	22.64	41.01	5.54	15520	3.562	9.104	100	ND

* ppmv is corrected for helium blank background peak area

Denotes fields to be manually entered.

Definitions,

Molar Volume	The volume of 1 mole of any gas at standard temperature and pressure(STP)
Water g/Moles	1 Liter of water is equal to 55.5g-moles
Temp-kelvin	Is defined as 273 + degress C
Corrected Gas Density	Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)
Headspace conc(ug/l)	Is equal to (ppmv reading) x (mw/corrected gas density)
Water Concentration(ug/l)	Is equal to headspace conc(ug/l) x headspace vol/sample vol
Saturation Concentration(ug/l)	Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900

041604 aef   jfh sample sparge volume

10/4/10 g

Dissolved Gas Calculation Worksheet

Data File Name GBA14078.D
Date Acquired 10/4/2010 12:39
Sample Name bsp,w,vrsk147co2
Sample Multiplier 1
Temperature(C) 23
Headspace Vol. (cc) 5
Sample Vol(cc) 37

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Sample Peak Area	Helium Blank Peak Area	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	MDL (ug/l)	Report (ug/l)
methane	16	22.4	55.5	296	24.29	3779583.254	0	841.22	554.18	74.89	39820	18.759	93.649	0.10	93.649
ethane	30	22.4	55.5	296	24.29	6741349.937	0	774.35	956.49	129.26	28640	45.017	174.272	0.014	174.272
ethylene	28	22.4	55.5	296	24.29	4964233.788	0	571.61	658.99	89.05	10920	81.344	170.397	0.014	170.397
co2	44	22.4	55.5	296	24.29	5637.372	0	27.12	49.14	6.64	15520	4.268	10.908	100	ND

* ppmv is corrected for helium blank background peak area

Denotes fields to be manually entered.

PH = 6
reshot

Definitions,

Molar Volume	The volume of 1 mole of any gas at standard temperature and pressure(STP)
Water g/Moles	1 Liter of water is equal to 55.5g-moles
Temp-kelvin	Is defined as 273 + degress C
Corrected Gas Density	Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)
Headspace conc(ug/l)	Is equal to (ppmv reading) x (mw/corrected gas density)
Water Concentration(ug/l)	Is equal to headspace conc(ug/l) x headspace vol/sample vol
Saturation Concentration(ug/l)	Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900

041604 aef jfh sample sparge volume

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ag

Dissolved Gas Calculation Worksheet

Data File Name GBA14079.D
Date Acquired 10/4/2010 12:56
Sample Name bsp,w,vrsk147co2
Sample Multiplier 1
Temperature(C) 23
Headspace Vol. (cc) 5
Sample Vol(cc) 37

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Sample Peak Area	Helium Blank Peak Area	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	MDL (ug/l)	Report (ug/l)
methane	16	22.4	55.5	296	24.29	4002679.148	0	890.87	586.89	79.31	39820	19.867	99.177	0.10	99.177
ethane	30	22.4	55.5	296	24.29	7233078.536	0	830.83	1026.26	138.68	28640	48.301	186.984	0.014	186.984
ethylene	28	22.4	55.5	296	24.29	6142311.474	0	707.26	815.38	110.19	10920	100.648	210.835	0.014	210.835
co2	44	22.4	55.5	296	24.29	73727.779	0	354.74	642.67	86.85	15520	55.817	142.664	100	142.664

* ppmv is corrected for helium blank background peak area

Denotes fields to be manually entered.

PH= < 2

reported

Definitions,

Molar Volume	The volume of 1 mole of any gas at standard temperature and pressure(STP)
Water g/Moles	1 Liter of water is equal to 55.5g-moles
Temp-kelvin	Is defined as 273 + degress C
Corrected Gas Density	Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)
Headspace conc(ug/l)	Is equal to (ppmv reading) x (mw/corrected gas density)
Water Concentration(ug/l)	Is equal to headspace conc(ug/l) x headspace vol/sample vol
Saturation Concentration(ug/l)	Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900

041604 aef   jfh sample sparge volume

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Dissolved Gas

Dissolved Gas Calculation Worksheet

Data File Name GBA14080.D
Date Acquired #VALUE!
Sample Name f76883-19,1:10,w,vrsk147co2
Sample Multiplier 10
Temperature(C) 23
Headspace Vol. (cc) 5
Sample Vol(cc) 37

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Sample Peak Area	Helium Blank Peak Area	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	MDL (ug/l)	Report (ug/l)
methane	16	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	39820	#DIV/0!	#DIV/0!	1.01	#DIV/0!
ethane	30	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	28640	#DIV/0!	#DIV/0!	0.135	#DIV/0!
ethylene	28	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10920	#DIV/0!	#DIV/0!	0.135	#DIV/0!
co2	44	22.4	55.5	296	24.29	116622.397	0	5611.28	10165.70	1373.74	15520	882.908	2256.651	100	2256.651

* ppmv is corrected for helium blank background peak area

Denotes fields to be manually entered.

Definitions,

Molar Volume	The volume of 1 mole of any gas at standard temperature and pressure(STP)
Water g/Moles	1 Liter of water is equal to 55.5g-moles
Temp-kelvin	Is defined as 273 + degress C
Corrected Gas Density	Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)
Headspace conc(ug/l)	Is equal to (ppmv reading) x (mw/corrected gas density)
Water Concentration(ug/l)	Is equal to headspace conc(ug/l) x headspace vol/sample vol
Saturation Concentration(ug/l)	Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900

041604 aef jfh sample sparge volume

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Dissolved Gas Calculation Worksheet

Data File Name GBA14081.D
Date Acquired #VALUE!
Sample Name f76961-7,1:10,w,vrsk147co2
Sample Multiplier 10
Temperature(C) 23
Headspace Vol. (cc) 5
Sample Vol(cc) 37

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Sample Peak Area	Helium Blank Peak Area	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	MDL (ug/l)	Report (ug/l)
methane	16	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	39820	#DIV/0!	#DIV/0!	1.01	#DIV/0!
ethane	30	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	28640	#DIV/0!	#DIV/0!	0.135	#DIV/0!
ethylene	28	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10920	#DIV/0!	#DIV/0!	0.135	#DIV/0!
co2	44	22.4	55.5	296	24.29	436012.663	0	20978.71	38006.19	5135.97	15520	3300.902	8436.874	100	8436.874

* ppmv is corrected for helium blank background peak area

Denotes fields to be manually entered.

Definitions,

Molar Volume	The volume of 1 mole of any gas at standard temperature and pressure(STP)
Water g/Moles	1 Liter of water is equal to 55.5g-moles
Temp-kelvin	Is defined as 273 + degress C
Corrected Gas Density	Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)
Headspace conc(ug/l)	Is equal to (ppmv reading) x (mw/corrected gas density)
Water Concentration(ug/l)	Is equal to headspace conc(ug/l) x headspace vol/sample vol
Saturation Concentration(ug/l)	Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900

041604 aef jfh sample sparge volume

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Dissolved

Dissolved Gas Calculation Worksheet

Data File Name GBA14082.D
Date Acquired #VALUE!
Sample Name f76961-7dup,1:10,w,vrsk147co2
Sample Multiplier 10
Temperature(C) 23
Headspace Vol. (cc) 5
Sample Vol(cc) 37

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Sample Peak Area	Helium Blank Peak Area	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	MDL (ug/l)	Report (ug/l)
methane	16	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	39820	#DIV/0!	#DIV/0!	1.01	#DIV/0!
ethane	30	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	28640	#DIV/0!	#DIV/0!	0.135	#DIV/0!
ethylene	28	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10920	#DIV/0!	#DIV/0!	0.135	#DIV/0!
co2	44	22.4	55.5	296	24.29	437642.263	0	21057.12	38148.24	5155.17	15520	3313.240	8468.407	100	8468.407

* ppmv is corrected for helium blank background peak area

Denotes fields to be manually entered.

Definitions,

Molar Volume	The volume of 1 mole of any gas at standard temperature and pressure(STP)
Water g/Moles	1 Liter of water is equal to 55.5g-moles
Temp-kelvin	Is defined as 273 + degress C
Corrected Gas Density	Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)
Headspace conc(ug/l)	Is equal to (ppmv reading) x (mw/corrected gas density)
Water Concentration(ug/l)	Is equal to headspace conc(ug/l) x headspace vol/sample vol
Saturation Concentration(ug/l)	Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900

041604 aef jfh sample sparge volume

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Dissolved Gas Calculation Worksheet

Data File Name GBA14083.D
Date Acquired #VALUE!
Sample Name f76961-6,1:10,w,vrsk147co2
Sample Multiplier 10
Temperature(C) 23
Headspace Vol. (cc) 5
Sample Vol(cc) 37

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Sample Peak Area	Helium Blank Peak Area	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	MDL (ug/l)	Report (ug/l)
methane	16	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	39820	#DIV/0!	#DIV/0!	1.01	#DIV/0!
ethane	30	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	28640	#DIV/0!	#DIV/0!	0.135	#DIV/0!
ethylene	28	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10920	#DIV/0!	#DIV/0!	0.135	#DIV/0!
co2	44	22.4	55.5	296	24.29	113176.423	0	5445.47	9865.32	1333.15	15520	856.820	2189.971	100	2189.971

* ppmv is corrected for helium blank background peak area

Denotes fields to be manually entered.

Definitions,

Molar Volume	The volume of 1 mole of any gas at standard temperature and pressure(STP)
Water g/Moles	1 Liter of water is equal to 55.5g-moles
Temp-kelvin	Is defined as 273 + degress C
Corrected Gas Density	Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)
Headspace conc(ug/l)	Is equal to (ppmv reading) x (mw/corrected gas density)
Water Concentration(ug/l)	Is equal to headspace conc(ug/l) x headspace vol/sample vol
Saturation Concentration(ug/l)	Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900

041604 aef jfh sample sparge volume

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Dissolved Gas Calculation Worksheet

Data File Name GBA14084.D
Date Acquired #VALUE!
Sample Name f76960-4,1:10,w,vrsk147co2
Sample Multiplier 10
Temperature(C) 23
Headspace Vol. (cc) 5
Sample Vol(cc) 37

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Sample Peak Area	Helium Blank Peak Area	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	MDL (ug/l)	Report (ug/l)
methane	16	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	39820	#DIV/0!	#DIV/0!	1.01	#DIV/0!
ethane	30	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	28640	#DIV/0!	#DIV/0!	0.135	#DIV/0!
ethylene	28	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10920	#DIV/0!	#DIV/0!	0.135	#DIV/0!
co2	44	22.4	55.5	296	24.29	326168.863	0	15693.58	28431.37	3842.08	15520	2469.313	6311.389	100	6311.389

* ppmv is corrected for helium blank background peak area

Denotes fields to be manually entered.

Definitions,

Molar Volume	The volume of 1 mole of any gas at standard temperature and pressure(STP)
Water g/Moles	1 Liter of water is equal to 55.5g-moles
Temp-kelvin	Is defined as 273 + degress C
Corrected Gas Density	Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)
Headspace conc(ug/l)	Is equal to (ppmv reading) x (mw/corrected gas density)
Water Concentration(ug/l)	Is equal to headspace conc(ug/l) x headspace vol/sample vol
Saturation Concentration(ug/l)	Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900

041604 aef jfh sample sparge volume

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Dissolved Gas Calculation Worksheet

Data File Name GBA14085.D
Date Acquired #VALUE!
Sample Name f76960-8,1:10,w,vrsk147co2
Sample Multiplier 10
Temperature(C) 23
Headspace Vol. (cc) 5
Sample Vol(cc) 37

Compound	MW	Molar Volume(L)	Water g-moles/L	Temp K	Corrected Gas dens.	Sample Peak Area	Helium Blank Peak Area	Headspace (ppmv)*	Headspace (ug/l)	Water (ug/l)	Henry's Constant	Saturation Conc.(ug/l)	Total (ug/L)	MDL (ug/l)	Report (ug/l)
methane	16	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	39820	#DIV/0!	#DIV/0!	1.01	#DIV/0!
ethane	30	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	28640	#DIV/0!	#DIV/0!	0.135	#DIV/0!
ethylene	28	22.4	55.5	296	24.29	0	0	#DIV/0!	#DIV/0!	#DIV/0!	10920	#DIV/0!	#DIV/0!	0.135	#DIV/0!
co2	44	22.4	55.5	296	24.29	103626.779	0	4985.99	9032.90	1220.66	15520	784.523	2005.185	100	2005.185

* ppmv is corrected for helium blank background peak area

Denotes fields to be manually entered.

Definitions,

Molar Volume	The volume of 1 mole of any gas at standard temperature and pressure(STP)
Water g/Moles	1 Liter of water is equal to 55.5g-moles
Temp-kelvin	Is defined as 273 + degress C
Corrected Gas Density	Gas density corrected for temperature is equal to (molar volume) x (temp-k/273)
Headspace conc(ug/l)	Is equal to (ppmv reading) x (mw/corrected gas density)
Water Concentration(ug/l)	Is equal to headspace conc(ug/l) x headspace vol/sample vol
Saturation Concentration(ug/l)	Gas which remains at equilibrium in the sample is equal to (headspace conc-ppm) x (mw) x (55.5)/(Henry's Constant)

Henry's Constants

temp-c	20	21	22	23	24	25	26	27	28	29	30
Methane	37600	38340	39080	39820	40560	41300	42020	42740	43460	44180	44900
Ethane	26300	27080	27860	28640	29420	30200	31000	31800	32600	33400	34200
Ethene	10200	10440	10680	10920	11160	11400	11660	11920	12180	12440	12700
Oxygen	40100	40840	41580	42320	43060	43800	44540	45280	46020	46760	47500
CO	52600	53680	54760	55840	56920	58000	58800	59600	60400	61200	62000
CO2	14200	14640	15080	15520	15960	16400	16840	17280	17720	18160	18600
Nitrogen	80400	81620	82840	84060	85280	86500	87680	88860	90040	91220	92400
Hydrogen	68300	68780	69260	69740	70220	70700	71140	71580	72020	72460	72900

041604 aef jfh sample sparge volume

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New England
ACCUTEST
LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP Date Analyzed: 10/23/15 Methods: SW846 6010C
Analyst: EAL Run ID: MA18595
Parameters: As,Fe,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:53	MA18595-STD1	1		STD1
10:59	MA18595-STD2	1		STD2
11:05	ZZZZZZ	1		DNR: HIGH RSD, SEE RERUN FOR ICV.
11:16	MA18595-ICV1	1		
11:27	MA18595-ICB1	1		
11:32	MA18595-CCV1	1		
11:38	MA18595-CCB1	1		
11:45	MA18595-CRI1	1		
11:51	MA18595-ICSA1	1		
11:57	MA18595-ICSAB1	1		
12:02	ZZZZZZ	1		FOR IEC CAL.
12:08	ZZZZZZ	1		FOR IEC CAL.
12:14	ZZZZZZ	1		FOR IEC CAL.
12:20	ZZZZZZ	1		FOR IEC CAL.
12:26	ZZZZZZ	1		FOR IEC CAL.
12:32	ZZZZZZ	1		FOR IEC CAL.
12:38	ZZZZZZ	1		FOR IEC CAL.
12:44	MA18595-CCV2	1		
12:49	MA18595-CCB2	1		
12:56	MP25318-MB1	1		
13:02	MP25318-B1	1		
13:07	MP25318-S1	1		
13:13	MP25318-S2	1		
13:19	MC42178-3F	1		
13:25	MP25318-SD1	5		
13:31	MC42178-1F	1		
13:36	MC42178-2F	1		
13:42	MC42178-4F	1		
13:48	MC42178-5F	1		
13:54	MA18595-CCV3	1		
14:00	MA18595-CCB3	1		
14:06	MC42178-6F	1		
14:12	MC42178-7F	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP Date Analyzed: 10/23/15 Methods: SW846 6010C
Analyst: EAL Run ID: MA18595
Parameters: As,Fe,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:18	MC42178-8F	1		
14:24	MC42178-10F	1		
14:30	MC42178-11F	1		
14:36	MC42178-12F	1		
----------->	Last reportable sample/prep for job MC42178			
14:41	ZZZZZZ	1		
14:47	ZZZZZZ	1		
14:53	ZZZZZZ	1		
14:59	ZZZZZZ	1		
15:05	MA18595-CCV4	1		
15:19	MA18595-CCB4	1		
15:25	ZZZZZZ	20		
15:30	ZZZZZZ	50		
15:36	MP25342-MB1	1		
15:42	MP25342-B1	1		
15:48	MP25342-S1	1		
15:54	MP25342-S2	1		
16:00	MC42202-11F	1		(sample used for QC only; not part of login MC42178)
16:05	MP25342-SD1	5		
16:11	ZZZZZZ	1		
16:17	ZZZZZZ	1		
16:23	MA18595-CCV5	1		
16:29	MA18595-CCB5	1		
16:35	ZZZZZZ	1		
16:41	ZZZZZZ	1		
16:47	ZZZZZZ	1		
16:53	ZZZZZZ	1		
16:59	ZZZZZZ	1		
17:05	ZZZZZZ	1		
17:11	ZZZZZZ	1		
17:16	ZZZZZZ	1		
17:22	ZZZZZZ	1		
17:28	ZZZZZZ	1		
17:34	MA18595-CCV6	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP   Date Analyzed: 10/23/15   Methods: SW846 6010C
Analyst: EAL   Run ID: MA18595
Parameters: As,Fe,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:40	MA18595-CCB6	1		
17:46	ZZZZZZ	1		
17:52	ZZZZZZ	1		
17:58	ZZZZZZ	1		
18:03	ZZZZZZ	1		
18:09	ZZZZZZ	1		RINSECONF
18:15	MA18595-CRI2	1		
18:21	MA18595-CCV7	1		
18:27	MA18595-CCB7	1		

-----------> Last reportable CCB for job MC42178
Refer to raw data for calibration curve and standards.

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INTERNAL STANDARD SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP   Date Analyzed: 10/23/15   Methods: SW846 6010C
Analyst: EAL   Run ID: MA18595
Parameters: As,Fe,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:53	MA18595-STD1	11603 R	231600 R	10858 R	7225 R
10:59	MA18595-STD2	11202	223460	10759	6686
11:05	ZZZZZZ	11303	215580	10842	6744
11:16	MA18595-ICV1	11288	223710	10752	6748
11:27	MA18595-ICB1	11713	232310	10974	7289
11:32	MA18595-CCV1	11341	228330	10758	6822
11:38	MA18595-CCB1	11672	231820	10925	7262
11:45	MA18595-CRI1	11528	227310	10891	7075
11:51	MA18595-ICSA1	10193	203610	10338	5668
11:57	MA18595-ICSAB1	10158	202360	10249	5667
12:02	ZZZZZZ	11438	226600	10810	7166
12:08	ZZZZZZ	11760	220470	11058	6466
12:14	ZZZZZZ	10479	208310	10561	6068
12:20	ZZZZZZ	10670	209380	10550	6006
12:26	ZZZZZZ	11624	231360	10810	7207
12:32	ZZZZZZ	11734	231020	10900	7280
12:38	ZZZZZZ	11725	232420	10979	7338
12:44	MA18595-CCV2	11431	226190	10744	6891
12:49	MA18595-CCB2	11654	231900	10824	7269
12:56	MP25318-MB1	11640	231480	10863	7271
13:02	MP25318-B1	11282	224780	10841	6693
13:07	MP25318-S1	10403	204180	10543	5708
13:13	MP25318-S2	10385	204450	10440	5703
13:19	MC42178-3F	10442	204100	10474	5799
13:25	MP25318-SD1	11118	218510	10649	6492
13:31	MC42178-1F	10295	204450	10490	5801
13:36	MC42178-2F	11613	231430	10920	7233
13:42	MC42178-4F	10899	212910	10696	6278
13:48	MC42178-5F	10940	213060	10579	6316
13:54	MA18595-CCV3	11452	227570	10844	6895
14:00	MA18595-CCB3	11687	232150	10902	7293
14:06	MC42178-6F	10451	209350	10509	5954
14:12	MC42178-7F	10867	213090	10660	6359

INTERNAL STANDARD SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP Date Analyzed: 10/23/15 Methods: SW846 6010C
Analyst: EAL Run ID: MA18595
Parameters: As,Fe,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
14:18	MC42178-8F	11181	221060	10846	6704
14:24	MC42178-10F	10896	215900	10595	6392
14:30	MC42178-11F	10694	215130	10530	6378
14:36	MC42178-12F	10837	214610	10623	6486
14:41	ZZZZZZ	11267	223650	10763	6825
14:47	ZZZZZZ	10764	210050	10605	6158
14:53	ZZZZZZ	10928	215060	10732	6442
14:59	ZZZZZZ	10506	203880	10512	5938
15:05	MA18595-CCV4	11482	227680	10719	6918
15:19	MA18595-CCB4	11701	231920	10548	7296
15:25	ZZZZZZ	11386	224290	10824	6917
15:30	ZZZZZZ	11544	229380	10821	7098
15:36	MP25342-MB1	11666	232780	10917	7264
15:42	MP25342-B1	11329	225430	10708	6722
15:48	MP25342-S1	11251	221730	10747	6644
15:54	MP25342-S2	11240	221150	10669	6638
16:00	MC42202-11F	11551	230500	10864	7121
16:05	MP25342-SD1	11690	232690	10903	7287
16:11	ZZZZZZ	10790	211870	10562	6237
16:17	ZZZZZZ	11145	220690	10718	6626
16:23	MA18595-CCV5	11493	227080	10913	6928
16:29	MA18595-CCB5	11710	233180	10878	7309
16:35	ZZZZZZ	10985	215630	10684	6406
16:41	ZZZZZZ	11397	227390	10725	6958
16:47	ZZZZZZ	10905	215340	10769	6363
16:53	ZZZZZZ	11043	220240	10730	6509
16:59	ZZZZZZ	10992	216590	10553	6446
17:05	ZZZZZZ	11260	223550	10824	6726
17:11	ZZZZZZ	11238	222880	10763	6709
17:16	ZZZZZZ	11350	225060	10828	6862
17:22	ZZZZZZ	11583	229500	10867	7147
17:28	ZZZZZZ	11322	224420	10810	6816
17:34	MA18595-CCV6	11537	229730	10787	6937

INTERNAL STANDARD SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP   Date Analyzed: 10/23/15   Methods: SW846 6010C
Analyst: EAL   Run ID: MA18595
Parameters: As,Fe,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:40	MA18595-CCB6	11731	232790	10809	7321
17:46	ZZZZZZ	11163	220470	10735	6637
17:52	ZZZZZZ	10818	213600	10666	6268
17:58	ZZZZZZ	11472	227360	10831	7003
18:03	ZZZZZZ	11400	226620	10850	6871
18:09	ZZZZZZ	11755	233110	10832	7331
18:15	MA18595-CRI2	11613	229550	10791	7125
18:21	MA18595-CCV7	11513	228130	10748	6932
18:27	MA18595-CCB7	11730	231660	10811	7318

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

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BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP Date Analyzed: 10/23/15 Methods: SW846 6010C
QC Limits: result < LOD Run ID: MA18595 Units: ug/l

Time:				11:27		11:38		12:49	
Sample ID:				ICB1		CCB1		CCB2	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	15	100						
Antimony	6.0	.76	3.0						
Arsenic	4.0	1.3	2.0	1.0	<4.0	0.90	<4.0	0.90	<4.0
Barium	50	.24	25						
Beryllium	4.0	.18	2.0						
Bismuth	50	.9	25						
Boron	100	.43	50						
Cadmium	4.0	.14	2.0						
Calcium	5000	5.3	2500						
Chromium	10	.37	5.0						
Cobalt	50	.14	25						
Copper	25	.48	13						
Gold	50	.95	25						
Iron	100	3.2	50	0.80	<100	2.7	<100	2.5	<100
Lead	5.0	.56	2.5						
Lithium	500	2	250						
Magnesium	5000	22	2500						
Manganese	15	.04	7.5	0.0	<15	0.0	<15	0.30	<15
Molybdenum	100	2	50						
Nickel	40	.19	20						
Palladium	50	1.2	25						
Platinum	50	3.8	25						
Potassium	5000	40	2500						
Selenium	10	1	5.0						
Silicon	100	13	50						
Silver	5.0	.6	2.5						
Sodium	5000	10	2500						
Sulfur	50	1.6	25						
Strontium	10	.15	5.0						
Thallium	5.0	.47	2.5						
Tin	100	.26	50						
Titanium	50	.38	25						
Tungsten	100	3.1	50						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP | Date Analyzed: 10/23/15 | Methods: SW846 6010C
QC Limits: result < LOD | Run ID: MA18595 | Units: ug/l

Time:				11:27		11:38		12:49	
Sample ID:				ICB1		CCB1		CCB2	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Vanadium	10	.36	5.0						
Zinc	20	.096	10						
Zirconium	50	.29	25						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP   Date Analyzed: 10/23/15   Methods: SW846 6010C
QC Limits: result < LOD   Run ID: MA18595   Units: ug/l

Time:				14:00		15:19		16:29	
Sample ID:				CCB3		CCB4		CCB5	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	15	100						
Antimony	6.0	.76	3.0						
Arsenic	4.0	1.3	2.0	1.3	<4.0	0.40	<4.0	0.90	<4.0
Barium	50	.24	25						
Beryllium	4.0	.18	2.0						
Bismuth	50	.9	25						
Boron	100	.43	50						
Cadmium	4.0	.14	2.0						
Calcium	5000	5.3	2500						
Chromium	10	.37	5.0						
Cobalt	50	.14	25						
Copper	25	.48	13						
Gold	50	.95	25						
Iron	100	3.2	50	1.3	<100	0.90	<100	6.5	<100
Lead	5.0	.56	2.5						
Lithium	500	2	250						
Magnesium	5000	22	2500						
Manganese	15	.04	7.5	0.10	<15	0.10	<15	0.30	<15
Molybdenum	100	2	50						
Nickel	40	.19	20						
Palladium	50	1.2	25						
Platinum	50	3.8	25						
Potassium	5000	40	2500						
Selenium	10	1	5.0						
Silicon	100	13	50						
Silver	5.0	.6	2.5						
Sodium	5000	10	2500						
Sulfur	50	1.6	25						
Strontium	10	.15	5.0						
Thallium	5.0	.47	2.5						
Tin	100	.26	50						
Titanium	50	.38	25						
Tungsten	100	3.1	50						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP
Date Analyzed: 10/23/15
Methods: SW846 6010C
QC Limits: result < LOD
Run ID: MA18595
Units: ug/l

Time: / Sample ID: / Metal	RL	IDL	LOD	14:00 CCB3 raw	final	15:19 CCB4 raw	final	16:29 CCB5 raw	final
Vanadium	10	.36	5.0						
Zinc	20	.096	10						
Zirconium	50	.29	25						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP
QC Limits: result < LOD

Date Analyzed: 10/23/15
Run ID: MA18595

Methods: SW846 6010C
Units: ug/l

Time:				17:40		18:27	
Sample ID:				CCB6		CCB7	
Metal	RL	IDL	LOD	raw	final	raw	final
Aluminum	200	15	100				
Antimony	6.0	.76	3.0				
Arsenic	4.0	1.3	2.0	0.60	<4.0	1.2	<4.0
Barium	50	.24	25				
Beryllium	4.0	.18	2.0				
Bismuth	50	.9	25				
Boron	100	.43	50				
Cadmium	4.0	.14	2.0				
Calcium	5000	5.3	2500				
Chromium	10	.37	5.0				
Cobalt	50	.14	25				
Copper	25	.48	13				
Gold	50	.95	25				
Iron	100	3.2	50	0.0	<100	1.1	<100
Lead	5.0	.56	2.5				
Lithium	500	2	250				
Magnesium	5000	22	2500				
Manganese	15	.04	7.5	0.10	<15	0.10	<15
Molybdenum	100	2	50				
Nickel	40	.19	20				
Palladium	50	1.2	25				
Platinum	50	3.8	25				
Potassium	5000	40	2500				
Selenium	10	1	5.0				
Silicon	100	13	50				
Silver	5.0	.6	2.5				
Sodium	5000	10	2500				
Sulfur	50	1.6	25				
Strontium	10	.15	5.0				
Thallium	5.0	.47	2.5				
Tin	100	.26	50				
Titanium	50	.38	25				
Tungsten	100	3.1	50				

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP   Date Analyzed: 10/23/15   Methods: SW846 6010C
QC Limits: result < LOD   Run ID: MA18595   Units: ug/l

Time:				17:40		18:27	
Sample ID:				CCB6		CCB7	
Metal	RL	IDL	LOD	raw	final	raw	final
Vanadium	10	.36	5.0				
Zinc	20	.096	10				
Zirconium	50	.29	25				

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP Date Analyzed: 10/23/15 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA18595 Units: ug/l

Time:		11:16			11:32			12:44	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony									
Arsenic	3000	2960	98.7	2000	1980	99.0	2000	1960	98.0
Barium									
Beryllium									
Bismuth									
Boron									
Cadmium									
Calcium	anr								
Chromium									
Cobalt									
Copper									
Gold									
Iron	15000	15300	102.0	10000	9940	99.4	10000	9950	99.5
Lead									
Lithium									
Magnesium	anr								
Manganese	3000	3020	100.7	2000	2030	101.5	2000	2050	102.5
Molybdenum									
Nickel									
Palladium									
Platinum									
Potassium									
Selenium									
Silicon									
Silver									
Sodium	anr								
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP
QC Limits: 90 to 110 % Recovery

Date Analyzed: 10/23/15
Run ID: MA18595

Methods: SW846 6010C
Units: ug/l

Time:		11:16			11:32			12:44	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Vanadium									
Zinc									
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP   Date Analyzed: 10/23/15   Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery   Run ID: MA18595   Units: ug/l

Time:		13:54			15:05			16:23	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony									
Arsenic	2000	1960	98.0	2000	1960	98.0	2000	1940	97.0
Barium									
Beryllium									
Bismuth									
Boron									
Cadmium									
Calcium	anr								
Chromium									
Cobalt									
Copper									
Gold									
Iron	10000	9880	98.8	10000	9940	99.4	10000	9790	97.9
Lead									
Lithium									
Magnesium	anr								
Manganese	2000	2040	102.0	2000	2050	102.5	2000	2040	102.0
Molybdenum									
Nickel									
Palladium									
Platinum									
Potassium									
Selenium									
Silicon									
Silver									
Sodium	anr								
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP Date Analyzed: 10/23/15 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA18595 Units: ug/l

Time:		13:54			15:05			16:23	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Vanadium									
Zinc									
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP | Date Analyzed: 10/23/15 | Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery | Run ID: MA18595 | Units: ug/l

Time: Sample ID: Metal	CCV True	17:34 CCV6 Results	% Rec	CCV True	18:21 CCV7 Results	% Rec
Aluminum						
Antimony						
Arsenic	2000	1950	97.5	2000	1950	97.5
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium	anr					
Chromium						
Cobalt						
Copper						
Gold						
Iron	10000	9770	97.7	10000	9840	98.4
Lead						
Lithium						
Magnesium	anr					
Manganese	2000	2020	101.0	2000	2040	102.0
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	anr					
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP   Date Analyzed: 10/23/15   Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery   Run ID: MA18595   Units: ug/l

Time: Sample ID: Metal	CCV True	17:34 CCV6 Results	% Rec	CCV True	18:21 CCV7 Results	% Rec
Vanadium						
Zinc						
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP   Date Analyzed: 10/23/15   Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130%   Run ID: MA18595   Units: ug/l

Time: / Sample ID: / Metal	CRI True	CRIA True	11:45 CRI1 Results	% Rec	18:15 CRI2 Results	% Rec
Aluminum	200	200				
Antimony	6.0	10				
Arsenic	4.0	10	4.4	110.0	3.7	92.5
Barium	50	50				
Beryllium	4.0	4.0				
Bismuth	50	50				
Boron	100	100				
Cadmium	4.0	4.0				
Calcium	5000	5000	anr			
Chromium	10	10				
Cobalt	50	50				
Copper	25	25				
Gold	50	50				
Iron	100	100	97.9	97.9	95.7	95.7
Lead	5.0	10				
Lithium	500	500				
Magnesium	5000	5000	anr			
Manganese	15	15	15.8	105.3	15.7	104.7
Molybdenum	100	100				
Nickel	40	40				
Palladium	50	50				
Platinum	50	50				
Potassium	5000	5000				
Selenium	10	10				
Silicon	100	100				
Silver	5.0	5.0				
Sodium	5000	5000	anr			
Sulfur	50	50				
Strontium	10	10				
Thallium	5.0	10				
Tin	100	100				
Titanium	50	50				
Tungsten	100	100				

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP   Date Analyzed: 10/23/15   Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130%   Run ID: MA18595   Units: ug/l

Time: / Sample ID: / Metal	CRI True	CRIA True	11:45 CRI1 Results	% Rec	18:15 CRI2 Results	% Rec
Vanadium	10	10				
Zinc	20	20				
Zirconium	50	50				

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP Date Analyzed: 10/23/15 Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA18595 Units: ug/l

Time: Sample ID: Metal	ICSA True	ICSAB True	11:51 ICSA1 Results	% Rec	11:57 ICSAB1 Results	% Rec
Aluminum	500000	500000	500000	100.0	503000	100.6
Antimony		500	-1.4		506	101.2
Arsenic		500	-0.30		504	100.8
Barium		500	0.80		490	98.0
Beryllium		500	0.0		484	96.8
Bismuth		500	5.8		491	98.2
Boron		500	0.80		488	97.6
Cadmium		1000	-0.60		1010	101.0
Calcium	500000	500000	457000	91.4	453000	90.6
Chromium		500	-0.30		452	90.4
Cobalt		500	0.80		483	96.6
Copper		500	0.50		476	95.2
Gold		500	0.10		498	99.6
Iron	200000	200000	188000	94.0	189000	94.5
Lead		1000	1.3		923	92.3
Lithium		500	7.1		526	105.2
Magnesium	500000	500000	481000	96.2	482000	96.4
Manganese		500	0.70		484	96.8
Molybdenum		500	-1.9		472	94.4
Nickel		1000	-8.3		935	93.5
Palladium		500	0.30		512	102.4
Platinum		500	7.3		500	100.0
Potassium			17.4		46.1	
Selenium		500	0.20		501	100.2
Silicon		500	-21		450	90.0
Silver		1000	-0.90		986	98.6
Sodium			20.8		41.1	
Sulfur		500	14.0		512	102.4
Strontium		500	1.1		496	99.2
Thallium		500	0.80		457	91.4
Tin		500	-0.50		459	91.8
Titanium		500	-0.10		460	92.0
Tungsten		500	11.3		477	95.4

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102315M1L.ICP   Date Analyzed: 10/23/15   Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery   Run ID: MA18595   Units: ug/l

Time: Sample ID: Metal	ICSA True	ICSAB True	11:51 ICSA1 Results	% Rec	11:57 ICSAB1 Results	% Rec
Vanadium		500	-0.30		467	93.4
Zinc		1000	-0.60		914	91.4
Zirconium		500	-7.6		319	63.8*

(*) Outside of QC limits
(anr) Analyte not requested

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
Analyst: EAL   Run ID: MA18606
Parameters: Fe,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:05	MA18606-STD1	1		STD1
10:11	MA18606-STD2	1		STD2
10:16	MA18606-ICV1	1		
10:27	MA18606-ICB1	1		
10:33	MA18606-CCV1	1		
10:45	MA18606-CCB1	1		
11:01	MA18606-CRI1	1		
11:19	MA18606-ICSA1	1		
11:24	MA18606-ICSAB1	1		
11:30	ZZZZZZ	1		FOR IEC CAL.
11:36	ZZZZZZ	1		FOR IEC CAL.
11:42	ZZZZZZ	1		FOR IEC CAL.
11:48	ZZZZZZ	1		FOR IEC CAL.
11:54	ZZZZZZ	1		FOR IEC CAL.
12:00	ZZZZZZ	1		FOR IEC CAL.
12:06	ZZZZZZ	1		FOR IEC CAL.
12:12	MA18606-CCV2	1		
12:17	MA18606-CCB2	1		
12:23	MP25356-MB1	1		
12:29	MP25356-B1	1		
12:35	MP25356-S1	1		
12:40	MP25356-S2	1		
12:46	MC42342-13F	1		(sample used for QC only; not part of login MC42178)
12:52	MP25356-SD1	5		
12:58	ZZZZZZ	1		
13:04	ZZZZZZ	1		
13:10	ZZZZZZ	1		
13:16	ZZZZZZ	1		
13:22	MA18606-CCV3	1		
13:27	MA18606-CCB3	1		
13:33	ZZZZZZ	1		
13:39	ZZZZZZ	1		
13:45	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
Analyst: EAL   Run ID: MA18606
Parameters: Fe,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:51	ZZZZZZ	1		
13:57	ZZZZZZ	1		
14:03	ZZZZZZ	1		
14:09	ZZZZZZ	1		
14:15	MC42178-1F	5		
14:21	ZZZZZZ	5		DNR: BAD INJECTION, SEE RERUN.
14:26	MC42178-6F	10		
14:32	MA18606-CCV4	1		
14:47	MA18606-CCB4	1		
14:57	MC42178-7F	5		
15:03	MC42178-8F	10		
15:09	MC42178-10F	5		
15:15	MC42178-11F	20		
15:21	MC42178-12F	5		
15:26	MC42178-12F	20		
15:32	ZZZZZZ	10		
15:38	ZZZZZZ	5		
15:44	ZZZZZZ	10		DNR: DILUTION NOT NEEDED.
15:50	ZZZZZZ	5		DNR: DILUTION NOT NEEDED.
15:56	MA18606-CCV5	1		
16:02	MA18606-CCB5	1		
16:08	MC42178-1F	10		
16:14	MC42178-4F	5		
-----------> Last reportable sample/prep for job MC42178				
16:19	ZZZZZZ	1		DNR: FORCONFIRMATION ONLY.
16:25	ZZZZZZ	10		
16:31	ZZZZZZ	10		
16:37	ZZZZZZ	10		
16:43	ZZZZZZ	10		
16:49	ZZZZZZ	10		
16:55	ZZZZZZ	10		
17:01	ZZZZZZ	10		
17:07	MA18606-CCV6	1		
17:12	MA18606-CCB6	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
Analyst: EAL   Run ID: MA18606
Parameters: Fe,Mn

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:29	ZZZZZZ	10		
17:35	ZZZZZZ	10		
17:41	ZZZZZZ	5		
17:47	ZZZZZZ	5		
17:53	ZZZZZZ	5		
17:59	ZZZZZZ	5		
18:05	ZZZZZZ	5		
18:11	ZZZZZZ	5		
18:16	MA18606-CRI2	1		
18:22	MA18606-CCV7	1		
18:28	MA18606-CCB7	1		

-----------> Last reportable CCB for job MC42178
Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP Date Analyzed: 10/26/15 Methods: SW846 6010C
Analyst: EAL Run ID: MA18606
Parameters: Fe,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:05	MA18606-STD1	11548 R	231040 R	13005 R	7262 R
10:11	MA18606-STD2	11096	221210	12881	6684
10:16	MA18606-ICV1	11206	224850	12960	6766
10:27	MA18606-ICB1	11555	230630	13027	7274
10:33	MA18606-CCV1	11327	226200	13011	6881
10:45	MA18606-CCB1	11554	230110	13007	7280
11:01	MA18606-CRI1	11412	228020	13043	7078
11:19	MA18606-ICSA1	10062	200470	12370	5658
11:24	MA18606-ICSAB1	10062	203990	12456	5668
11:30	ZZZZZZ	11350	226170	13002	7187
11:36	ZZZZZZ	11656	220520	13266	6476
11:42	ZZZZZZ	10337	206380	12676	6056
11:48	ZZZZZZ	10535	203780	12629	6010
11:54	ZZZZZZ	11504	231220	13222	7214
12:00	ZZZZZZ	11613	232030	13116	7280
12:06	ZZZZZZ	11565	231920	13167	7325
12:12	MA18606-CCV2	11299	225100	12909	6877
12:17	MA18606-CCB2	11496	229360	13055	7260
12:23	MP25356-MB1	11543	232200	13108	7298
12:29	MP25356-B1	11162	224070	13045	6695
12:35	MP25356-S1	11170	222140	12956	6694
12:40	MP25356-S2	11140	223620	13028	6679
12:46	MC42342-13F	11524	231980	13088	7261
12:52	MP25356-SD1	11535	230920	13167	7287
12:58	ZZZZZZ	10628	209840	12756	6260
13:04	ZZZZZZ	11076	221440	12943	6669
13:10	ZZZZZZ	11308	226000	13062	7013
13:16	ZZZZZZ	11309	224650	12982	7007
13:22	MA18606-CCV3	11356	227080	12979	6910
13:27	MA18606-CCB3	11583	229260	12974	7297
13:33	ZZZZZZ	11121	221030	13009	6715
13:39	ZZZZZZ	11396	227080	13059	7007
13:45	ZZZZZZ	11493	230110	12992	7211

10.2.1
10

INTERNAL STANDARD SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
Analyst: EAL   Run ID: MA18606
Parameters: Fe,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
13:51	ZZZZZZ	10860	219520	12879	6447
13:57	ZZZZZZ	11501	230380	13152	7181
14:03	ZZZZZZ	11319	223800	13038	6960
14:09	ZZZZZZ	11479	229110	12947	7184
14:15	MC42178-1F	11054	216620	12692	6538
14:21	ZZZZZZ	9913	216770	12813	8985
14:26	MC42178-6F	11334	222740	12830	6878
14:32	MA18606-CCV4	11415	227410	13024	6954
14:47	MA18606-CCB4	11624	231300	13039	7323
14:57	MC42178-7F	11366	225740	12908	6949
15:03	MC42178-8F	11578	229440	12937	7215
15:09	MC42178-10F	11363	224490	12861	6949
15:15	MC42178-11F	11517	227320	12918	7155
15:21	MC42178-12F	11344	221840	12828	6949
15:26	MC42178-12F	11573	230250	12952	7203
15:32	ZZZZZZ	11589	230710	12879	7249
15:38	ZZZZZZ	11302	221060	12847	6793
15:44	ZZZZZZ	11506	227390	12802	7113
15:50	ZZZZZZ	11177	218560	12731	6619
15:56	MA18606-CCV5	11453	224860	12801	6948
16:02	MA18606-CCB5	11683	229380	12863	7362
16:08	MC42178-1F	11308	222830	12813	6814
16:14	MC42178-4F	11386	227270	12771	6904
16:19	ZZZZZZ	11434	227860	13153	7040
16:25	ZZZZZZ	11492	227940	12965	7090
16:31	ZZZZZZ	11578	228600	12990	7222
16:37	ZZZZZZ	11525	227770	12956	7139
16:43	ZZZZZZ	11542	227650	13039	7137
16:49	ZZZZZZ	11539	231010	13047	7178
16:55	ZZZZZZ	11517	226880	12950	7127
17:01	ZZZZZZ	11481	229470	13061	7097
17:07	MA18606-CCV6	11422	227030	12980	6942
17:12	MA18606-CCB6	11664	233270	13208	7339

INTERNAL STANDARD SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP　　Date Analyzed: 10/26/15　　Methods: SW846 6010C
Analyst: EAL　　Run ID: MA18606
Parameters: Fe,Mn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
17:29	ZZZZZZ	11589	231180	13061	7291
17:35	ZZZZZZ	11410	227660	13076	7006
17:41	ZZZZZZ	11477	230540	13134	7139
17:47	ZZZZZZ	11562	229240	13077	7237
17:53	ZZZZZZ	11543	232090	13149	7223
17:59	ZZZZZZ	11470	228730	13128	7129
18:05	ZZZZZZ	11291	226070	13102	6952
18:11	ZZZZZZ	11545	232570	13170	7237
18:16	MA18606-CRI2	11483	229160	13036	7110
18:22	MA18606-CCV7	11383	227130	13105	6915
18:28	MA18606-CCB7	11615	232910	13139	7322

R = Reference for ISTD limits.　! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP
QC Limits: result < LOD

Date Analyzed: 10/26/15
Run ID: MA18606

Methods: SW846 6010C
Units: ug/l

Time: / Sample ID: / Metal	RL	IDL	LOD	10:27 ICB1 raw	final	10:45 CCB1 raw	final	12:17 CCB2 raw	final
Aluminum	200	15	100						
Antimony	6.0	.76	3.0						
Arsenic	4.0	1.3	2.0						
Barium	50	.24	25						
Beryllium	4.0	.18	2.0						
Bismuth	50	.9	25						
Boron	100	.43	50						
Cadmium	4.0	.14	2.0						
Calcium	5000	5.3	2500						
Chromium	10	.37	5.0						
Cobalt	50	.14	25						
Copper	25	.48	13						
Gold	50	.95	25						
Iron	100	3.2	50	2.4	<100	1.0	<100	1.5	<100
Lead	5.0	.56	2.5						
Lithium	500	2	250						
Magnesium	5000	22	2500						
Manganese	15	.04	7.5	0.0	<15	0.0	<15	0.10	<15
Molybdenum	100	2	50						
Nickel	40	.19	20						
Palladium	50	1.2	25						
Platinum	50	3.8	25						
Potassium	5000	40	2500						
Selenium	10	1	5.0						
Silicon	100	13	50						
Silver	5.0	.6	2.5						
Sodium	5000	10	2500						
Sulfur	50	1.6	25						
Strontium	10	.15	5.0						
Thallium	5.0	.47	2.5						
Tin	100	.26	50						
Titanium	50	.38	25						
Tungsten	100	3.1	50						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP
QC Limits: result < LOD

Date Analyzed: 10/26/15
Run ID: MA18606

Methods: SW846 6010C
Units: ug/l

Time:				10:27		10:45		12:17	
Sample ID:				ICB1		CCB1		CCB2	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Vanadium	10	.36	5.0						
Zinc	20	.096	10						
Zirconium	50	.29	25						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
QC Limits: result < LOD   Run ID: MA18606   Units: ug/l

Time:				13:27		14:47		16:02	
Sample ID:				CCB3		CCB4		CCB5	
Metal	RL	IDL	LOD	raw	final	raw	final	raw	final
Aluminum	200	15	100						
Antimony	6.0	.76	3.0						
Arsenic	4.0	1.3	2.0						
Barium	50	.24	25						
Beryllium	4.0	.18	2.0						
Bismuth	50	.9	25						
Boron	100	.43	50						
Cadmium	4.0	.14	2.0						
Calcium	5000	5.3	2500						
Chromium	10	.37	5.0						
Cobalt	50	.14	25						
Copper	25	.48	13						
Gold	50	.95	25						
Iron	100	3.2	50	4.6	<100	2.4	<100	4.2	<100
Lead	5.0	.56	2.5						
Lithium	500	2	250						
Magnesium	5000	22	2500						
Manganese	15	.04	7.5	0.50	<15	0.20	<15	0.20	<15
Molybdenum	100	2	50						
Nickel	40	.19	20						
Palladium	50	1.2	25						
Platinum	50	3.8	25						
Potassium	5000	40	2500						
Selenium	10	1	5.0						
Silicon	100	13	50						
Silver	5.0	.6	2.5						
Sodium	5000	10	2500						
Sulfur	50	1.6	25						
Strontium	10	.15	5.0						
Thallium	5.0	.47	2.5						
Tin	100	.26	50						
Titanium	50	.38	25						
Tungsten	100	3.1	50						

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP
QC Limits: result < LOD

Date Analyzed: 10/26/15
Run ID: MA18606

Methods: SW846 6010C
Units: ug/l

Time: / Sample ID: Metal	RL	IDL	LOD	13:27 CCB3 raw	final	14:47 CCB4 raw	final	16:02 CCB5 raw	final
Vanadium	10	.36	5.0						
Zinc	20	.096	10						
Zirconium	50	.29	25						

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP
QC Limits: result < LOD

Date Analyzed: 10/26/15
Run ID: MA18606

Methods: SW846 6010C
Units: ug/l

Time:				17:12		18:28	
Sample ID:				CCB6		CCB7	
Metal	RL	IDL	LOD	raw	final	raw	final
Aluminum	200	15	100				
Antimony	6.0	.76	3.0				
Arsenic	4.0	1.3	2.0				
Barium	50	.24	25				
Beryllium	4.0	.18	2.0				
Bismuth	50	.9	25				
Boron	100	.43	50				
Cadmium	4.0	.14	2.0				
Calcium	5000	5.3	2500				
Chromium	10	.37	5.0				
Cobalt	50	.14	25				
Copper	25	.48	13				
Gold	50	.95	25				
Iron	100	3.2	50	3.8	<100	2.3	<100
Lead	5.0	.56	2.5				
Lithium	500	2	250				
Magnesium	5000	22	2500				
Manganese	15	.04	7.5	0.0	<15	0.30	<15
Molybdenum	100	2	50				
Nickel	40	.19	20				
Palladium	50	1.2	25				
Platinum	50	3.8	25				
Potassium	5000	40	2500				
Selenium	10	1	5.0				
Silicon	100	13	50				
Silver	5.0	.6	2.5				
Sodium	5000	10	2500				
Sulfur	50	1.6	25				
Strontium	10	.15	5.0				
Thallium	5.0	.47	2.5				
Tin	100	.26	50				
Titanium	50	.38	25				
Tungsten	100	3.1	50				

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
QC Limits: result < LOD   Run ID: MA18606   Units: ug/l

Time:				17:12		18:28	
Sample ID:				CCB6		CCB7	
Metal	RL	IDL	LOD	raw	final	raw	final
Vanadium	10	.36	5.0				
Zinc	20	.096	10				
Zirconium	50	.29	25				

(*) Outside of QC limits
(anr) Analyte not requested

10.2.2
10

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery   Run ID: MA18606   Units: ug/l

Time:		10:16			10:33			12:12	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony									
Arsenic	anr								
Barium									
Beryllium									
Bismuth									
Boron									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Gold									
Iron	15000	15300	102.0	10000	10100	101.0	10000	10200	102.0
Lead									
Lithium									
Magnesium									
Manganese	3000	2970	99.0	2000	2040	102.0	2000	2050	102.5
Molybdenum									
Nickel									
Palladium									
Platinum									
Potassium									
Selenium									
Silicon									
Silver									
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery   Run ID: MA18606   Units: ug/l

Time:		10:16			10:33			12:12	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Vanadium									
Zinc									
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP | Date Analyzed: 10/26/15 | Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery | Run ID: MA18606 | Units: ug/l

Time: Sample ID: Metal	CCV True	13:22 CCV3 Results	% Rec	CCV True	14:32 CCV4 Results	% Rec	CCV True	15:56 CCV5 Results	% Rec
Aluminum									
Antimony									
Arsenic	anr								
Barium									
Beryllium									
Bismuth									
Boron									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Gold									
Iron	10000	10100	101.0	10000	10100	101.0	10000	10400	104.0
Lead									
Lithium									
Magnesium									
Manganese	2000	2040	102.0	2000	2050	102.5	2000	2090	104.5
Molybdenum									
Nickel									
Palladium									
Platinum									
Potassium									
Selenium									
Silicon									
Silver									
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP　　Date Analyzed: 10/26/15　　Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery　　Run ID: MA18606　　Units: ug/l

Time:		13:22			14:32			15:56	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Vanadium									
Zinc									
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP Date Analyzed: 10/26/15 Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA18606 Units: ug/l

Time:		17:07			18:22	
Sample ID:	CCV	CCV6		CCV	CCV7	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony						
Arsenic	anr					
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron	10000	10200	102.0	10000	9870	98.7
Lead						
Lithium						
Magnesium						
Manganese	2000	2060	103.0	2000	2040	102.0
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
QC Limits: 90 to 110 % Recovery   Run ID: MA18606   Units: ug/l

Time:		17:07			18:22	
Sample ID:	CCV	CCV6		CCV	CCV7	
Metal	True	Results	% Rec	True	Results	% Rec
Vanadium						
Zinc						
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP Date Analyzed: 10/26/15 Methods: SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA18606 Units: ug/l

Time: / Sample ID: / Metal	CRI True	CRIA True	11:01 CRI1 Results	% Rec	18:16 CRI2 Results	% Rec
Aluminum	200	200				
Antimony	6.0	10				
Arsenic	4.0	10	anr			
Barium	50	50				
Beryllium	4.0	4.0				
Bismuth	50	50				
Boron	100	100				
Cadmium	4.0	4.0				
Calcium	5000	5000				
Chromium	10	10				
Cobalt	50	50				
Copper	25	25				
Gold	50	50				
Iron	100	100	101	101.0	105	105.0
Lead	5.0	10				
Lithium	500	500				
Magnesium	5000	5000				
Manganese	15	15	15.7	104.7	15.9	106.0
Molybdenum	100	100				
Nickel	40	40				
Palladium	50	50				
Platinum	50	50				
Potassium	5000	5000				
Selenium	10	10				
Silicon	100	100				
Silver	5.0	5.0				
Sodium	5000	5000				
Sulfur	50	50				
Strontium	10	10				
Thallium	5.0	10				
Tin	100	100				
Titanium	50	50				
Tungsten	100	100				

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP　　Date Analyzed: 10/26/15　　Methods: SW846 6010C
QC Limits: CRI 70-130%　CRIA 70-130%　　Run ID: MA18606　　Units: ug/l

Time:			11:01		18:16	
Sample ID:	CRI	CRIA	CRI1		CRI2	
Metal	True	True	Results	% Rec	Results	% Rec
Vanadium	10	10				
Zinc	20	20				
Zirconium	50	50				

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery   Run ID: MA18606   Units: ug/l

Time: Sample ID: Metal	ICSA True	ICSAB True	11:19 ICSA1 Results	% Rec	11:24 ICSAB1 Results	% Rec
Aluminum	500000	500000	502000	100.4	499000	99.8
Antimony		500	0.60		509	101.8
Arsenic		500	-1.6		502	100.4
Barium		500	-2.9		486	97.2
Beryllium		500	0.10		481	96.2
Bismuth		500	5.3		494	98.8
Boron		500	0.0		491	98.2
Cadmium		1000	-0.40		1000	100.0
Calcium	500000	500000	451000	90.2	447000	89.4
Chromium		500	-0.20		443	88.6
Cobalt		500	0.70		483	96.6
Copper		500	1.5		474	94.8
Gold		500	-1.1		494	98.8
Iron	200000	200000	188000	94.0	188000	94.0
Lead		1000	0.10		922	92.2
Lithium		500	6.6		523	104.6
Magnesium	500000	500000	482000	96.4	478000	95.6
Manganese		500	0.70		476	95.2
Molybdenum		500	-3.9		471	94.2
Nickel		1000	-9.0		935	93.5
Palladium		500	0.10		504	100.8
Platinum		500	-1.4		486	97.2
Potassium			7.2		36.8	
Selenium		500	2.9		508	101.6
Silicon		500	2.4		478	95.6
Silver		1000	-1.2		969	96.9
Sodium			-7.7		-9.3	
Sulfur		500	9.4		513	102.6
Strontium		500	1.0		494	98.8
Thallium		500	1.0		457	91.4
Tin		500	-0.30		459	91.8
Titanium		500	0.30		455	91.0
Tungsten		500	6.5		471	94.2

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: SA102615M1L.ICP   Date Analyzed: 10/26/15   Methods: SW846 6010C
QC Limits: 80 to 120 % Recovery   Run ID: MA18606   Units: ug/l

Time:			11:19		11:24	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1	
Metal	True	True	Results	% Rec	Results	% Rec
Vanadium		500	-0.10		459	91.8
Zinc		1000	-0.30		913	91.3
Zirconium		500	-8.8		313	62.6*

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28		
Antimony	6.0	.76	2		
Arsenic	4.0	1.3	1.7	-0.70	<4.0
Barium	50	.24	1		
Beryllium	4.0	.18	.25		
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43		
Calcium	5000	5.3	15		
Chromium	10	.37	.48		
Cobalt	50	.14	.28		
Copper	25	.48	2.4		
Gold	50	.95	1.5		
Iron	100	3.2	17	0.50	<100
Lead	5.0	.56	1.7		
Lithium	500	2	2.5		
Magnesium	5000	22	54		
Manganese	15	.04	1.4	0.10	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5		
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49		
Selenium	10	1	2		
Silicon	100	13	30		
Silver	5.0	.6	1		
Sodium	5000	10	77		
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7		
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51		
Zinc	20	.096	1		
Zirconium	50	.29	1.2		

Associated samples MP25318: MC42178-1F, MC42178-2F, MC42178-3F, MC42178-4F, MC42178-5F, MC42178-6F, MC42178-7F, MC42178-8F, MC42178-10F, MC42178-11F, MC42178-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	530	500	106.0	75-125
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Gold					
Iron	0.0	9970	10000	99.7	75-125
Lead					
Lithium					
Magnesium					
Manganese	739	1240	500	100.2	75-125
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Sulfur					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium					
Zinc					
Zirconium					

Associated samples MP25318: MC42178-1F, MC42178-2F, MC42178-3F, MC42178-4F, MC42178-5F, MC42178-6F, MC42178-7F, MC42178-8F, MC42178-10F, MC42178-11F, MC42178-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

10.3.2
10

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	533	500	106.6	0.6	20
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron	0.0	9930	10000	99.3	0.4	20
Lead						
Lithium						
Magnesium						
Manganese	739	1240	500	100.2	0.0	20
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium						
Zinc						
Zirconium						

Associated samples MP25318: MC42178-1F, MC42178-2F, MC42178-3F, MC42178-4F, MC42178-5F, MC42178-6F, MC42178-7F, MC42178-8F, MC42178-10F, MC42178-11F, MC42178-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

10.3.2
10

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	507	500	101.4	80-120
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	10100	10000	101.0	80-120
Lead				
Lithium				
Magnesium				
Manganese	518	500	103.6	80-120
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25318: MC42178-1F, MC42178-2F, MC42178-3F, MC42178-4F, MC42178-5F, MC42178-6F, MC42178-7F, MC42178-8F, MC42178-10F, MC42178-11F, MC42178-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	0.00	0.00	NC	0-10
Lead				
Lithium				
Magnesium				
Manganese	739	755	2.1	0-10
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25318
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42178-3F Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25318: MC42178-1F, MC42178-2F, MC42178-3F, MC42178-4F, MC42178-5F, MC42178-6F, MC42178-7F, MC42178-8F, MC42178-10F, MC42178-11F, MC42178-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England
ACCUTEST
LABORATORIES

Metals Analysis

Raw Data

Zoom In
Zoom Out

Sample Name: STD1 Acquired: 10/23/2015 10:53:40 Type: Cal
Method: Accutest1(v135) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0000**	**.0001**	**.0000**	**.0000**	**.0007**	**.0051**	**-.0002**	**.0006**	**.0070**
Stddev	.000	.0002	.000	.000	.0000	.0001	.0002	.0001	.0001
%RSD	18.63	136.4	56.12	59.10	4.505	2.628	83.56	15.01	1.559
#1	.0000	.0003	.0000	.0000	.0006	.0052	-.0003	.0005	.0071
#2	.0000	.0000	.0000	.0000	.0007	.0050	-.0001	.0007	.0070

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0002**	**-.0004**	**.0000**	**.0016**	**.0004**	**-.0039**	**.0020**	**-.0001**	**.0003**
Stddev	.0000	.0001	.0000	.0000	.0001	.0002	.0003	.0001	.0000
%RSD	9.304	34.24	39.16	1.423	13.80	4.028	15.48	95.55	1.422
#1	.0002	-.0003	.0000	.0016	.0004	-.0040	.0018	.0000	.0003
#2	.0002	-.0005	.0000	.0016	.0005	-.0038	.0022	-.0002	.0003

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**.0032**	**.0014**	**-.0001**	**.0000**	**-.0001**	**-.0002**	**.0001**	**.0001**
Stddev	.0000	.0005	.0002	.0000	.000	.0000	.0000	.0000	.0000
%RSD	11.70	14.78	12.34	8.264	39.29	14.61	7.394	1.656	14.75
#1	.0001	.0035	.0013	-.0001	.0000	-.0001	-.0002	.0001	.0001
#2	.0001	.0028	.0016	-.0001	.0000	-.0001	-.0002	.0001	.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0063**	**-.0001**	**-.0036**	**-.0001**	**-.0006**	**.0000**	**.0010**	**.0000**	**-.0001**
Stddev	.0000	.0000	.0001	.0000	.0001	.0000	.0000	.000	.0000
%RSD	.5580	.7187	3.631	4.962	9.139	265.3	3.420	155.0	22.15
#1	.0063	-.0001	-.0035	-.0001	-.0006	.0000	.0009	.0000	-.0001
#2	.0064	-.0001	-.0037	-.0002	-.0006	.0000	.0010	.0000	-.0001

Zoom In
Zoom Out

Sample Name: STD1 Acquired: 10/23/2015 10:53:40 Type: Cal
Method: Accutest1(v135) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7225.0**	**11603.**	**231600.**	**10858.**
Stddev	9.1	16.	1479.	24.
%RSD	.12636	.13721	.63875	.22220
#1	7218.6	11592.	230550.	10875.
#2	7231.5	11614.	232640.	10841.

Zoom In
Zoom Out

Sample Name: STD2 Acquired: 10/23/2015 10:59:34 Type: Cal
Method: Accutest1(v135) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0578**	**.8053**	**.1244**	**.0810**	**1.019**	**11.18**	**14.96**	**.3236**	**1.601**
Stddev	.0001	.0008	.0003	.0005	.001	.04	.06	.0003	.005
%RSD	.2457	.0940	.2455	.6012	.0884	.3172	.4041	.0917	.3054
#1	.0579	.8047	.1241	.0814	1.019	11.15	14.92	.3238	1.598
#2	.0577	.8058	.1246	.0807	1.020	11.20	15.00	.3234	1.605

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.083**	**6.152**	**.2409**	**.9100**	**.9291**	**.9301**	**3.701**	**.1723**	**1.905**
Stddev	.003	.001	.0012	.0029	.0046	.0004	.012	.0003	.006
%RSD	.0761	.0220	.5084	.3210	.5004	.0461	.3213	.1733	.3331
#1	4.085	6.153	.2418	.9121	.9258	.9298	3.693	.1721	1.910
#2	4.080	6.151	.2401	.9080	.9324	.9304	3.709	.1725	1.901

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.805**	**2.857**	**5.040**	**1.207**	**.1614**	**.0267**	**.0851**	**.3268**	**.1694**
Stddev	.012	.014	.004	.001	.0005	.0000	.0000	.0002	.0002
%RSD	.6619	.5045	.0810	.0430	.3394	.1790	.0225	.0462	.1361
#1	1.796	2.847	5.038	1.207	.1618	.0268	.0851	.3269	.1696
#2	1.813	2.867	5.043	1.208	.1610	.0267	.0850	.3267	.1693

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.7113**	**.8232**	**24.16**	**.6349**	**.6911**	**.2829**	**.5736**	**3.803**	**.7338**
Stddev	.0005	.0007	.12	.0030	.0008	.0012	.0019	.001	.0058
%RSD	.0753	.0802	.4853	.4773	.1182	.4383	.3353	.0131	.7883
#1	.7109	.8227	24.07	.6371	.6905	.2837	.5722	3.803	.7379
#2	.7116	.8236	24.24	.6328	.6916	.2820	.5749	3.802	.7297

Zoom In
Zoom Out

Sample Name: STD2 Acquired: 10/23/2015 10:59:34 Type: Cal
Method: Accutest1(v135) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6686.0**	**11202.**	**223460.**	**10759.**
Stddev	3.0	3.	1216.	20.
%RSD	.04530	.02619	.54410	.18793
#1	6688.2	11204.	222600.	10773.
#2	6683.9	11200.	224320.	10744.

Zoom In
Zoom Out

Sample Name: ICVCONF Acquired: 10/23/2015 11:05:23 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5155	15.51	2.960	3.183	3.016	2.959	2.972	2.974	14.87
Stddev	.0230	.03	.000	.161	.002	.004	.003	.000	.01
%RSD	4.454	.2072	.0010	5.043	.0484	.1194	.1112	.0038	.0403
#1	.5318	15.53	2.960	3.296	3.015	2.961	2.974	2.974	14.88
#2	.4993	15.49	2.960	3.069	3.017	2.956	2.970	2.974	14.87
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.985	2.925	3.061	3.069	15.18	15.05	2.980	14.56	3.121
Stddev	.004	.002	.164	.140	.01	.06	.007	.07	.156
%RSD	.1433	.0773	5.361	4.563	.0705	.3868	.2238	.5045	4.991
#1	2.989	2.927	3.177	3.168	15.18	15.09	2.984	14.61	3.231
#2	2.982	2.924	2.945	2.970	15.19	15.01	2.975	14.51	3.011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.957	15.12	2.942	2.943	3.101	3.073	2.990	2.961	2.944
Stddev	.012	.01	.001	.002	.138	.145	.004	.001	.004
%RSD	.4117	.0344	.0458	.0789	4.456	4.717	.1167	.0250	.1375
#1	2.948	15.11	2.941	2.945	3.199	3.176	2.987	2.961	2.941
#2	2.966	15.12	2.943	2.942	3.004	2.971	2.992	2.962	2.947
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: ICVCONF Acquired: 10/23/2015 11:05:23 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.755	3.007	2.929	3.097	3.011	3.076	2.971	2.935	3.195
Stddev	.006	.001	.008	.163	.009	.159	.011	.001	.167
%RSD	.2138	.0372	.2657	5.256	.2952	5.176	.3691	.0424	5.240
#1	2.751	3.007	2.934	3.212	3.017	3.188	2.963	2.936	3.313
#2	2.759	3.008	2.923	2.982	3.005	2.963	2.979	2.934	3.076
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6743.5	11303.	215580.	10842.
Stddev	2.8	17.	11057.	27.
%RSD	.04104	.15402	5.1286	.25176
#1	6745.5	11316.	207770.	10822.
#2	6741.6	11291.	223400.	10861.

Zoom In
Zoom Out

Sample Name: ICV Acquired: 10/23/2015 11:16:15 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4958	15.57	2.956	3.059	3.025	2.965	2.989	2.988	14.98
Stddev	.0013	.02	.009	.010	.002	.002	.012	.009	.05
%RSD	.2535	.1038	.3065	.3291	.0772	.0586	.4083	.3188	.3631
#1	.4949	15.58	2.963	3.052	3.026	2.966	2.998	2.995	15.02
#2	.4967	15.56	2.950	3.066	3.023	2.964	2.981	2.982	14.94
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.987	2.921	2.937	2.968	15.28	15.09	2.985	14.57	3.023
Stddev	.008	.003	.006	.013	.06	.04	.002	.05	.032
%RSD	.2750	.1078	.2139	.4247	.3757	.2399	.0775	.3351	1.048
#1	2.993	2.923	2.941	2.959	15.32	15.11	2.984	14.61	3.045
#2	2.982	2.919	2.932	2.977	15.24	15.06	2.987	14.54	3.001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.942	15.26	2.940	2.947	3.000	2.956	2.999	2.969	2.949
Stddev	.009	.10	.002	.000	.015	.002	.003	.008	.006
%RSD	.3074	.6620	.0661	.0107	.4943	.0687	.1042	.2665	.2076
#1	2.935	15.33	2.939	2.947	2.990	2.955	3.001	2.975	2.953
#2	2.948	15.19	2.942	2.947	3.011	2.958	2.997	2.964	2.945
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: ICV Acquired: 10/23/2015 11:16:15 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.764	3.008	2.951	2.975	3.015	2.956	2.966	2.933	3.088
Stddev	.001	.002	.009	.002	.001	.001	.001	.005	.007
%RSD	.0521	.0534	.3188	.0730	.0360	.0286	.0259	.1866	.2211
#1	2.765	3.009	2.958	2.973	3.016	2.956	2.966	2.937	3.083
#2	2.762	3.007	2.944	2.976	3.015	2.955	2.967	2.929	3.093
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6747.9	11288.	223710.	10752.
Stddev	1.9	2.	106.	15.
%RSD	.02745	.02083	.04750	.14195
#1	6749.2	11286.	223790.	10741.
#2	6746.6	11290.	223640.	10762.

Sample Name: ICB Acquired: 10/23/2015 11:27:03 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0038	.0010	.0000	.0017	.0000	.0000	.0002	-.0039
Stddev	.0000	.0100	.0005	.0007	.0002	.000	.000	.0012	.0028
%RSD	3.362	262.1	56.76	7856.	9.164	1483.	125.1	596.6	70.54
#1	.0003	-.0108	.0014	-.0005	.0018	.0002	.0000	.0011	-.0020
#2	.0003	.0032	.0006	.0005	.0016	-.0002	.0000	-.0007	-.0059
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	.0001	.0000	.0008	.0061	.0007	.0010	.0000
Stddev	.0000	.0000	.0000	.0000	.0019	.0362	.0000	.0035	.0000
%RSD	54.36	33.45	50.60	179.4	247.8	590.1	5.150	337.4	231.7
#1	.0000	.0001	.0001	.0000	-.0006	-.0194	.0008	.0036	.0000
#2	.0001	.0001	.0001	.0000	.0022	.0317	.0007	-.0015	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0091	.0008	.0000	-.0001	.0002	.0001	.0004	-.0004	.0009
Stddev	.0009	.0003	.000	.0001	.0000	.0004	.0001	.0003	.0001
%RSD	10.21	35.18	931.9	113.8	23.93	623.4	33.06	71.16	17.34
#1	.0098	.0006	.0000	-.0001	.0002	-.0002	.0003	-.0006	.0010
#2	.0085	.0010	-.0001	.0000	.0002	.0003	.0005	-.0002	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: ICB Acquired: 10/23/2015 11:27:03 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0002	.0000	.0005	.0007	.0001	.0151	.0000	.0007
Stddev	.0005	.0001	.000	.0002	.0004	.0002	.0007	.0000	.0001
%RSD	93.99	27.41	2292.	36.78	54.21	189.0	4.864	21.12	16.25
#1	.0002	.0003	.0000	.0007	.0010	.0003	.0157	.0000	.0006
#2	.0009	.0002	.0000	.0004	.0004	.0000	.0146	.0001	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7289.4	11713.	232310.	10974.
Stddev	8.2	5.	782.	113.
%RSD	.11256	.03981	.33673	1.0270
#1	7283.6	11710.	232860.	10894.
#2	7295.2	11716.	231750.	11054.

Sample Name: CCV Acquired: 10/23/2015 11:32:58 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2474	9.967	1.979	1.970	1.972	1.967	1.980	1.998	10.07
Stddev	.0022	.029	.033	.035	.028	.004	.004	.028	.02
%RSD	.8835	.2955	1.685	1.772	1.398	.1880	.2145	1.388	.1794
#1	.2490	9.988	1.955	1.995	1.953	1.969	1.983	1.978	10.08
#2	.2459	9.946	2.002	1.946	1.992	1.964	1.977	2.017	10.06
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.992	1.991	1.966	1.977	9.941	9.811	1.970	9.995	2.032
Stddev	.030	.032	.035	.028	.009	.015	.002	.095	.029
%RSD	1.534	1.625	1.782	1.429	.0920	.1477	.1234	.9470	1.400
#1	1.970	1.968	1.990	1.997	9.947	9.822	1.972	10.06	2.052
#2	2.013	2.014	1.941	1.957	9.934	9.801	1.969	9.929	2.012
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.007	9.993	1.995	1.984	1.984	1.971	1.990	1.980	1.974
Stddev	.042	.026	.029	.030	.025	.027	.026	.028	.026
%RSD	2.089	.2635	1.479	1.522	1.276	1.390	1.321	1.394	1.327
#1	1.978	10.01	1.974	1.962	2.002	1.991	1.971	1.960	1.955
#2	2.037	9.974	2.016	2.005	1.966	1.952	2.008	1.999	1.992
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: CCV Acquired: 10/23/2015 11:32:58 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.942	2.000	1.979	1.956	2.021	1.951	2.013	2.004	1.993
Stddev	.029	.030	.008	.035	.026	.035	.039	.031	.038
%RSD	1.469	1.513	.3847	1.801	1.264	1.767	1.913	1.539	1.893
#1	1.922	1.979	1.985	1.981	2.003	1.975	1.986	1.982	2.020
#2	1.962	2.022	1.974	1.931	2.040	1.927	2.040	2.025	1.967
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6821.7	11341.	228330.	10758.
Stddev	90.3	136.	2681.	33.
%RSD	1.3244	1.2022	1.1742	.31023
#1	6885.6	11438.	226430.	10735.
#2	6757.9	11245.	230220.	10782.

◀ Zoom In ▶
Zoom Out

Sample Name: CCB Acquired: 10/23/2015 11:38:39 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0066	.0009	.0010	.0020	.0000	.0001	.0001	.0012
Stddev	.0003	.0007	.0007	.0005	.0001	.0002	.0000	.0014	.0016
%RSD	84.34	10.56	75.26	48.30	5.341	968.4	5.230	1859.	136.9
#1	.0006	-.0061	.0014	.0007	.0020	-.0001	.0001	.0011	.0023
#2	.0001	-.0071	.0004	.0013	.0021	.0001	.0001	-.0009	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	-.0001	.0000	.0027	.0052	.0011	.0045	.0000
Stddev	.0001	.0002	.0002	.000	.0001	.0263	.0009	.0253	.0000
%RSD	86.05	146.1	192.4	788.3	2.615	509.9	79.26	560.6	16.03
#1	.0000	.0000	.0000	-.0001	.0027	-.0135	.0005	.0224	.0000
#2	.0002	.0003	-.0003	.0001	.0026	.0238	.0017	-.0134	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0130	.0016	.0001	.0002	.0005	.0001	.0004	-.0005	.0021
Stddev	.0024	.0004	.0001	.0002	.0003	.0032	.0000	.0002	.0002
%RSD	18.17	22.38	139.0	140.1	60.87	3994.	1.524	37.33	11.83
#1	.0146	.0013	.0000	.0000	.0007	.0024	.0004	-.0004	.0023
#2	.0113	.0018	.0002	.0003	.0003	-.0022	.0004	-.0006	.0019
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

◀ Zoom In ▶
Zoom Out

Sample Name: CCB Acquired: 10/23/2015 11:38:39 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0005	.0001	.0009	.0010	.0004	.0184	.0001	.0023
Stddev	.0002	.0003	.0000	.0002	.0003	.0001	.0022	.0001	.0001
%RSD	34.32	55.30	3.000	26.60	34.24	24.98	11.88	162.1	5.395
#1	.0008	.0003	.0001	.0010	.0008	.0005	.0200	.0000	.0024
#2	.0005	.0007	.0001	.0007	.0013	.0004	.0169	.0002	.0022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7261.9	11672.	231820.	10925.
Stddev	6.2	7.	1524.	9.
%RSD	.08519	.05726	.65754	.08307
#1	7257.5	11676.	232900.	10919.
#2	7266.2	11667.	230740.	10932.

◀ Zoom In ▶
Zoom Out

Sample Name: CRI Acquired: 10/23/2015 11:45:36 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0053	.1949	.0044	.0499	.1015	.0487	.0040	.0517	5.065
Stddev	.0002	.0117	.0000	.0005	.0003	.0001	.0000	.0006	.009
%RSD	3.758	6.025	.4875	.9508	.2599	.2132	.5482	1.150	.1827
#1	.0055	.2032	.0043	.0496	.1017	.0486	.0040	.0513	5.071
#2	.0052	.1866	.0044	.0503	.1013	.0488	.0040	.0521	5.058
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041	.0491	.0102	.0240	.0979	4.949	.4972	5.047	.0158
Stddev	.0000	.0000	.0004	.0000	.0040	.016	.0019	.001	.0001
%RSD	.3693	.0819	3.964	.1972	4.096	.3310	.3874	.0191	.3390
#1	.0041	.0490	.0099	.0240	.1007	4.937	.4986	5.047	.0158
#2	.0041	.0491	.0105	.0240	.0950	4.960	.4958	5.046	.0158
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1062	5.033	.0422	.0048	.0517	.0474	.0497	.0056	.0100
Stddev	.0007	.017	.0000	.0000	.0004	.0007	.0009	.0002	.0004
%RSD	.6301	.3334	.1121	.6419	.8014	1.463	1.714	4.240	4.046
#1	.1058	5.045	.0422	.0049	.0514	.0469	.0503	.0058	.0097
#2	.1067	5.021	.0422	.0048	.0520	.0479	.0491	.0055	.0103
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

◀ Zoom In ▶
Zoom Out

Sample Name: CRI Acquired: 10/23/2015 11:45:36 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0985	.1013	.0099	.0499	.0057	.0102	F .0527	.0202	.0409
Stddev	.0007	.0005	.0001	.0001	.0001	.0002	.0013	.0001	.0010
%RSD	.6810	.4802	.6275	.2836	2.124	1.820	2.546	.2907	2.404
#1	.0980	.1009	.0099	.0498	.0056	.0101	.0536	.0203	.0402
#2	.0990	.1016	.0099	.0500	.0058	.0103	.0518	.0202	.0416
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value							.1000		
Range							-30.00%		

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7075.0	11528.	227310.	10891.
Stddev	4.8	4.	700.	19.
%RSD	.06741	.03594	.30786	.17108
#1	7071.7	11531.	227810.	10878.
#2	7078.4	11525.	226820.	10904.

Zoom In
Zoom Out

Sample Name: ICSA Acquired: 10/23/2015 11:51:26 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0009	500.2	-.0003	.0001	.0008	.0008	.0000	.0058	456.8
Stddev	.0001	.5	.0007	.0000	.0003	.0001	.0000	.0005	1.4
%RSD	12.54	.0968	209.7	22.68	41.26	19.12	40.59	7.837	.3038
#1	-.0008	499.9	.0002	.0001	.0010	.0006	.0000	.0062	457.8
#2	-.0010	500.6	-.0008	.0001	.0006	.0009	.0000	.0055	455.8
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	.0008	-.0003	.0005	188.2	.0174	.0071	480.9	.0007
Stddev	.0000	.0001	.0002	.0001	.5	.0151	.0001	.6	.0000
%RSD	.4452	8.564	58.38	23.09	.2486	86.92	.7510	.1223	1.774
#1	-.0006	.0008	-.0002	.0006	187.9	.0067	.0072	480.5	.0007
#2	-.0006	.0007	-.0005	.0004	188.6	.0281	.0071	481.3	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0019	.0208	-.0083	.0013	.0003	.0073	.0140	-.0014	.0002
Stddev	.0000	.0079	.0001	.0019	.0000	.0016	.0014	.0006	.0004
%RSD	1.583	38.16	.8264	142.4	2.826	22.11	10.32	44.45	167.5
#1	-.0019	.0152	-.0084	.0000	.0004	.0061	.0129	-.0018	.0005
#2	-.0019	.0264	-.0083	.0026	.0003	.0084	.0150	-.0010	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: ICSA Acquired: 10/23/2015 11:51:26 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0205	-.0005	.0011	-.0001	.0008	-.0003	.0113	-.0006	-.0076
Stddev	.0007	.0004	.0000	.0000	.0004	.0003	.0008	.0001	.0002
%RSD	3.423	93.11	1.165	14.39	45.11	113.9	6.828	21.36	2.467
#1	-.0200	-.0002	.0011	-.0001	.0005	-.0001	.0108	-.0007	-.0078
#2	-.0210	-.0008	.0011	-.0001	.0010	-.0005	.0119	-.0005	-.0075
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5668.2	10193.	203610.	10338.
Stddev	4.1	9.	461.	36.
%RSD	.07188	.09202	.22635	.34484
#1	5671.1	10199.	203940.	10363.
#2	5665.3	10186.	203290.	10312.

Zoom In
Zoom Out

Sample Name: ICSAB Acquired: 10/23/2015 11:57:13 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9861	502.6	.5041	.4977	.4878	.4904	.4838	.4909	452.6
Stddev	.0023	1.1	.0009	.0015	.0005	.0011	.0013	.0002	1.8
%RSD	.2338	.2155	.1784	.3108	.1117	.2218	.2601	.0412	.3912
#1	.9878	501.8	.5035	.4966	.4882	.4896	.4829	.4908	453.9
#2	.9845	503.3	.5048	.4988	.4874	.4912	.4847	.4911	451.4
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.005	.4829	.4515	.4764	189.3	.0461	.5263	482.4	.4838
Stddev	.002	.0000	.0007	.0006	.6	.0005	.0007	.7	.0007
%RSD	.1649	.0003	.1557	.1270	.3023	1.175	.1286	.1549	.1364
#1	1.006	.4829	.4510	.4760	188.9	.0457	.5268	481.8	.4833
#2	1.004	.4829	.4520	.4768	189.7	.0465	.5259	482.9	.4842
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4715	.0411	.9349	.9226	.5122	.5000	.5117	.5061	.5014
Stddev	.0031	.0046	.0026	.0008	.0004	.0008	.0059	.0031	.0028
%RSD	.6569	11.09	.2795	.0903	.0747	.1578	1.149	.6076	.5563
#1	.4693	.0379	.9331	.9220	.5119	.5006	.5075	.5039	.4995
#2	.4737	.0443	.9368	.9232	.5125	.4995	.5158	.5082	.5034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: ICSAB Acquired: 10/23/2015 11:57:13 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4503	.4589	.4964	.4598	.4571	.4671	.4770	.9140	.3188
Stddev	.0024	.0006	.0004	.0000	.0004	.0000	.0034	.0022	.0047
%RSD	.5283	.1384	.0840	.0075	.0940	.0071	.7037	.2362	1.473
#1	.4486	.4584	.4961	.4598	.4574	.4671	.4746	.9155	.3155
#2	.4520	.4593	.4967	.4598	.4568	.4671	.4794	.9125	.3221
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5667.1	10158.	202360.	10249.
Stddev	2.0	5.	398.	39.
%RSD	.03545	.04641	.19679	.37653
#1	5665.7	10155.	202640.	10276.
#2	5668.5	10162.	202080.	10222.

Sample Name: 200PPMFECONF Acquired: 10/23/2015 12:02:55 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0937**	**.0000**	**.0000**	**.0000**	**.0002**	**.0001**	**.0023**	**.0984**
Stddev	.001	.0046	.0007	.0006	.000	.0000	.0000	.0001	.0065
%RSD	2798.	4.915	15870.	4952.	571.3	4.469	3.737	3.603	6.643
#1	.0005	.0970	.0005	.0005	.0000	.0002	.0001	.0023	.1030
#2	-.0005	.0904	-.0005	-.0004	.0000	.0002	.0001	.0022	.0937

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0003**	**-.0001**	**-.0010**	**204.0**	**-.0177**	**-.0003**	**.1168**	**.0004**
Stddev	.0000	.0001	.0001	.0003	.3	.0251	.0010	.0097	.0001
%RSD	29.26	26.61	214.0	34.72	.1572	142.1	373.9	8.345	21.27
#1	.0000	.0002	.0000	-.0008	203.8	.0001	.0004	.1099	.0004
#2	.0000	.0003	-.0002	-.0012	204.2	-.0354	-.0010	.1237	.0003

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0040**	**.0114**	**.0005**	**.0005**	**-.0007**	**.0044**	**-.0006**	**-.0009**	**.0000**
Stddev	.0008	.0012	.0002	.0006	.0006	.0013	.0004	.0000	.0000
%RSD	19.00	10.84	37.82	138.7	92.98	29.39	68.59	3.508	61.92
#1	.0045	.0123	.0004	.0009	-.0002	.0035	-.0008	-.0009	.0000
#2	.0034	.0106	.0006	.0000	-.0011	.0053	-.0003	-.0009	.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0051**	**.0011**	**.0002**	**.0001**	**.0005**	**.0001**	**.0095**	**.0001**	**.0025**
Stddev	.0000	.0002	.0000	.0000	.0006	.0001	.0008	.0000	.0007
%RSD	.9403	13.96	5.106	28.04	102.8	43.08	8.406	75.73	29.53
#1	-.0050	.0010	.0002	.0001	.0009	.0001	.0100	.0000	.0030
#2	-.0051	.0012	.0002	.0002	.0001	.0002	.0089	.0001	.0020

Sample Name: 200PPMFECONF Acquired: 10/23/2015 12:02:55 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7166.2**	**11438.**	**226600.**	**10810.**
Stddev	6.6	23.	1130.	18.
%RSD	.09179	.20170	.49847	.16315
#1	7170.8	11454.	227400.	10797.
#2	7161.5	11422.	225810.	10822.

Sample Name: 500PPMALCONF Acquired: 10/23/2015 12:08:48 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**485.0**	**.0000**	**.0004**	**.0007**	**.0003**	**.0000**	**.0031**	**.0020**
Stddev	.000	.2	.0005	.0001	.0003	.0001	.0000	.0000	.0021
%RSD	1464.	.0323	52790.	31.37	37.23	34.88	8.119	.0001	108.8
#1	.0002	484.9	-.0004	.0005	.0009	.0003	.0000	.0031	.0035
#2	-.0002	485.1	.0004	.0003	.0005	.0002	.0000	.0031	.0005

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0002**	**-.0004**	**.0002**	**.0716**	**-.0018**	**-.0006**	**.0323**	**-.0001**
Stddev	.0001	.0000	.0004	.0001	.0022	.0002	.0009	.0019	.0000
%RSD	90.76	17.19	82.53	32.48	3.052	10.02	144.9	5.734	38.27
#1	.0000	.0002	-.0002	.0002	.0732	-.0019	-.0012	.0310	-.0001
#2	.0001	.0002	-.0007	.0003	.0701	-.0016	.0000	.0336	.0000

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0493**	**-.0002**	**.0008**	**.0002**	**.0031**	**-.0005**	**-.0016**	**.0000**
Stddev	.0001	.0021	.0002	.0001	.0002	.0018	.0012	.0010	.0006
%RSD	65.15	4.239	122.0	7.481	121.4	57.83	249.0	64.72	1685.
#1	.0002	-.0478	-.0003	.0007	.0003	.0018	.0004	-.0008	.0004
#2	.0001	-.0507	.0000	.0008	.0000	.0044	-.0013	-.0023	-.0004

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0222**	**-.0009**	**.0001**	**-.0001**	**.0009**	**-.0001**	**.0073**	**-.0005**	**.0047**
Stddev	.0000	.0002	.0000	.0001	.0005	.0002	.0009	.0000	.0000
%RSD	.0787	26.29	34.34	50.33	53.57	255.8	12.03	7.866	.2398
#1	-.0222	-.0010	.0001	-.0001	.0006	-.0002	.0079	-.0005	.0047
#2	-.0221	-.0007	.0001	-.0001	.0013	.0001	.0067	-.0006	.0047

Sample Name: 500PPMALCONF Acquired: 10/23/2015 12:08:48 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6466.4**	**11760.**	**220470.**	**11058.**
Stddev	13.2	28.	334.	56.
%RSD	.20451	.23510	.15162	.50705
#1	6475.8	11779.	220710.	11098.
#2	6457.1	11740.	220240.	11018.

Zoom In
Zoom Out

Sample Name: 500PPMCACONF Acquired: 10/23/2015 12:14:37 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0249	.0000	.0000	.0012	-.0002	.0000	.0046	F 471.7
Stddev	.0001	.0011	.0004	.0006	.0001	.0001	.000	.0011	3.3
%RSD	144.4	4.356	1031.	1369.	4.658	41.16	10170.	25.04	.6944
#1	.0000	.0257	-.0003	-.0004	.0013	-.0001	.0000	.0054	469.4
#2	-.0002	.0242	.0003	.0004	.0012	-.0002	.0000	.0037	474.0

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0002	.0009	.0000	.0032	.0313	.0052	.0252	.0000
Stddev	.0000	.0000	.0002	.000	.0006	.0011	.0005	.0101	.000
%RSD	106.2	19.85	20.89	73.60	20.07	3.568	8.896	40.04	72.45
#1	.0000	-.0002	.0010	.0000	.0037	.0321	.0056	.0324	.0000
#2	.0000	-.0002	.0008	.0000	.0028	.0305	.0049	.0181	-.0001

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0331	.0003	-.0001	.0004	-.0009	.0048	.0000	.0000
Stddev	.0000	.0039	.0001	.0003	.0001	.0011	.0008	.0007	.0001
%RSD	4.706	11.73	35.48	267.5	29.35	128.1	16.62	3225.	3795.
#1	.0005	.0303	.0002	.0001	.0004	-.0017	.0042	.0005	.0001
#2	.0005	.0358	.0003	-.0003	.0005	-.0001	.0053	-.0004	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0001	.0009	-.0001	.0010	.0001	.0049	-.0001	.0030
Stddev	.000	.0001	.0000	.0002	.0003	.0002	.0003	.0001	.0000
%RSD	425.0	116.4	1.921	186.1	30.32	176.1	6.458	87.07	.3272
#1	.0001	.0001	.0009	.0000	.0008	.0002	.0052	.0000	.0030
#2	-.0002	.0000	.0009	-.0003	.0012	.0000	.0047	-.0001	.0030

Zoom In
Zoom Out

Sample Name: 500PPMCACONF Acquired: 10/23/2015 12:14:37 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6067.7	10479.	208310.	10561.
Stddev	8.9	7.	680.	47.
%RSD	.14742	.06728	.32620	.44271
#1	6061.4	10474.	207830.	10594.
#2	6074.0	10484.	208790.	10528.

Zoom In
Zoom Out

Sample Name: 500PPMNACONF Acquired: 10/23/2015 12:20:36 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0647	.0000	.0001	.0008	.0002	.0000	.0003	.0149
Stddev	.0006	.0025	.000	.0001	.0001	.0000	.000	.0003	.0010
%RSD	235.6	3.924	2694.	58.94	13.27	.1104	309.8	117.0	6.490
#1	-.0002	.0665	-.0002	.0001	.0009	.0002	.0000	.0005	.0156
#2	.0007	.0630	.0002	.0002	.0008	.0002	-.0001	.0000	.0142

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0001	.0001	.0000	.0060	-.0362	.0046	.0320	-.0003
Stddev	.000	.0000	.0001	.000	.0005	.0024	.0001	.0051	.0000
%RSD	271.6	50.15	77.83	25060.	9.149	6.661	2.113	16.03	.0300
#1	.0000	.0000	.0000	.0001	.0064	-.0345	.0046	.0356	-.0003
#2	.0000	.0001	.0001	-.0001	.0056	-.0379	.0045	.0284	-.0003

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	472.3	.0005	-.0008	-.0005	-.0019	.0001	-.0006	.0000
Stddev	.0000	3.6	.0002	.0001	.0002	.0028	.0004	.0004	.0006
%RSD	12.97	.7540	37.46	16.61	35.88	144.9	286.1	65.77	3237.
#1	.0003	474.8	.0006	-.0009	-.0004	.0000	.0004	-.0003	.0004
#2	.0003	469.8	.0004	-.0007	-.0006	-.0039	-.0001	-.0009	-.0004

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0070	.0001	.0000	.0001	.0001	.0000	.0046	.0001	.0021
Stddev	.0001	.0002	.0000	.0002	.0001	.000	.0002	.0000	.0000
%RSD	1.322	191.6	31.28	168.6	113.0	105.6	5.166	10.15	2.238
#1	-.0070	.0000	.0001	.0000	.0000	.0000	.0044	.0001	.0021
#2	-.0069	.0003	.0000	.0002	.0001	.0000	.0048	.0001	.0021

Zoom In
Zoom Out

Sample Name: 500PPMNACONF Acquired: 10/23/2015 12:20:36 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6005.5	10670.	209380.	10550.
Stddev	2.5	3.	121.	13.
%RSD	.04111	.02964	.05776	.12201
#1	6007.3	10672.	209290.	10559.
#2	6003.8	10667.	209460.	10540.

◀ Zoom In ▶
Zoom Out

Sample Name: 20PPMMNCONF   Acquired: 10/23/2015 12:26:31   Type: Unk
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0090**	**.0000**	**-.0021**	**.0008**	**.0000**	**.0000**	**.0011**	**.0085**
Stddev	.0000	.0002	.0000	.0002	.0002	.000	.000	.0002	.0007
%RSD	11.73	2.595	20.50	9.832	20.63	491.5	7144.	19.48	8.378
#1	.0001	.0088	.0000	-.0023	.0007	.0001	-.0001	.0012	.0090
#2	.0001	.0091	.0000	-.0020	.0009	-.0001	.0001	.0009	.0080

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0001**	**.0005**	**.0001**	**-.0078**	**.0426**	**.0029**	**-.0198**	F **18.76**
Stddev	.0000	.0000	.0001	.0002	.0017	.0102	.0001	.0140	.18
%RSD	81.13	1.149	19.48	191.7	21.57	23.87	4.704	70.58	.9813
#1	.0000	.0001	.0006	.0002	-.0090	.0354	.0028	-.0099	18.63
#2	.0000	.0001	.0004	.0000	-.0066	.0498	.0030	-.0297	18.89

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**.1769**	**.0007**	**.0001**	**-.0038**	**-.0016**	**-.0047**	**-.0004**	**.0004**
Stddev	.0000	.0062	.0000	.0003	.0008	.0004	.0009	.0000	.0007
%RSD	.6891	3.497	2.325	409.8	20.77	23.44	18.41	9.358	171.8
#1	.0006	.1813	.0007	.0003	-.0032	-.0014	-.0041	-.0004	-.0001
#2	.0006	.1726	.0007	-.0001	-.0043	-.0019	-.0053	-.0004	.0009

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0109**	**.0002**	**.0000**	**.0003**	**.0004**	**-.0002**	**.0045**	**.0006**	**.0016**
Stddev	.0002	.0001	.000	.0002	.0004	.0002	.0003	.0000	.0001
%RSD	1.418	27.87	921.0	53.55	104.2	106.2	5.868	.2208	5.210
#1	-.0110	.0002	-.0001	.0002	.0007	-.0004	.0047	.0006	.0017
#2	-.0108	.0001	.0001	.0004	.0001	-.0001	.0043	.0006	.0015

◀ Zoom In ▶
Zoom Out

Sample Name: 20PPMMNCONF   Acquired: 10/23/2015 12:26:31   Type: Unk
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7207.2**	**11624.**	**231360.**	**10810.**
Stddev	11.7	12.	947.	12.
%RSD	.16168	.09908	.40932	.11009
#1	7199.0	11615.	232030.	10818.
#2	7215.5	11632.	230690.	10801.

◀ Zoom In ▶
Zoom Out

Sample Name: 50PPMSCONF   Acquired: 10/23/2015 12:32:31   Type: Unk
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**.0152**	**-.0013**	**.0024**	**-.0003**	**.0006**	**.0003**	**.0026**	**.0158**
Stddev	.0004	.0014	.0001	.0008	.0003	.0003	.0000	.0010	.0010
%RSD	16.21	9.486	7.095	33.04	87.33	47.22	5.179	37.36	6.139
#1	.0026	.0142	-.0014	.0029	-.0001	.0008	.0003	.0033	.0165
#2	.0020	.0162	-.0012	.0018	-.0005	.0004	.0003	.0019	.0151

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0000**	**.0003**	**.0004**	**.0023**	**.0188**	**.0023**	**.0202**	**.0000**
Stddev	.0000	.0000	.0002	.0000	.0009	.0058	.0007	.0000	.000
%RSD	3.544	54.84	48.56	1.523	38.56	30.60	30.02	.1760	166.6
#1	.0007	.0000	.0002	.0004	.0017	.0147	.0018	.0202	.0000
#2	.0007	.0000	.0004	.0004	.0030	.0229	.0028	.0203	.0000

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0039**	**.0821**	**.0006**	**.0001**	**-.0039**	**.0007**	**.0021**	**.0008**	**.0010**
Stddev	.0005	.0013	.0001	.0003	.0034	.0002	.0005	.0005	.0001
%RSD	13.86	1.591	10.59	240.2	86.59	28.11	24.90	61.94	8.687
#1	.0043	.0812	.0006	.0003	-.0064	.0005	.0018	.0004	.0011
#2	.0036	.0830	.0007	-.0001	-.0015	.0008	.0025	.0011	.0010

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F **45.79**	**.0016**	**.0005**	**.0014**	**.0001**	**.0005**	**.0101**	**.0442**	**.0243**
Stddev	.01	.0002	.0000	.0002	.0003	.0002	.0002	.0002	.0378
%RSD	.0176	12.21	1.326	15.45	259.0	45.21	2.463	.3565	155.4
#1	45.79	.0017	.0005	.0015	-.0001	.0006	.0099	.0441	.0511
#2	45.80	.0014	.0005	.0012	.0003	.0003	.0102	.0443	-.0024

◀ Zoom In ▶
Zoom Out

Sample Name: 50PPMSCONF   Acquired: 10/23/2015 12:32:31   Type: Unk
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7280.1**	**11734.**	**231020.**	**10900.**
Stddev	.3	5.	986.	42.
%RSD	.00414	.04671	.42698	.38658
#1	7279.9	11738.	231710.	10929.
#2	7280.3	11730.	230320.	10870.

Zoom In
Zoom Out

Sample Name: 10PPMSCONF Acquired: 10/23/2015 12:38:22 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0066	-.0005	.0004	.0012	.0001	.0002	-.0009	.0055
Stddev	.0002	.0103	.0005	.0009	.0002	.0001	.0000	.0007	.0015
%RSD	161.6	155.0	96.68	213.8	19.08	91.37	12.01	71.92	26.52
#1	.0002	-.0139	-.0008	.0011	.0010	.0000	.0002	-.0014	.0066
#2	.0000	.0006	-.0001	-.0002	.0013	.0002	.0002	-.0005	.0045

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0003	.0003	.0003	-.0001	.0067	.0009	.0141	.0013
Stddev	.0001	.0000	.0001	.0001	.0007	.0102	.0010	.0082	.0000
%RSD	43.79	4.891	55.52	17.59	582.0	152.0	113.9	58.14	.4501
#1	.0003	.0003	.0002	.0003	.0004	-.0005	.0002	.0083	.0014
#2	.0001	.0003	.0004	.0004	-.0006	.0140	.0016	.0199	.0013

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	.0324	.0010	.0000	.0002	-.0005	F 48.34	-.0003	.0006
Stddev	.0002	.0055	.0000	.000	.0001	.0010	.06	.0004	.0003
%RSD	19.64	16.89	3.316	64.94	39.17	211.0	.1142	143.5	54.67
#1	.0009	.0363	.0009	-.0001	.0003	.0002	48.38	-.0005	.0004
#2	.0007	.0286	.0010	.0000	.0001	-.0012	48.30	.0000	.0008

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0065	.0004	.0003	.0003	.0006	.0003	.0040	.0293	.0012
Stddev	.0007	.0000	.0001	.0000	.0002	.0000	.0005	.0001	.0001
%RSD	11.37	5.240	16.22	2.243	37.24	11.93	11.69	.2771	4.949
#1	.0060	.0004	.0004	.0003	.0005	.0003	.0044	.0292	.0012
#2	.0071	.0004	.0003	.0003	.0008	.0003	.0037	.0293	.0012

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Zoom In
Zoom Out

Sample Name: 10PPMSCONF Acquired: 10/23/2015 12:38:22 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7337.5	11725.	232420.	10979.
Stddev	4.6	11.	1103.	28.
%RSD	.06204	.09478	.47457	.25286
#1	7340.8	11732.	231640.	10960.
#2	7334.3	11717.	233200.	10999.

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Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/23/2015 12:44:14 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2488	9.969	1.960	1.980	1.951	1.967	1.986	1.983	10.07
Stddev	.0012	.072	.006	.006	.002	.007	.012	.003	.07
%RSD	.5003	.7258	.3181	.3265	.0956	.3698	.5781	.1311	.6664
#1	.2479	10.02	1.956	1.976	1.949	1.972	1.994	1.981	10.12
#2	.2497	9.918	1.965	1.985	1.952	1.961	1.978	1.985	10.02
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.970	1.969	1.970	1.989	9.947	9.786	1.960	9.941	2.046
Stddev	.002	.001	.005	.004	.029	.020	.009	.063	.003
%RSD	.1224	.0580	.2463	.2085	.2922	.2048	.4467	.6326	.1379
#1	1.968	1.970	1.966	1.986	9.967	9.800	1.966	9.985	2.044
#2	1.971	1.968	1.973	1.991	9.926	9.772	1.953	9.897	2.048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.979	10.04	1.971	1.959	2.014	1.986	1.978	1.960	1.961
Stddev	.017	.09	.002	.001	.004	.009	.000	.000	.003
%RSD	.8612	.8744	.0820	.0552	.2208	.4696	.0192	.0059	.1571
#1	1.967	10.10	1.972	1.960	2.011	1.980	1.978	1.960	1.963
#2	1.991	9.975	1.970	1.958	2.017	1.993	1.977	1.960	1.959
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/23/2015 12:44:14 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.928	1.977	1.987	1.962	1.994	1.961	1.979	1.980	F 1.785
Stddev	.004	.000	.012	.004	.002	.007	.012	.001	.047
%RSD	.1797	.0080	.6195	.2054	.0864	.3520	.6231	.0652	2.606
#1	1.930	1.977	1.996	1.959	1.996	1.956	1.970	1.979	1.752
#2	1.925	1.977	1.979	1.965	1.993	1.966	1.988	1.981	1.818
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value									2.000
Range									-10.00%

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6890.8	11431.	226190.	10744.
Stddev	5.7	15.	832.	47.
%RSD	.08216	.13353	.36784	.43699
#1	6894.9	11442.	226780.	10711.
#2	6886.8	11420.	225600.	10777.

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Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/23/2015 12:49:58 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0033	.0009	.0009	.0017	-.0002	.0001	-.0010	.0020
Stddev	.0001	.0027	.0003	.0001	.0000	.0002	.0001	.0005	.0009
%RSD	46.09	83.40	28.94	7.052	2.095	104.8	70.06	54.11	44.24
#1	.0004	-.0052	.0007	.0010	.0017	-.0003	.0000	-.0013	.0026
#2	.0002	-.0013	.0011	.0009	.0016	.0000	.0001	-.0006	.0014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0003	.0001	-.0001	.0025	.0115	.0014	.0227	.0003
Stddev	.0001	.0001	.0002	.0002	.0023	.0167	.0007	.0055	.0000
%RSD	41.01	24.70	192.4	216.9	94.84	144.9	48.76	24.34	12.82
#1	.0002	.0003	.0002	-.0002	.0008	-.0003	.0019	.0188	.0003
#2	.0003	.0004	.0000	.0000	.0041	.0233	.0009	.0267	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0149	.0204	.0002	.0001	.0007	.0023	.0023	.0000	.0018
Stddev	.0024	.0098	.0002	.0003	.0009	.0004	.0004	.000	.0007
%RSD	16.37	47.83	80.19	539.8	129.8	19.21	15.98	296.9	37.96
#1	.0167	.0273	.0001	-.0002	.0001	.0020	.0026	-.0001	.0013
#2	.0132	.0135	.0003	.0003	.0013	.0026	.0021	.0000	.0023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/23/2015 12:49:58 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019	.0007	.0001	.0009	.0008	.0000	.0172	.0003	.0021
Stddev	.0010	.0000	.0001	.0000	.0002	.0002	.0020	.0001	.0000
%RSD	50.46	5.293	69.02	3.591	31.39	554.4	11.76	48.12	.6141
#1	.0012	.0007	.0001	.0009	.0010	.0001	.0186	.0002	.0021
#2	.0026	.0008	.0002	.0009	.0006	-.0001	.0158	.0003	.0021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7268.8	11654.	231900.	10824.
Stddev	3.0	7.	1977.	101.
%RSD	.04170	.05904	.85232	.93725
#1	7266.7	11649.	233300.	10752.
#2	7271.0	11659.	230510.	10896.

Zoom In
Zoom Out

Sample Name: MP25318-MB1 Acquired: 10/23/2015 12:56:10 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0021	-.0007	.0001	.0009	.0000	.0000	-.0002	.0183
Stddev	.0001	.0034	.0001	.0007	.0001	.0002	.000	.0003	.0049
%RSD	57.09	164.9	11.45	513.4	8.405	762.3	4.535	133.1	26.86
#1	.0001	.0003	-.0006	-.0004	.0010	-.0001	.0000	-.0004	.0217
#2	.0003	-.0045	-.0007	.0006	.0009	.0001	.0000	.0000	.0148

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0001	.0002	.0001	.0005	.0175	.0006	.0376	.0001
Stddev	.0001	.0001	.0000	.0000	.0022	.0041	.0004	.0068	.0000
%RSD	703.3	77.56	20.60	7.444	402.5	23.55	74.69	18.23	1.408
#1	.0000	.0001	.0002	.0001	-.0010	.0205	.0009	.0327	.0001
#2	.0000	.0000	.0001	.0001	.0021	.0146	.0003	.0424	.0001

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042	.0145	-.0004	-.0001	-.0008	.0005	.0032	-.0004	.0011
Stddev	.0003	.0052	.0000	.0004	.0010	.0002	.0000	.0003	.0016
%RSD	8.096	36.19	8.068	346.4	123.5	36.57	.3585	70.98	147.2
#1	.0044	.0182	-.0004	-.0004	-.0015	.0006	.0032	-.0005	.0022
#2	.0040	.0108	-.0003	.0002	-.0001	.0004	.0032	-.0002	.0000

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0169	.0002	.0001	.0005	.0000	.0002	.0098	.0005	.0008
Stddev	.0002	.0000	.0000	.0000	.0001	.0001	.0001	.0000	.0000
%RSD	.9604	16.98	4.833	4.052	300.9	41.81	.6840	8.069	3.915
#1	.0170	.0002	.0001	.0004	.0000	.0002	.0099	.0005	.0008
#2	.0168	.0002	.0001	.0005	.0001	.0001	.0098	.0005	.0008

Zoom In
Zoom Out

Sample Name: MP25318-MB1 Acquired: 10/23/2015 12:56:10 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7271.2	11640.	231480.	10863.
Stddev	3.1	4.	800.	63.
%RSD	.04221	.03280	.34565	.58240
#1	7273.4	11642.	232050.	10908.
#2	7269.1	11637.	230920.	10818.

Zoom In
Zoom Out

Sample Name: MP25318-B1 Acquired: 10/23/2015 13:02:04 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1794**	**10.06**	**.5066**	**-.0003**	**1.009**	**1.997**	**.5069**	**.0010**	**25.15**
Stddev	.0005	.05	.0010	.0005	.001	.002	.0006	.0004	.03
%RSD	.2574	.5366	.1885	152.5	.0554	.0869	.1246	36.30	.1082
#1	.1791	10.02	.5073	-.0006	1.009	1.996	.5065	.0013	25.17
#2	.1798	10.10	.5060	.0000	1.010	1.999	.5074	.0008	25.13

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5059**	**.5058**	**.4944**	**.4878**	**10.07**	**25.12**	**.0009**	**24.80**	**.5177**
Stddev	.0005	.0002	.0009	.0020	.05	.03	.0013	.01	.0014
%RSD	.1006	.0442	.1895	.4147	.4655	.1370	139.9	.0309	.2758
#1	.5063	.5056	.4938	.4863	10.04	25.10	.0018	24.80	.5167
#2	.5056	.5059	.4951	.4892	10.10	25.14	.0000	24.81	.5188

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5166**	**25.28**	**.5014**	**.9965**	**-.0049**	**.0027**	**-.0035**	**.5108**	**.5071**
Stddev	.0020	.04	.0006	.0024	.0005	.0012	.0015	.0010	.0031
%RSD	.3942	.1712	.1131	.2372	10.69	45.51	41.83	.2041	.6127
#1	.5152	25.31	.5018	.9981	-.0053	.0018	-.0045	.5115	.5093
#2	.5181	25.25	.5010	.9948	-.0045	.0035	-.0025	.5101	.5049

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0093**	**1.005**	**.5027**	**.4963**	**.5142**	**.5017**	**.0103**	**.4992**	**.0568**
Stddev	.0004	.000	.0002	.0013	.0010	.0000	.0005	.0001	.0039
%RSD	3.829	.0412	.0360	.2536	.1959	.0031	4.424	.0245	6.806
#1	.0096	1.006	.5029	.4954	.5149	.5017	.0106	.4991	.0595
#2	.0091	1.005	.5026	.4972	.5135	.5017	.0100	.4993	.0541

Zoom In
Zoom Out

Sample Name: MP25318-B1 Acquired: 10/23/2015 13:02:04 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6693.2**	**11282.**	**224780.**	**10841.**
Stddev	2.8	3.	361.	11.
%RSD	.04245	.02595	.16074	.10465
#1	6695.3	11285.	225040.	10849.
#2	6691.2	11280.	224530.	10833.

11.1

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Zoom In
Zoom Out

Sample Name: MP25318-S1 Acquired: 10/23/2015 13:07:48 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1863**	**9.959**	**.5298**	**-.0001**	**1.004**	**2.074**	**.5023**	**.0010**	**51.94**
Stddev	.0006	.013	.0002	.0000	.002	.002	.0008	.0007	.02
%RSD	.3305	.1289	.0368	12.25	.1784	.1104	.1671	68.21	.0461
#1	.1867	9.968	.5296	-.0001	1.002	2.073	.5017	.0005	51.96
#2	.1858	9.950	.5299	-.0001	1.005	2.076	.5029	.0015	51.92

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5173**	**.5240**	**.4886**	**.4732**	**9.967**	**31.83**	**.0155**	**31.19**	**1.240**
Stddev	.0011	.0010	.0016	.0017	.025	.11	.0032	.01	.001
%RSD	.2196	.1872	.3203	.3554	.2547	.3323	20.83	.0183	.0489
#1	.5181	.5247	.4897	.4743	9.949	31.75	.0132	31.20	1.240
#2	.5164	.5233	.4875	.4720	9.985	31.90	.0178	31.19	1.240

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5063**	F **753.5**	**.5185**	**1.001**	**-.0014**	**.0020**	**14.99**	**.5145**	**.5277**
Stddev	.0008	1.4	.0003	.000	.0002	.0038	.04	.0012	.0010
%RSD	.1670	.1850	.0524	.0159	12.09	196.5	.2579	.2279	.1939
#1	.5057	754.5	.5183	1.001	-.0015	.0047	14.96	.5153	.5284
#2	.5069	752.5	.5187	1.001	-.0013	-.0008	15.01	.5137	.5270

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**3.560**	**.9599**	**.6508**	**.4905**	**.4840**	**.4983**	**.0120**	**.5138**	**.0023**
Stddev	.005	.0008	.0009	.0002	.0009	.0004	.0001	.0021	.0006
%RSD	.1539	.0812	.1327	.0510	.1795	.0781	.8044	.4161	25.56
#1	3.556	.9605	.6502	.4907	.4834	.4980	.0121	.5153	.0027
#2	3.563	.9594	.6514	.4904	.4846	.4986	.0120	.5123	.0019

Zoom In
Zoom Out

Sample Name: MP25318-S1 Acquired: 10/23/2015 13:07:48 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5708.1**	**10403.**	**204180.**	**10543.**
Stddev	2.3	.	193.	38.
%RSD	.03997	.00166	.09438	.35716
#1	5706.5	10403.	204310.	10516.
#2	5709.7	10403.	204040.	10570.

Zoom In
Zoom Out

Sample Name: MP25318-S2 Acquired: 10/23/2015 13:13:32 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1858	9.983	.5326	-.0008	1.003	2.066	.5016	.0018	52.15
Stddev	.0005	.001	.0000	.0002	.001	.000	.0001	.0009	.03
%RSD	.2877	.0124	.0037	19.89	.0884	.0133	.0145	49.41	.0534
#1	.1854	9.984	.5326	-.0007	1.002	2.066	.5016	.0012	52.17
#2	.1862	9.983	.5327	-.0009	1.004	2.066	.5017	.0024	52.13

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5170	.5229	.4823	.4724	9.927	31.72	.0312	31.32	1.240
Stddev	.0003	.0005	.0023	.0006	.043	.03	.0032	.12	.003
%RSD	.0499	.0925	.4856	.1330	.4334	.0886	10.21	.3683	.2556
#1	.5172	.5233	.4840	.4720	9.957	31.74	.0289	31.24	1.242
#2	.5168	.5226	.4807	.4729	9.896	31.71	.0334	31.40	1.238

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5065	F 724.7	.5178	1.001	-.0001	.0020	15.11	.5142	.5265
Stddev	.0017	2.1	.0009	.001	.0003	.0032	.03	.0010	.0004
%RSD	.3391	.2835	.1718	.1187	455.2	158.4	.2228	.1878	.0751
#1	.5053	723.3	.5172	1.002	-.0003	-.0002	15.09	.5149	.5268
#2	.5077	726.2	.5184	1.000	.0002	.0043	15.14	.5135	.5262

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.589	.9598	.6511	.4855	.4832	.4947	.0116	.5139	-.0091
Stddev	.006	.0012	.0003	.0001	.0004	.0003	.0004	.0006	.0002
%RSD	.1607	.1206	.0496	.0281	.0829	.0692	3.429	.1239	2.488
#1	3.585	.9590	.6513	.4854	.4835	.4949	.0113	.5144	-.0089
#2	3.593	.9606	.6508	.4856	.4829	.4944	.0119	.5135	-.0092

Zoom In
Zoom Out

Sample Name: MP25318-S2 Acquired: 10/23/2015 13:13:32 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5702.5	10385.	204450.	10440.
Stddev	3.7	2.	1412.	5.
%RSD	.06471	.01818	.69059	.05077
#1	5699.9	10387.	203460.	10436.
#2	5705.1	10384.	205450.	10443.

11.1

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Zoom In
Zoom Out

Sample Name: MC42178-3F Acquired: 10/23/2015 13:19:16 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0138	-.0009	-.0005	.0230	.0979	.0001	.0017	27.44
Stddev	.0001	.0027	.0007	.0003	.0001	.0001	.0000	.0008	.06
%RSD	16.16	19.84	76.97	61.22	.3071	.1459	37.71	44.86	.2114
#1	.0005	.0158	-.0004	-.0003	.0229	.0980	.0001	.0022	27.40
#2	.0006	.0119	-.0013	-.0007	.0230	.0978	.0001	.0011	27.48

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0000	.0006	.0008	.0030	5.466	.0357	7.081	.7393
Stddev	.0000	.000	.0003	.0003	.0018	.007	.0001	.006	.0010
%RSD	2.966	55.73	42.49	33.62	59.27	.1252	.3132	.0785	.1405
#1	.0005	.0000	.0004	.0010	.0043	5.461	.0356	7.085	.7385
#2	.0006	.0000	.0008	.0006	.0018	5.471	.0358	7.077	.7400

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	F 681.1	-.0001	-.0001	.0013	-.0030	15.10	-.0004	.0000
Stddev	.0004	10.8	.0001	.0005	.0004	.0004	.03	.0007	.0007
%RSD	16.03	1.583	192.7	363.3	27.35	11.86	.1704	178.1	3219.
#1	.0029	688.8	-.0001	-.0005	.0016	-.0027	15.08	-.0009	-.0005
#2	.0023	673.5	.0000	.0002	.0011	-.0032	15.11	.0001	.0005

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.511	.0000	.1543	.0003	.0000	.0001	.0067	.0058	-.0177
Stddev	.005	.000	.0006	.0002	.001	.0002	.0001	.0000	.0000
%RSD	.1546	136.7	.4029	56.64	3091.	228.8	1.887	.1115	.2055
#1	3.507	.0000	.1538	.0002	.0004	.0002	.0068	.0058	-.0177
#2	3.515	-.0001	.1547	.0005	-.0004	.0000	.0066	.0058	-.0177

Zoom In
Zoom Out

Sample Name: MC42178-3F Acquired: 10/23/2015 13:19:16 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5798.8	10442.	204100.	10474.
Stddev	1.9	2.	637.	28.
%RSD	.03215	.01867	.31208	.26625
#1	5800.1	10444.	203650.	10455.
#2	5797.5	10441.	204550.	10494.

Zoom In
Zoom Out

Sample Name: MP25318-SD1 Acquired: 10/23/2015 13:25:08 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	-.0239	.0029	-.0015	.0286	.0992	-.0001	.0011	28.25
Stddev	.0023	.0280	.0002	.0036	.0008	.0010	.0000	.0034	.02
%RSD	2320.	117.2	6.388	238.1	2.717	.9762	7.332	311.2	.0686
#1	.0015	-.0041	.0031	.0010	.0281	.0985	-.0001	.0035	28.26
#2	-.0017	-.0436	.0028	-.0041	.0292	.0999	-.0001	-.0013	28.23

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0007	.0010	.0024	.0068	5.491	.0820	7.392	.7546
Stddev	.0000	.0003	.0004	.0002	.0070	.028	.0009	.026	.0002
%RSD	2.140	37.67	41.27	10.41	103.3	.5075	1.090	.3465	.0203
#1	.0007	.0009	.0007	.0025	.0117	5.511	.0814	7.374	.7545
#2	.0007	.0005	.0013	.0022	.0018	5.471	.0826	7.410	.7547

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0058	775.6	.0012	-.0006	.0022	-.0104	14.71	-.0030	.0026
Stddev	.0007	.0	.0002	.0017	.0035	.0075	.04	.0005	.0020
%RSD	11.38	.0039	17.17	269.2	163.1	72.01	.2835	18.10	76.79
#1	.0063	775.6	.0011	.0006	-.0003	-.0051	14.74	-.0026	.0012
#2	.0054	775.7	.0014	-.0018	.0047	-.0158	14.68	-.0034	.0040

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.563	.0013	.1573	.0006	.0039	.0005	.0192	.0186	-.0179
Stddev	.001	.0004	.0000	.0012	.0019	.0002	.0021	.0001	.0002
%RSD	.0316	28.63	.0115	193.6	49.54	33.81	11.02	.4876	.8610
#1	3.564	.0016	.1573	.0015	.0025	.0004	.0207	.0185	-.0180
#2	3.563	.0010	.1574	-.0002	.0053	.0006	.0177	.0186	-.0178

Zoom In
Zoom Out

Sample Name: MP25318-SD1 Acquired: 10/23/2015 13:25:08 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6492.0	11118.	218510.	10649.
Stddev	4.8	9.	202.	57.
%RSD	.07404	.07888	.09243	.53266
#1	6495.4	11111.	218370.	10689.
#2	6488.6	11124.	218650.	10609.

Zoom In
Zoom Out

Sample Name: MC42178-1F Acquired: 10/23/2015 13:31:01 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0041	.1033	-.0035	.0083	.3872	.0000	.0025	184.3
Stddev	.000	.0020	.0002	.0001	.0003	.0009	.000	.0005	.8
%RSD	665.3	48.08	.1654	3.801	3.312	.2417	65.75	18.37	.4426
#1	-.0002	-.0027	.1032	-.0034	.0085	.3865	.0000	.0028	184.8
#2	.0001	-.0055	.1034	-.0036	.0082	.3879	.0000	.0021	183.7

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0023	.0522	.0006	.0005	42.20	12.07	.0397	13.96	F 18.28
Stddev	.0001	.0000	.0002	.0000	.08	.02	.0016	.05	.14
%RSD	3.209	.0721	36.45	5.886	.1928	.1841	4.093	.3551	.7409
#1	.0023	.0522	.0008	.0005	42.26	12.05	.0386	14.00	18.38
#2	.0024	.0521	.0005	.0004	42.14	12.09	.0409	13.93	18.19

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	478.9	.0020	-.0001	.0002	-.0010	10.63	.0002	.0005
Stddev	.000	.1	.0001	.0006	.0005	.0001	.00	.0010	.0005
%RSD	3205.	.0167	2.947	754.8	188.7	10.70	.0437	595.5	112.8
#1	.0001	478.8	.0020	-.0005	-.0001	-.0011	10.63	.0009	.0001
#2	-.0002	478.9	.0020	.0004	.0006	-.0010	10.62	-.0005	.0008

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.105	.0001	3.810	.0003	.0017	-.0004	.0048	.0126	-.0493
Stddev	.007	.0002	.013	.0001	.0006	.0003	.0007	.0000	.0001
%RSD	.0824	141.7	.3528	49.43	32.89	71.02	14.60	.1645	.1967
#1	9.111	.0000	3.819	.0004	.0013	-.0002	.0053	.0126	-.0494
#2	9.100	.0002	3.800	.0002	.0021	-.0006	.0043	.0126	-.0492

Zoom In
Zoom Out

Sample Name: MC42178-1F Acquired: 10/23/2015 13:31:01 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5801.3	10295.	204450.	10490.
Stddev	6.4	17.	1372.	49.
%RSD	.11004	.16241	.67103	.46325
#1	5805.8	10307.	203480.	10456.
#2	5796.8	10283.	205420.	10525.

Zoom In
Zoom Out

Sample Name: MC42178-2F Acquired: 10/23/2015 13:36:58 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0015	.0006	.0004	.0037	.0048	.0000	.0004	4.401
Stddev	.0001	.0003	.0015	.0000	.0003	.0002	.0000	.0008	.006
%RSD	44.41	18.13	238.1	10.51	8.840	3.891	198.0	181.8	.1364
#1	.0002	.0013	.0016	.0004	.0040	.0047	.0000	-.0001	4.397
#2	.0001	.0017	-.0004	.0005	.0035	.0050	.0000	.0010	4.405

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0000	.0002	.0010	.0109	2.654	.0120	.4891	.0005
Stddev	.0000	.0000	.0002	.0002	.0020	.004	.0013	.0095	.0000
%RSD	48.47	103.0	89.93	19.38	18.65	.1540	10.45	1.938	9.005
#1	.0001	.0000	.0003	.0009	.0123	2.651	.0129	.4958	.0005
#2	.0001	.0000	.0001	.0011	.0094	2.657	.0111	.4824	.0004

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	2.601	.0002	.0001	.0021	-.0007	1.954	-.0002	.0005
Stddev	.0000	.010	.0001	.0002	.0006	.0008	.005	.0002	.0001
%RSD	1.545	.3895	31.46	265.7	26.68	122.5	.2436	82.47	15.57
#1	.0007	2.608	.0003	-.0001	.0017	-.0013	1.950	-.0001	.0004
#2	.0008	2.594	.0002	.0003	.0025	-.0001	1.957	-.0003	.0005

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.874	-.0001	.0602	.0002	.0000	.0002	.0051	.0099	-.0302
Stddev	.005	.0000	.0003	.0002	.0002	.0001	.0004	.0000	.0001
%RSD	.0827	49.20	.5137	77.87	1110.	54.77	8.247	.3967	.3862
#1	5.870	-.0001	.0600	.0004	-.0001	.0001	.0054	.0100	-.0303
#2	5.877	-.0001	.0604	.0001	.0002	.0003	.0048	.0099	-.0301

Zoom In
Zoom Out

Sample Name: MC42178-2F Acquired: 10/23/2015 13:36:58 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7232.7	11613.	231430.	10920.
Stddev	7.4	12.	470.	21.
%RSD	.10238	.10487	.20326	.19553
#1	7227.5	11604.	231770.	10905.
#2	7238.0	11622.	231100.	10935.

Zoom In
Zoom Out

Sample Name: MC42178-4F Acquired: 10/23/2015 13:42:50 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0005	-.0075	.0006	-.0026	.0179	.1114	.0000	.0007	20.14
Stddev	.0000	.0037	.0007	.0006	.0001	.0003	.000	.0011	.00
%RSD	2.245	49.96	127.1	20.94	.4446	.2355	175.1	165.1	.0164
#1	-.0005	-.0048	.0001	-.0022	.0180	.1116	.0000	.0015	20.14
#2	-.0005	-.0101	.0011	-.0030	.0179	.1112	.0000	-.0001	20.14

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0001	.0003	.0009	.0032	3.964	.0157	1.888	5.373
Stddev	.0001	.0000	.0001	.0002	.0011	.030	.0022	.033	.048
%RSD	11.70	38.22	24.46	19.74	34.73	.7535	13.88	1.741	.8957
#1	.0008	.0001	.0004	.0008	.0024	3.943	.0142	1.865	5.339
#2	.0007	.0001	.0003	.0011	.0040	3.985	.0173	1.911	5.408

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	250.6	.0000	-.0004	.0000	-.0010	6.404	-.0007	.0001
Stddev	.0000	1.7	.000	.0004	.0002	.0025	.015	.0002	.0001
%RSD	30.35	.6639	444.8	99.80	561.3	240.9	.2262	28.60	149.7
#1	.0001	251.7	.0000	-.0001	.0002	.0007	6.394	-.0009	.0000
#2	.0002	249.4	.0000	-.0007	-.0001	-.0028	6.415	-.0006	.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.279	.0000	.1081	.0002	-.0001	-.0001	.0053	.0065	-.0116
Stddev	.002	.0000	.0001	.0001	.0003	.0000	.0003	.0000	.0000
%RSD	.1007	17.15	.1289	62.44	236.5	13.42	5.491	.0666	.2393
#1	2.278	.0000	.1080	.0003	.0001	-.0001	.0055	.0065	-.0116
#2	2.281	.0001	.1082	.0001	-.0003	-.0001	.0051	.0065	-.0117

Zoom In
Zoom Out

Sample Name: MC42178-4F Acquired: 10/23/2015 13:42:50 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6278.4	10899.	212910.	10696.
Stddev	1.7	13.	432.	27.
%RSD	.02714	.11669	.20274	.25689
#1	6279.6	10908.	213210.	10676.
#2	6277.2	10890.	212600.	10715.

11.1
11

Zoom In
Zoom Out

Sample Name: MC42178-5F Acquired: 10/23/2015 13:48:54 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0047	.0004	-.0023	.0168	.1115	.0000	.0009	8.517
Stddev	.0002	.0006	.0009	.0012	.0002	.0001	.000	.0004	.004
%RSD	107.7	13.54	220.6	50.96	1.210	.1273	187.7	41.35	.0511
#1	.0000	-.0042	.0011	-.0031	.0167	.1114	-.0001	.0007	8.520
#2	.0003	-.0051	-.0002	-.0015	.0169	.1116	.0000	.0012	8.514

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0000	.0003	.0013	-.0033	2.602	.0136	1.737	3.809
Stddev	.0001	.0000	.0003	.0000	.0029	.001	.0005	.040	.013
%RSD	47.77	155.5	79.05	.7976	88.22	.0415	3.627	2.293	.3299
#1	.0001	.0001	.0001	.0013	-.0012	2.603	.0132	1.765	3.800
#2	.0003	.0000	.0005	.0013	-.0053	2.601	.0139	1.709	3.817

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	248.8	-.0001	-.0002	.0003	.0005	4.874	-.0001	-.0003
Stddev	.0001	1.6	.0000	.0000	.0004	.0019	.004	.0004	.0008
%RSD	409.6	.6618	41.29	28.65	108.1	398.2	.0892	346.2	231.7
#1	-.0001	249.9	.0000	-.0002	.0001	-.0009	4.871	-.0004	.0002
#2	.0001	247.6	-.0001	-.0001	.0006	.0018	4.877	.0002	-.0009

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.686	-.0001	.0783	.0001	-.0004	.0002	.0051	.0085	-.0087
Stddev	.004	.0000	.0001	.0001	.0003	.0001	.0002	.0000	.0001
%RSD	.2280	11.38	.1624	74.00	69.37	88.75	3.623	.0843	1.188
#1	1.683	-.0001	.0784	.0002	-.0002	.0001	.0049	.0085	-.0087
#2	1.689	-.0001	.0783	.0001	-.0006	.0003	.0052	.0084	-.0086

Zoom In
Zoom Out

Sample Name: MC42178-5F Acquired: 10/23/2015 13:48:54 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6315.9	10940.	213060.	10579.
Stddev	6.6	10.	471.	3.
%RSD	.10510	.08807	.22128	.03283
#1	6311.2	10933.	213390.	10577.
#2	6320.6	10946.	212730.	10582.

11.1

11

Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/23/2015 13:54:58 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2487	9.974	1.964	1.984	1.953	1.968	1.976	1.992	9.989
Stddev	.0014	.009	.002	.002	.000	.001	.003	.002	.006
%RSD	.5660	.0916	.1047	.0958	.0191	.0481	.1726	.0808	.0576
#1	.2477	9.980	1.965	1.985	1.953	1.968	1.974	1.994	9.984
#2	.2497	9.968	1.962	1.983	1.954	1.967	1.979	1.991	9.993
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.982	1.977	1.981	1.981	9.880	9.772	1.968	9.908	2.044
Stddev	.001	.000	.001	.007	.029	.023	.001	.014	.007
%RSD	.0434	.0079	.0414	.3807	.2972	.2332	.0330	.1383	.3465
#1	1.982	1.977	1.981	1.975	9.901	9.788	1.969	9.918	2.039
#2	1.983	1.977	1.982	1.986	9.859	9.755	1.968	9.899	2.049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.985	9.764	1.971	1.962	1.997	1.982	1.973	1.965	1.961
Stddev	.015	.018	.002	.001	.010	.012	.005	.002	.001
%RSD	.7643	.1835	.0763	.0503	.5074	.5845	.2343	.0774	.0399
#1	1.975	9.751	1.972	1.963	1.990	1.974	1.976	1.966	1.962
#2	1.996	9.776	1.970	1.962	2.004	1.990	1.970	1.964	1.961
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/23/2015 13:54:58 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.923	1.981	1.976	1.970	2.000	1.964	1.984	1.989	1.907
Stddev	.003	.001	.002	.003	.000	.003	.008	.002	.019
%RSD	.1323	.0302	.0872	.1623	.0036	.1685	.3988	.0756	1.005
#1	1.924	1.981	1.975	1.968	2.000	1.962	1.978	1.990	1.893
#2	1.921	1.980	1.977	1.972	2.000	1.967	1.989	1.988	1.920
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6895.2	11452.	227570.	10844.
Stddev	5.9	.	1328.	9.
%RSD	.08555	.00296	.58338	.08388
#1	6899.3	11452.	228510.	10838.
#2	6891.0	11452.	226630.	10850.

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/23/2015 14:00:42 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0048	.0013	.0004	.0020	.0000	.0000	.0002	-.0005
Stddev	.0000	.0026	.0010	.0000	.0001	.0001	.0000	.0010	.0032
%RSD	8.941	53.90	75.39	.3216	3.473	562.7	29.26	556.9	657.1
#1	.0004	-.0030	.0021	.0004	.0019	.0001	.0000	-.0006	-.0028
#2	.0005	-.0066	.0006	.0004	.0020	.0000	.0001	.0009	.0018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0004	-.0002	.0001	.0013	.0330	.0044	.0204	.0001
Stddev	.0001	.0001	.0001	.0001	.0024	.0009	.0001	.0056	.0000
%RSD	26.95	30.18	69.05	41.89	188.5	2.661	3.225	27.27	25.14
#1	.0002	.0003	-.0002	.0002	.0030	.0324	.0045	.0164	.0001
#2	.0004	.0005	-.0001	.0001	-.0004	.0336	.0043	.0243	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0126	.1167	.0003	.0001	.0000	-.0008	.0000	-.0001	.0018
Stddev	.0026	.0016	.0001	.0001	.001	.0015	.000	.0004	.0002
%RSD	20.84	1.344	46.27	195.5	3176.	183.3	1412.	613.2	12.72
#1	.0144	.1156	.0002	.0000	.0005	-.0019	-.0004	-.0003	.0017
#2	.0107	.1178	.0004	.0002	-.0005	.0002	.0003	.0002	.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/23/2015 14:00:42 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	.0009	.0000	.0009	.0009	.0001	.0143	.0003	.0022
Stddev	.0002	.0001	.0001	.0001	.0001	.0001	.0019	.0001	.0000
%RSD	13.29	16.55	150.9	13.88	7.659	57.78	13.17	33.78	1.650
#1	.0015	.0010	.0001	.0010	.0008	.0002	.0156	.0002	.0021
#2	.0018	.0008	.0000	.0008	.0009	.0001	.0129	.0004	.0022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7292.8	11687.	232150.	10902.
Stddev	5.4	3.	410.	41.
%RSD	.07409	.02561	.17641	.37929
#1	7296.7	11689.	231860.	10931.
#2	7289.0	11685.	232440.	10873.

Zoom In Zoom Out

Sample Name: MC42178-6F Acquired: 10/23/2015 14:06:36 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0097	.3824	-.0017	.0013	.1520	.0000	.0032	190.3
Stddev	.000	.0073	.0003	.0001	.0003	.0003	.000	.0010	.1
%RSD	303.8	75.43	.0873	3.077	21.26	.2085	110.8	30.99	.0339
#1	-.0001	-.0149	.3821	-.0017	.0011	.1518	.0000	.0025	190.3
#2	.0000	-.0045	.3826	-.0017	.0015	.1523	.0000	.0039	190.2

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0043	.0567	.0008	.0009	92.51	20.40	.0510	11.52	F 20.60
Stddev	.0001	.0001	.0002	.0001	.05	.01	.0007	.01	.04
%RSD	1.751	.2555	20.16	10.24	.0500	.0727	1.452	.0657	.1785
#1	.0043	.0568	.0007	.0008	92.54	20.39	.0515	11.51	20.57
#2	.0044	.0566	.0009	.0010	92.48	20.41	.0505	11.53	20.62

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0176	334.0	.0187	-.0002	.0004	-.0007	.6438	.0010	.0003
Stddev	.0006	2.1	.0002	.0009	.0008	.0017	.0010	.0002	.0004
%RSD	3.562	.6261	.8243	527.5	177.1	250.9	.1603	18.59	111.4
#1	.0181	332.5	.0185	-.0008	-.0001	-.0019	.6431	.0011	.0001
#2	.0172	335.5	.0188	.0004	.0010	.0005	.6446	.0008	.0006

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.688	.0001	1.704	.0006	.0023	.0003	.0135	.0090	-.0467
Stddev	.009	.0000	.000	.0002	.0006	.0001	.0000	.0001	.0000
%RSD	.0989	9.944	.0252	38.06	27.26	43.89	.1152	.8766	.0510
#1	8.682	.0001	1.704	.0004	.0028	.0002	.0135	.0090	-.0467
#2	8.694	.0002	1.705	.0008	.0019	.0004	.0135	.0091	-.0467

Zoom In Zoom Out

Sample Name: MC42178-6F Acquired: 10/23/2015 14:06:36 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5953.8	10451.	209350.	10509.
Stddev	8.8	13.	389.	20.
%RSD	.14828	.12773	.18595	.19227
#1	5960.1	10461.	209630.	10523.
#2	5947.6	10442.	209080.	10495.

Zoom In
Zoom Out

Sample Name: MC42178-7F Acquired: 10/23/2015 14:12:31 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0005	-.0150	.2315	-.0034	.0075	.0982	-.0001	.0018	96.35
Stddev	.0002	.0004	.0013	.0013	.0001	.0002	.0000	.0003	.11
%RSD	46.94	2.852	.5649	36.77	.7610	.2348	58.73	17.06	.1179
#1	-.0003	-.0147	.2305	-.0025	.0075	.0983	.0000	.0020	96.27
#2	-.0006	-.0153	.2324	-.0043	.0074	.0980	-.0001	.0016	96.43

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0027	.0539	.0002	.0003	72.45	36.30	.0719	9.473	10.47
Stddev	.0000	.0001	.0001	.0001	.05	.05	.0005	.033	.04
%RSD	.5733	.1312	39.41	35.63	.0640	.1486	.7380	.3530	.3752
#1	.0027	.0538	.0002	.0002	72.42	36.26	.0723	9.497	10.45
#2	.0027	.0539	.0003	.0004	72.48	36.34	.0715	9.449	10.50

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021	101.9	.0037	-.0005	.0016	.0011	1.706	-.0003	-.0002
Stddev	.0001	.3	.0000	.0001	.0010	.0004	.003	.0003	.0004
%RSD	4.875	.2513	.5082	15.41	60.24	40.20	.1531	96.48	185.1
#1	.0022	101.7	.0037	-.0005	.0022	.0014	1.704	-.0006	-.0004
#2	.0021	102.1	.0038	-.0004	.0009	.0008	1.708	-.0001	.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.639	.0003	1.555	.0003	-.0004	.0002	.0196	.0181	-.0421
Stddev	.014	.0001	.003	.0001	.0012	.0001	.0003	.0001	.0000
%RSD	.1807	27.42	.1937	36.69	270.8	66.82	1.554	.4901	.0339
#1	7.629	.0003	1.553	.0002	.0004	.0001	.0198	.0182	-.0422
#2	7.649	.0004	1.557	.0004	-.0012	.0002	.0194	.0181	-.0421

Zoom In
Zoom Out

Sample Name: MC42178-7F Acquired: 10/23/2015 14:12:31 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6359.4	10867.	213090.	10660.
Stddev	6.1	12.	1518.	36.
%RSD	.09567	.10922	.71240	.33865
#1	6355.1	10859.	214160.	10634.
#2	6363.7	10875.	212010.	10685.

Zoom In
Zoom Out

Sample Name: MC42178-8F Acquired: 10/23/2015 14:18:28 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	-.0119	.4405	.0007	.0023	.0844	.0000	.0004
Stddev	.0004	.0046	.0032	.0008	.0002	.0003	.000	.0013
%RSD	113.0	38.64	.7332	119.9	8.263	.3995	150.6	351.1
#1	.0007	-.0086	.4382	.0001	.0021	.0846	-.0001	-.0006
#2	.0001	-.0151	.4428	.0012	.0024	.0841	.0000	.0013

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	27.02	.0050	.0237	.0005	-.0002	96.82	35.79	.0069
Stddev	.06	.0000	.0000	.0001	.0002	.32	.03	.0008
%RSD	.2073	.7141	.0475	16.84	67.31	.3257	.0704	11.79
#1	26.98	.0050	.0238	.0006	-.0001	97.05	35.77	.0063
#2	27.06	.0049	.0237	.0004	-.0004	96.60	35.81	.0075

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.470	1.663	.0019	37.40	.0007	-.0003	.0047	.0018
Stddev	.019	.001	.0002	.20	.0002	.0000	.0016	.0006
%RSD	.2514	.0585	7.914	.5214	30.09	11.97	33.75	36.20
#1	7.457	1.664	.0020	37.26	.0005	-.0003	.0036	.0022
#2	7.483	1.663	.0018	37.54	.0008	-.0004	.0059	.0013

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.6376	-.0008	.0003	12.14	.0005	.4659	.0026	-.0002
Stddev	.0018	.0006	.0004	.00	.0001	.0016	.0003	.0000
%RSD	.2857	73.12	140.5	.0275	19.89	.3444	12.32	3.317
#1	.6363	-.0012	.0005	12.15	.0006	.4647	.0028	-.0002
#2	.6388	-.0004	.0000	12.14	.0004	.4670	.0024	-.0002

Zoom In
Zoom Out

Sample Name: MC42178-8F Acquired: 10/23/2015 14:18:28 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0016	.0075	.0084	F -.0644
Stddev	.0002	.0002	.0000	.0000
%RSD	10.33	3.200	.3947	.0581
#1	.0014	.0076	.0084	-.0645
#2	.0017	.0073	.0084	-.0644

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6703.7	11181.	221060.	10846.
Stddev	5.2	3.	737.	4.
%RSD	.07789	.02892	.33324	.03491
#1	6707.4	11183.	220540.	10849.
#2	6700.0	11179.	221580.	10844.

Zoom In
Zoom Out

Sample Name: MC42178-10F Acquired: 10/23/2015 14:24:19 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0012	.2167	-.0038	.0067	.0966	.0000	.0018	96.16
Stddev	.0001	.0011	.0004	.0010	.0002	.0001	.0001	.0008	.10
%RSD	114.5	93.90	.2054	25.07	3.694	.0905	1053.	46.05	.1074
#1	.0002	-.0004	.2170	-.0032	.0065	.0966	.0000	.0012	96.08
#2	.0000	-.0020	.2164	-.0045	.0069	.0965	.0000	.0024	96.23

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024	.0529	.0003	.0003	71.13	35.68	.0631	9.412	10.39
Stddev	.0001	.0000	.0000	.0001	.09	.04	.0001	.001	.00
%RSD	2.270	.0537	1.332	19.57	.1219	.0987	.2230	.0105	.0312
#1	.0025	.0529	.0003	.0003	71.07	35.71	.0630	9.413	10.39
#2	.0024	.0530	.0003	.0003	71.19	35.66	.0632	9.411	10.39

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	103.4	.0035	.0001	.0015	.0011	1.662	-.0009	-.0005
Stddev	.0001	.2	.0000	.0005	.0004	.0010	.001	.0008	.0003
%RSD	6.677	.1855	.3224	414.6	26.44	89.19	.0537	93.00	68.35
#1	.0010	103.6	.0035	.0005	.0017	.0018	1.662	-.0014	-.0003
#2	.0011	103.3	.0035	-.0003	.0012	.0004	1.663	-.0003	-.0007

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.541	.0002	1.555	.0003	-.0004	.0003	.0054	.0126	-.0419
Stddev	.001	.0001	.001	.0004	.0005	.0003	.0003	.0000	.0001
%RSD	.0128	45.31	.0667	153.4	114.8	114.6	5.247	.1348	.2212
#1	7.540	.0001	1.554	.0000	-.0001	.0005	.0052	.0126	-.0418
#2	7.541	.0002	1.556	.0006	-.0008	.0001	.0056	.0126	-.0419

Zoom In
Zoom Out

Sample Name: MC42178-10F Acquired: 10/23/2015 14:24:19 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6391.7	10896.	215900.	10595.
Stddev	3.3	5.	441.	16.
%RSD	.05226	.04333	.20403	.14950
#1	6389.3	10900.	216210.	10606.
#2	6394.1	10893.	215590.	10584.

Zoom In
Zoom Out

Sample Name: MC42178-11F Acquired: 10/23/2015 14:30:15 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	-.0012	.5308	.0005	.0087	.2339	.0000	.0021
Stddev	.0004	.0079	.0001	.0000	.0001	.0003	.0000	.0012
%RSD	135.6	637.2	.0132	7.675	1.173	.1155	4.076	60.58
#1	.0000	-.0068	.5309	.0006	.0088	.2337	.0000	.0012
#2	-.0006	.0044	.5308	.0005	.0086	.2341	.0000	.0029

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	87.00	.0057	.0374	.0014	-.0001	245.0	43.23	.0114
Stddev	.17	.0001	.0000	.0000	.0000	.2	.02	.0012
%RSD	.1944	.9067	.0955	2.719	47.01	.0878	.0567	10.28
#1	86.88	.0056	.0374	.0013	-.0001	245.2	43.21	.0105
#2	87.12	.0057	.0374	.0014	.0000	244.9	43.24	.0122

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	22.31	F 17.91	-.0010	157.3	.0056	.0000	.0035	.0032
Stddev	.06	.07	.0001	.3	.0001	.000	.0010	.0008
%RSD	.2602	.4145	11.89	.1839	2.103	352.8	27.42	26.43
#1	22.27	17.96	-.0010	157.1	.0055	-.0002	.0042	.0038
#2	22.35	17.86	-.0011	157.5	.0057	.0001	.0029	.0026

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.344	-.0005	.0003	13.05	.0010	1.396	.0043	.0004
Stddev	.005	.0002	.0020	.00	.0001	.003	.0000	.0001
%RSD	.3481	40.91	694.4	.0341	7.659	.2448	1.124	17.38
#1	1.341	-.0007	.0017	13.05	.0010	1.394	.0043	.0003
#2	1.348	-.0004	-.0011	13.05	.0011	1.398	.0042	.0004

Zoom In
Zoom Out

Sample Name: MC42178-11F Acquired: 10/23/2015 14:30:15 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0038	.0105	.0038	F -.0772
Stddev	.0001	.0000	.0000	.0000
%RSD	3.320	.1218	1.080	.0241
#1	.0038	.0105	.0038	-.0772
#2	.0037	.0105	.0039	-.0772

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6377.8	10694.	215130.	10530.
Stddev	3.0	2.	224.	52.
%RSD	.04752	.01763	.10401	.49183
#1	6379.9	10695.	214970.	10567.
#2	6375.6	10693.	215290.	10493.

Zoom In
Zoom Out

Sample Name: MC42178-12F Acquired: 10/23/2015 14:36:03 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0008**	**-.0171**	**.5767**	**.0006**	**-.0001**	**.4268**	**.0000**	**.0033**
Stddev	.0014	.0058	.0013	.0002	.0001	.0006	.000	.0007
%RSD	168.8	33.95	.2242	36.38	112.2	.1386	70.95	21.41
#1	-.0018	-.0130	.5758	.0007	.0000	.4264	.0000	.0038
#2	.0002	-.0212	.5776	.0004	-.0001	.4272	.0000	.0028

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**53.84**	**.0063**	**.0511**	**-.0008**	**.0007**	**226.6**	**49.34**	**.0102**
Stddev	.18	.0001	.0001	.0001	.0002	.2	.02	.0003
%RSD	.3424	1.150	.1859	18.23	24.35	.0677	.0472	2.941
#1	53.97	.0064	.0512	-.0009	.0006	226.5	49.36	.0104
#2	53.71	.0063	.0511	-.0007	.0009	226.7	49.33	.0100

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.410**	**5.138**	**.0067**	**120.0**	**-.0062**	**.0000**	**.0055**	**.0065**
Stddev	.006	.091	.0001	1.0	.0001	.0001	.0005	.0009
%RSD	.1021	1.778	1.388	.8477	1.843	3314.	9.235	13.27
#1	6.406	5.202	.0066	120.7	-.0063	.0001	.0052	.0059
#2	6.415	5.073	.0068	119.3	-.0061	-.0001	.0059	.0071

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.6838**	**-.0013**	**-.0011**	**11.30**	**.0007**	**1.190**	**.0007**	**-.0011**
Stddev	.0030	.0006	.0006	.02	.0000	.005	.0001	.0000
%RSD	.4403	48.32	57.48	.1716	5.124	.3921	8.958	2.208
#1	.6817	-.0018	-.0007	11.28	.0007	1.193	.0007	-.0011
#2	.6860	-.0009	-.0016	11.31	.0008	1.186	.0006	-.0012

Zoom In
Zoom Out

Sample Name: MC42178-12F Acquired: 10/23/2015 14:36:03 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	**.0019**	**.0129**	**.0060**	F **-.0696**
Stddev	.0000	.0004	.0001	.0001
%RSD	.0644	2.942	1.428	.2100
#1	.0019	.0127	.0061	-.0697
#2	.0019	.0132	.0060	-.0695

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6485.9**	**10837.**	**214610.**	**10623.**
Stddev	4.4	4.	3878.	25.
%RSD	.06855	.03963	1.8073	.23133
#1	6482.7	10840.	211860.	10605.
#2	6489.0	10834.	217350.	10640.

Zoom In
Zoom Out

Sample Name: MC42160-9F Acquired: 10/23/2015 14:41:55 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0013**	**.1681**	**-.0008**	**.0080**	**.1126**	**.0001**	**.0007**
Stddev	.0003	.0093	.0003	.0016	.0001	.0001	.0001	.0002
%RSD	245.3	743.9	.1995	207.9	1.445	.0821	113.7	28.95
#1	-.0001	.0079	.1679	.0004	.0081	.1125	.0000	.0009
#2	.0003	-.0053	.1683	-.0019	.0079	.1127	.0001	.0006

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**29.27**	**.0018**	**.0025**	**.0000**	**.0002**	**111.8**	**26.37**	**.0065**
Stddev	.05	.0001	.0000	.0002	.0003	.0	.08	.0002
%RSD	.1658	6.255	.5371	675.4	129.5	.0212	.3148	3.453
#1	29.23	.0019	.0025	-.0001	.0004	111.8	26.31	.0066
#2	29.30	.0017	.0026	.0002	.0000	111.8	26.43	.0063

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.121**	**3.536**	**-.0004**	**23.59**	**-.0042**	**-.0002**	**.0038**	**.0009**
Stddev	.010	.052	.0001	.13	.0002	.0002	.0004	.0002
%RSD	.4650	1.460	30.03	.5634	4.185	74.07	10.59	17.31
#1	2.114	3.499	-.0005	23.50	-.0043	-.0004	.0035	.0010
#2	2.128	3.572	-.0003	23.69	-.0040	-.0001	.0041	.0008

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5186**	**-.0010**	**.0005**	**9.842**	**.0002**	**.1297**	**.0010**	**-.0004**
Stddev	.0029	.0002	.0003	.005	.0002	.0000	.0001	.0005
%RSD	.5521	21.53	57.95	.0489	93.25	.0272	10.44	143.1
#1	.5166	-.0011	.0003	9.845	.0001	.1297	.0011	.0000
#2	.5207	-.0008	.0007	9.838	.0003	.1297	.0009	-.0007

Zoom In
Zoom Out

Sample Name: MC42160-9F Acquired: 10/23/2015 14:41:55 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	**.0010**	**.0074**	**.0113**	F **-.0562**
Stddev	.0002	.0004	.0001	.0001
%RSD	23.67	4.852	.7089	.1264
#1	.0012	.0072	.0113	-.0561
#2	.0009	.0077	.0114	-.0562

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6824.5**	**11267.**	**223650.**	**10763.**
Stddev	5.1	3.	791.	37.
%RSD	.07424	.02566	.35361	.34184
#1	6828.1	11269.	224210.	10789.
#2	6820.9	11265.	223090.	10737.

Sample Name: MC42160-12F Acquired: 10/23/2015 14:47:52 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0079**	**.0467**	**-.0045**	**.0161**	**.4067**	**.0000**	**.0014**	**43.07**
Stddev	.0000	.0036	.0007	.0012	.0001	.0000	.0000	.0010	.02
%RSD	269.1	45.33	1.444	27.42	.4476	.0032	122.7	72.37	.0402
#1	.0000	-.0054	.0472	-.0054	.0161	.4067	.0000	.0007	43.08
#2	.0000	-.0105	.0462	-.0037	.0160	.4067	.0001	.0021	43.06

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0001**	**.0002**	**.0004**	**40.21**	**10.52**	**.0100**	**3.512**	**6.738**
Stddev	.0000	.0001	.0000	.0001	.09	.01	.0003	.006	.024
%RSD	6.985	108.8	8.307	14.55	.2231	.0516	2.842	.1669	.3522
#1	.0004	.0001	.0002	.0003	40.27	10.53	.0098	3.508	6.721
#2	.0005	.0000	.0002	.0004	40.15	10.52	.0102	3.516	6.755

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**320.7**	**-.0012**	**-.0002**	**.0017**	**.0009**	**2.938**	**-.0006**	**-.0002**
Stddev	.0000	.6	.0001	.0002	.0002	.0019	.005	.0003	.0013
%RSD	3.975	.1746	7.876	120.8	14.35	210.3	.1813	58.86	710.3
#1	-.0005	320.3	-.0011	.0000	.0019	-.0004	2.941	-.0008	.0007
#2	-.0005	321.1	-.0013	-.0004	.0015	.0023	2.934	-.0003	-.0011

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.007**	**.0003**	**.6122**	**.0001**	**-.0004**	**.0003**	**.0089**	**.0079**	**-.0431**
Stddev	.007	.0000	.0005	.0002	.0000	.0001	.0000	.0001	.0000
%RSD	.0897	11.91	.0752	236.5	9.715	38.67	.4866	.7241	.0045
#1	8.002	.0004	.6119	.0002	-.0004	.0002	.0089	.0079	-.0431
#2	8.012	.0003	.6125	.0000	-.0004	.0004	.0090	.0080	-.0431

Sample Name: MC42160-12F Acquired: 10/23/2015 14:47:52 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6158.2**	**10764.**	**210050.**	**10605.**
Stddev	4.8	2.	815.	5.
%RSD	.07844	.01414	.38792	.04341
#1	6154.8	10765.	210620.	10602.
#2	6161.7	10762.	209470.	10608.

11.1

11

Sample Name: MC42160-13F Acquired: 10/23/2015 14:53:56 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**-.0085**	**.2228**	**.0004**	**.0083**	**.3459**	**.0000**	**.0003**
Stddev	.0003	.0006	.0011	.0005	.0002	.0001	.000	.0001
%RSD	98.87	6.819	.5023	125.0	2.099	.0279	101.2	37.70
#1	.0001	-.0089	.2220	.0007	.0082	.3460	.0000	.0002
#2	.0004	-.0081	.2236	.0000	.0084	.3458	-.0001	.0004

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**70.82**	**.0025**	**.0444**	**.0004**	**.0003**	**100.6**	**64.12**	**.0207**
Stddev	.00	.0002	.0001	.0001	.0003	.1	.10	.0001
%RSD	.0002	6.936	.2562	20.59	104.1	.0959	.1525	.3643
#1	70.82	.0026	.0443	.0004	.0001	100.7	64.18	.0208
#2	70.82	.0024	.0445	.0005	.0005	100.6	64.05	.0207

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**19.77**	**1.001**	**-.0003**	**84.71**	**.0182**	**-.0008**	**.0030**	**.0015**
Stddev	.04	.001	.0000	.19	.0001	.0005	.0005	.0021
%RSD	.2078	.0859	15.66	.2254	.7870	57.89	16.96	141.3
#1	19.80	1.002	-.0003	84.85	.0181	-.0011	.0034	.0030
#2	19.74	1.000	-.0003	84.58	.0183	-.0005	.0027	.0000

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.532**	**-.0008**	**-.0006**	**11.19**	**.0003**	**1.428**	**.0012**	**-.0004**
Stddev	.004	.0001	.0007	.00	.0002	.001	.0001	.0002
%RSD	.2435	15.67	125.5	.0152	73.11	.0546	10.81	63.57
#1	1.529	-.0009	-.0001	11.20	.0005	1.427	.0013	-.0002
#2	1.535	-.0007	-.0011	11.19	.0002	1.428	.0012	-.0005

Sample Name: MC42160-13F Acquired: 10/23/2015 14:53:56 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0106**	**.0074**	F **-.0608**
Stddev	.0001	.0005	.0000	.0001
%RSD	19.85	4.421	.4277	.1148
#1	.0006	.0109	.0074	-.0608
#2	.0008	.0102	.0074	-.0607

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6441.7**	**10928.**	**215060.**	**10732.**
Stddev	1.8	2.	309.	8.
%RSD	.02776	.01503	.14378	.07316
#1	6442.9	10927.	214840.	10727.
#2	6440.4	10929.	215280.	10738.

Zoom In
Zoom Out

Sample Name: MC42160-14F Acquired: 10/23/2015 14:59:47 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	-.0103	.4200	-.0022	.0057	.4566	.0000	.0003	40.12
Stddev	.0003	.0002	.0031	.0008	.0000	.0017	.000	.0010	.07
%RSD	81.05	1.638	.7340	35.55	.6854	.3741	49.92	356.0	.1862
#1	-.0002	-.0104	.4221	-.0027	.0057	.4554	.0000	-.0004	40.17
#2	-.0006	-.0101	.4178	-.0016	.0058	.4578	.0000	.0010	40.07

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0046	.0264	.0000	.0001	92.17	20.71	.0219	5.424	5.503
Stddev	.0000	.0000	.000	.0002	.01	.04	.0007	.003	.073
%RSD	.7002	.1071	2273.	140.9	.0130	.1960	3.112	.0628	1.319
#1	.0047	.0264	-.0001	.0003	92.18	20.68	.0214	5.421	5.451
#2	.0046	.0265	.0001	.0000	92.16	20.73	.0224	5.426	5.554

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0056	563.6	-.0013	-.0001	.0033	-.0004	6.156	-.0011	.0004
Stddev	.0001	11.7	.0001	.0005	.0011	.0026	.019	.0008	.0007
%RSD	1.679	2.067	9.215	407.4	32.26	706.1	.3041	73.95	186.0
#1	.0056	571.8	-.0012	-.0005	.0040	.0014	6.143	-.0005	-.0001
#2	.0057	555.3	-.0014	.0002	.0025	-.0022	6.169	-.0017	.0009

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.585	.0002	.4940	.0002	-.0005	.0006	.0047	.0062	-.0488
Stddev	.013	.0001	.0002	.0000	.0002	.0001	.0001	.0000	.0003
%RSD	.1473	60.40	.0398	14.56	39.02	12.61	2.536	.2147	.5136
#1	8.576	.0001	.4938	.0002	-.0003	.0005	.0047	.0062	-.0487
#2	8.594	.0003	.4941	.0002	-.0006	.0006	.0046	.0062	-.0490

Zoom In
Zoom Out

Sample Name: MC42160-14F Acquired: 10/23/2015 14:59:47 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5938.2	10506.	203880.	10512.
Stddev	6.3	6.	3487.	28.
%RSD	.10621	.05562	1.7105	.26219
#1	5933.8	10502.	206350.	10492.
#2	5942.7	10510.	201420.	10531.

11.1

11

Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/23/2015 15:05:47 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2502	10.04	1.960	1.982	1.952	1.975	1.993	1.991	10.11
Stddev	.0035	.01	.004	.030	.002	.000	.003	.002	.03
%RSD	1.401	.1387	.2037	1.521	.1247	.0190	.1670	.0962	.2509
#1	.2477	10.03	1.957	1.961	1.953	1.976	1.990	1.993	10.10
#2	.2527	10.04	1.963	2.003	1.950	1.975	1.995	1.990	10.13
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.981	1.974	1.975	1.984	9.938	9.831	1.971	10.00	2.047
Stddev	.001	.001	.029	.026	.072	.020	.002	.01	.028
%RSD	.0318	.0590	1.485	1.319	.7240	.2022	.0745	.1313	1.343
#1	1.982	1.973	1.954	1.965	9.887	9.845	1.972	10.01	2.028
#2	1.981	1.975	1.996	2.002	9.989	9.817	1.970	9.994	2.067
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.986	9.934	1.969	1.961	1.995	1.982	1.972	1.965	1.958
Stddev	.016	.049	.000	.001	.024	.032	.002	.001	.001
%RSD	.7853	.4949	.0124	.0369	1.188	1.591	.0795	.0606	.0620
#1	1.975	9.899	1.969	1.961	1.978	1.960	1.973	1.964	1.959
#2	1.997	9.969	1.969	1.960	2.012	2.005	1.971	1.966	1.958
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/23/2015 15:05:47 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.920	1.981	1.996	1.964	1.999	1.964	1.986	1.988	1.971
Stddev	.003	.002	.001	.029	.000	.026	.008	.003	.032
%RSD	.1528	.0899	.0623	1.487	.0166	1.350	.3828	.1566	1.608
#1	1.922	1.979	1.995	1.943	1.999	1.945	1.981	1.986	1.948
#2	1.918	1.982	1.997	1.985	1.999	1.982	1.992	1.990	1.993
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6918.2	11482.	227680.	10719.
Stddev	3.6	1.	2421.	23.
%RSD	.05217	.00766	1.0631	.21691
#1	6920.8	11483.	229390.	10735.
#2	6915.7	11482.	225970.	10702.

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/23/2015 15:19:07 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0049	.0004	.0004	.0011	.0000	.0001	-.0006	.0010
Stddev	.0002	.0058	.0005	.0001	.0001	.0000	.0000	.0002	.0004
%RSD	122.1	117.3	121.3	27.54	7.365	207.5	38.98	31.92	40.79
#1	.0000	-.0090	.0001	.0004	.0011	.0000	.0000	-.0008	.0007
#2	.0003	-.0008	.0007	.0003	.0010	.0000	.0001	-.0005	.0013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0004	.0002	.0002	.0009	.0547	.0025	.0153	.0001
Stddev	.0001	.0001	.0001	.0000	.0015	.0072	.0002	.0015	.0001
%RSD	28.74	38.66	52.84	11.16	161.8	13.08	7.805	9.942	63.26
#1	.0002	.0003	.0001	.0002	.0020	.0597	.0023	.0164	.0001
#2	.0003	.0005	.0003	.0001	-.0001	.0496	.0026	.0142	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028	.0843	.0003	-.0001	.0000	-.0004	.0005	.0000	.0011
Stddev	.0001	.0081	.0000	.0003	.0009	.0004	.0010	.000	.0005
%RSD	4.897	9.551	11.95	393.9	2532.	112.5	181.3	803.9	45.22
#1	.0029	.0786	.0002	.0001	-.0006	-.0007	.0012	.0002	.0008
#2	.0027	.0900	.0003	-.0002	.0007	-.0001	-.0002	-.0003	.0015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/23/2015 15:19:07 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	.0003	.0000	.0003	.0006	.0001	.0056	.0003	.0006
Stddev	.0001	.0000	.0000	.0000	.0001	.0003	.0002	.0001	.0000
%RSD	12.09	3.625	144.8	9.711	18.17	222.0	3.752	23.37	6.396
#1	.0010	.0003	.0000	.0003	.0005	-.0001	.0055	.0002	.0007
#2	.0008	.0003	.0000	.0003	.0007	.0003	.0058	.0003	.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7295.9	11701.	231920.	10548.
Stddev	3.0	6.	1885.	510.
%RSD	.04152	.05416	.81264	4.8384
#1	7293.8	11706.	230590.	10909.
#2	7298.1	11697.	233250.	10188.

Zoom In Zoom Out

Sample Name: MC42171-3F Acquired: 10/23/2015 15:25:03 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0014	-.1486	.0160	.0050	.7696	.0175	.0008	-.0031	637.5
Stddev	.0023	.1716	.0015	.0098	.0020	.0000	.0003	.0124	4.2
%RSD	162.2	115.5	9.427	194.7	.2542	.2475	40.19	393.2	.6555
#1	-.0031	-.2699	.0170	-.0019	.7682	.0175	.0011	.0056	640.4
#2	.0002	-.0273	.0149	.0120	.7710	.0175	.0006	-.0119	634.5

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	.0102	.0093	.0084	16.38	18.37	.2715	262.0	6.519
Stddev	.0010	.0014	.0019	.0035	.12	.04	.0169	1.3	.037
%RSD	106.7	13.54	20.72	41.90	.7497	.2040	6.229	.4797	.5740
#1	.0002	.0112	.0080	.0059	16.46	18.35	.2835	262.9	6.493
#2	.0017	.0092	.0107	.0108	16.29	18.40	.2595	261.1	6.546

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0326	284.4	.0249	.0009	-.0024	-.0129	F 429.1	-.0181	.0002
Stddev	.0014	2.5	.0003	.0112	.0069	.0070	1.0	.0138	.0185
%RSD	4.265	.8965	1.264	1229.	283.4	54.20	.2337	76.48	8751.
#1	.0336	286.2	.0252	-.0070	.0024	-.0178	428.4	-.0083	-.0129
#2	.0316	282.6	.0247	.0089	-.0073	-.0079	429.8	-.0278	.0133

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.27	.0041	2.371	.0078	.0088	.0041	.0799	.0984	-.0527
Stddev	.00	.0004	.014	.0021	.0019	.0027	.0019	.0005	.0002
%RSD	.0185	9.102	.5745	27.37	21.82	65.13	2.399	.4991	.3314
#1	14.26	.0044	2.380	.0093	.0075	.0060	.0813	.0988	-.0528
#2	14.27	.0039	2.361	.0063	.0102	.0022	.0786	.0981	-.0526

Zoom In Zoom Out

Sample Name: MC42171-3F Acquired: 10/23/2015 15:25:03 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6917.4	11386.	224290.	10824.
Stddev	13.0	23.	1685.	122.
%RSD	.18847	.19877	.75142	1.1308
#1	6926.6	11402.	225480.	10738.
#2	6908.2	11370.	223090.	10911.

Zoom In
Zoom Out

Sample Name: MC42171-3F Acquired: 10/23/2015 15:30:56 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0066	-.2361	.0170	.0176	.7927	.0208	-.0007	-.0021	649.0
Stddev	.0039	.2264	.0381	.0104	.0011	.0037	.0009	.0581	2.5
%RSD	59.00	95.89	224.0	58.90	.1350	17.79	122.2	2751.	.3840
#1	.0038	-.0760	.0439	.0103	.7920	.0182	-.0013	-.0432	647.2
#2	.0093	-.3962	-.0099	.0250	.7935	.0235	-.0001	.0390	650.8

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0012	.0105	-.0006	.0107	16.47	19.87	.2892	268.6	6.574
Stddev	.0002	.0002	.0109	.0004	.14	.04	.0428	.3	.097
%RSD	19.98	2.341	1735.	3.806	.8408	.2145	14.80	.1200	1.468
#1	-.0014	.0103	-.0084	.0110	16.57	19.90	.3195	268.4	6.642
#2	-.0011	.0107	.0071	.0105	16.37	19.84	.2589	268.9	6.506

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0464	290.0	.0295	.0117	.0037	.0487	429.0	-.0229	.0080
Stddev	.0030	1.2	.0018	.0045	.0724	.1196	.5	.0035	.0221
%RSD	6.491	.4153	6.215	38.99	1939.	245.7	.1215	15.27	275.1
#1	.0485	289.1	.0282	.0149	-.0475	.1332	428.6	-.0254	.0237
#2	.0443	290.8	.0308	.0084	.0550	-.0359	429.3	-.0204	-.0076

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	14.29	.0140	2.430	.0210	.0211	-.0081	.1421	.1770	-.0497
Stddev	.03	.0088	.004	.0007	.0128	.0059	.0113	.0008	.0051
%RSD	.2018	62.77	.1754	3.464	60.77	73.21	7.964	.4453	10.26
#1	14.27	.0202	2.427	.0215	.0120	-.0122	.1341	.1775	-.0533
#2	14.31	.0078	2.433	.0204	.0301	-.0039	.1500	.1764	-.0461

Zoom In
Zoom Out

Sample Name: MC42171-3F Acquired: 10/23/2015 15:30:56 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 50.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 50X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7098.4	11544.	229380.	10821.
Stddev	7.8	7.	2447.	65.
%RSD	.10970	.06228	1.0670	.59992
#1	7092.9	11539.	227650.	10867.
#2	7103.9	11549.	231110.	10775.

Zoom In
Zoom Out

Sample Name: MP25342-MB1 Acquired: 10/23/2015 15:36:50 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0010	-.0004	.0002	.0009	.0000	-.0001	-.0001	.0067
Stddev	.0003	.0100	.0004	.0003	.0002	.0002	.0001	.0010	.0000
%RSD	217.0	989.7	104.4	186.6	24.87	330.0	102.4	679.6	.5035
#1	-.0001	-.0081	-.0001	.0000	.0010	.0002	.0000	.0005	.0067
#2	.0004	.0061	-.0006	.0004	.0007	-.0001	-.0001	-.0008	.0068

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0000	-.0001	.0002	.0036	.0263	.0013	.0188	.0002
Stddev	.0000	.000	.0000	.0001	.0004	.0207	.0006	.0246	.0000
%RSD	19.50	282.8	19.37	72.13	10.05	78.67	44.47	130.7	8.456
#1	.0000	.0000	-.0001	.0001	.0033	.0409	.0017	.0362	.0002
#2	.0000	.0000	-.0001	.0003	.0038	.0117	.0009	.0014	.0001

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0483	-.0003	-.0004	-.0001	.0002	.0026	.0001	.0007
Stddev	.0001	.0073	.0001	.0002	.0003	.0014	.0002	.0003	.0000
%RSD	18.29	15.12	20.86	36.52	355.0	819.7	9.003	327.7	.4281
#1	.0008	.0431	-.0004	-.0005	.0001	-.0008	.0025	.0003	.0007
#2	.0006	.0534	-.0003	-.0003	-.0003	.0012	.0028	-.0001	.0007

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0235	.0001	.0000	.0004	-.0003	.0002	.0065	.0003	.0004
Stddev	.0005	.0001	.0000	.0001	.0003	.0002	.0007	.0000	.0001
%RSD	2.152	144.3	76.84	18.93	97.10	121.2	11.39	7.819	18.82
#1	.0238	.0000	.0000	.0004	-.0001	.0000	.0060	.0003	.0005
#2	.0231	.0001	.0001	.0003	-.0006	.0003	.0070	.0003	.0003

Zoom In
Zoom Out

Sample Name: MP25342-MB1 Acquired: 10/23/2015 15:36:50 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7264.0	11666.	232780.	10917.
Stddev	.1	3.	228.	47.
%RSD	.00116	.02243	.09778	.42986
#1	7264.0	11668.	232940.	10884.
#2	7264.1	11664.	232620.	10951.

Zoom In
Zoom Out

Sample Name: MP25342-B1 Acquired: 10/23/2015 15:42:46 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1818	10.30	.5138	-.0005	1.022	2.029	.5150	.0000	25.68
Stddev	.0011	.03	.0005	.0006	.001	.003	.0014	.0005	.05
%RSD	.6152	.2706	.1057	110.1	.0931	.1221	.2720	1151.	.1930
#1	.1810	10.28	.5142	-.0001	1.023	2.028	.5140	-.0003	25.64
#2	.1826	10.32	.5134	-.0010	1.022	2.031	.5160	.0004	25.71

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5100	.5130	.4939	.4996	10.16	25.55	.0021	25.33	.5252
Stddev	.0002	.0003	.0019	.0041	.03	.03	.0002	.06	.0022
%RSD	.0331	.0581	.3786	.8117	.2692	.1212	11.85	.2461	.4169
#1	.5099	.5128	.4925	.4968	10.18	25.57	.0023	25.29	.5237
#2	.5101	.5132	.4952	.5025	10.15	25.53	.0019	25.38	.5268

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5212	25.64	.5113	1.012	-.0061	.0032	.0070	.5179	.5157
Stddev	.0038	.00	.0001	.001	.0006	.0012	.0000	.0003	.0028
%RSD	.7274	.0134	.0179	.1227	9.350	38.14	.3584	.0518	.5381
#1	.5185	25.64	.5114	1.013	-.0065	.0023	.0070	.5180	.5137
#2	.5239	25.65	.5112	1.011	-.0057	.0040	.0070	.5177	.5177

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0201	1.019	.5161	.5008	.5210	.5055	.0077	.5090	.0615
Stddev	.0007	.001	.0015	.0018	.0010	.0022	.0003	.0012	.0035
%RSD	3.526	.1334	.2880	.3593	.1885	.4359	3.326	.2298	5.683
#1	.0206	1.018	.5150	.4995	.5217	.5039	.0075	.5082	.0639
#2	.0196	1.020	.5171	.5021	.5203	.5071	.0078	.5099	.0590

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Zoom In
Zoom Out

Sample Name: MP25342-B1 Acquired: 10/23/2015 15:42:46 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6721.8	11329.	225430.	10708.
Stddev	6.6	8.	1283.	30.
%RSD	.09747	.07470	.56892	.27950
#1	6717.2	11323.	226330.	10729.
#2	6726.5	11335.	224520.	10687.

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Zoom In
Zoom Out

Sample Name: MP25342-S1 Acquired: 10/23/2015 15:48:32 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1819	10.15	.5104	-.0005	1.021	2.022	.5097	.0007	40.92
Stddev	.0018	.01	.0017	.0009	.001	.001	.0001	.0001	.00
%RSD	.9666	.1422	.3333	162.0	.1021	.0633	.0196	14.68	.0044
#1	.1831	10.16	.5092	-.0012	1.020	2.023	.5097	.0007	40.92
#2	.1806	10.14	.5116	.0001	1.022	2.021	.5096	.0008	40.92

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5083	.5101	.4970	.4931	10.15	26.88	.0034	26.97	.5817
Stddev	.0001	.0003	.0015	.0023	.03	.01	.0004	.06	.0021
%RSD	.0195	.0664	.2936	.4634	.2540	.0533	11.69	.2112	.3639
#1	.5084	.5099	.4980	.4947	10.13	26.89	.0037	26.93	.5832
#2	.5082	.5103	.4960	.4914	10.17	26.87	.0031	27.01	.5802

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5202	33.89	.5060	.9985	-.0013	.0027	3.753	.5156	.5112
Stddev	.0016	.01	.0009	.0019	.0002	.0024	.011	.0011	.0002
%RSD	.3115	.0293	.1839	.1863	16.87	88.13	.2936	.2057	.0387
#1	.5191	33.89	.5054	.9972	-.0015	.0010	3.745	.5163	.5111
#2	.5214	33.88	.5067	.9998	-.0012	.0044	3.761	.5148	.5114

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.881	1.010	.7225	.5022	.5103	.5072	.0190	.5129	-.0123
Stddev	.011	.001	.0013	.0022	.0010	.0021	.0004	.0002	.0010
%RSD	.1578	.1155	.1838	.4434	.1966	.4226	2.342	.0436	8.147
#1	6.874	1.009	.7234	.5037	.5110	.5087	.0186	.5131	-.0116
#2	6.889	1.010	.7215	.5006	.5096	.5057	.0193	.5127	-.0130

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Zoom In
Zoom Out

Sample Name: MP25342-S1 Acquired: 10/23/2015 15:48:32 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6643.9	11251.	221730.	10747.
Stddev	1.7	.	916.	13.
%RSD	.02510	.00408	.41327	.12015
#1	6642.7	11252.	221090.	10756.
#2	6645.1	11251.	222380.	10738.

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11.1
11

Zoom In Zoom Out

Sample Name: MP25342-S2 Acquired: 10/23/2015 15:54:18 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1814**	**10.22**	**.5126**	**-.0004**	**1.021**	**2.029**	**.5120**	**.0009**	**41.35**
Stddev	.0001	.01	.0022	.0003	.000	.003	.0014	.0007	.07
%RSD	.0822	.0758	.4308	69.35	.0347	.1329	.2805	78.54	.1744
#1	.1813	10.22	.5111	-.0007	1.021	2.027	.5110	.0004	41.30
#2	.1815	10.21	.5142	-.0002	1.021	2.031	.5130	.0015	41.40

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5092**	**.5118**	**.4971**	**.4952**	**10.09**	**27.04**	**.0033**	**27.10**	**.5844**
Stddev	.0007	.0006	.0018	.0034	.04	.00	.0003	.01	.0014
%RSD	.1429	.1158	.3628	.6903	.4251	.0085	8.578	.0517	.2361
#1	.5087	.5114	.4958	.4976	10.06	27.04	.0035	27.10	.5854
#2	.5097	.5122	.4983	.4928	10.12	27.04	.0031	27.11	.5834

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5223**	**34.01**	**.5074**	**1.004**	**.0001**	**.0034**	**3.804**	**.5164**	**.5111**
Stddev	.0020	.13	.0004	.001	.0003	.0008	.000	.0015	.0013
%RSD	.3870	.3675	.0795	.0817	263.1	22.78	.0075	.2821	.2620
#1	.5208	33.92	.5071	1.005	-.0001	.0040	3.804	.5154	.5121
#2	.5237	34.09	.5077	1.004	.0003	.0029	3.805	.5174	.5102

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.996**	**1.012**	**.7334**	**.5022**	**.5100**	**.5065**	**.0163**	**.5156**	**-.0248**
Stddev	.004	.002	.0027	.0002	.0018	.0000	.0001	.0002	.0003
%RSD	.0520	.1896	.3732	.0484	.3559	.0053	.7357	.0380	1.361
#1	6.993	1.011	.7315	.5021	.5087	.5064	.0162	.5154	-.0245
#2	6.999	1.013	.7354	.5024	.5113	.5065	.0164	.5157	-.0250

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Zoom In Zoom Out

Sample Name: MP25342-S2 Acquired: 10/23/2015 15:54:18 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6638.1**	**11240.**	**221150.**	**10669.**
Stddev	.2	6.	1466.	21.
%RSD	.00364	.04926	.66308	.19315
#1	6637.9	11236.	220110.	10654.
#2	6638.3	11244.	222190.	10684.

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11.1

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Zoom In Zoom Out

Sample Name: MC42202-11F Acquired: 10/23/2015 16:00:04 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0008**	**-.0004**	**.0006**	**.0084**	**.0089**	**.0000**	**.0005**	**15.69**
Stddev	.0002	.0049	.0007	.0000	.0002	.0001	.0000	.0010	.08
%RSD	141.0	618.8	195.7	6.730	2.508	.6427	21.32	199.0	.5293
#1	.0002	-.0043	-.0009	.0006	.0085	.0088	.0000	-.0002	15.63
#2	.0000	.0027	.0001	.0006	.0082	.0089	.0000	.0012	15.75

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0008**	**.0002**	**.0011**	**.0031**	**1.520**	**.0021**	**1.993**	**.0573**
Stddev	.0001	.0000	.0002	.0003	.0018	.011	.0002	.024	.0001
%RSD	55.57	1.965	84.97	30.00	59.15	.6932	11.12	1.194	.2573
#1	.0001	.0008	.0001	.0014	.0018	1.527	.0019	2.009	.0574
#2	.0002	.0008	.0004	.0009	.0044	1.512	.0023	1.976	.0572

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0033**	**8.457**	**.0013**	**.0002**	**.0021**	**.0018**	**3.689**	**-.0007**	**.0006**
Stddev	.0005	.030	.0001	.0005	.0008	.0023	.006	.0007	.0001
%RSD	15.29	.3591	4.588	258.2	39.22	124.5	.1509	106.1	9.853
#1	.0037	8.436	.0013	.0005	.0015	.0002	3.693	-.0012	.0006
#2	.0029	8.479	.0014	-.0002	.0027	.0035	3.685	-.0002	.0006

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**6.780**	**.0001**	**.2159**	**.0005**	**-.0002**	**.0000**	**.0121**	**.0133**	**-.0348**
Stddev	.005	.0000	.0012	.0002	.0001	.000	.0002	.0000	.0000
%RSD	.0723	13.11	.5436	53.16	58.95	2580.	1.994	.0093	.0730
#1	6.784	.0001	.2151	.0003	-.0001	.0001	.0123	.0133	-.0348
#2	6.777	.0001	.2167	.0006	-.0003	-.0001	.0120	.0133	-.0348

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Zoom In Zoom Out

Sample Name: MC42202-11F Acquired: 10/23/2015 16:00:04 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7121.0**	**11551.**	**230500.**	**10864.**
Stddev	.8	4.	911.	32.
%RSD	.01171	.03079	.39519	.29128
#1	7121.6	11553.	229860.	10887.
#2	7120.4	11548.	231150.	10842.

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Zoom In
Zoom Out

Sample Name: MP25342-SD1 Acquired: 10/23/2015 16:05:58 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	-.0133	.0026	.0018	.0127	.0087	.0000	.0015	15.88
Stddev	.0012	.0098	.0003	.0013	.0005	.0005	.0001	.0009	.02
%RSD	116.9	74.23	12.19	73.15	3.818	5.617	2850.	56.45	.1313
#1	.0019	-.0202	.0028	.0027	.0124	.0090	-.0001	.0021	15.87
#2	.0002	-.0063	.0024	.0009	.0131	.0083	.0001	.0009	15.90

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0012	.0004	.0025	.0051	1.736	.0091	2.046	.0593
Stddev	.0002	.0000	.0010	.0016	.0026	.165	.0025	.012	.0002
%RSD	64.13	1.195	246.8	62.82	51.20	9.476	27.56	.6080	.3910
#1	.0004	.0012	.0011	.0036	.0032	1.853	.0108	2.055	.0595
#2	.0001	.0012	-.0003	.0014	.0069	1.620	.0073	2.037	.0592

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0067	8.635	.0024	.0008	.0020	.0042	3.708	-.0020	.0016
Stddev	.0003	.006	.0006	.0010	.0015	.0032	.004	.0023	.0058
%RSD	3.781	.0697	26.28	120.1	75.80	77.58	.1067	114.0	366.7
#1	.0069	8.640	.0019	.0001	.0009	.0064	3.705	-.0036	.0057
#2	.0066	8.631	.0028	.0015	.0030	.0019	3.711	-.0004	-.0025

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.782	.0026	.2155	.0011	.0028	.0000	.0212	.0295	-.0355
Stddev	.006	.0006	.0002	.0002	.0005	.0003	.0001	.0001	.0006
%RSD	.0959	21.63	.1099	15.57	16.14	623.5	.4492	.4947	1.640
#1	6.778	.0029	.2157	.0012	.0025	-.0002	.0213	.0296	-.0351
#2	6.787	.0022	.2153	.0009	.0031	.0003	.0211	.0294	-.0359

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Zoom In
Zoom Out

Sample Name: MP25342-SD1 Acquired: 10/23/2015 16:05:58 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7287.3	11690.	232690.	10903.
Stddev	9.0	22.	1840.	31.
%RSD	.12418	.18516	.79072	.28260
#1	7293.7	11706.	231390.	10925.
#2	7280.9	11675.	233990.	10882.

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11.1

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Zoom In
Zoom Out

Sample Name: MC42202-12F Acquired: 10/23/2015 16:11:52 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0007	.3876	-.0053	-.0005	.0814	.0000	.0024
Stddev	.0002	.0086	.0003	.0001	.0000	.0002	.000	.0001
%RSD	82.86	1152.	.0810	1.535	3.180	.1913	122.5	5.407
#1	-.0001	-.0053	.3878	-.0054	-.0005	.0813	-.0001	.0025
#2	-.0004	.0068	.3873	-.0053	-.0005	.0815	.0000	.0023

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	116.9	.0047	.0136	.0004	.0009	31.51	5.165	.0118
Stddev	.5	.0000	.0000	.0001	.0003	.09	.006	.0003
%RSD	.3978	.3729	.2325	20.13	29.37	.2812	.1172	2.257
#1	116.6	.0047	.0136	.0003	.0007	31.44	5.161	.0116
#2	117.3	.0047	.0136	.0004	.0011	31.57	5.170	.0119

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	17.32	7.398	.0019	169.7	.0028	-.0004	.0041	.0006
Stddev	.04	.014	.0001	.7	.0002	.0001	.0001	.0004
%RSD	.2196	.1830	3.195	.3991	5.394	15.81	3.133	69.73
#1	17.29	7.388	.0019	170.2	.0027	-.0004	.0040	.0003
#2	17.35	7.407	.0020	169.2	.0030	-.0004	.0042	.0010

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.805	-.0005	.0009	14.73	.0000	.8913	.0003	-.0006
Stddev	.005	.0003	.0009	.02	.000	.0016	.0000	.0004
%RSD	.2890	54.95	100.5	.1096	5347.	.1807	14.87	58.36
#1	1.801	-.0007	.0016	14.72	-.0001	.8902	.0003	-.0009
#2	1.809	-.0003	.0003	14.74	.0001	.8925	.0002	-.0004

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Zoom In
Zoom Out

Sample Name: MC42202-12F Acquired: 10/23/2015 16:11:52 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0002	.0079	.0091	F -.0779
Stddev	.0001	.0008	.0000	.0001
%RSD	25.06	10.08	.3559	.0823
#1	.0003	.0073	.0091	-.0779
#2	.0002	.0084	.0091	-.0778

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6236.6	10790.	211870.	10562.
Stddev	3.5	3.	67.	62.
%RSD	.05628	.03238	.03143	.58257
#1	6239.0	10788.	211820.	10606.
#2	6234.1	10793.	211920.	10519.

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◀ Zoom In ▶
Zoom Out

Sample Name: MC42202-1F Acquired: 10/23/2015 16:17:55 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0018	.7137	-.0046	.0007	.0292	.0000	.0019
Stddev	.0002	.0055	.0013	.0010	.0000	.0000	.000	.0003
%RSD	53.75	309.0	.1789	22.39	1.552	.1180	24.73	17.61
#1	.0002	.0056	.7127	-.0039	.0007	.0292	.0000	.0017
#2	.0004	-.0021	.7146	-.0053	.0008	.0293	-.0001	.0021

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	82.73	.0086	.0078	.0003	.0002	40.71	3.101	.0059
Stddev	.25	.0001	.0000	.0000	.0001	.13	.005	.0006
%RSD	.2994	.9439	.1471	14.17	72.39	.3147	.1737	9.582
#1	82.56	.0087	.0078	.0004	.0002	40.62	3.097	.0055
#2	82.91	.0085	.0078	.0003	.0001	40.80	3.105	.0063

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.732	7.815	.0086	39.93	.0064	.0002	.0029	.0025
Stddev	.062	.067	.0001	.17	.0001	.0001	.0002	.0029
%RSD	.9260	.8515	.9290	.4341	1.123	33.72	5.398	115.3
#1	6.688	7.768	.0085	39.80	.0065	.0001	.0030	.0045
#2	6.776	7.862	.0086	40.05	.0064	.0002	.0028	.0005

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0977	-.0002	-.0006	12.98	.0000	.5676	.0002	-.0003
Stddev	.0001	.0004	.0002	.01	.0001	.0020	.0000	.0001
%RSD	.0541	207.2	34.87	.0658	510.8	.3556	22.41	40.41
#1	.0977	.0001	-.0007	12.97	.0001	.5662	.0002	-.0002
#2	.0977	-.0005	-.0005	12.98	-.0001	.5690	.0003	-.0004

◀ Zoom In ▶
Zoom Out

Sample Name: MC42202-1F Acquired: 10/23/2015 16:17:55 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0006	.0053	.0106	F -.0693
Stddev	.0000	.0002	.0000	.0001
%RSD	6.795	2.991	.1261	.2144
#1	.0006	.0052	.0106	-.0692
#2	.0007	.0055	.0106	-.0694

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6625.6	11145.	220690.	10718.
Stddev	6.4	14.	263.	43.
%RSD	.09621	.12139	.11926	.39668
#1	6630.1	11155.	220880.	10748.
#2	6621.1	11136.	220500.	10688.

◀ Zoom In ▶
Zoom Out

Sample Name: CCV Acquired: 10/23/2015 16:23:53 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2468	9.968	1.944	1.983	1.955	1.969	1.973	1.969	9.963
Stddev	.0002	.016	.003	.014	.001	.002	.001	.002	.000
%RSD	.0962	.1612	.1568	.6841	.0664	.1017	.0306	.1107	.0024
#1	.2467	9.957	1.942	1.993	1.956	1.967	1.973	1.970	9.964
#2	.2470	9.980	1.946	1.974	1.954	1.970	1.974	1.967	9.963
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.952	1.961	1.951	1.994	9.790	9.770	1.965	9.886	2.042
Stddev	.003	.005	.009	.006	.002	.005	.002	.055	.010
%RSD	.1704	.2330	.4661	.3245	.0152	.0551	.0766	.5514	.4988
#1	1.949	1.958	1.957	1.998	9.791	9.766	1.963	9.924	2.049
#2	1.954	1.964	1.944	1.989	9.789	9.774	1.966	9.847	2.034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.972	9.908	1.979	1.960	2.007	1.978	1.986	1.957	1.953
Stddev	.018	.002	.000	.001	.008	.010	.003	.002	.002
%RSD	.9216	.0150	.0174	.0231	.3896	.5133	.1500	.0924	.0893
#1	1.959	9.907	1.980	1.960	2.012	1.986	1.988	1.958	1.952
#2	1.985	9.909	1.979	1.960	2.001	1.971	1.983	1.955	1.954
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

◀ Zoom In ▶
Zoom Out

Sample Name: CCV Acquired: 10/23/2015 16:23:53 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.928	1.970	1.990	1.953	1.994	1.949	1.964	1.962	1.925
Stddev	.001	.000	.003	.007	.004	.009	.012	.007	.001
%RSD	.0414	.0148	.1440	.3662	.2193	.4628	.6038	.3779	.0692
#1	1.929	1.970	1.988	1.958	1.997	1.955	1.955	1.957	1.926
#2	1.928	1.971	1.992	1.948	1.991	1.943	1.972	1.967	1.924
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6928.1	11493.	227080.	10913.
Stddev	3.6	4.	1677.	13.
%RSD	.05240	.03517	.73841	.11510
#1	6930.7	11495.	225890.	10904.
#2	6925.5	11490.	228260.	10922.

Zoom In
Zoom Out

Sample Name: CCB   Acquired: 10/23/2015 16:29:37   Type: QC
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0107	.0009	.0009	.0021	.0002	.0002	-.0004	.0043
Stddev	.0001	.0079	.0005	.0002	.0000	.0000	.0000	.0004	.0007
%RSD	44.76	73.67	55.12	17.88	.7556	8.169	23.24	117.7	17.08
#1	.0003	-.0163	.0012	.0010	.0021	.0002	.0002	-.0007	.0038
#2	.0002	-.0051	.0005	.0008	.0021	.0002	.0002	-.0001	.0048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0002	.0000	.0004	.0065	.0320	.0015	.0219	.0003
Stddev	.0001	.0001	.000	.0001	.0006	.0020	.0012	.0104	.0001
%RSD	23.32	36.78	13210.	18.48	9.381	6.145	81.34	47.39	27.98
#1	.0002	.0001	-.0002	.0005	.0069	.0306	.0006	.0293	.0003
#2	.0003	.0002	.0002	.0004	.0060	.0334	.0024	.0146	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0127	.0443	.0001	.0003	.0006	.0002	-.0004	-.0002	.0019
Stddev	.0027	.0048	.0002	.0000	.0012	.0032	.0001	.0004	.0003
%RSD	20.96	10.79	168.8	5.971	210.2	1588.	22.68	194.7	14.34
#1	.0146	.0477	.0000	.0003	-.0003	-.0021	-.0003	-.0005	.0017
#2	.0109	.0409	.0003	.0003	.0015	.0025	-.0005	.0001	.0021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: CCB   Acquired: 10/23/2015 16:29:37   Type: QC
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0015	.0005	.0002	.0008	.0008	.0003	.0141	.0002	.0023
Stddev	.0007	.0002	.0001	.0001	.0001	.0002	.0020	.0000	.0001
%RSD	49.72	34.88	32.04	6.377	7.714	63.18	14.12	12.80	6.509
#1	.0010	.0007	.0001	.0009	.0007	.0004	.0155	.0002	.0024
#2	.0020	.0004	.0002	.0008	.0008	.0002	.0127	.0003	.0022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7308.5	11710.	233180.	10878.
Stddev	3.7	6.	1014.	34.
%RSD	.05082	.04719	.43489	.31225
#1	7311.1	11714.	232460.	10854.
#2	7305.8	11706.	233890.	10902.

11.1

11

Zoom In
Zoom Out

Sample Name: MC42202-2F   Acquired: 10/23/2015 16:35:33   Type: Unk
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0028	.1982	-.0031	.0027	.0427	.0000	.0017
Stddev	.0001	.0070	.0021	.0008	.0002	.0001	.0000	.0004
%RSD	124.3	253.2	1.042	27.04	9.122	.1212	68.73	22.58
#1	.0000	-.0022	.1967	-.0025	.0028	.0427	.0000	.0020
#2	-.0002	.0077	.1996	-.0037	.0025	.0427	.0000	.0014

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	76.25	.0024	.0134	.0006	.0002	28.62	6.160	.0117
Stddev	.16	.0000	.0002	.0000	.0001	.07	.011	.0003
%RSD	.2047	.4059	1.121	5.023	39.89	.2346	.1783	2.954
#1	76.36	.0024	.0133	.0006	.0001	28.66	6.152	.0119
#2	76.14	.0024	.0135	.0005	.0003	28.57	6.168	.0114

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	6.691	13.46	.0042	115.3	.0120	-.0004	.0017	.0012
Stddev	.017	.02	.0003	.0	.0002	.0000	.0000	.0038
%RSD	.2515	.1617	7.906	.0092	1.452	9.171	2.075	316.0
#1	6.703	13.44	.0044	115.3	.0121	-.0005	.0017	-.0015
#2	6.679	13.47	.0040	115.3	.0118	-.0004	.0018	.0039

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.006	-.0006	.0007	13.39	.0001	.7619	.0003	.0001
Stddev	.006	.0002	.0007	.02	.0000	.0003	.0000	.0001
%RSD	.3169	31.42	108.4	.1665	69.54	.0454	.5003	47.13
#1	2.002	-.0004	.0002	13.37	.0000	.7622	.0003	.0002
#2	2.011	-.0007	.0012	13.40	.0001	.7617	.0003	.0001

Zoom In
Zoom Out

Sample Name: MC42202-2F   Acquired: 10/23/2015 16:35:33   Type: Unk
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0006	.0086	.0074	F -.0694
Stddev	.0001	.0007	.0001	.0001
%RSD	13.44	8.290	1.055	.1165
#1	.0006	.0081	.0073	-.0693
#2	.0007	.0091	.0075	-.0694

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6406.3	10985.	215630.	10684.
Stddev	2.2	4.	2222.	34.
%RSD	.03472	.03825	1.0305	.31367
#1	6407.8	10982.	214060.	10660.
#2	6404.7	10988.	217200.	10707.

Zoom In
Zoom Out

Sample Name: MC42202-3F Acquired: 10/23/2015 16:41:31 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0009	.0013	-.0002	.0101	.0161	.0000	.0006	26.01
Stddev	.000	.0007	.0002	.0000	.0003	.0003	.000	.0009	.04
%RSD	576.7	80.89	16.83	23.88	3.226	2.034	930.9	153.9	.1459
#1	-.0002	-.0014	.0014	-.0002	.0103	.0159	.0000	.0013	25.98
#2	.0001	-.0004	.0011	-.0001	.0098	.0163	.0000	-.0001	26.04

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	.0005	.0012	.0067	2.064	.0046	3.405	.0196
Stddev	.0001	.0001	.0002	.0002	.0001	.003	.0004	.003	.0001
%RSD	55.07	53.11	54.50	13.32	2.048	.1406	8.377	.0835	.2815
#1	.0001	.0001	.0006	.0011	.0068	2.062	.0043	3.403	.0196
#2	.0002	.0001	.0003	.0014	.0066	2.066	.0048	3.407	.0196

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	19.14	.0021	.0004	.0026	.0017	7.381	-.0003	.0005
Stddev	.0002	.02	.0001	.0002	.0007	.0017	.036	.0001	.0001
%RSD	11.42	.1155	3.816	52.11	27.37	95.74	.4904	43.66	13.37
#1	.0017	19.12	.0021	.0002	.0021	.0006	7.407	-.0002	.0006
#2	.0015	19.15	.0020	.0005	.0032	.0029	7.355	-.0004	.0005

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.218	.0000	.3405	.0004	-.0002	.0001	.0061	.0121	-.0364
Stddev	.039	.000	.0000	.0002	.0000	.0000	.0001	.0001	.0001
%RSD	.5352	1137.	.0053	49.62	12.93	29.64	1.706	.4727	.2683
#1	7.246	.0002	.3405	.0003	-.0002	.0001	.0062	.0121	-.0365
#2	7.191	-.0002	.3405	.0006	-.0002	.0001	.0061	.0120	-.0363

Zoom In
Zoom Out

Sample Name: MC42202-3F Acquired: 10/23/2015 16:41:31 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6957.5	11397.	227390.	10725.
Stddev	36.8	58.	1173.	3.
%RSD	.52896	.50823	.51603	.03184
#1	6931.4	11356.	228220.	10727.
#2	6983.5	11438.	226560.	10722.

Zoom In
Zoom Out

Sample Name: MC42202-4F Acquired: 10/23/2015 16:47:24 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0026	.4204	-.0055	.0027	.0544	.0000	.0018
Stddev	.000	.0052	.0003	.0002	.0002	.0001	.000	.0005
%RSD	562.8	202.0	.0779	4.088	5.729	.1693	94.98	27.23
#1	.0001	.0011	.4202	-.0053	.0026	.0544	.0000	.0014
#2	-.0002	-.0063	.4207	-.0056	.0028	.0543	.0000	.0021

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	119.2	.0052	.0025	.0007	.0002	39.79	8.525	.0098
Stddev	.1	.0000	.0001	.0003	.0000	.07	.002	.0007
%RSD	.1204	.8888	2.123	35.29	18.10	.1675	.0233	6.630
#1	119.3	.0051	.0025	.0009	.0002	39.74	8.523	.0103
#2	119.1	.0052	.0024	.0006	.0002	39.83	8.526	.0094

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.728	11.18	.0033	106.3	.0015	-.0003	.0028	.0027
Stddev	.021	.06	.0000	.5	.0000	.0001	.0002	.0035
%RSD	.2182	.5335	1.407	.4506	1.558	55.40	5.945	131.6
#1	9.713	11.14	.0033	106.6	.0015	-.0004	.0026	.0002
#2	9.743	11.22	.0033	105.9	.0015	-.0002	.0029	.0051

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.165	-.0007	.0002	12.48	-.0001	.8946	.0002	.0000
Stddev	.000	.0005	.0002	.01	.0001	.0012	.0001	.000
%RSD	.0150	73.96	68.96	.0857	69.54	.1330	65.43	69500.
#1	1.164	-.0010	.0001	12.47	.0000	.8954	.0001	.0002
#2	1.165	-.0003	.0003	12.48	-.0001	.8938	.0003	-.0002

Zoom In
Zoom Out

Sample Name: MC42202-4F Acquired: 10/23/2015 16:47:24 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0004	.0056	.0131	F -.0656
Stddev	.0001	.0001	.0000	.0000
%RSD	12.14	2.491	.1300	.0196
#1	.0004	.0056	.0131	-.0656
#2	.0005	.0057	.0131	-.0656

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6363.0	10905.	215340.	10769.
Stddev	1.2	4.	195.	36.
%RSD	.01953	.03727	.09043	.33714
#1	6362.2	10908.	215470.	10795.
#2	6363.9	10902.	215200.	10743.

Zoom In
Zoom Out

Sample Name: MC42202-5F   Acquired: 10/23/2015 16:53:21   Type: Unk
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0011	.5511	-.0052	.0008	.0288	-.0001	.0022
Stddev	.0001	.0045	.0004	.0002	.0002	.0002	.0000	.0015
%RSD	34.61	417.2	.0651	3.467	21.67	.6097	61.45	66.99
#1	.0004	.0021	.5514	-.0051	.0007	.0286	.0000	.0033
#2	.0002	-.0042	.5509	-.0053	.0010	.0289	-.0001	.0012

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	89.77	.0068	.0098	.0009	.0004	41.89	3.362	.0066
Stddev	.08	.0001	.0001	.0001	.0002	.15	.030	.0003
%RSD	.0934	2.091	.5163	13.12	47.49	.3515	.9079	5.179
#1	89.71	.0069	.0098	.0010	.0003	41.79	3.384	.0064
#2	89.83	.0067	.0097	.0009	.0005	42.00	3.340	.0069

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.118	9.438	.0039	73.06	.0090	.0001	.0021	.0024
Stddev	.011	.055	.0001	.06	.0001	.0003	.0002	.0022
%RSD	.1510	.5867	2.019	.0778	.9128	396.1	10.17	91.70
#1	7.111	9.399	.0038	73.10	.0091	-.0001	.0020	.0008
#2	7.126	9.477	.0039	73.02	.0090	.0003	.0023	.0040

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1258	-.0008	.0001	12.96	.0002	.8070	.0003	-.0003
Stddev	.0011	.0010	.0003	.03	.0000	.0014	.0000	.0001
%RSD	.9103	125.4	236.1	.2494	23.56	.1726	17.10	20.46
#1	.1266	-.0001	-.0001	12.99	.0001	.8060	.0003	-.0003
#2	.1250	-.0014	.0004	12.94	.0002	.8079	.0002	-.0003

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Zoom In
Zoom Out

Sample Name: MC42202-5F   Acquired: 10/23/2015 16:53:21   Type: Unk
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0005	.0077	.0089	F -.0681
Stddev	.0001	.0003	.0001	.0001
%RSD	19.96	3.757	1.071	.1880
#1	.0005	.0075	.0088	-.0682
#2	.0006	.0079	.0089	-.0680

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6508.9	11043.	220240.	10730.
Stddev	3.9	15.	441.	23.
%RSD	.05972	.13573	.20018	.21369
#1	6506.1	11032.	220550.	10714.
#2	6511.6	11053.	219920.	10747.

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Zoom In
Zoom Out

Sample Name: MC42202-6F   Acquired: 10/23/2015 16:59:20   Type: Unk
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	-.0039	.4572	-.0029	.0051	.0497	-.0001	.0010
Stddev	.0001	.0047	.0006	.0012	.0002	.0001	.0000	.0007
%RSD	5.130	119.8	.1384	41.59	3.176	.1884	47.94	72.76
#1	.0012	-.0072	.4567	-.0038	.0049	.0497	-.0001	.0015
#2	.0011	-.0006	.4576	-.0021	.0052	.0496	.0000	.0005

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	49.80	.0055	.0109	.0002	.0004	65.65	6.182	.0106
Stddev	.05	.0000	.0002	.0003	.0000	.10	.041	.0003
%RSD	.1046	.7239	1.643	137.6	4.539	.1454	.6578	2.874
#1	49.76	.0055	.0107	.0005	.0004	65.72	6.153	.0109
#2	49.84	.0055	.0110	.0000	.0004	65.58	6.211	.0104

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.714	2.414	.0024	140.3	.0028	-.0003	.0042	.0010
Stddev	.006	.001	.0000	.2	.0001	.0006	.0002	.0004
%RSD	.0706	.0207	1.580	.1605	4.891	221.5	5.204	36.31
#1	8.710	2.414	.0024	140.1	.0029	.0002	.0044	.0007
#2	8.718	2.413	.0025	140.4	.0027	-.0007	.0040	.0012

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.200	-.0006	-.0006	13.35	.0002	.3313	.0001	-.0012
Stddev	.005	.0001	.0003	.03	.0000	.0005	.0001	.0004
%RSD	.2160	19.06	49.22	.2471	11.13	.1464	116.7	34.67
#1	2.196	-.0005	-.0008	13.33	.0002	.3309	.0000	-.0015
#2	2.203	-.0007	-.0004	13.37	.0002	.3316	.0002	-.0009

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Zoom In
Zoom Out

Sample Name: MC42202-6F   Acquired: 10/23/2015 16:59:20   Type: Unk
Method: Accutest1(v135)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0005	.0181	.0089	F -.0717
Stddev	.0000	.0008	.0000	.0003
%RSD	4.285	4.284	.1994	.3953
#1	.0005	.0175	.0089	-.0715
#2	.0005	.0186	.0089	-.0719

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6445.5	10992.	216590.	10553.
Stddev	2.5	2.	241.	.
%RSD	.03833	.02220	.11143	.00196
#1	6443.8	10990.	216420.	10553.
#2	6447.3	10994.	216760.	10553.

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11.1
11

Zoom In
Zoom Out

Sample Name: MC42202-7F Acquired: 10/23/2015 17:05:12 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0054	.0001	.0003	.0017	.0318	.0000	.0016
Stddev	.0003	.0054	.0001	.0002	.0001	.0001	.000	.0004
%RSD	186.3	100.3	179.9	74.50	6.424	.2231	472.7	25.09
#1	.0003	-.0092	.0001	.0002	.0018	.0318	.0000	.0013
#2	.0000	-.0016	.0000	.0005	.0017	.0317	.0000	.0018

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.48	.0001	-.0001	.0017	.0004	.0615	4.145	.0160
Stddev	.00	.0000	.0000	.0003	.0000	.0026	.003	.0006
%RSD	.0052	18.69	64.28	20.38	3.248	4.186	.0805	3.890
#1	50.48	.0001	-.0001	.0019	.0004	.0597	4.147	.0165
#2	50.48	.0001	.0000	.0014	.0004	.0633	4.142	.0156

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.47	.0194	.0001	47.48	.0017	-.0005	.0043	.0012
Stddev	.04	.0002	.0000	.01	.0000	.0001	.0000	.0001
%RSD	.3867	.9830	32.29	.0287	1.568	20.11	.9222	8.701
#1	10.44	.0196	.0002	47.49	.0017	-.0004	.0043	.0013
#2	10.50	.0193	.0001	47.47	.0017	-.0005	.0044	.0011

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.690	-.0006	.0006	10.48	-.0002	.3576	.0004	-.0001
Stddev	.003	.0004	.0002	.00	.0002	.0003	.0001	.0000
%RSD	.1184	63.65	30.81	.0147	79.14	.0786	25.72	39.25
#1	2.688	-.0008	.0005	10.48	-.0004	.3574	.0004	-.0001
#2	2.693	-.0003	.0007	10.48	-.0001	.3578	.0005	-.0001

Zoom In
Zoom Out

Sample Name: MC42202-7F Acquired: 10/23/2015 17:05:12 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0002	.0040	.0075	F -.0539
Stddev	.0001	.0002	.0000	.0002
%RSD	24.46	4.448	.4948	.3320
#1	.0003	.0041	.0075	-.0541
#2	.0002	.0038	.0075	-.0538

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6726.0	11260.	223550.	10824.
Stddev	1.9	8.	1979.	17.
%RSD	.02768	.07112	.88505	.15339
#1	6727.3	11266.	222150.	10836.
#2	6724.7	11255.	224940.	10812.

Zoom In
Zoom Out

Sample Name: MC42202-9F Acquired: 10/23/2015 17:11:04 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0018	.0009	.0008	.0016	.0319	.0000	.0008
Stddev	.0002	.0067	.0002	.0001	.0002	.0003	.000	.0006
%RSD	70.71	373.6	17.74	14.63	15.31	.8462	322.6	77.64
#1	.0004	-.0029	.0011	.0009	.0014	.0317	.0000	.0012
#2	.0001	.0065	.0008	.0007	.0017	.0321	.0000	.0004

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	50.80	.0001	-.0001	.0011	.0008	.0205	4.118	.0170
Stddev	.04	.0000	.0000	.0001	.0000	.0007	.020	.0000
%RSD	.0721	56.98	6.683	11.09	3.178	3.494	.4829	.1459
#1	50.78	.0000	-.0001	.0012	.0008	.0210	4.104	.0169
#2	50.83	.0001	-.0001	.0010	.0008	.0200	4.132	.0170

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.50	.0080	.0001	47.98	.0011	-.0004	.0042	-.0015
Stddev	.00	.0000	.0001	.12	.0000	.0003	.0003	.0017
%RSD	.0045	.0527	65.97	.2531	.4090	70.18	6.375	114.4
#1	10.50	.0080	.0002	47.89	.0011	-.0002	.0044	-.0027
#2	10.50	.0080	.0001	48.07	.0011	-.0006	.0040	-.0003

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.711	-.0007	.0003	10.48	-.0001	.3593	.0002	-.0004
Stddev	.003	.0001	.0001	.00	.0001	.0005	.0001	.0003
%RSD	.1118	15.64	25.59	.0418	92.23	.1411	64.37	71.36
#1	2.713	-.0008	.0002	10.48	-.0001	.3597	.0001	-.0002
#2	2.709	-.0007	.0003	10.48	.0000	.3589	.0003	-.0007

Zoom In
Zoom Out

Sample Name: MC42202-9F Acquired: 10/23/2015 17:11:04 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0001	.0079	.0078	F -.0539
Stddev	.0001	.0003	.0000	.0001
%RSD	94.11	3.684	.0444	.1733
#1	.0002	.0081	.0078	-.0538
#2	.0000	.0077	.0078	-.0539

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6709.2	11238.	222880.	10763.
Stddev	11.5	17.	85.	1.
%RSD	.17101	.15285	.03814	.01247
#1	6717.3	11250.	222820.	10762.
#2	6701.1	11225.	222940.	10764.

Zoom In
Zoom Out

Sample Name: MC42269-2F Acquired: 10/23/2015 17:16:57 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0018	.0009	.0006	.0261	.0023	.0000	-.0005	42.70
Stddev	.0002	.0015	.0002	.0005	.0001	.0001	.000	.0003	.13
%RSD	321.7	85.13	18.03	83.48	.1963	3.189	130.7	54.23	.3004
#1	.0002	-.0028	.0010	.0002	.0260	.0023	.0000	-.0003	42.61
#2	-.0001	-.0007	.0008	.0009	.0261	.0022	.0000	-.0006	42.79

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0010	.0005	.0014	.1738	3.099	.0112	5.472	.0040
Stddev	.0000	.0000	.0003	.0001	.0002	.009	.0008	.027	.0001
%RSD	30.64	1.251	66.81	3.518	.1428	.2742	6.997	.4971	1.554
#1	.0001	.0010	.0003	.0014	.1740	3.093	.0118	5.453	.0040
#2	.0001	.0010	.0008	.0015	.1737	3.105	.0107	5.491	.0039

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	25.09	.0041	-.0001	.0029	-.0005	6.255	-.0006	.0006
Stddev	.0000	.12	.0002	.0005	.0004	.0022	.018	.0002	.0001
%RSD	15.46	.4801	5.111	773.9	12.76	458.4	.2814	32.60	10.93
#1	.0003	25.01	.0040	-.0004	.0026	-.0020	6.243	-.0004	.0005
#2	.0002	25.18	.0043	.0003	.0031	.0011	6.268	-.0007	.0006

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.046	.0000	.2062	.0002	-.0003	.0000	.0046	.0066	-.0412
Stddev	.011	.0001	.0006	.0001	.0003	.0002	.0001	.0000	.0001
%RSD	.1358	353.4	.2987	46.52	109.4	1415.	2.912	.1649	.1241
#1	8.039	.0000	.2058	.0001	-.0005	-.0001	.0047	.0066	-.0411
#2	8.054	.0001	.2067	.0003	-.0001	.0001	.0045	.0066	-.0412

Zoom In
Zoom Out

Sample Name: MC42269-2F Acquired: 10/23/2015 17:16:57 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6862.3	11350.	225060.	10828.
Stddev	.2	16.	1106.	4.
%RSD	.00282	.13984	.49156	.03684
#1	6862.2	11361.	224280.	10825.
#2	6862.5	11338.	225840.	10831.

Zoom In
Zoom Out

Sample Name: MC42269-3F Acquired: 10/23/2015 17:22:51 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0016	.0012	.0007	.0051	.0056	.0000	-.0004	19.22
Stddev	.0001	.0001	.0003	.0009	.0001	.0000	.000	.0005	.09
%RSD	54.69	4.270	24.08	123.4	1.672	.1385	2957.	122.2	.4734
#1	.0002	-.0016	.0010	.0001	.0051	.0056	.0000	-.0001	19.28
#2	.0001	-.0015	.0013	.0013	.0050	.0056	.0000	-.0008	19.16

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0001	.0004	.0013	-.0003	1.488	.0036	2.072	-.0003
Stddev	.0000	.0000	.0001	.0001	.0001	.019	.0002	.005	.0000
%RSD	54.60	19.36	28.98	10.42	25.29	1.306	5.302	.2383	1.648
#1	.0000	-.0001	.0005	.0014	-.0003	1.474	.0038	2.069	-.0003
#2	.0001	-.0001	.0003	.0012	-.0004	1.502	.0035	2.076	-.0003

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	4.039	-.0001	.0000	.0032	.0010	2.661	-.0001	.0012
Stddev	.0000	.022	.0000	.0004	.0009	.0007	.005	.0003	.0010
%RSD	4.684	.5353	18.20	1142.	26.81	73.60	.1960	214.5	89.81
#1	.0003	4.054	-.0001	-.0002	.0038	.0015	2.657	-.0003	.0019
#2	.0003	4.024	-.0001	.0003	.0026	.0005	2.665	.0001	.0004

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.279	-.0001	.0833	.0004	-.0003	.0002	.0038	.0082	-.0425
Stddev	.014	.0000	.0003	.0002	.0003	.0004	.0001	.0001	.0001
%RSD	.1678	1.817	.3879	58.80	94.70	206.5	1.933	.6403	.1979
#1	8.289	-.0001	.0835	.0002	-.0001	-.0001	.0038	.0081	-.0425
#2	8.270	-.0002	.0831	.0005	-.0005	.0005	.0037	.0082	-.0424

Zoom In
Zoom Out

Sample Name: MC42269-3F Acquired: 10/23/2015 17:22:51 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7146.6	11583.	229500.	10867.
Stddev	6.6	5.	1039.	25.
%RSD	.09283	.04161	.45253	.22862
#1	7151.3	11586.	230230.	10850.
#2	7141.9	11579.	228760.	10885.

Zoom In
Zoom Out

Sample Name: MC42269-4F Acquired: 10/23/2015 17:28:43 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0004**	**-.0062**	**.0008**	**.0002**	**.0349**	**.0034**	**.0000**	**.0006**	**45.00**
Stddev	.0003	.0018	.0001	.0001	.0000	.0002	.000	.0003	.11
%RSD	64.59	28.95	12.03	53.76	.0292	6.533	289.1	44.83	.2382
#1	.0006	-.0049	.0009	.0001	.0348	.0036	.0000	.0008	45.08
#2	.0002	-.0075	.0007	.0003	.0349	.0033	-.0001	.0004	44.92

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0014**	**.0005**	**.0020**	**.0005**	**3.464**	**.0086**	**5.019**	**.0029**
Stddev	.0000	.0000	.0001	.0001	.0019	.004	.0009	.016	.0000
%RSD	12.99	1.926	19.76	5.674	374.6	.1062	10.07	.3136	.2308
#1	.0001	.0014	.0006	.0021	-.0008	3.461	.0080	5.030	.0029
#2	.0000	.0014	.0004	.0019	.0018	3.467	.0092	5.008	.0029

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**32.94**	**.0063**	**.0001**	**.0029**	**-.0002**	**6.422**	**-.0008**	**.0009**
Stddev	.0000	.11	.0001	.0004	.0003	.0004	.001	.0003	.0001
%RSD	32.44	.3312	1.769	301.6	11.86	158.1	.0198	32.03	8.397
#1	.0001	33.02	.0063	.0005	.0032	.0000	6.421	-.0006	.0009
#2	.0002	32.87	.0064	-.0002	.0027	-.0005	6.423	-.0010	.0008

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.778**	**.0000**	**.2130**	**.0003**	**.0002**	**.0004**	**.0035**	**.0065**	**-.0397**
Stddev	.004	.000	.0004	.0002	.0003	.0002	.0002	.0001	.0000
%RSD	.0491	1170.	.1953	54.24	143.7	51.38	5.293	1.187	.1156
#1	7.781	-.0002	.2133	.0005	.0000	.0005	.0034	.0065	-.0398
#2	7.775	.0002	.2127	.0002	.0005	.0002	.0037	.0066	-.0397

Zoom In
Zoom Out

Sample Name: MC42269-4F Acquired: 10/23/2015 17:28:43 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6815.9**	**11322.**	**224420.**	**10810.**
Stddev	11.5	14.	1334.	35.
%RSD	.16855	.12693	.59454	.32087
#1	6824.0	11332.	225360.	10834.
#2	6807.8	11312.	223480.	10785.

11.1

11

Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/23/2015 17:34:36 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2456**	**10.01**	**1.945**	**1.960**	**1.954**	**1.967**	**1.970**	**1.970**	**9.974**
Stddev	.0012	.01	.000	.004	.000	.001	.001	.002	.021
%RSD	.5058	.0637	.0097	.2107	.0147	.0295	.0305	.0935	.2115
#1	.2465	10.00	1.945	1.957	1.953	1.967	1.970	1.969	9.960
#2	.2447	10.01	1.945	1.963	1.954	1.968	1.969	1.972	9.989
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.957**	**1.967**	**1.939**	**1.969**	**9.774**	**9.793**	**1.966**	**9.893**	**2.022**
Stddev	.001	.001	.007	.005	.011	.015	.002	.067	.006
%RSD	.0302	.0415	.3777	.2620	.1106	.1523	.0894	.6806	.3135
#1	1.956	1.967	1.944	1.973	9.766	9.782	1.965	9.940	2.027
#2	1.957	1.968	1.934	1.966	9.782	9.803	1.967	9.845	2.018
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.973**	**9.945**	**1.983**	**1.964**	**1.979**	**1.954**	**1.980**	**1.958**	**1.950**
Stddev	.014	.038	.001	.001	.005	.011	.002	.000	.001
%RSD	.7088	.3829	.0298	.0627	.2646	.5777	.0849	.0168	.0713
#1	1.963	9.918	1.982	1.963	1.983	1.962	1.981	1.958	1.949
#2	1.983	9.972	1.983	1.965	1.975	1.946	1.979	1.958	1.951
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/23/2015 17:34:36 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.925**	**1.974**	**1.985**	**1.939**	**2.000**	**1.935**	**1.963**	**1.965**	**1.974**
Stddev	.002	.001	.001	.006	.002	.004	.008	.001	.002
%RSD	.0847	.0546	.0412	.3247	.0990	.2318	.4288	.0241	.1212
#1	1.924	1.973	1.984	1.943	1.998	1.938	1.957	1.965	1.972
#2	1.927	1.975	1.985	1.934	2.001	1.932	1.969	1.964	1.976
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6936.8**	**11537.**	**229730.**	**10787.**
Stddev	8.6	9.	295.	46.
%RSD	.12449	.07519	.12858	.42603
#1	6942.9	11543.	229520.	10820.
#2	6930.7	11531.	229940.	10755.

Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/23/2015 17:40:20 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0077	.0006	.0007	.0017	-.0002	.0000	.0004	.0029
Stddev	.0000	.0042	.0003	.0003	.0001	.0002	.0000	.0003	.0023
%RSD	46.88	54.29	45.24	45.48	8.566	119.6	76.28	88.20	77.53
#1	.0001	-.0047	.0008	.0005	.0018	-.0003	.0000	.0006	.0013
#2	.0001	-.0106	.0004	.0010	.0016	.0000	.0001	.0001	.0046
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	.0000	.0002	.0000	.0286	.0013	.0207	.0001
Stddev	.0001	.0000	.0003	.0002	.0020	.0026	.0010	.0105	.0000
%RSD	113.8	12.30	981.5	84.03	125500.	9.187	74.39	50.82	11.43
#1	.0000	.0002	.0002	.0001	.0014	.0268	.0020	.0281	.0001
#2	.0001	.0001	-.0002	.0004	-.0014	.0305	.0006	.0133	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0115	.0176	.0000	.0000	.0007	.0002	.0002	.0002	.0015
Stddev	.0020	.0014	.0001	.0001	.0003	.0018	.0008	.0004	.0010
%RSD	17.26	7.971	292.5	320.2	46.88	760.9	381.5	190.2	66.23
#1	.0129	.0166	.0001	-.0001	.0005	.0015	-.0003	.0004	.0008
#2	.0101	.0186	.0000	.0001	.0009	-.0010	.0007	-.0001	.0021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/23/2015 17:40:20 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0010	.0005	.0001	.0006	.0008	.0002	.0123	.0001	.0022
Stddev	.0006	.0001	.0000	.0001	.0000	.0000	.0013	.0001	.0002
%RSD	54.89	12.23	1.609	22.22	3.458	17.22	10.25	104.7	10.73
#1	.0014	.0005	.0001	.0005	.0008	.0003	.0132	.0000	.0024
#2	.0006	.0005	.0001	.0007	.0008	.0002	.0114	.0001	.0020
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7321.0	11731.	232790.	10809.
Stddev	4.3	2.	1627.	2.
%RSD	.05862	.01471	.69886	.01703
#1	7318.0	11732.	231640.	10808.
#2	7324.1	11730.	233940.	10810.

11.1

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Zoom In
Zoom Out

Sample Name: MC42269-5F Acquired: 10/23/2015 17:46:14 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0014	.0008	.0008	.0051	.0407	.0001	.0007
Stddev	.0000	.0092	.0004	.0000	.0000	.0001	.0000	.0000
%RSD	20.12	636.6	51.29	4.283	.1147	.1534	9.353	3.854
#1	.0002	-.0079	.0011	.0008	.0051	.0406	.0001	.0007
#2	.0001	.0050	.0005	.0008	.0051	.0407	.0001	.0007

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	54.30	.0001	.0007	.0004	.0016	.7710	4.586	.0164
Stddev	.06	.0000	.0000	.0002	.0000	.0031	.026	.0017
%RSD	.1124	18.74	5.415	48.80	.3805	.4049	.5710	10.34
#1	54.35	.0002	.0007	.0003	.0016	.7688	4.568	.0175
#2	54.26	.0001	.0006	.0005	.0016	.7732	4.605	.0152

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.95	.0152	.0037	62.22	.0548	.0002	.0042	.0013
Stddev	.02	.0000	.0004	.04	.0000	.0005	.0007	.0026
%RSD	.1825	.1226	12.15	.0615	.0343	237.0	16.63	194.6
#1	11.93	.0152	.0040	62.25	.0548	-.0001	.0047	.0031
#2	11.96	.0152	.0034	62.19	.0548	.0006	.0037	-.0005

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.875	-.0005	.0007	10.22	.0000	.4384	.0006	.0000
Stddev	.005	.0001	.0005	.01	.000	.0004	.0001	.0004
%RSD	.1373	19.24	71.14	.0905	186.9	.0815	21.09	21940.
#1	3.878	-.0006	.0003	10.23	-.0001	.4386	.0007	.0003
#2	3.871	-.0004	.0010	10.21	.0000	.4381	.0005	-.0002

Zoom In
Zoom Out

Sample Name: MC42269-5F Acquired: 10/23/2015 17:46:14 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0001	.0110	.0087	F -.0518
Stddev	.0000	.0004	.0001	.0001
%RSD	45.71	3.595	.5818	.0985
#1	.0001	.0113	.0087	-.0518
#2	.0001	.0107	.0088	-.0517

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6637.4	11163.	220470.	10735.
Stddev	4.7	7.	347.	41.
%RSD	.07073	.06310	.15739	.38087
#1	6640.7	11168.	220230.	10706.
#2	6634.1	11158.	220720.	10764.

Zoom In
Zoom Out

Sample Name: MC42269-6F Acquired: 10/23/2015 17:52:05 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0138	.0013	-.0056	.0025	.0997	.0001	.0023	118.7
Stddev	.0001	.0101	.0006	.0004	.0000	.0003	.0000	.0006	.7
%RSD	35.58	73.07	48.07	7.699	1.753	.3413	18.27	26.41	.5933
#1	.0001	.0067	.0009	-.0053	.0025	.0994	.0000	.0018	118.2
#2	.0002	.0209	.0018	-.0059	.0026	.0999	.0001	.0027	119.2

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0040	.0010	.0009	4.766	5.738	.0175	18.93	9.805
Stddev	.0000	.0001	.0001	.0000	.052	.021	.0016	.05	.176
%RSD	14.85	1.595	14.14	1.156	1.089	.3629	8.898	.2471	1.793
#1	.0001	.0040	.0010	.0009	4.730	5.753	.0186	18.90	9.929
#2	.0001	.0041	.0009	.0009	4.803	5.723	.0164	18.97	9.680

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	151.1	.0165	-.0001	.0009	.0029	1.176	-.0014	.0011
Stddev	.0001	.7	.0000	.0005	.0010	.0005	.001	.0003	.0010
%RSD	7.095	.4402	.1658	369.2	106.2	15.63	.0609	19.69	88.27
#1	.0017	150.6	.0166	.0002	.0002	.0032	1.175	-.0016	.0019
#2	.0016	151.5	.0165	-.0005	.0016	.0026	1.176	-.0012	.0004

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.970	.0001	.8903	.0012	.0001	.0004	.0061	.0066	-.0459
Stddev	.002	.0002	.0008	.0003	.0002	.0000	.0009	.0000	.0000
%RSD	.0181	163.9	.0938	24.27	129.3	.4436	14.38	.4144	.0060
#1	8.971	.0003	.8897	.0014	.0002	.0004	.0068	.0066	-.0459
#2	8.969	.0000	.8909	.0010	.0000	.0004	.0055	.0066	-.0459

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Zoom In
Zoom Out

Sample Name: MC42269-6F Acquired: 10/23/2015 17:52:05 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6268.4	10818.	213600.	10666.
Stddev	4.1	14.	1618.	45.
%RSD	.06528	.12489	.75743	.42476
#1	6271.3	10828.	212450.	10698.
#2	6265.5	10809.	214740.	10634.

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Zoom In
Zoom Out

Sample Name: MC42269-7F Acquired: 10/23/2015 17:58:03 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0053	.0001	.0006	.0049	.0125	.0001	.0001	26.24
Stddev	.0002	.0089	.0001	.0006	.0001	.0000	.0000	.0002	.09
%RSD	45.33	167.1	73.34	97.92	2.720	.3393	17.94	191.2	.3368
#1	.0002	.0010	.0001	.0010	.0050	.0125	.0000	.0000	26.30
#2	.0004	-.0117	.0002	.0002	.0048	.0125	.0001	.0002	26.18

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0002	.0004	.0013	.0086	2.662	.0059	3.315	.0741
Stddev	.0000	.0000	.0003	.0000	.0005	.014	.0018	.006	.0005
%RSD	35.44	18.66	63.98	2.659	5.876	.5335	30.25	.1710	.6521
#1	.0001	.0002	.0002	.0013	.0083	2.652	.0072	3.311	.0738
#2	.0000	.0002	.0006	.0012	.0090	2.672	.0047	3.319	.0744

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	13.64	.0006	-.0001	.0023	.0005	4.110	-.0002	.0003
Stddev	.0001	.11	.0001	.0001	.0009	.0001	.000	.0005	.0001
%RSD	11.48	.8184	11.79	96.20	39.06	12.07	.0096	226.8	39.02
#1	.0010	13.72	.0005	.0000	.0017	.0006	4.110	-.0006	.0002
#2	.0009	13.56	.0006	-.0002	.0029	.0005	4.110	.0001	.0004

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.021	-.0002	.2270	.0005	-.0001	.0000	.0083	.0070	-.0407
Stddev	.005	.0000	.0005	.0002	.0002	.0001	.0005	.0000	.0001
%RSD	.0608	.1203	.2218	44.20	356.9	627.6	5.587	.4540	.1510
#1	8.024	-.0002	.2273	.0003	.0001	-.0001	.0087	.0070	-.0407
#2	8.018	-.0002	.2266	.0006	-.0002	.0001	.0080	.0069	-.0407

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Zoom In
Zoom Out

Sample Name: MC42269-7F Acquired: 10/23/2015 17:58:03 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7003.0	11472.	227360.	10831.
Stddev	.9	5.	1745.	61.
%RSD	.01340	.04231	.76747	.56438
#1	7002.4	11475.	228590.	10874.
#2	7003.7	11468.	226120.	10788.

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11.1

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◀ Zoom In ▶
Zoom Out

Sample Name: MC42269-8F Acquired: 10/23/2015 18:03:57 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	-.0021	.0141	-.0024	.0039	.0279	.0000	.0009
Stddev	.0003	.0027	.0010	.0007	.0002	.0003	.0000	.0004
%RSD	104.3	126.9	7.363	29.62	4.140	1.046	80.75	43.49
#1	.0001	-.0040	.0134	-.0019	.0040	.0277	.0000	.0011
#2	.0005	-.0002	.0149	-.0029	.0038	.0281	.0000	.0006

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	40.07	.0003	.0111	.0006	.0007	.5641	4.259	.0105
Stddev	.14	.0000	.0000	.0002	.0001	.0046	.010	.0005
%RSD	.3385	13.80	.0678	36.89	8.001	.8199	.2297	5.182
#1	39.98	.0003	.0111	.0005	.0006	.5609	4.252	.0108
#2	40.17	.0003	.0111	.0008	.0007	.5674	4.266	.0101

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.952	4.381	.0010	20.68	.0122	-.0001	.0035	-.0004
Stddev	.007	.004	.0001	.11	.0001	.0001	.0003	.0007
%RSD	.0840	.0920	12.64	.5391	.7711	80.44	9.771	204.2
#1	8.958	4.384	.0011	20.60	.0123	-.0002	.0037	.0002
#2	8.947	4.379	.0009	20.76	.0122	-.0001	.0032	-.0009

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	3.332	-.0003	-.0005	10.30	.0001	.2707	.0004	-.0005
Stddev	.002	.0002	.0003	.00	.0001	.0008	.0001	.0003
%RSD	.0455	79.07	57.34	.0332	66.82	.2915	31.58	66.73
#1	3.331	-.0001	-.0003	10.30	.0001	.2701	.0003	-.0007
#2	3.333	-.0005	-.0007	10.31	.0001	.2712	.0005	-.0002

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◀ Zoom In ▶
Zoom Out

Sample Name: MC42269-8F Acquired: 10/23/2015 18:03:57 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0002	.0095	.0161	F -.0527
Stddev	.0001	.0001	.0000	.0001
%RSD	54.89	.5550	.3009	.2183
#1	.0003	.0095	.0161	-.0528
#2	.0001	.0096	.0161	-.0526

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6870.7	11400.	226620.	10850.
Stddev	6.4	12.	118.	47.
%RSD	.09370	.10287	.05205	.43777
#1	6875.3	11408.	226540.	10884.
#2	6866.2	11392.	226700.	10817.

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◀ Zoom In ▶
Zoom Out

Sample Name: RINSECONF Acquired: 10/23/2015 18:09:55 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0053	-.0009	.0004	.0008	.0000	.0001	-.0002	.0047
Stddev	.0003	.0028	.0004	.0002	.0001	.000	.0000	.0001	.0014
%RSD	789.7	51.56	42.39	33.79	17.43	213.2	29.80	32.37	29.34
#1	.0003	-.0034	-.0006	.0006	.0007	.0000	.0001	-.0003	.0057
#2	-.0002	-.0073	-.0012	.0003	.0010	-.0001	.0001	-.0002	.0038

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0002	.0001	.0003	.0011	.0334	.0020	.0236	.0007
Stddev	.0000	.0000	.0001	.0000	.0037	.0149	.0005	.0119	.0000
%RSD	7.999	11.67	70.60	6.730	329.4	44.76	23.05	50.29	2.590
#1	.0001	.0002	.0001	.0003	-.0015	.0228	.0017	.0320	.0007
#2	.0002	.0002	.0002	.0003	.0037	.0439	.0023	.0152	.0007

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0007	.0315	.0001	.0005	.0005	.0007	.0016	.0000	.0006
Stddev	.0001	.0057	.0001	.0003	.0002	.0009	.0022	.0008	.0001
%RSD	13.79	18.10	46.71	68.04	39.39	121.5	139.0	1597.	15.42
#1	.0008	.0355	.0001	.0002	.0004	.0014	.0032	-.0005	.0007
#2	.0006	.0275	.0002	.0007	.0006	.0001	.0000	.0006	.0006

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014	.0001	.0001	.0002	.0009	.0003	.0015	.0001	.0002
Stddev	.0001	.0002	.0000	.0001	.0002	.0002	.0003	.0001	.0001
%RSD	9.797	136.7	10.70	43.42	19.24	71.35	22.98	42.44	23.38
#1	.0013	.0002	.0001	.0002	.0010	.0001	.0012	.0001	.0003
#2	.0015	.0000	.0001	.0003	.0008	.0004	.0017	.0002	.0002

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◀ Zoom In ▶
Zoom Out

Sample Name: RINSECONF Acquired: 10/23/2015 18:09:55 Type: Unk
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7331.0	11755.	233110.	10832.
Stddev	2.0	11.	88.	16.
%RSD	.02742	.08985	.03796	.14951
#1	7329.6	11763.	233050.	10843.
#2	7332.4	11748.	233170.	10821.

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11.1
11

Zoom In
Zoom Out

Sample Name: CRI Acquired: 10/23/2015 18:15:50 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0053	.1976	.0037	.0496	.1009	.0488	.0040	.0512	5.041
Stddev	.0000	.0054	.0003	.0002	.0003	.0002	.0001	.0002	.025
%RSD	.5082	2.726	7.836	.4868	.3247	.5002	2.997	.4836	.4971
#1	.0053	.1937	.0035	.0498	.1007	.0486	.0039	.0513	5.024
#2	.0052	.2014	.0039	.0495	.1011	.0489	.0041	.0510	5.059
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.0489	.0099	.0239	.0957	4.946	.4949	5.031	.0157
Stddev	.0001	.0000	.0000	.0003	.0017	.013	.0010	.024	.0000
%RSD	1.922	.0687	.4976	1.434	1.819	.2656	.1926	.4805	.1455
#1	.0039	.0490	.0100	.0241	.0945	4.956	.4942	5.048	.0157
#2	.0040	.0489	.0099	.0236	.0969	4.937	.4956	5.014	.0158
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1020	5.015	.0424	.0050	.0523	.0510	.0496	.0054	.0098
Stddev	.0009	.016	.0004	.0001	.0001	.0002	.0006	.0006	.0006
%RSD	.9260	.3127	.8793	1.920	.1082	.3291	1.152	10.19	6.269
#1	.1013	5.004	.0422	.0049	.0522	.0511	.0492	.0058	.0102
#2	.1027	5.027	.0427	.0051	.0523	.0508	.0500	.0050	.0094
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Zoom In
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Sample Name: CRI Acquired: 10/23/2015 18:15:50 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0977	.1010	.0100	.0488	.0059	.0096	F .0432	.0201	.0368
Stddev	.0002	.0000	.0000	.0001	.0001	.0000	.0001	.0001	.0015
%RSD	.2410	.0268	.4284	.2943	2.338	.0437	.2924	.2732	4.172
#1	.0976	.1010	.0100	.0487	.0060	.0096	.0431	.0202	.0357
#2	.0979	.1011	.0101	.0489	.0058	.0096	.0433	.0201	.0379
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value							.1000		
Range							-30.00%		

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7125.2	11613.	229550.	10791.
Stddev	5.7	11.	20.	50.
%RSD	.07989	.09462	.00872	.45879
#1	7129.2	11620.	229570.	10826.
#2	7121.2	11605.	229540.	10756.

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Zoom In
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Sample Name: CCV Acquired: 10/23/2015 18:21:41 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2463	10.02	1.945	1.975	1.956	1.975	1.983	1.972	10.08
Stddev	.0008	.04	.002	.010	.004	.001	.013	.008	.05
%RSD	.3367	.3606	.1030	.5190	.2134	.0731	.6340	.4033	.4876
#1	.2457	10.05	1.947	1.968	1.953	1.976	1.992	1.967	10.11
#2	.2469	9.996	1.944	1.982	1.959	1.974	1.974	1.978	10.04
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.960	1.967	1.953	1.977	9.835	9.851	1.966	9.940	2.036
Stddev	.006	.002	.009	.003	.044	.014	.005	.042	.006
%RSD	.2918	.0768	.4789	.1659	.4482	.1385	.2323	.4182	.2941
#1	1.956	1.966	1.947	1.979	9.866	9.841	1.963	9.969	2.032
#2	1.964	1.968	1.960	1.974	9.804	9.860	1.970	9.911	2.040
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.976	10.02	1.982	1.965	1.987	1.967	1.981	1.960	1.951
Stddev	.016	.07	.000	.002	.001	.004	.001	.004	.003
%RSD	.8187	.7269	.0162	.0925	.0679	.2201	.0280	.1896	.1339
#1	1.965	10.07	1.982	1.963	1.988	1.963	1.981	1.958	1.949
#2	1.987	9.965	1.982	1.966	1.986	1.970	1.981	1.963	1.953
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Zoom In
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Sample Name: CCV Acquired: 10/23/2015 18:21:41 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.923	1.976	1.997	1.948	2.000	1.947	1.971	1.972	2.001
Stddev	.005	.002	.009	.003	.003	.007	.015	.002	.004
%RSD	.2769	.0753	.4707	.1742	.1436	.3456	.7394	.0911	.2004
#1	1.920	1.975	2.004	1.946	1.998	1.943	1.961	1.970	1.998
#2	1.927	1.977	1.991	1.950	2.002	1.952	1.981	1.973	2.004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6932.4	11513.	228130.	10748.
Stddev	3.6	3.	691.	21.
%RSD	.05165	.02404	.30286	.19892
#1	6929.8	11515.	228620.	10763.
#2	6934.9	11511.	227650.	10733.

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Zoom In Zoom Out

Sample Name: CCB Acquired: 10/23/2015 18:27:23 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	-.0085	.0012	.0006	.0020	.0001	.0001	.0002	.0031
Stddev	.0004	.0018	.0007	.0003	.0002	.0001	.0000	.0008	.0022
%RSD	157.4	20.86	57.30	43.39	7.666	114.5	30.81	410.4	71.01
#1	.0000	-.0072	.0007	.0008	.0019	.0000	.0001	.0007	.0046
#2	.0005	-.0097	.0016	.0004	.0021	.0002	.0001	-.0004	.0015
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0002	.0001	.0003	.0011	.0151	.0004	.0169	.0001
Stddev	.0001	.0001	.0002	.0000	.0016	.0040	.0009	.0142	.0000
%RSD	34.71	35.30	150.8	.3162	152.3	26.61	196.6	84.01	24.74
#1	.0002	.0002	.0003	.0003	.0022	.0123	-.0002	.0068	.0001
#2	.0003	.0003	.0000	.0003	-.0001	.0180	.0010	.0269	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0115	.0122	.0002	.0002	-.0001	.0018	.0002	-.0007	.0007
Stddev	.0023	.0053	.0001	.0001	.0005	.0010	.0005	.0003	.0001
%RSD	19.61	43.56	24.08	50.74	418.1	51.48	303.2	52.48	18.41
#1	.0131	.0159	.0002	.0003	-.0005	.0025	.0005	-.0009	.0006
#2	.0099	.0084	.0003	.0001	.0002	.0012	-.0002	-.0004	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In Zoom Out

Sample Name: CCB Acquired: 10/23/2015 18:27:23 Type: QC
Method: Accutest1(v135) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0005	.0001	.0007	.0009	.0002	.0123	.0002	.0023
Stddev	.0001	.0002	.0000	.0002	.0000	.0000	.0024	.0001	.0002
%RSD	62.38	39.65	3.477	30.31	1.444	16.04	19.49	24.07	10.07
#1	.0001	.0007	.0001	.0009	.0010	.0002	.0140	.0002	.0025
#2	.0003	.0004	.0001	.0006	.0009	.0002	.0106	.0003	.0021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7318.3	11730.	231660.	10811.
Stddev	1.5	22.	1080.	23.
%RSD	.02019	.18456	.46619	.21030
#1	7319.4	11745.	230900.	10795.
#2	7317.3	11715.	232420.	10827.

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
	Ag 328.068 {103}	☒	8	Fe	-0.000266	0.000000	No
				Mn	0.000233	0.000000	No
				Ti	-0.000312	0.000000	No
				V	-0.000431	0.000000	No
				Cu	0.000013	0.000000	No
				Mo	-0.000002	0.000000	No
				Zr	0.002357	0.000000	No
				Al	0.000000	0.000000	No
	Al 396.152 { 85}	☒	5	Mo	0.037257	0.000000	No
				Mn	-0.000123	0.000000	No
				Ca	-0.000202	0.000000	No
				Zn	0.000284	0.000000	No
				Zr	0.002390	0.000000	No
	As 189.042 {478}	☒	16	Fe	0.000001	0.000000	No
				Mg	-0.000001	0.000000	No
				Ca	-0.000012	0.000000	No
				Na	0.000002	0.000000	No
				Mn	-0.000022	0.000000	No
				Co	-0.001083	0.000000	No
				Cr	0.000368	0.000000	No
				Mo	0.002661	0.000000	No
				Ti	-0.000091	0.000000	No
				V	0.000157	0.000000	No
				Al	0.000003	0.000000	No
				Pd	0.022094	0.000000	No
				Zr	0.000248	0.000000	No
				B	0.000148	0.000000	No
				W	0.000729	0.000000	No
				Pt	-0.000581	0.000000	No
	Au 242.795 {139}	☒	5	Fe	0.000104	0.000000	No
				Mn	0.005554	0.000000	No
				W	-0.000630	0.000000	No
				Pt	-0.000655	0.000000	No
				Co	-0.003324	0.000000	No
	B 208.959 {462}	☒	5	Si	0.000469	0.000000	No
				Mo	0.042880	0.000000	No
				V	0.002173	0.000000	No
				Pt	0.001742	0.000000	No
				Sn	0.000934	0.000000	No
	Ba 455.403 { 74}	☒	1	Ca	0.000009	0.000000	No
	Be 313.042 {108}	☒	4	Ti	-0.000097	0.000000	No
				V	0.000094	0.000000	No
				Cd	0.007729	0.000000	No
				Pb	-0.000004	0.000000	No
	Bi 223.061 {451}	☒	7	Fe	0.000283	0.000000	No
				Co	-0.004413	0.000000	No
				Cr	0.001095	0.000000	No
				Ti	-0.001254	0.000000	No
				V	-0.000924	0.000000	No
				Cu	-0.002297	0.000000	No
				W	-0.003887	0.000000	No
	Ca 317.933 {106}	☒	4	Al	0.000075	0.000000	No
				Mg	0.000046	0.000000	No
				Cu	0.000277	0.000000	No
				Tl	-0.000688	0.000000	No
	Cd 228.802 {448}	☒	8	Fe	0.000016	0.000000	No
				Mg	0.000003	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Co	-0.002614	0.000000	No
			Ni	-0.000111	0.000000	No
			V	0.000084	0.000000	No
			As	0.001044	0.000000	No
			W	-0.001156	0.000000	No
			Pt	-0.006906	0.000000	No
Co 228.616 {448}	☒	4	Fe	0.000041	0.000000	No
			Mo	-0.000565	0.000000	No
			Ti	0.002304	0.000000	No
			Mg	0.000002	0.000000	No
Cr 267.716 {126}	☒	6	Cu	0.000036	0.000000	No
			Al	0.000005	0.000000	No
			Fe	-0.000004	0.000000	No
			Mn	0.000450	0.000000	No
			W	0.000136	0.000000	No
			Pt	0.005403	0.000000	No
Cu 324.754 {104}2	☒	8	Fe	-0.000109	0.000000	No
			Co	-0.000833	0.000000	No
			Mo	0.000251	0.000000	No
			V	-0.000466	0.000000	No
			Zr	-0.000157	0.000000	No
			Mn	-0.000008	0.000000	No
			Ca	0.000000	0.000000	No
			Ti	-0.000147	0.000000	No
Fe 259.940 {130}	☒	None				
In 230.606 {446}*	☒	None				
K 766.490 { 44}	☒	2	Na	0.000226	0.000000	No
			Fe	-0.000119	0.000000	No
Li 670.784 { 50}	☒	2	Ca	0.000012	0.000000	No
			Na	0.000006	0.000000	No
Mg 279.079 {121}	☒	3	Fe	-0.000180	0.000000	No
			Mo	-0.005168	0.000000	No
			Mn	-0.000245	0.000000	No
Mn 257.610 {131}	☒	3	Fe	-0.000042	0.000000	No
			Ca	0.000001	0.000000	No
			Si	0.000088	0.000000	No
Mo 202.030 {467}	☒	8	Al	0.000002	0.000000	No
			Mg	0.000003	0.000000	No
			Ca	0.000002	0.000000	No
			Na	0.000001	0.000000	No
			Mn	-0.000024	0.000000	No
			Co	-0.000275	0.000000	No
			Cu	0.000005	0.000000	No
			Ni	0.000009	0.000000	No
Na 589.592 { 57}	☒	2	Al	0.000307	0.000000	No
			Pb	0.006520	0.000000	No
Ni 231.604 {446}	☒	4	Co	-0.000073	0.000000	No
			Mo	-0.000230	0.000000	No
			Fe	0.000051	0.000000	No
			Ca	-0.000002	0.000000	No
Pb 220.353 {453}	☒	14	Fe	0.000027	0.000000	No
			Al	-0.000086	0.000000	No
			Si	0.000026	0.000000	No
			Co	0.000036	0.000000	No
			Cu	0.000195	0.000000	No
			Ni	0.000220	0.000000	No
			Mo	-0.001169	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Mg	0.000000	0.000000	No
				Ca	0.000006	0.000000	No
				Mn	0.000101	0.000000	No
				S	0.000003	0.000000	No
				Ti	-0.000098	0.000000	No
				V	-0.000044	0.000000	No
				W	-0.003656	0.000000	No
	Pd 340.458 { 99}	☒	6	Fe	-0.000262	0.000000	No
				Ca	-0.000019	0.000000	No
				Co	-0.002552	0.000000	No
				Ti	-0.001187	0.000000	No
				Zr	-0.019958	0.000000	No
				Si	-0.000462	0.000000	No
	Pt 265.945 {127}	☒	7	Fe	-0.000136	0.000000	No
				Al	0.000012	0.000000	No
				Mn	-0.002073	0.000000	No
				Cr	0.006745	0.000000	No
				Mo	-0.003169	0.000000	No
				V	-0.009726	0.000000	No
				W	-0.001914	0.000000	No
	S 182.034 {485}	☒	8	Fe	0.000571	0.000000	No
				Al	-0.000044	0.000000	No
				Mg	0.000006	0.000000	No
				Ca	-0.000072	0.000000	No
				Mn	0.003629	0.000000	No
				Mo	-0.002859	0.000000	No
				Ti	0.000793	0.000000	No
				W	-0.020330	0.000000	No
	Sb 206.833 {463}	☒	14	Fe	0.000038	0.000000	No
				Al	0.000004	0.000000	No
				Mg	0.000001	0.000000	No
				Ca	-0.000005	0.000000	No
				Cr	0.012085	0.000000	No
				Ni	-0.000078	0.000000	No
				Mo	-0.003669	0.000000	No
				Cu	-0.000040	0.000000	No
				Sn	-0.008342	0.000000	No
				Zr	-0.000420	0.000000	No
				Ti	0.000152	0.000000	No
				V	-0.001971	0.000000	No
				W	0.001020	0.000000	No
				Pt	-0.000636	0.000000	No
	Se 196.090 {472}	☒	14	Fe	-0.000258	0.000000	No
				Al	-0.000003	0.000000	No
				Mg	0.000000	0.000000	No
				Ca	-0.000003	0.000000	No
				Na	0.000001	0.000000	No
				Co	-0.000719	0.000000	No
				Ni	-0.000077	0.000000	No
				Mn	0.000565	0.000000	No
				Sn	0.000162	0.000000	No
				Pd	-0.000547	0.000000	No
				V	0.000026	0.000000	No
				Mo	0.000309	0.000000	No
				Ti	-0.000180	0.000000	No
				W	0.008207	0.000000	No
	Si 212.412 {459}	☒	7	Al	0.000034	0.000000	No

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	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Mo	0.022709	0.000000	No
				Ti	0.006756	0.000000	No
				V	0.013836	0.000000	No
				Ni	0.001773	0.000000	No
				Pb	0.000994	0.000000	No
				S	0.000176	0.000000	No
	Sn 189.989 {478}	☒	1	Ti	-0.003273	0.000000	No
	Sr 407.771 { 83}	☒	None				
	Ti 334.904 {101}	☒	3	Mo	0.000228	0.000000	No
				Ca	0.000007	0.000000	No
				Al	0.000002	0.000000	No
	Tl 190.856 {477}	☒	11	Al	-0.000002	0.000000	No
				Mg	-0.000002	0.000000	No
				Ca	-0.000004	0.000000	No
				Na	-0.000001	0.000000	No
				Mn	0.001234	0.000000	No
				Co	0.002991	0.000000	No
				Cr	0.000168	0.000000	No
				Ti	-0.001400	0.000000	No
				V	-0.035172	0.000000	No
				Fe	0.000007	0.000000	No
				Mo	-0.000003	0.000000	No
	V 292.402 {115}	☒	5	Fe	0.000008	0.000000	No
				Mn	-0.000201	0.000000	No
				Cr	-0.002833	0.000000	No
				Mo	-0.010232	0.000000	No
				Ti	0.000299	0.000000	No
	W 207.911 {462}	☒	6	Co	-0.000470	0.000000	No
				Cr	0.000348	0.000000	No
				Cu	0.000621	0.000000	No
				Ni	0.000331	0.000000	No
				Ti	-0.000410	0.000000	No
				V	0.000132	0.000000	No
	Y 224.306 {451}*	☒	None				
	Y 360.073 { 94}*	☒	None				
	Y 371.030 { 91}*	☒	None				
	Zn 206.200 {464}	☒	8	Mg	0.000004	0.000000	No
				Al	0.000002	0.000000	No
				Ca	0.000002	0.000000	No
				Na	0.000001	0.000000	No
				Cr	-0.000273	0.000000	No
				Ti	0.000018	0.000000	No
				Fe	0.000013	0.000000	No
				Pd	0.000030	0.000000	No
	Zr 339.198 { 99}	☒	7	Fe	0.000025	0.000000	No
				Ti	0.000616	0.000000	No
				V	0.011460	0.000000	No
				Mo	0.000222	0.000000	No
				S	-0.000027	0.000000	No
				Si	0.005167	0.000000	No
				Sn	0.004194	0.000000	No

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
	Ag 328.068 {103}	10/26/2015 13:36:36	10/23/2015 11:05:19	Linear	1/Conc	-0.000041	0.115230	0.000000	1.000000
	Al 396.152 { 85}	10/26/2015 13:36:36	10/23/2015 11:05:19	Linear	1/Conc	0.000130	0.039947	0.000000	1.000000
	As 189.042 {478}	10/26/2015 13:36:36	10/23/2015 11:05:19	Linear	1/Conc	-0.000017	0.030347	0.000000	1.000000
	Au 242.795 {139}	10/26/2015 13:36:36	10/23/2015 11:05:19	Linear	1/Conc	-0.000020	0.020233	0.000000	1.000000
	B 208.959 {462}	10/26/2015 13:36:36	10/23/2015 11:05:19	Linear	1/Conc	0.000671	0.242965	0.000000	1.000000
	Ba 455.403 { 74}	10/26/2015 13:36:36	10/23/2015 11:05:19	Linear	1/Conc	0.005076	2.793530	0.000000	1.000000
	Be 313.042 {108}	10/26/2015 13:36:36	10/23/2015 11:05:19	Linear	1/Conc	-0.000191	3.711640	0.000000	1.000000
	Bi 223.061 {451}	10/26/2015 13:36:36	10/23/2015 11:05:19	Linear	1/Conc	0.000595	0.081591	0.000000	1.000000
	Ca 317.933 {106}	10/26/2015 13:36:36	10/23/2015 11:05:19	Linear	1/Conc	0.007045	0.079714	0.000000	1.000000
	Cd 228.802 {448}	10/26/2015 13:36:36	10/23/2015 11:05:19	Linear	1/Conc	0.000204	1.030444	0.000000	1.000000
	Co 228.616 {448}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000408	1.535175	0.000000	1.000000
	Cr 267.716 {126}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.000031	0.059866	0.000000	1.000000
	Cu 324.754 {104}2	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.001606	0.227536	0.000000	1.000000
	Fe 259.940 {130}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.000439	0.046431	0.000000	1.000000
	In 230.606 {446}*	10/26/2015 13:36:36	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	K 766.490 { 44}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.003923	0.046698	0.000000	1.000000
	Li 670.784 { 50}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.002001	0.924662	0.000000	1.000000
	Mg 279.079 {121}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000092	0.008629	0.000000	1.000000
	Mn 257.610 {131}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.000310	0.476253	0.000000	1.000000
	Mo 202.030 {467}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.000100	0.451218	0.000000	1.000000
	Na 589.592 { 57}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.003164	0.142456	0.000000	1.000000
	Ni 231.604 {446}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.001426	1.259819	0.000000	1.000000
	Pb 220.353 {453}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000106	0.303310	0.000000	1.000000
	Pd 340.458 { 99}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000033	0.041422	0.000000	1.000000
	Pt 265.945 {127}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000067	0.006773	0.000000	1.000000
	S 182.034 {485}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000219	0.021674	0.000000	1.000000
	Sb 206.833 {463}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.000093	0.081816	0.000000	1.000000
	Se 196.090 {472}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.000069	0.042074	0.000000	1.000000
	Si 212.412 {459}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.006340	0.168412	0.000000	1.000000
	Sn 189.989 {478}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000148	0.206505	0.000000	1.000000
	Sr 407.771 { 83}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.003582	6.039991	0.000000	1.000000
	Ti 334.904 {101}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000150	0.158732	0.000000	1.000000
	Tl 190.856 {477}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000602	0.178667	0.000000	1.000000
	V 292.402 {115}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.000002	0.071639	0.000000	1.000000
	W 207.911 {462}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	0.000954	0.143072	0.000000	1.000000
	Y 224.306 {451}*	10/26/2015 13:36:36	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 360.073 { 94}*	10/26/2015 13:36:36	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Y 371.030 { 91}*	10/26/2015 13:36:36	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
	Zn 206.200 {464}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000007	0.950790	0.000000	1.000000
	Zr 339.198 { 99}	10/26/2015 13:36:36	10/23/2015 11:05:20	Linear	1/Conc	-0.000066	0.179552	0.000000	1.000000

	Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
							Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	1.000000	0.000000	0.000362	0.001208	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	1.000000	0.000000	0.011015	0.036718	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	1.000000	0.000000	0.001168	0.003894	OK.	1.000000	0.000000	1	0
	Au 242.795 {139}	1.000000	0.000000	0.000753	0.002511	OK.	1.000000	0.000000	1	0
	B 208.959 {462}	1.000000	0.000000	0.000251	0.000837	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	1.000000	0.000000	0.000233	0.000776	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	1.000000	0.000000	0.000067	0.000225	OK.	1.000000	0.000000	1	0
	Bi 223.061 {451}	1.000000	0.000000	0.001086	0.003618	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	1.000000	0.000000	0.003114	0.010381	OK.	1.000000	0.000000	1	0
	Cd 228.802 {448}	1.000000	0.000000	0.000080	0.000266	OK.	1.000000	0.000000	1	0
	Co 228.616 {448}	1.000000	0.000000	0.000095	0.000318	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	1.000000	0.000000	0.000315	0.001050	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}2	1.000000	0.000000	0.000235	0.000783	OK.	1.000000	0.000000	1	0
	Fe 259.940 {130}	1.000000	0.000000	0.002839	0.009464	OK.	1.000000	0.000000	1	0
	In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	K 766.490 { 44}	1.000000	0.000000	0.030226	0.100755	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	1.000000	0.000000	0.001339	0.004465	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	1.000000	0.000000	0.019394	0.064646	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	1.000000	0.000000	0.000039	0.000131	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	1.000000	0.000000	0.000130	0.000435	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	1.000000	0.000000	0.008155	0.027184	OK.	1.000000	0.000000	1	0
	Ni 231.604 {446}	1.000000	0.000000	0.000131	0.000437	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	1.000000	0.000000	0.000581	0.001936	OK.	1.000000	0.000000	1	0
	Pd 340.458 { 99}	1.000000	0.000000	0.000918	0.003061	OK.	1.000000	0.000000	1	0
	Pt 265.945 {127}	1.000000	0.000000	0.003027	0.010089	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	1.000000	0.000000	0.001628	0.005426	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	1.000000	0.000000	0.000765	0.002549	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	1.000000	0.000000	0.001195	0.003985	OK.	1.000000	0.000000	1	0
	Si 212.412 {459}	1.000000	0.000000	0.000440	0.001467	OK.	1.000000	0.000000	1	0
	Sn 189.989 {478}	1.000000	0.000000	0.000230	0.000767	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	1.000000	0.000000	0.000080	0.000266	OK.	1.000000	0.000000	1	0
	Ti 334.904 {101}	1.000000	0.000000	0.000252	0.000841	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	1.000000	0.000000	0.000535	0.001784	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	1.000000	0.000000	0.000306	0.001019	OK.	1.000000	0.000000	1	0
	W 207.911 {462}	1.000000	0.000000	0.000704	0.002346	OK.	1.000000	0.000000	1	0
	Y 224.306 {451}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Zn 206.200 {464}	1.000000	0.000000	0.000066	0.000220	OK.	1.000000	0.000000	1	0
	Zr 339.198 { 99}	1.000000	0.000000	0.000162	0.000539	OK.	1.000000	0.000000	1	0

11.1.2

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Zoom In
Zoom Out

Sample Name: STD1 Acquired: 10/26/2015 10:05:05 Type: Cal
Method: Accutest1(v138) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0000**	**-.0001**	**.0000**	**.0000**	**.0006**	**.0039**	**-.0001**	**.0006**	**.0065**
Stddev	.000	.0001	.000	.000	.0000	.0002	.0001	.0001	.0002
%RSD	215.8	167.6	18.35	43.63	6.376	5.627	136.8	15.63	2.424
#1	.0000	.0000	.0000	.0000	.0005	.0041	.0000	.0007	.0066
#2	.0000	-.0001	.0000	.0000	.0006	.0038	-.0002	.0006	.0064

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0002**	**-.0002**	**.0000**	**.0018**	**.0003**	**-.0035**	**.0009**	**.0001**	**.0003**
Stddev	.0001	.0002	.0000	.0000	.0000	.0001	.0004	.0000	.0000
%RSD	29.27	66.62	9.276	1.072	11.07	3.235	43.92	40.22	2.265
#1	.0003	-.0004	.0000	.0018	.0003	-.0035	.0012	.0001	.0003
#2	.0002	-.0001	.0000	.0018	.0002	-.0036	.0006	.0001	.0003

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0001**	**-.0013**	**.0009**	**.0000**	**.0000**	**-.0001**	**-.0002**	**.0001**	**.0001**
Stddev	.0000	.0007	.0002	.000	.000	.0000	.0000	.0001	.0000
%RSD	25.12	55.96	16.42	279.1	20.17	13.10	9.028	81.78	48.72
#1	.0001	-.0008	.0011	.0000	-.0001	-.0001	-.0002	.0001	.0001
#2	.0001	-.0019	.0008	.0000	.0000	-.0001	-.0002	.0000	.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0057**	**.0000**	**-.0032**	**-.0001**	**-.0006**	**.0000**	**.0010**	**.0001**	**-.0001**
Stddev	.0000	.0000	.0001	.0000	.0000	.000	.0000	.0001	.0000
%RSD	.0362	53.28	3.305	22.64	3.525	258.8	4.672	95.14	5.782
#1	.0057	.0000	-.0031	-.0001	-.0006	.0000	.0010	.0000	-.0001
#2	.0057	.0000	-.0032	-.0002	-.0006	.0000	.0010	.0001	-.0001

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Zoom In
Zoom Out

Sample Name: STD1 Acquired: 10/26/2015 10:05:05 Type: Cal
Method: Accutest1(v138) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7262.2**	**11548.**	**231040.**	**13005.**
Stddev	5.3	7.	1529.	74.
%RSD	.07296	.05936	.66180	.56632
#1	7258.4	11543.	229950.	12953.
#2	7265.9	11553.	232120.	13058.

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Zoom In
Zoom Out

Sample Name: STD2 Acquired: 10/26/2015 10:11:00 Type: Cal
Method: Accutest1(v138) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.0540**	**.6680**	**.1170**	**.0813**	**1.032**	**9.105**	**12.15**	**.3050**	**1.281**
Stddev	.0002	.0009	.0000	.0002	.003	.016	.00	.0004	.000
%RSD	.4326	.1353	.0311	.2949	.2389	.1737	.0383	.1320	.0157
#1	.0539	.6674	.1170	.0811	1.030	9.094	12.15	.3047	1.281
#2	.0542	.6687	.1170	.0814	1.034	9.116	12.14	.3052	1.281

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.816**	**5.831**	**.2233**	**.9337**	**.7068**	**.7515**	**3.028**	**.1410**	**1.852**
Stddev	.005	.006	.0012	.0040	.0003	.0003	.004	.0001	.003
%RSD	.1198	.1090	.5532	.4267	.0378	.0435	.1413	.0741	.1438
#1	3.813	5.827	.2225	.9308	.7066	.7512	3.025	.1411	1.850
#2	3.819	5.836	.2242	.9365	.7070	.7517	3.031	.1409	1.854

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.701**	**2.183**	**5.107**	**1.196**	**.1676**	**.0255**	**.0864**	**.3218**	**.1603**
Stddev	.016	.013	.003	.001	.0005	.0002	.0002	.0007	.0004
%RSD	.9306	.5919	.0671	.0866	.3165	.6163	.1821	.2030	.2384
#1	1.690	2.174	5.104	1.195	.1672	.0254	.0863	.3214	.1600
#2	1.712	2.192	5.109	1.196	.1679	.0256	.0865	.3223	.1605

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.7140**	**.7983**	**20.29**	**.6043**	**.6909**	**.2676**	**.5417**	**3.495**	**.7420**
Stddev	.0016	.0004	.01	.0035	.0010	.0013	.0022	.001	.0002
%RSD	.2203	.0512	.0406	.5751	.1450	.4759	.4108	.0213	.0304
#1	.7129	.7980	20.28	.6019	.6902	.2667	.5401	3.496	.7422
#2	.7151	.7986	20.29	.6068	.6916	.2685	.5433	3.495	.7419

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Zoom In
Zoom Out

Sample Name: STD2 Acquired: 10/26/2015 10:11:00 Type: Cal
Method: Accutest1(v138) Mode: IR Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6683.9**	**11096.**	**221210.**	**12881.**
Stddev	5.6	6.	393.	3.
%RSD	.08360	.05743	.17757	.02323
#1	6687.9	11101.	220930.	12883.
#2	6680.0	11092.	221480.	12879.

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11.2

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Zoom In
Zoom Out

Sample Name: ICV Acquired: 10/26/2015 10:16:48 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4890	15.51	2.947	3.019	3.007	2.957	2.979	2.974	14.91
Stddev	.0010	.01	.003	.014	.004	.013	.011	.012	.04
%RSD	.2074	.0531	.1027	.4457	.1487	.4378	.3529	.4178	.2430
#1	.4883	15.51	2.949	3.010	3.004	2.967	2.987	2.965	14.94
#2	.4897	15.50	2.945	3.029	3.010	2.948	2.972	2.982	14.88
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.970	2.912	2.887	2.912	15.30	15.06	2.978	14.53	2.965
Stddev	.003	.001	.008	.010	.05	.05	.017	.02	.024
%RSD	.0837	.0407	.2821	.3458	.3145	.3207	.5833	.1462	.8243
#1	2.968	2.913	2.881	2.905	15.33	15.09	2.990	14.54	2.947
#2	2.972	2.911	2.892	2.919	15.26	15.02	2.965	14.51	2.982
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.951	15.21	2.927	2.929	2.942	2.918	2.987	2.950	2.945
Stddev	.017	.01	.004	.002	.010	.004	.007	.006	.002
%RSD	.5826	.0922	.1235	.0830	.3369	.1326	.2500	.2184	.0653
#1	2.939	15.22	2.930	2.931	2.935	2.916	2.982	2.946	2.944
#2	2.963	15.20	2.924	2.927	2.949	2.921	2.993	2.955	2.947
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: ICV Acquired: 10/26/2015 10:16:48 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.753	3.000	2.936	2.931	2.987	2.908	2.966	2.937	3.038
Stddev	.005	.003	.007	.011	.001	.009	.008	.003	.016
%RSD	.1703	.0890	.2243	.3858	.0264	.3151	.2571	.1092	.5382
#1	2.749	2.999	2.941	2.923	2.986	2.902	2.961	2.939	3.027
#2	2.756	3.002	2.932	2.939	2.987	2.915	2.972	2.935	3.050
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6765.8	11206.	224850.	12960.
Stddev	3.1	4.	1794.	34.
%RSD	.04537	.03626	.79773	.26055
#1	6763.6	11208.	226120.	12984.
#2	6767.9	11203.	223580.	12936.

Zoom In
Zoom Out

Sample Name: ICB Acquired: 10/26/2015 10:27:28 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0098	.0005	.0005	.0016	-.0001	.0000	.0003	-.0013
Stddev	.0001	.0038	.0001	.0001	.0001	.0001	.0000	.0010	.0058
%RSD	57.90	38.68	27.64	26.88	4.635	115.8	147.1	356.8	433.6
#1	-.0003	.0071	.0004	.0004	.0016	-.0002	.0000	-.0004	-.0054
#2	-.0001	.0125	.0006	.0006	.0017	.0000	.0000	.0010	.0028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0001	.0000	-.0001	.0024	.0133	.0006	-.0088	.0000
Stddev	.0001	.0000	.0001	.0001	.0046	.0293	.0002	.0087	.000
%RSD	179.0	11.33	3905.	141.1	194.4	219.9	42.51	98.44	3670.
#1	.0000	.0001	-.0001	-.0001	.0057	.0340	.0008	-.0149	.0000
#2	.0001	.0001	.0001	.0000	-.0009	-.0074	.0004	-.0027	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0078	.0059	.0000	-.0003	.0006	-.0010	.0000	-.0002	.0004
Stddev	.0004	.0048	.000	.0000	.0000	.0010	.000	.0001	.0006
%RSD	5.691	82.36	794.1	4.641	3.676	96.44	1416.	55.14	132.4
#1	.0081	.0025	-.0001	-.0004	.0006	-.0003	.0002	-.0003	.0008
#2	.0075	.0093	.0000	-.0003	.0006	-.0017	-.0003	-.0001	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: ICB Acquired: 10/26/2015 10:27:28 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0002	.0000	.0004	.0006	.0002	.0118	.0000	.0010
Stddev	.0003	.0001	.0000	.0001	.0002	.0003	.0010	.0001	.0000
%RSD	83.50	69.57	150.1	25.27	34.51	123.5	8.432	1299.	.0966
#1	.0006	.0003	.0000	.0003	.0007	.0004	.0126	-.0001	.0010
#2	.0002	.0001	.0000	.0005	.0004	.0000	.0111	.0001	.0010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7274.1	11555.	230630.	13027.
Stddev	3.0	5.	450.	11.
%RSD	.04154	.03953	.19521	.08417
#1	7272.0	11552.	230950.	13035.
#2	7276.3	11558.	230310.	13019.

11.2

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Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/26/2015 10:33:21 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2470	10.02	1.974	1.982	1.961	1.996	1.993	2.002	10.08
Stddev	.0023	.10	.001	.009	.003	.016	.012	.002	.06
%RSD	.9296	.9595	.0664	.4363	.1390	.8012	.6171	.0975	.5691
#1	.2486	10.09	1.973	1.988	1.963	2.008	2.002	2.003	10.12
#2	.2454	9.950	1.975	1.975	1.960	1.985	1.984	2.000	10.04
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.983	1.986	1.969	1.968	10.09	9.955	1.998	10.05	2.037
Stddev	.005	.003	.012	.007	.07	.079	.016	.10	.012
%RSD	.2386	.1299	.6190	.3393	.6567	.7958	.7802	.9783	.5740
#1	1.979	1.985	1.977	1.973	10.14	10.01	2.009	10.12	2.045
#2	1.986	1.988	1.960	1.964	10.05	9.899	1.987	9.981	2.028
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.001	9.989	1.990	1.978	1.987	1.961	1.979	1.973	1.975
Stddev	.015	.034	.002	.000	.009	.013	.003	.002	.002
%RSD	.7600	.3373	.1024	.0102	.4364	.6824	.1381	.0778	.1093
#1	1.990	9.965	1.992	1.978	1.993	1.970	1.981	1.974	1.977
#2	2.012	10.01	1.989	1.978	1.981	1.951	1.977	1.972	1.974
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/26/2015 10:33:21 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.900	1.983	1.974	1.945	2.017	1.948	1.888	2.001	1.977
Stddev	.004	.003	.009	.010	.001	.013	.008	.007	.003
%RSD	.1816	.1439	.4449	.5195	.0309	.6560	.4389	.3578	.1346
#1	1.903	1.981	1.980	1.952	2.017	1.957	1.882	1.996	1.979
#2	1.898	1.985	1.968	1.937	2.017	1.939	1.894	2.006	1.975
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6881.1	11327.	226200.	13011.
Stddev	7.7	8.	1044.	68.
%RSD	.11162	.07352	.46149	.52564
#1	6886.5	11333.	225460.	12962.
#2	6875.6	11321.	226940.	13059.

Raw Data MA18606 page 10 of 154

Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/26/2015 10:45:47 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0040	-.0001	.0006	.0011	.0000	.0000	-.0002	.0017
Stddev	.0001	.0017	.0004	.0001	.0002	.000	.0000	.0006	.0042
%RSD	127.2	43.34	665.8	19.87	15.80	306.1	175.2	231.1	247.0
#1	.0000	-.0052	-.0003	.0007	.0012	-.0002	.0000	.0002	-.0013
#2	.0001	-.0028	.0002	.0006	.0009	.0001	.0001	-.0007	.0047
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	-.0001	-.0001	.0010	.0218	-.0003	-.0040	.0000
Stddev	.0000	.0000	.0001	.0003	.0013	.0132	.0002	.0188	.0000
%RSD	57.86	17.36	72.26	247.4	134.1	60.73	91.24	470.5	59.87
#1	.0000	.0001	-.0002	-.0003	.0019	.0311	-.0001	-.0172	.0000
#2	.0001	.0001	-.0001	.0001	.0001	.0124	-.0004	.0093	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039	.0098	-.0001	-.0007	.0004	-.0004	-.0002	-.0001	.0008
Stddev	.0004	.0003	.0001	.0000	.0002	.0011	.0003	.0006	.0002
%RSD	8.967	3.184	74.76	2.889	45.44	258.4	156.0	674.4	18.91
#1	.0042	.0100	-.0001	-.0007	.0002	-.0012	.0000	.0004	.0007
#2	.0037	.0096	-.0002	-.0007	.0005	.0004	-.0004	-.0006	.0010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/26/2015 10:45:47 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0000	.0000	.0005	.0001	.0001	.0094	.0002	.0009
Stddev	.0003	.0000	.0000	.0000	.0005	.0002	.0004	.0001	.0001
%RSD	51.10	26.39	103.7	5.783	367.7	131.9	4.556	61.13	13.30
#1	.0009	.0000	.0000	.0005	-.0002	.0002	.0097	.0001	.0009
#2	.0004	.0000	.0000	.0005	.0005	.0000	.0091	.0002	.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7280.3	11554.	230110.	13007.
Stddev	1.8	5.	1203.	16.
%RSD	.02534	.04753	.52291	.12206
#1	7279.0	11558.	229260.	12996.
#2	7281.6	11550.	230960.	13018.

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11.2
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◀ Zoom In ▶
Zoom Out

Sample Name: CRI Acquired: 10/26/2015 11:01:16 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0048	.1972	.0037	.0499	.1010	.0485	.0040	.0518	5.047
Stddev	.0003	.0055	.0003	.0003	.0006	.0006	.0000	.0006	.026
%RSD	5.798	2.764	8.350	.5906	.5992	1.286	.6766	1.162	.5143
#1	.0046	.1934	.0039	.0497	.1005	.0481	.0040	.0514	5.029
#2	.0050	.2011	.0034	.0502	.1014	.0490	.0040	.0522	5.066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.0491	.0103	.0234	.1012	4.919	.4956	4.998	.0157
Stddev	.0001	.0000	.0004	.0001	.0028	.003	.0033	.046	.0001
%RSD	1.617	.0827	3.904	.2703	2.787	.0643	.6602	.9117	.4618
#1	.0040	.0491	.0106	.0233	.0992	4.916	.4933	4.966	.0157
#2	.0041	.0491	.0100	.0234	.1032	4.921	.4979	5.031	.0158
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1035	5.064	.0419	.0042	.0508	.0476	.0486	.0053	.0096
Stddev	.0008	.025	.0002	.0004	.0005	.0012	.0014	.0001	.0007
%RSD	.8123	.4914	.5075	9.232	.9637	2.599	2.908	1.891	7.190
#1	.1029	5.046	.0421	.0039	.0511	.0485	.0496	.0052	.0101
#2	.1041	5.082	.0418	.0045	.0504	.0468	.0476	.0054	.0091
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

◀ Zoom In ▶
Zoom Out

Sample Name: CRI Acquired: 10/26/2015 11:01:16 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1016	.1011	.0099	.0489	.0051	.0100	.0706	.0203	.0388
Stddev	.0004	.0001	.0000	.0001	.0001	.0000	.0012	.0001	.0013
%RSD	.3817	.1125	.4135	.1847	1.515	.3698	1.666	.4329	3.242
#1	.1013	.1010	.0099	.0488	.0050	.0100	.0715	.0204	.0379
#2	.1019	.1012	.0099	.0490	.0051	.0100	.0698	.0202	.0397
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7077.9	11412.	228020.	13043.
Stddev	6.4	1.	1050.	75.
%RSD	.09098	.01248	.46066	.57234
#1	7073.4	11411.	228760.	13095.
#2	7082.5	11413.	227280.	12990.

◀ Zoom In ▶
Zoom Out

Sample Name: ICSA Acquired: 10/26/2015 11:19:04 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0012	501.5	-.0016	-.0011	.0000	-.0029	.0001	.0053	450.7
Stddev	.0012	1.5	.0001	.0021	.000	.0002	.0000	.0002	2.9
%RSD	102.0	.3024	5.110	195.3	97.50	5.481	13.14	3.400	.6482
#1	-.0020	500.4	-.0017	-.0026	.0000	-.0028	.0001	.0054	448.7
#2	-.0003	502.6	-.0016	.0004	.0000	-.0030	.0001	.0052	452.8
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0007	-.0002	.0015	188.1	.0072	.0066	482.4	.0007
Stddev	.0000	.0000	.0001	.0004	1.1	.0148	.0000	2.0	.0001
%RSD	1.171	2.452	37.02	26.56	.5722	204.8	.5947	.4251	17.41
#1	-.0004	.0007	-.0002	.0012	187.4	-.0032	.0067	480.9	.0006
#2	-.0004	.0007	-.0003	.0017	188.9	.0177	.0066	483.8	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0039	-.0077	-.0090	.0001	.0001	-.0014	.0094	.0006	.0029
Stddev	.0003	.0007	.0001	.0002	.0031	.0021	.0005	.0009	.0007
%RSD	6.904	8.817	.5691	436.8	3000.	150.3	5.583	142.9	24.22
#1	-.0041	-.0073	-.0090	-.0001	-.0021	-.0028	.0098	.0012	.0034
#2	-.0037	-.0082	-.0090	.0002	.0023	.0001	.0090	.0000	.0024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

◀ Zoom In ▶
Zoom Out

Sample Name: ICSA Acquired: 10/26/2015 11:19:04 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024	-.0003	.0010	.0003	.0010	-.0001	.0065	-.0003	-.0088
Stddev	.0013	.0000	.0000	.0002	.0004	.0000	.0032	.0000	.0002
%RSD	53.13	1.176	2.100	60.34	38.78	77.76	48.65	13.89	2.382
#1	.0015	-.0003	.0010	.0004	.0013	-.0001	.0043	-.0003	-.0086
#2	.0033	-.0003	.0011	.0002	.0007	.0000	.0087	-.0004	-.0089
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5658.4	10062.	200470.	12370.
Stddev	4.4	9.	3385.	9.
%RSD	.07765	.08838	1.6885	.07026
#1	5661.5	10068.	198070.	12376.
#2	5655.3	10055.	202860.	12364.

11.2
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Zoom In
Zoom Out

Sample Name: ICSAB Acquired: 10/26/2015 11:24:53 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9694	498.7	.5022	.4942	.4909	.4859	.4807	.4937	447.4
Stddev	.0007	.4	.0011	.0000	.0013	.0009	.0003	.0018	2.9
%RSD	.0693	.0797	.2157	.0012	.2688	.1759	.0572	.3591	.6404
#1	.9690	498.5	.5014	.4942	.4900	.4853	.4805	.4924	445.4
#2	.9699	499.0	.5029	.4942	.4919	.4865	.4809	.4949	449.5
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.002	.4829	.4433	.4738	188.3	.0368	.5225	478.3	.4759
Stddev	.000	.0005	.0007	.0013	.5	.0010	.0011	.7	.0008
%RSD	.0238	.1123	.1581	.2710	.2494	2.839	.2073	.1523	.1645
#1	1.003	.4832	.4428	.4747	187.9	.0376	.5233	477.8	.4754
#2	1.002	.4825	.4438	.4729	188.6	.0361	.5217	478.8	.4765
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4711	-.0093	.9345	.9217	.5041	.4862	.5128	.5087	.5079
Stddev	.0033	.0053	.0001	.0019	.0032	.0004	.0002	.0005	.0004
%RSD	.7071	57.30	.0155	.2048	.6352	.0878	.0370	.0972	.0804
#1	.4687	-.0055	.9346	.9203	.5063	.4859	.5130	.5091	.5082
#2	.4734	-.0131	.9344	.9230	.5018	.4865	.5127	.5084	.5076
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: ICSAB Acquired: 10/26/2015 11:24:53 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4779	.4594	.4944	.4547	.4566	.4590	.4709	.9133	.3127
Stddev	.0009	.0005	.0003	.0004	.0020	.0008	.0029	.0019	.0038
%RSD	.1986	.1138	.0600	.0945	.4326	.1765	.6190	.2045	1.220
#1	.4786	.4590	.4946	.4550	.4552	.4585	.4689	.9146	.3100
#2	.4773	.4598	.4941	.4544	.4580	.4596	.4730	.9120	.3154
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5667.6	10062.	203990.	12456.
Stddev	4.6	15.	205.	17.
%RSD	.08053	.14591	.10069	.13570
#1	5670.8	10072.	203840.	12468.
#2	5664.3	10052.	204130.	12444.

Zoom In
Zoom Out

Sample Name: 200PPMFECONF Acquired: 10/26/2015 11:30:36 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0239	.0000	.0000	-.0006	.0001	.0001	.0000	.0307
Stddev	.0003	.0010	.0004	.0007	.0002	.0000	.0000	.000	.0011
%RSD	666.2	4.251	3291.	2674.	35.91	65.85	48.41	963.6	3.641
#1	-.0002	.0232	-.0002	.0005	-.0004	.0001	.0000	-.0002	.0299
#2	.0003	.0246	.0003	-.0005	-.0007	.0000	.0001	.0002	.0315

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0000	.0000	.0001	203.6	-.0002	-.0002	.0405	.0000
Stddev	.000	.000	.0002	.0002	.8	.0042	.0005	.0006	.0000
%RSD	40.37	217.4	551.8	131.9	.4022	1771.	241.3	1.448	212.0
#1	.0000	-.0001	.0002	.0000	203.0	-.0032	-.0006	.0401	.0000
#2	.0000	.0000	-.0001	.0003	204.1	.0027	.0002	.0409	.0000

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031	.0085	.0000	.0000	.0000	-.0036	-.0018	.0000	.0000
Stddev	.0006	.0121	.0001	.000	.000	.0012	.0007	.001	.000
%RSD	19.98	142.8	217.0	992.1	2834.	34.19	38.69	2476.	136.3
#1	.0036	.0170	.0001	-.0002	-.0002	-.0027	-.0013	-.0008	-.0001
#2	.0027	-.0001	.0000	.0001	.0002	-.0044	-.0023	.0007	.0000

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0012	.0009	.0002	.0001	.0001	.0000	.0068	-.0001	.0039
Stddev	.0004	.0001	.0001	.0001	.0005	.0000	.0012	.0000	.0007
%RSD	31.19	11.24	37.57	106.3	428.7	38.46	16.89	16.63	18.79
#1	-.0015	.0010	.0002	.0000	-.0002	.0000	.0076	-.0001	.0044
#2	-.0010	.0008	.0001	.0002	.0005	.0000	.0060	-.0001	.0034

Zoom In
Zoom Out

Sample Name: 200PPMFECONF Acquired: 10/26/2015 11:30:36 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7187.2	11350.	226170.	13002.
Stddev	12.1	11.	391.	30.
%RSD	.16827	.09627	.17267	.23424
#1	7178.6	11343.	225900.	13024.
#2	7195.7	11358.	226450.	12981.

◀ Zoom In ▶
Zoom Out

Sample Name: 500PPMALCONF Acquired: 10/26/2015 11:36:27 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**482.6**	**.0000**	**.0010**	**.0003**	**.0003**	**.0000**	**.0018**	**-.0116**
Stddev	.001	.2	.0031	.0008	.0000	.0001	.0001	.0004	.0014
%RSD	2161.	.0412	14490.	85.31	14.73	15.96	166.4	24.60	12.42
#1	-.0005	482.4	-.0022	.0016	.0003	.0004	.0001	.0021	-.0106
#2	.0004	482.7	.0022	.0004	.0003	.0003	.0000	.0015	-.0126

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0000**	**.0001**	**.0002**	**.0396**	**.0205**	**.0007**	**-.0199**	**.0000**
Stddev	.0000	.0000	.0002	.0002	.0016	.0035	.0011	.0049	.000
%RSD	38.34	116.8	262.1	99.01	4.006	17.02	163.7	24.66	76.52
#1	.0000	.0001	-.0001	.0004	.0408	.0230	-.0001	-.0233	.0000
#2	.0001	.0000	.0002	.0001	.0385	.0180	.0015	-.0164	-.0001

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0585**	**-.0003**	**.0000**	**-.0004**	**.0000**	**.0008**	**.0000**	**.0000**
Stddev	.0003	.0007	.0001	.000	.0003	.000	.0007	.002	.0007
%RSD	771.7	1.121	39.19	401.5	63.77	1481.	90.15	4834.	1856.
#1	.0003	-.0580	-.0002	.0000	-.0002	.0001	.0003	.0014	-.0004
#2	-.0002	-.0589	-.0004	-.0001	-.0006	-.0001	.0012	-.0015	.0005

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0007**	**.0000**	**.0000**	**.0000**	**-.0002**	**.0040**	**.0000**	**.0047**
Stddev	.001	.0002	.0000	.000	.001	.0002	.0006	.0001	.0003
%RSD	6005.	35.36	102.9	603.6	3852.	112.4	14.70	47750.	5.503
#1	-.0007	-.0008	.0001	.0001	.0004	-.0004	.0044	-.0001	.0049
#2	.0007	-.0005	.0000	-.0002	-.0005	.0000	.0036	.0001	.0045

◀ Zoom In ▶
Zoom Out

Sample Name: 500PPMALCONF Acquired: 10/26/2015 11:36:27 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6476.2**	**11656.**	**220520.**	**13266.**
Stddev	1.1	3.	110.	5.
%RSD	.01645	.02478	.04973	.03625
#1	6475.5	11658.	220440.	13270.
#2	6477.0	11654.	220590.	13263.

◀ Zoom In ▶
Zoom Out

Sample Name: 500PPMCACONF Acquired: 10/26/2015 11:42:15 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0440**	**.0000**	**-.0004**	**.0008**	**.0000**	**.0000**	**.0031**	F **482.9**
Stddev	.0001	.0015	.000	.0003	.0001	.0000	.000	.0008	1.2
%RSD	20.39	3.340	688.8	64.87	13.97	584.2	2.386	27.14	.2573
#1	-.0003	.0430	-.0002	-.0002	.0007	.0000	.0000	.0025	482.1
#2	-.0004	.0450	.0001	-.0007	.0009	.0000	.0000	.0037	483.8

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**-.0002**	**.0010**	**.0004**	**.0034**	**.0120**	**.0046**	**-.0106**	**.0000**
Stddev	.0001	.0001	.0001	.0000	.0018	.0267	.0005	.0064	.000
%RSD	222.1	41.34	14.76	6.378	52.09	222.8	10.32	60.52	65.34
#1	.0001	-.0003	.0011	.0004	.0021	-.0069	.0043	-.0061	.0000
#2	.0000	-.0002	.0009	.0004	.0046	.0309	.0050	-.0151	.0000

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0278**	**.0000**	**.0000**	**.0007**	**.0000**	**.0000**	**.0000**	**.0000**
Stddev	.0001	.0069	.0001	.0001	.0005	.0008	.0011	.0005	.000
%RSD	119.7	24.89	688.0	1954.	73.48	1615.	4828.	2261.	799.6
#1	.0000	.0327	.0000	.0001	.0011	.0006	.0008	-.0003	.0001
#2	.0002	.0229	.0000	.0000	.0003	-.0005	-.0008	.0004	-.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0031**	**-.0004**	**.0135**	**.0000**	**.0000**	**-.0001**	**.0030**	**-.0002**	**.0032**
Stddev	.0014	.0000	.0001	.0002	.000	.0000	.0001	.0000	.0002
%RSD	46.40	.1491	.7011	482.3	23.57	2.134	3.338	14.89	5.086
#1	-.0021	-.0004	.0136	.0002	-.0001	-.0001	.0029	-.0002	.0033
#2	-.0041	-.0004	.0134	-.0001	.0000	-.0001	.0030	-.0002	.0031

◀ Zoom In ▶
Zoom Out

Sample Name: 500PPMCACONF Acquired: 10/26/2015 11:42:15 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6056.0**	**10337.**	**206380.**	**12676.**
Stddev	.5	3.	332.	36.
%RSD	.00895	.03172	.16063	.28405
#1	6056.4	10339.	206610.	12702.
#2	6055.7	10335.	206140.	12651.

Zoom In
Zoom Out

Sample Name: 500PPMNACONF Acquired: 10/26/2015 11:48:15 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	.0000	.0000	.0004	.0006	.0001	.0000	.0007	.0075
Stddev	.0000	.0088	.0022	.0003	.0001	.0001	.0000	.0003	.0014
%RSD	26.92	24490.	5494.	84.25	26.59	67.98	48.14	42.62	18.81
#1	-.0001	.0063	-.0015	.0006	.0007	.0002	.0000	.0005	.0065
#2	-.0001	-.0062	.0016	.0002	.0004	.0001	.0001	.0009	.0085

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0000	.0005	.0003	-.0020	-.0405	.0027	-.0148	-.0003
Stddev	.000	.000	.0002	.0001	.0002	.0189	.0010	.0042	.0000
%RSD	265.3	97.58	50.64	27.14	8.772	46.59	38.33	28.05	10.80
#1	.0000	-.0001	.0003	.0004	-.0021	-.0272	.0019	-.0119	-.0003
#2	-.0001	.0000	.0007	.0002	-.0018	-.0538	.0034	-.0178	-.0002

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	476.8	-.0002	-.0005	.0000	.0001	-.0016	-.0013	.0000
Stddev	.0001	.1	.0000	.0003	.0003	.0011	.0001	.0001	.000
%RSD	166.0	.0184	29.32	63.05	751.6	935.3	6.029	10.01	626.9
#1	.0000	476.7	-.0002	-.0008	.0002	.0009	-.0015	-.0012	-.0001
#2	-.0002	476.8	-.0001	-.0003	-.0002	-.0007	-.0017	-.0014	.0000

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0109	.0000	.0000	-.0001	.0000	-.0001	.0027	.0000	.0024
Stddev	.0000	.000	.0000	.0002	.000	.0002	.0001	.000	.0000
%RSD	.4309	663.6	11.99	146.5	373.5	293.3	4.456	97130.	1.296
#1	-.0109	-.0003	.0000	-.0002	.0000	-.0002	.0028	-.0001	.0024
#2	-.0109	.0002	.0000	.0000	-.0001	.0001	.0026	.0001	.0024

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Zoom In
Zoom Out

Sample Name: 500PPMNACONF Acquired: 10/26/2015 11:48:15 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6009.5	10535.	203780.	12629.
Stddev	.0	4.	471.	56.
%RSD	.00058	.03416	.23104	.44523
#1	6009.5	10532.	204110.	12590.
#2	6009.5	10538.	203450.	12669.

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11.2

11

Zoom In
Zoom Out

Sample Name: 20PPMMNCONF Acquired: 10/26/2015 11:54:14 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0129	.0000	-.0001	.0008	-.0002	.0000	.0000	.0078
Stddev	.000	.0127	.0003	.0006	.0000	.0001	.0000	.0011	.0069
%RSD	233.4	98.44	3713.	621.2	4.810	60.65	211.3	6045.	89.22
#1	.0000	.0039	.0002	-.0005	.0008	-.0001	.0000	-.0007	.0029
#2	-.0001	.0219	-.0002	.0003	.0007	-.0002	.0000	.0008	.0127

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0000	.0000	.0000	-.0068	.0435	.0036	-.0402	F 18.43
Stddev	.0001	.0000	.000	.000	.0006	.0124	.0009	.0072	.02
%RSD	745.7	111.8	32860.	8673.	9.094	28.52	25.66	17.88	.0919
#1	.0000	.0000	.0003	-.0001	-.0064	.0523	.0042	-.0351	18.42
#2	.0001	.0001	-.0003	.0001	-.0073	.0348	.0029	-.0452	18.45

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.1220	.0006	.0000	-.0029	-.0014	.0000	-.0004	.0000
Stddev	.000	.0164	.0001	.0004	.0006	.0062	.000	.0010	.0001
%RSD	1375.	13.48	18.04	1288.	19.27	452.3	527.2	250.2	558.3
#1	.0001	.1103	.0007	.0003	-.0025	-.0058	.0001	-.0011	.0001
#2	-.0001	.1336	.0005	-.0003	-.0033	.0030	-.0002	.0003	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0072	.0000	.0000	.0003	-.0001	.0000	.0025	.0004	.0019
Stddev	.0004	.000	.000	.0001	.0001	.000	.0001	.0000	.0001
%RSD	5.035	76.42	136.3	51.42	156.6	793.9	2.386	2.117	6.411
#1	-.0074	-.0001	-.0001	.0003	-.0001	.0000	.0025	.0004	.0018
#2	-.0069	.0000	.0000	.0002	.0000	.0000	.0026	.0004	.0020

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Zoom In
Zoom Out

Sample Name: 20PPMMNCONF Acquired: 10/26/2015 11:54:14 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7214.3	11504.	231220.	13222.
Stddev	15.1	27.	415.	8.
%RSD	.20892	.23241	.17969	.05820
#1	7224.9	11523.	231520.	13216.
#2	7203.6	11485.	230930.	13227.

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Zoom In
Zoom Out

Sample Name: 50PPMSICONF Acquired: 10/26/2015 12:00:13 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0025	.0172	-.0008	.0026	.0012	.0003	.0000	.0006	.0094
Stddev	.0000	.0049	.0005	.0003	.0004	.0000	.000	.0004	.0015
%RSD	1.286	28.30	58.90	11.67	34.82	5.334	493.4	58.73	16.07
#1	.0025	.0206	-.0005	.0024	.0015	.0002	.0000	.0009	.0083
#2	.0025	.0137	-.0012	.0028	.0009	.0003	.0000	.0004	.0105

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	-.0005	.0015	.0001	.0088	.0351	.0011	.0009	.0000
Stddev	.0000	.0000	.0001	.0001	.0044	.0030	.0003	.0026	.000
%RSD	.0716	7.967	8.344	184.9	50.06	8.537	26.35	277.9	179.4
#1	.0005	-.0005	.0016	.0002	.0057	.0330	.0013	.0027	-.0001
#2	.0005	-.0005	.0014	.0000	.0118	.0372	.0009	-.0009	.0000

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0023	.0645	.0004	.0000	.0000	-.0023	-.0014	-.0002	.0010
Stddev	.0004	.0051	.0001	.000	.0027	.0003	.0011	.0003	.0007
%RSD	15.06	7.891	21.08	3521.	31480.	13.37	74.51	191.7	73.74
#1	.0026	.0609	.0003	.0002	-.0019	-.0025	-.0022	.0001	.0005
#2	.0021	.0681	.0005	-.0002	.0019	-.0021	-.0007	-.0004	.0015

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	F 45.41	.0002	.0000	.0009	.0001	.0002	.0069	.0003	.0257
Stddev	.05	.0001	.000	.0001	.0003	.0001	.0002	.0000	.0385
%RSD	.1202	32.61	467.8	7.383	209.9	49.27	3.405	1.889	150.1
#1	45.37	.0002	.0000	.0009	-.0001	.0001	.0070	.0003	.0529
#2	45.45	.0003	.0000	.0010	.0003	.0003	.0067	.0003	-.0016

Zoom In
Zoom Out

Sample Name: 50PPMSICONF Acquired: 10/26/2015 12:00:13 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7279.6	11613.	232030.	13116.
Stddev	11.0	6.	687.	1.
%RSD	.15058	.04845	.29587	.00968
#1	7271.9	11609.	232510.	13117.
#2	7287.4	11617.	231540.	13116.

Zoom In
Zoom Out

Sample Name: 50PPMSCONF Acquired: 10/26/2015 12:06:07 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0005	.0000	.0003	.0010	-.0002	.0002	-.0012	.0049
Stddev	.0000	.0102	.0001	.0005	.0001	.0001	.0000	.0007	.0014
%RSD	37.83	2029.	471.5	167.2	8.124	74.30	8.108	63.51	28.82
#1	.0002	.0077	.0001	-.0001	.0011	-.0001	.0002	-.0006	.0039
#2	.0001	-.0067	-.0001	.0007	.0010	-.0002	.0002	-.0017	.0059

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0002	.0002	.0006	.0002	.0024	.0167	.0022	.0033	.0011
Stddev	.0001	.0000	.0000	.0001	.0016	.0153	.0003	.0021	.0000
%RSD	69.31	7.831	3.456	37.02	67.41	92.10	13.89	65.57	2.045
#1	.0002	.0003	.0006	.0003	.0036	.0058	.0020	.0048	.0011
#2	.0001	.0002	.0006	.0002	.0013	.0275	.0024	.0018	.0011

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0355	.0009	.0000	.0014	-.0009	F 48.36	.0002	-.0001
Stddev	.0001	.0012	.0001	.0001	.0003	.0004	.04	.0007	.0011
%RSD	26.58	3.309	12.18	534.3	21.16	44.80	.0867	331.5	1125.
#1	.0006	.0347	.0010	.0001	.0012	-.0006	48.39	.0007	.0007
#2	.0004	.0364	.0008	-.0001	.0016	-.0012	48.33	-.0003	-.0009

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0083	-.0002	.0003	.0002	.0006	.0006	.0024	.0289	.0014
Stddev	.0040	.0002	.0000	.0002	.0003	.0000	.0002	.0001	.0000
%RSD	47.65	93.92	13.08	98.71	52.79	5.702	6.706	.2843	2.895
#1	.0055	-.0003	.0003	.0003	.0008	.0006	.0023	.0290	.0015
#2	.0111	-.0001	.0003	.0001	.0004	.0006	.0025	.0289	.0014

Zoom In
Zoom Out

Sample Name: 50PPMSCONF Acquired: 10/26/2015 12:06:07 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7324.6	11565.	231920.	13167.
Stddev	8.4	21.	2794.	21.
%RSD	.11410	.18010	1.2046	.16012
#1	7330.5	11580.	233900.	13182.
#2	7318.7	11550.	229950.	13152.

◄ Zoom In ► Zoom Out

Sample Name: CCV   Acquired: 10/26/2015 12:12:00   Type: QC
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2495	9.979	1.987	1.988	1.976	1.999	1.999	2.023	10.06
Stddev	.0010	.011	.001	.001	.002	.004	.006	.002	.02
%RSD	.4078	.1090	.0317	.0711	.0899	.1870	.3044	.1157	.2045
#1	.2503	9.971	1.988	1.989	1.977	1.997	1.994	2.021	10.04
#2	.2488	9.987	1.987	1.987	1.975	2.002	2.003	2.025	10.07
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.003	1.994	1.999	1.969	10.16	9.900	1.983	10.02	2.054
Stddev	.003	.004	.007	.003	.01	.027	.009	.02	.007
%RSD	.1476	.1803	.3763	.1500	.1246	.2767	.4554	.1634	.3245
#1	2.001	1.992	2.004	1.971	10.17	9.880	1.976	10.03	2.059
#2	2.005	1.997	1.994	1.967	10.15	9.919	1.989	10.01	2.049
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.012	10.08	1.984	1.974	1.999	1.986	1.995	1.989	1.994
Stddev	.020	.00	.000	.001	.009	.019	.003	.002	.003
%RSD	.9729	.0471	.0171	.0648	.4443	.9410	.1446	.1192	.1588
#1	1.999	10.08	1.984	1.975	2.006	1.999	1.993	1.990	1.992
#2	2.026	10.09	1.984	1.973	1.993	1.973	1.997	1.987	1.996
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

◄ Zoom In ► Zoom Out

Sample Name: CCV   Acquired: 10/26/2015 12:12:00   Type: QC
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.924	1.989	1.969	1.973	2.019	1.971	1.913	2.011	F 1.779
Stddev	.002	.001	.003	.004	.002	.005	.009	.004	.035
%RSD	.1248	.0273	.1602	.2157	.0815	.2627	.4752	.1948	1.993
#1	1.923	1.988	1.967	1.976	2.020	1.975	1.906	2.009	1.754
#2	1.926	1.989	1.972	1.970	2.018	1.968	1.919	2.014	1.804
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value									2.000
Range									-10.00%

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6877.0	11299.	225100.	12909.
Stddev	10.5	23.	1256.	83.
%RSD	.15261	.20797	.55805	.64638
#1	6869.6	11282.	224210.	12850.
#2	6884.4	11316.	225990.	12968.

◄ Zoom In ► Zoom Out

Sample Name: CCB   Acquired: 10/26/2015 12:17:42   Type: QC
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0003	.0016	.0012	.0017	.0000	.0000	-.0009	.0006
Stddev	.0001	.0087	.0000	.0005	.0001	.0001	.0000	.0002	.0010
%RSD	36.14	3209.	1.295	43.12	3.480	334.2	68.29	22.30	168.0
#1	-.0003	.0064	.0016	.0016	.0017	.0001	.0000	-.0011	-.0001
#2	-.0001	-.0059	.0016	.0008	.0018	.0000	.0000	-.0008	.0013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0003	.0000	.0000	.0015	.0145	.0011	-.0071	.0001
Stddev	.0002	.0002	.0001	.000	.0020	.0192	.0009	.0090	.0000
%RSD	64.25	57.59	246.5	1445.	139.0	132.6	82.42	126.7	16.78
#1	.0002	.0002	.0001	.0002	.0000	.0280	.0005	-.0007	.0001
#2	.0004	.0005	.0000	-.0002	.0029	.0009	.0017	-.0134	.0001
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0134	.0167	.0002	-.0001	.0004	-.0019	.0025	.0002	.0005
Stddev	.0026	.0008	.0002	.0005	.0002	.0016	.0015	.0010	.0009
%RSD	19.30	4.774	104.0	619.3	44.20	84.36	60.26	614.1	179.6
#1	.0152	.0173	.0001	-.0005	.0003	-.0030	.0015	-.0005	-.0001
#2	.0116	.0162	.0004	.0003	.0005	-.0007	.0036	.0009	.0011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

◄ Zoom In ► Zoom Out

Sample Name: CCB   Acquired: 10/26/2015 12:17:42   Type: QC
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031	.0005	.0001	.0009	.0005	.0003	.0154	.0003	.0022
Stddev	.0006	.0001	.0001	.0000	.0000	.0002	.0028	.0003	.0002
%RSD	19.65	24.65	97.64	4.724	3.959	74.61	18.09	108.6	7.035
#1	.0027	.0004	.0001	.0009	.0006	.0001	.0174	.0001	.0024
#2	.0036	.0006	.0000	.0008	.0005	.0004	.0134	.0005	.0021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7260.1	11496.	229360.	13055.
Stddev	7.0	5.	2565.	29.
%RSD	.09676	.04561	1.1182	.22564
#1	7255.2	11493.	227550.	13035.
#2	7265.1	11500.	231170.	13076.

Zoom In
Zoom Out

Sample Name: MP25356-MB1 Acquired: 10/26/2015 12:23:35 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0099**	**-.0003**	**.0003**	**.0007**	**-.0001**	**.0000**	**-.0007**	**.0052**
Stddev	.0000	.0075	.0007	.0001	.0000	.0000	.000	.0001	.0002
%RSD	21.57	75.77	253.5	34.19	4.459	54.54	1638.	18.64	2.919
#1	-.0002	.0152	-.0008	.0002	.0008	-.0001	.0000	-.0008	.0053
#2	-.0001	.0046	.0002	.0003	.0007	.0000	.0000	-.0006	.0051

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0000**	**.0002**	**.0001**	**.0071**	**.0294**	**-.0010**	**-.0028**	**.0004**
Stddev	.0000	.000	.0000	.0002	.0007	.0160	.0015	.0069	.0000
%RSD	47.16	97.56	6.588	127.6	10.43	54.34	146.7	243.5	3.937
#1	.0001	-.0001	.0002	.0003	.0076	.0181	.0000	-.0077	.0004
#2	.0000	.0000	.0002	.0000	.0065	.0407	-.0021	.0021	.0004

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0042**	**.0245**	**-.0005**	**-.0003**	**.0002**	**-.0003**	**.0026**	**-.0004**	**.0012**
Stddev	.0004	.0006	.0001	.0004	.0011	.0004	.0001	.0001	.0003
%RSD	9.201	2.249	13.45	157.9	674.9	142.6	1.984	39.28	23.88
#1	.0045	.0249	-.0005	.0000	-.0006	-.0006	.0026	-.0005	.0014
#2	.0039	.0241	-.0004	-.0005	.0010	.0000	.0025	-.0003	.0010

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0272**	**-.0001**	**.0000**	**.0005**	**-.0003**	**.0001**	**.0088**	**.0002**	**.0006**
Stddev	.0001	.0002	.0000	.0001	.0004	.0002	.0005	.0000	.0001
%RSD	.2753	151.2	512.4	28.12	147.7	117.0	5.996	8.292	9.199
#1	.0272	-.0003	.0000	.0004	.0000	.0000	.0084	.0001	.0006
#2	.0271	.0000	.0000	.0006	-.0006	.0002	.0092	.0002	.0005

Zoom In
Zoom Out

Sample Name: MP25356-MB1 Acquired: 10/26/2015 12:23:35 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7298.3**	**11543.**	**232200.**	**13108.**
Stddev	1.8	5.	682.	51.
%RSD	.02507	.04431	.29370	.38547
#1	7299.6	11539.	231720.	13072.
#2	7297.0	11547.	232690.	13144.

11.2

11

Zoom In
Zoom Out

Sample Name: MP25356-B1 Acquired: 10/26/2015 12:29:29 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1794**	**10.08**	**.5148**	**-.0008**	**1.026**	**2.002**	**.5085**	**-.0008**	**25.31**
Stddev	.0003	.01	.0007	.0002	.001	.002	.0005	.0013	.00
%RSD	.1468	.0949	.1309	20.55	.1070	.0895	.0918	161.0	.0140
#1	.1792	10.07	.5153	-.0007	1.025	2.003	.5082	-.0018	25.31
#2	.1796	10.09	.5143	-.0009	1.027	2.001	.5089	.0001	25.30

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5133**	**.5136**	**.4925**	**.4877**	**10.13**	**25.16**	**.0014**	**25.02**	**.5201**
Stddev	.0003	.0005	.0005	.0021	.06	.02	.0007	.09	.0014
%RSD	.0568	.0965	.1010	.4211	.5439	.0603	48.88	.3791	.2725
#1	.5131	.5132	.4921	.4891	10.09	25.17	.0009	24.95	.5211
#2	.5135	.5139	.4928	.4862	10.17	25.15	.0018	25.09	.5191

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.5254**	**25.59**	**.5075**	**1.009**	**-.0044**	**.0023**	**-.0047**	**.5202**	**.5172**
Stddev	.0033	.01	.0002	.001	.0001	.0001	.0002	.0011	.0011
%RSD	.6358	.0229	.0325	.0584	1.195	6.192	4.831	.2176	.2118
#1	.5230	25.58	.5074	1.009	-.0045	.0024	-.0045	.5210	.5164
#2	.5277	25.59	.5076	1.010	-.0044	.0022	-.0049	.5194	.5180

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0184**	**1.023**	**.5054**	**.4969**	**.5208**	**.5025**	**.0095**	**.5098**	**.0568**
Stddev	.0007	.001	.0003	.0010	.0004	.0009	.0005	.0011	.0042
%RSD	3.572	.1383	.0678	.2093	.0722	.1771	5.359	.2245	7.398
#1	.0179	1.022	.5057	.4977	.5205	.5032	.0092	.5090	.0598
#2	.0188	1.024	.5052	.4962	.5210	.5019	.0099	.5106	.0538

Zoom In
Zoom Out

Sample Name: MP25356-B1 Acquired: 10/26/2015 12:29:29 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6694.5**	**11162.**	**224070.**	**13045.**
Stddev	8.1	8.	849.	1.
%RSD	.12123	.07412	.37879	.00408
#1	6688.7	11156.	223470.	13046.
#2	6700.2	11168.	224670.	13045.

Zoom In Zoom Out

Sample Name: MP25356-S1 Acquired: 10/26/2015 12:35:14 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1749	9.875	.5041	-.0008	.9964	1.990	.4972	.0003	27.15
Stddev	.0022	.058	.0004	.0006	.0004	.018	.0021	.0009	.04
%RSD	1.229	.5842	.0696	71.11	.0415	.8884	.4194	303.2	.1644
#1	.1734	9.834	.5043	-.0004	.9961	1.977	.4957	-.0003	27.12
#2	.1765	9.916	.5038	-.0012	.9967	2.002	.4986	.0009	27.18

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.4972	.4976	.4893	.4740	10.05	25.66	.0017	24.79	.5187
Stddev	.0002	.0004	.0026	.0045	.08	.17	.0002	.17	.0035
%RSD	.0481	.0812	.5238	.9460	.7596	.6538	8.873	.6689	.6784
#1	.4973	.4979	.4875	.4708	9.999	25.54	.0016	24.67	.5162
#2	.4970	.4974	.4911	.4772	10.11	25.78	.0018	24.90	.5212

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5118	27.25	.4923	.9756	.0000	.0028	1.505	.5043	.5044
Stddev	.0019	.03	.0005	.0028	.0006	.0010	.005	.0008	.0005
%RSD	.3741	.1233	.0976	.2887	2029.	34.43	.3541	.1588	.0972
#1	.5104	27.27	.4927	.9776	-.0004	.0035	1.501	.5037	.5048
#2	.5131	27.22	.4920	.9736	.0004	.0021	1.508	.5048	.5041

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.889	.9929	.5156	.4909	.5011	.4959	.0147	.5446	-.0080
Stddev	.011	.0005	.0020	.0024	.0006	.0027	.0006	.0002	.0006
%RSD	.2159	.0512	.3869	.4802	.1121	.5388	3.928	.0350	7.261
#1	4.881	.9925	.5142	.4892	.5015	.4940	.0151	.5447	-.0076
#2	4.896	.9932	.5170	.4926	.5007	.4978	.0143	.5444	-.0084

Zoom In Zoom Out

Sample Name: MP25356-S1 Acquired: 10/26/2015 12:35:14 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6693.8	11170.	222140.	12956.
Stddev	9.7	4.	1488.	41.
%RSD	.14552	.03635	.66982	.31949
#1	6686.9	11168.	223190.	12985.
#2	6700.6	11173.	221090.	12927.

Zoom In Zoom Out

Sample Name: MP25356-S2 Acquired: 10/26/2015 12:40:57 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1783	10.10	.5123	-.0003	1.020	2.031	.5069	-.0002	27.63
Stddev	.0013	.02	.0017	.0009	.000	.005	.0012	.0005	.07
%RSD	.7399	.2122	.3361	266.8	.0440	.2496	.2374	273.8	.2618
#1	.1792	10.08	.5136	.0003	1.020	2.028	.5060	.0002	27.58
#2	.1774	10.11	.5111	-.0009	1.020	2.035	.5077	-.0005	27.68

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5072	.5075	.4935	.4831	10.22	26.21	.0019	25.27	.5265
Stddev	.0006	.0002	.0035	.0018	.06	.08	.0010	.07	.0013
%RSD	.1157	.0375	.7154	.3637	.5446	.3225	52.73	.2625	.2379
#1	.5076	.5076	.4960	.4843	10.18	26.15	.0012	25.22	.5274
#2	.5068	.5073	.4910	.4818	10.25	26.27	.0026	25.31	.5256

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5213	27.74	.5038	.9987	.0001	.0039	1.540	.5164	.5116
Stddev	.0009	.07	.0003	.0023	.0007	.0007	.002	.0005	.0007
%RSD	.1705	.2672	.0649	.2306	799.2	18.01	.0973	.0906	.1319
#1	.5207	27.68	.5036	.9971	-.0004	.0044	1.542	.5168	.5121
#2	.5219	27.79	.5040	1.000	.0006	.0034	1.539	.5161	.5111

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	5.004	1.014	.5277	.4966	.5110	.5007	.0146	.5542	-.0172
Stddev	.001	.001	.0003	.0019	.0001	.0019	.0005	.0008	.0002
%RSD	.0252	.0980	.0575	.3731	.0126	.3809	3.560	.1483	1.339
#1	5.005	1.015	.5275	.4979	.5111	.5021	.0150	.5547	-.0171
#2	5.003	1.013	.5279	.4953	.5110	.4994	.0143	.5536	-.0174

Zoom In Zoom Out

Sample Name: MP25356-S2 Acquired: 10/26/2015 12:40:57 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6678.9	11140.	223620.	13028.
Stddev	.5	7.	721.	8.
%RSD	.00723	.05855	.32260	.05860
#1	6678.6	11136.	224130.	13022.
#2	6679.3	11145.	223110.	13033.

Zoom In
Zoom Out

Sample Name: MC42342-13F Acquired: 10/26/2015 12:46:42 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0234	.0003	.0008	.0049	.0160	.0000	.0004	2.388
Stddev	.0004	.0032	.0004	.0005	.0000	.0002	.000	.0001	.001
%RSD	930.2	13.53	113.5	59.63	.6041	1.399	658.8	24.04	.0531
#1	-.0003	.0211	.0006	.0005	.0049	.0162	.0000	.0005	2.387
#2	.0004	.0256	.0001	.0011	.0049	.0159	.0000	.0004	2.389

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0003	.0003	.0014	.0029	.9858	.0021	.1792	.0093
Stddev	.0001	.0000	.0000	.0001	.0023	.0149	.0001	.0158	.0001
%RSD	18.53	6.073	5.689	5.375	79.32	1.512	4.825	8.823	1.012
#1	.0002	.0003	.0003	.0014	.0046	.9963	.0021	.1903	.0092
#2	.0003	.0003	.0003	.0013	.0013	.9752	.0022	.1680	.0093

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039	2.234	.0006	.0003	.0024	-.0005	1.478	.0000	.0002
Stddev	.0005	.005	.0001	.0001	.0001	.0003	.004	.000	.0004
%RSD	13.54	.2124	8.807	33.92	6.020	58.14	.3059	618.9	201.7
#1	.0042	2.230	.0006	.0002	.0025	-.0003	1.475	.0001	.0004
#2	.0035	2.237	.0006	.0004	.0023	-.0007	1.482	-.0002	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.796	.0002	.0237	.0003	-.0003	.0002	.0096	.0508	-.0246
Stddev	.013	.0001	.0001	.0001	.0003	.0000	.0001	.0001	.0001
%RSD	.2604	39.88	.4583	38.75	109.4	20.75	1.203	.1495	.3812
#1	4.787	.0002	.0237	.0004	-.0001	.0002	.0097	.0508	-.0245
#2	4.804	.0001	.0238	.0002	-.0005	.0003	.0095	.0507	-.0246

Zoom In
Zoom Out

Sample Name: MC42342-13F Acquired: 10/26/2015 12:46:42 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7260.7	11524.	231980.	13088.
Stddev	1.8	4.	444.	72.
%RSD	.02525	.03456	.19148	.55098
#1	7259.4	11527.	232290.	13037.
#2	7262.0	11521.	231660.	13139.

Zoom In
Zoom Out

Sample Name: MP25356-SD1 Acquired: 10/26/2015 12:52:34 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0418	.0007	.0016	.0077	.0149	.0001	-.0029	2.451
Stddev	.0005	.0007	.0002	.0019	.0008	.0004	.0004	.0035	.001
%RSD	223.6	1.643	29.41	117.1	9.857	2.758	393.4	119.9	.0371
#1	.0001	.0423	.0006	.0029	.0083	.0146	-.0002	-.0054	2.452
#2	-.0006	.0413	.0009	.0003	.0072	.0152	.0004	-.0004	2.451

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0000	.0005	.0025	.0130	1.143	.0071	.2024	.0106
Stddev	.0006	.0001	.0003	.0002	.0075	.173	.0044	.0438	.0001
%RSD	146.9	361.7	56.19	7.468	57.65	15.12	62.53	21.64	1.252
#1	.0009	.0001	.0008	.0024	.0182	1.021	.0102	.1714	.0105
#2	.0000	.0000	.0003	.0027	.0077	1.265	.0040	.2333	.0107

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0066	2.346	.0004	-.0020	.0038	-.0019	1.500	.0001	-.0034
Stddev	.0005	.015	.0001	.0002	.0008	.0022	.001	.0012	.0004
%RSD	7.056	.6209	19.47	11.55	21.68	115.4	.0754	2028.	11.96
#1	.0069	2.356	.0004	-.0022	.0044	-.0004	1.500	.0009	-.0037
#2	.0062	2.336	.0003	-.0018	.0033	-.0035	1.501	-.0008	-.0032

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.862	.0009	.0241	.0005	.0025	.0003	.0172	.0611	-.0247
Stddev	.003	.0009	.0000	.0010	.0002	.0001	.0007	.0002	.0002
%RSD	.0510	98.76	.0334	211.6	6.772	42.35	4.309	.3589	.6495
#1	4.864	.0016	.0240	.0012	.0024	.0004	.0178	.0613	-.0248
#2	4.861	.0003	.0241	-.0002	.0026	.0002	.0167	.0609	-.0246

Zoom In
Zoom Out

Sample Name: MP25356-SD1 Acquired: 10/26/2015 12:52:34 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7286.7	11535.	230920.	13167.
Stddev	2.6	2.	1674.	4.
%RSD	.03563	.02142	.72512	.03037
#1	7288.6	11536.	232100.	13170.
#2	7284.9	11533.	229730.	13165.

Zoom In
Zoom Out

Sample Name: MC42231-13F Acquired: 10/26/2015 12:58:28 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	-.0022	.5047	-.0018	.0027	.1456	-.0001	.0006
Stddev	.0005	.0072	.0006	.0008	.0000	.0003	.0001	.0000
%RSD	143.7	333.3	.1169	40.64	1.630	.2141	74.97	7.097
#1	.0000	.0029	.5052	-.0013	.0027	.1454	-.0001	.0006
#2	-.0008	-.0072	.5043	-.0024	.0027	.1458	.0000	.0005

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	73.15	.0078	.0068	-.0003	.0012	114.5	9.285	.0021
Stddev	.08	.0000	.0000	.0001	.0001	.5	.024	.0002
%RSD	.1049	.3571	.6421	30.96	5.858	.4797	.2626	11.53
#1	73.09	.0078	.0067	-.0002	.0012	114.2	9.267	.0020
#2	73.20	.0078	.0068	-.0003	.0013	114.9	9.302	.0023

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.950	9.354	.0027	221.2	-.0030	.0000	.0036	-.0039
Stddev	.074	.049	.0001	.6	.0000	.000	.0005	.0015
%RSD	.7470	.5183	5.150	.2487	.9532	876.6	14.59	38.61
#1	9.898	9.320	.0026	221.5	-.0030	.0002	.0032	-.0029
#2	10.00	9.389	.0028	220.8	-.0030	-.0003	.0039	-.0050

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1994	.0000	.0005	10.19	.0002	.8311	.0004	-.0009
Stddev	.0011	.0003	.0005	.00	.0000	.0010	.0000	.0002
%RSD	.5764	669.6	95.38	.0338	15.82	.1233	10.41	25.59
#1	.1986	-.0001	.0009	10.19	.0002	.8318	.0004	-.0007
#2	.2002	.0002	.0002	10.19	.0001	.8303	.0004	-.0010

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Zoom In
Zoom Out

Sample Name: MC42231-13F Acquired: 10/26/2015 12:58:28 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0004	.0185	.0063	F -.0587
Stddev	.0003	.0001	.0001	.0000
%RSD	68.98	.5724	1.075	.0514
#1	.0006	.0185	.0064	-.0586
#2	.0002	.0186	.0063	-.0587

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6260.3	10628.	209840.	12756.
Stddev	13.4	16.	11.	17.
%RSD	.21393	.14602	.00531	.13062
#1	6269.7	10639.	209830.	12768.
#2	6250.8	10617.	209840.	12744.

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11.2

11

Zoom In
Zoom Out

Sample Name: MC42342-3F Acquired: 10/26/2015 13:04:29 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0004	.0036	.7886	-.0029	.1743	.0285	-.0001	.0010
Stddev	.0002	.0006	.0000	.0006	.0007	.0003	.0000	.0004
%RSD	41.08	15.51	.0010	22.07	.4271	1.153	1.445	44.25
#1	-.0003	.0040	.7886	-.0033	.1737	.0282	-.0001	.0013
#2	-.0005	.0032	.7886	-.0024	.1748	.0287	-.0001	.0007

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	76.31	.0126	.0089	.0001	.0009	10.97	6.667	.0106
Stddev	.19	.0000	.0000	.0002	.0001	.04	.007	.0004
%RSD	.2466	.1389	.3322	169.7	7.940	.3461	.1045	3.374
#1	76.18	.0126	.0089	.0000	.0008	10.94	6.672	.0109
#2	76.45	.0126	.0088	.0003	.0009	10.99	6.662	.0103

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	10.84	10.79	.0023	26.87	.0064	.0002	.0022	-.0008
Stddev	.05	.05	.0001	.06	.0001	.0006	.0012	.0010
%RSD	.4587	.4718	4.046	.2129	2.286	358.7	55.80	118.2
#1	10.80	10.83	.0023	26.83	.0063	.0006	.0031	-.0015
#2	10.87	10.76	.0022	26.91	.0065	-.0003	.0013	-.0001

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.853	-.0004	-.0006	11.15	-.0003	.7051	.0001	-.0003
Stddev	.008	.0004	.0002	.02	.0000	.0011	.0001	.0004
%RSD	.4349	97.41	30.99	.2236	11.51	.1573	98.19	125.8
#1	1.848	-.0001	-.0007	11.13	-.0003	.7043	.0000	.0000
#2	1.859	-.0007	-.0005	11.17	-.0003	.7059	.0001	-.0005

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Zoom In
Zoom Out

Sample Name: MC42342-3F Acquired: 10/26/2015 13:04:29 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	.0001	.0269	.0133	F -.0580
Stddev	.0002	.0011	.0001	.0001
%RSD	128.5	4.173	.4856	.1340
#1	.0003	.0277	.0133	-.0580
#2	.0000	.0261	.0133	-.0581

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6669.4	11076.	221440.	12943.
Stddev	3.3	11.	405.	33.
%RSD	.04957	.09583	.18301	.25299
#1	6667.0	11083.	221150.	12920.
#2	6671.7	11068.	221720.	12966.

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Zoom In
Zoom Out

Sample Name: MC42342-4F   Acquired: 10/26/2015 13:10:24   Type: Unk
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0002**	**.0069**	**3.652**	**-.0009**	**.0395**	**.0289**	**-.0004**	**.0003**	**24.58**
Stddev	.0001	.0023	.008	.0004	.0001	.0001	.0000	.0005	.04
%RSD	55.78	33.81	.2140	40.10	.2757	.3321	11.55	159.6	.1460
#1	-.0003	.0086	3.647	-.0006	.0395	.0290	-.0004	.0007	24.61
#2	-.0001	.0053	3.658	-.0012	.0396	.0288	-.0005	.0000	24.56

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0567**	**.0067**	**-.0001**	**.0002**	**85.24**	**4.532**	**.0031**	**2.136**	**7.275**
Stddev	.0001	.0000	.0000	.0002	.08	.031	.0009	.004	.033
%RSD	.2066	.4902	22.88	108.2	.0909	.6812	29.30	.1668	.4533
#1	.0566	.0068	-.0001	.0003	85.19	4.510	.0037	2.139	7.298
#2	.0568	.0067	-.0001	.0000	85.30	4.553	.0025	2.134	7.252

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**4.255**	**.0069**	**-.0002**	**.0025**	**.0002**	**1.306**	**.0000**	**-.0009**
Stddev	.0000	.001	.0002	.0000	.0000	.0027	.001	.000	.0011
%RSD	4.416	.0234	2.658	16.15	.5016	1556.	.0835	1454.	118.3
#1	-.0004	4.256	.0068	-.0002	.0025	-.0017	1.305	.0001	-.0001
#2	-.0004	4.255	.0071	-.0003	.0026	.0021	1.307	-.0002	-.0016

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.101**	**.0000**	**.1281**	**.0001**	**-.0006**	**.0004**	**.0028**	**.0077**	**-.0465**
Stddev	.005	.000	.0000	.0000	.0001	.0000	.0006	.0001	.0000
%RSD	.0682	234.4	.0009	10.73	11.33	5.932	19.50	1.611	.0922
#1	8.097	.0000	.1281	.0001	-.0007	.0004	.0032	.0078	-.0465
#2	8.105	.0000	.1281	.0001	-.0006	.0005	.0024	.0076	-.0465

Zoom In
Zoom Out

Sample Name: MC42342-4F   Acquired: 10/26/2015 13:10:24   Type: Unk
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7012.6**	**11308.**	**226000.**	**13062.**
Stddev	2.9	7.	686.	73.
%RSD	.04197	.06368	.30375	.55775
#1	7010.5	11313.	225520.	13011.
#2	7014.7	11303.	226490.	13114.

Zoom In
Zoom Out

Sample Name: MC42342-5F   Acquired: 10/26/2015 13:16:18   Type: Unk
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0054**	**3.752**	**-.0009**	**.0406**	**.0299**	**-.0004**	**.0002**	**25.35**
Stddev	.0001	.0029	.004	.0003	.0000	.0002	.0000	.0003	.00
%RSD	202.6	54.67	.1155	29.62	.0267	.5460	7.643	176.3	.0186
#1	.0001	.0033	3.755	-.0011	.0406	.0298	-.0004	.0000	25.35
#2	.0000	.0075	3.749	-.0007	.0406	.0300	-.0004	.0004	25.34

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0584**	**.0068**	**-.0002**	**.0001**	**89.09**	**4.621**	**.0036**	**2.213**	**7.515**
Stddev	.0003	.0000	.0003	.0001	.11	.025	.0011	.010	.006
%RSD	.5646	.4195	139.4	162.7	.1245	.5357	29.30	.4703	.0771
#1	.0582	.0068	.0000	.0001	89.01	4.604	.0029	2.206	7.511
#2	.0586	.0068	-.0005	.0000	89.17	4.639	.0044	2.221	7.519

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**4.244**	**.0069**	**.0001**	**.0032**	**-.0012**	**1.330**	**-.0006**	**-.0004**
Stddev	.0000	.002	.0001	.0005	.0004	.0011	.007	.0002	.0007
%RSD	3.552	.0459	1.035	474.5	13.15	92.09	.5648	38.31	161.0
#1	-.0005	4.246	.0070	.0004	.0029	-.0004	1.325	-.0007	.0001
#2	-.0005	4.243	.0069	-.0002	.0035	-.0019	1.336	-.0004	-.0009

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.321**	**.0002**	**.1319**	**-.0001**	**-.0008**	**.0003**	**.0010**	**.0062**	**-.0479**
Stddev	.013	.0001	.0000	.0003	.0000	.0001	.0006	.0001	.0000
%RSD	.1597	64.37	.0060	261.4	6.060	22.93	55.06	.9641	.0782
#1	8.312	.0001	.1319	.0001	-.0008	.0004	.0014	.0062	-.0479
#2	8.331	.0003	.1319	-.0003	-.0008	.0003	.0006	.0063	-.0479

Zoom In
Zoom Out

Sample Name: MC42342-5F   Acquired: 10/26/2015 13:16:18   Type: Unk
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7006.8**	**11309.**	**224650.**	**12982.**
Stddev	3.9	5.	587.	22.
%RSD	.05592	.03987	.26142	.16711
#1	7004.0	11312.	225070.	12967.
#2	7009.6	11306.	224240.	12998.

Sample Name: CCV   Acquired: 10/26/2015 13:22:14   Type: QC
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2497	9.877	1.993	1.967	1.959	1.975	1.980	2.012	9.996
Stddev	.0003	.017	.000	.016	.004	.006	.001	.003	.014
%RSD	.1223	.1704	.0097	.8066	.1945	.2823	.0561	.1439	.1363
#1	.2499	9.865	1.993	1.979	1.956	1.971	1.979	2.010	10.01
#2	.2494	9.889	1.993	1.956	1.961	1.979	1.981	2.014	9.986
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.006	1.993	1.996	1.954	10.06	9.780	1.958	9.887	2.041
Stddev	.001	.001	.012	.021	.00	.011	.011	.009	.018
%RSD	.0628	.0721	.5850	1.070	.0375	.1141	.5448	.0891	.8559
#1	2.005	1.994	2.004	1.968	10.07	9.788	1.950	9.894	2.054
#2	2.006	1.992	1.987	1.939	10.06	9.772	1.965	9.881	2.029
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.011	10.02	1.972	1.967	1.974	1.982	1.964	1.975	1.981
Stddev	.016	.05	.002	.000	.024	.016	.003	.004	.000
%RSD	.7881	.4669	.0957	.0027	1.192	.8113	.1443	.1809	.0204
#1	2.000	10.06	1.973	1.967	1.990	1.994	1.966	1.972	1.981
#2	2.022	9.992	1.971	1.967	1.957	1.971	1.961	1.977	1.981
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: CCV   Acquired: 10/26/2015 13:22:14   Type: QC
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.904	1.986	1.951	1.964	2.006	1.960	1.919	2.022	1.872
Stddev	.004	.001	.006	.013	.001	.019	.010	.004	.003
%RSD	.1961	.0412	.3101	.6408	.0607	.9531	.5339	.2074	.1716
#1	1.902	1.986	1.947	1.973	2.005	1.973	1.912	2.025	1.874
#2	1.907	1.985	1.956	1.955	2.007	1.947	1.927	2.019	1.870
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6909.7	11356.	227080.	12979.
Stddev	.4	.	2230.	72.
%RSD	.00620	.00106	.98191	.55771
#1	6909.4	11356.	225500.	12928.
#2	6910.0	11356.	228650.	13030.

Sample Name: CCB   Acquired: 10/26/2015 13:27:57   Type: QC
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0094	.0016	.0010	.0020	.0001	.0002	.0001	-.0009
Stddev	.0002	.0034	.0007	.0005	.0001	.0003	.0000	.0003	.0002
%RSD	102.3	35.90	48.23	50.58	5.933	459.3	6.103	396.6	22.31
#1	-.0003	.0070	.0010	.0007	.0020	-.0002	.0002	-.0001	-.0010
#2	-.0001	.0118	.0021	.0014	.0019	.0003	.0002	.0003	-.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	.0004	.0002	.0000	.0046	.0268	.0012	-.0115	.0005
Stddev	.0001	.0000	.0001	.0001	.0016	.0275	.0012	.0043	.0000
%RSD	23.77	9.104	55.14	183.3	34.06	102.5	102.8	37.19	5.733
#1	.0005	.0003	.0001	.0001	.0035	.0463	.0003	-.0085	.0005
#2	.0004	.0004	.0003	.0000	.0057	.0074	.0020	-.0145	.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0133	.0231	.0002	.0003	.0008	.0002	.0003	.0006	.0010
Stddev	.0026	.0008	.0001	.0003	.0003	.0039	.0003	.0004	.0008
%RSD	19.30	3.484	27.28	108.3	33.38	1592.	101.9	61.15	82.10
#1	.0151	.0236	.0002	.0005	.0006	.0030	.0001	.0003	.0004
#2	.0115	.0225	.0003	.0001	.0010	-.0025	.0005	.0009	.0016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: CCB   Acquired: 10/26/2015 13:27:57   Type: QC
Method: Accutest1(v138)   Mode: CONC   Corr. Factor: 1.000000
User: admin   Custom ID1:   Custom ID2:   Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	.0007	.0003	.0009	.0009	.0004	.0138	.0008	.0021
Stddev	.0002	.0000	.0000	.0001	.0002	.0002	.0018	.0007	.0000
%RSD	13.22	4.626	5.864	11.49	27.32	52.33	13.30	84.28	1.738
#1	.0018	.0007	.0003	.0009	.0007	.0005	.0151	.0003	.0022
#2	.0015	.0008	.0003	.0008	.0011	.0002	.0125	.0013	.0021
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7297.3	11583.	229260.	12974.
Stddev	10.9	21.	278.	47.
%RSD	.14965	.17850	.12117	.36076
#1	7305.1	11598.	229060.	12941.
#2	7289.6	11569.	229450.	13007.

Zoom In
Zoom Out

Sample Name: MC42342-6F Acquired: 10/26/2015 13:33:52 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.0153	.0398	-.0013	.2530	.0415	.0000	.0003	64.09
Stddev	.0002	.0151	.0005	.0014	.0002	.0002	.000	.0012	.14
%RSD	49.11	99.12	1.140	111.1	.0931	.5557	18.32	366.1	.2110
#1	-.0002	.0260	.0402	-.0023	.2529	.0414	.0000	-.0005	64.18
#2	-.0004	.0046	.0395	-.0003	.2532	.0417	.0000	.0012	63.99

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0117	.0001	.0003	22.25	13.17	.0025	9.622	7.419
Stddev	.0000	.0002	.0001	.0001	.04	.00	.0001	.022	.005
%RSD	2.075	1.584	153.8	31.46	.1654	.0113	5.305	.2330	.0617
#1	.0006	.0115	.0000	.0004	22.28	13.17	.0025	9.606	7.422
#2	.0006	.0118	.0002	.0002	22.23	13.17	.0024	9.638	7.416

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042	27.18	.0030	.0000	.0016	-.0012	1.100	-.0004	-.0003
Stddev	.0004	.02	.0000	.0003	.0004	.0003	.000	.0001	.0005
%RSD	10.47	.0825	.6358	763.7	25.84	21.66	.0219	14.06	163.3
#1	.0045	27.20	.0030	.0002	.0019	-.0011	1.100	-.0005	.0000
#2	.0038	27.17	.0030	-.0002	.0013	-.0014	1.100	-.0004	-.0007

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.725	-.0001	1.040	.0007	-.0007	.0003	.0139	.0085	-.0396
Stddev	.004	.0001	.001	.0000	.0001	.0000	.0001	.0000	.0000
%RSD	.0552	72.77	.1026	3.753	14.28	10.31	.7491	.2418	.0357
#1	7.722	-.0001	1.040	.0007	-.0008	.0004	.0140	.0085	-.0395
#2	7.728	-.0002	1.039	.0007	-.0006	.0003	.0138	.0085	-.0396

Zoom In
Zoom Out

Sample Name: MC42342-6F Acquired: 10/26/2015 13:33:52 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6715.0	11121.	221030.	13009.
Stddev	7.2	13.	754.	2.
%RSD	.10784	.11516	.34106	.01352
#1	6709.8	11112.	221570.	13008.
#2	6720.1	11130.	220500.	13010.

Zoom In
Zoom Out

Sample Name: MC42342-7F Acquired: 10/26/2015 13:39:48 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0003	.3125	.0119	.0002	.0104	.0107	.0000	-.0005	9.054
Stddev	.0004	.0086	.0003	.0007	.0002	.0002	.000	.0006	.005
%RSD	148.5	2.741	2.639	293.4	1.454	1.475	6.285	118.7	.0540
#1	.0000	.3064	.0121	-.0002	.0105	.0106	.0000	-.0001	9.050
#2	-.0006	.3186	.0117	.0007	.0102	.0108	.0000	-.0009	9.057

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0012	.0008	.0002	6.998	1.647	.0015	1.040	.2928
Stddev	.0000	.0001	.0001	.0001	.022	.013	.0014	.009	.0016
%RSD	7.641	4.952	10.22	43.33	.3082	.7579	93.05	.8960	.5300
#1	.0003	.0013	.0008	.0002	6.982	1.638	.0005	1.046	.2917
#2	.0003	.0012	.0007	.0001	7.013	1.656	.0024	1.033	.2939

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019	25.14	.0007	.0001	.0014	.0024	.7114	-.0003	.0006
Stddev	.0001	.04	.0001	.0002	.0007	.0003	.0018	.0001	.0004
%RSD	6.810	.1592	12.36	105.2	46.38	11.87	.2551	42.78	57.40
#1	.0019	25.11	.0008	.0000	.0019	.0026	.7127	-.0003	.0004
#2	.0018	25.17	.0006	.0002	.0010	.0022	.7101	-.0002	.0009

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.705	-.0001	.0555	.0058	.0001	.0016	.0060	.0070	-.0129
Stddev	.007	.0000	.0002	.0001	.0001	.0001	.0000	.0000	.0002
%RSD	.2718	9.285	.3810	2.311	69.22	9.021	.5975	.0116	1.901
#1	2.710	-.0001	.0553	.0057	.0001	.0015	.0060	.0070	-.0131
#2	2.700	-.0001	.0556	.0059	.0002	.0017	.0060	.0070	-.0127

Zoom In
Zoom Out

Sample Name: MC42342-7F Acquired: 10/26/2015 13:39:48 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7007.3	11396.	227080.	13059.
Stddev	4.1	5.	1047.	2.
%RSD	.05844	.04179	.46100	.01761
#1	7010.2	11392.	227820.	13057.
#2	7004.4	11399.	226340.	13060.

Zoom In
Zoom Out

Sample Name: MC42342-8F Acquired: 10/26/2015 13:45:41 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**.0049**	**.0005**	**.0002**	**.0052**	**.0018**	**.0000**	**-.0004**	**9.971**
Stddev	.0003	.0038	.0000	.0004	.0000	.0000	.000	.0000	.033
%RSD	107.9	77.99	1.858	155.2	.2253	1.252	26.99	7.685	.3287
#1	.0001	.0075	.0005	.0000	.0052	.0017	.0000	-.0003	9.948
#2	.0004	.0022	.0005	.0005	.0052	.0018	.0000	-.0004	9.995

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0001**	**.0003**	**.0009**	**.0053**	**1.022**	**.0019**	**1.220**	**.0007**
Stddev	.0001	.0001	.0001	.0002	.0006	.002	.0003	.008	.0000
%RSD	67.98	70.99	45.70	26.49	11.17	.2194	15.11	.6824	3.533
#1	.0002	.0000	.0002	.0007	.0049	1.020	.0021	1.214	.0007
#2	.0001	-.0001	.0004	.0011	.0057	1.024	.0017	1.226	.0007

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**3.290**	**.0003**	**-.0001**	**.0034**	**.0018**	**1.512**	**-.0002**	**.0006**
Stddev	.0001	.011	.0001	.0000	.0001	.0025	.003	.0001	.0004
%RSD	11.34	.3269	38.96	28.20	3.791	135.8	.1712	74.98	55.11
#1	.0010	3.282	.0002	-.0001	.0033	.0036	1.514	-.0001	.0009
#2	.0008	3.297	.0004	-.0001	.0035	.0001	1.510	-.0003	.0004

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.474**	**-.0004**	**.0634**	**.0001**	**.0000**	**-.0001**	**.0056**	**.0036**	**-.0380**
Stddev	.002	.0000	.0000	.0003	.0001	.0001	.0000	.0001	.0002
%RSD	.0248	8.436	.0364	270.1	256.2	145.9	.1291	1.740	.3954
#1	7.473	-.0005	.0634	.0003	.0000	-.0001	.0056	.0037	-.0381
#2	7.475	-.0004	.0634	-.0001	.0001	.0000	.0056	.0036	-.0379

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Zoom In
Zoom Out

Sample Name: MC42342-8F Acquired: 10/26/2015 13:45:41 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7211.4**	**11493.**	**230110.**	**12992.**
Stddev	.9	.	21.	2.
%RSD	.01280	.00088	.00929	.01795
#1	7212.1	11493.	230100.	12990.
#2	7210.8	11492.	230130.	12993.

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Zoom In
Zoom Out

Sample Name: MC42342-9F Acquired: 10/26/2015 13:51:34 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0004**	**.0092**	**.0922**	**-.0005**	**-.0005**	**.0469**	**.0000**	**.0015**
Stddev	.0001	.0043	.0007	.0002	.0001	.0005	.000	.0006
%RSD	27.57	46.74	.8026	36.94	20.25	.9943	135.4	42.13
#1	-.0003	.0123	.0928	-.0006	-.0004	.0472	.0000	.0019
#2	-.0005	.0062	.0917	-.0004	-.0005	.0466	-.0001	.0010

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**130.9**	**.0015**	**.0005**	**.0000**	**.0008**	**23.74**	**5.113**	**.0054**
Stddev	.1	.0000	.0000	.000	.0001	.02	.030	.0006
%RSD	.0404	.6188	8.886	382.1	10.76	.1022	.5931	11.29
#1	131.0	.0015	.0005	.0001	.0008	23.76	5.134	.0049
#2	130.9	.0015	.0006	-.0001	.0009	23.73	5.091	.0058

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**9.593**	**10.29**	**.0031**	**62.40**	**.0004**	**-.0002**	**.0029**	**.0028**
Stddev	.076	.07	.0002	.00	.0000	.0003	.0001	.0009
%RSD	.7925	.6715	6.727	.0037	5.459	201.0	3.009	32.33
#1	9.539	10.34	.0030	62.40	.0004	.0001	.0029	.0021
#2	9.647	10.24	.0032	62.40	.0004	-.0004	.0028	.0034

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.1489**	**-.0009**	**-.0010**	**11.48**	**-.0001**	**.6542**	**.0006**	**-.0003**
Stddev	.0033	.0006	.0015	.11	.0001	.0007	.0001	.0001
%RSD	2.212	65.95	152.7	.9188	52.47	.1113	18.69	38.53
#1	.1512	-.0005	-.0020	11.55	-.0002	.6547	.0005	-.0002
#2	.1465	-.0013	.0001	11.40	-.0001	.6537	.0007	-.0004

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Zoom In
Zoom Out

Sample Name: MC42342-9F Acquired: 10/26/2015 13:51:34 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	**.0008**	**.0175**	**.0135**	F **-.0599**
Stddev	.0000	.0007	.0003	.0006
%RSD	5.573	3.741	1.953	1.055
#1	.0008	.0180	.0137	-.0604
#2	.0009	.0171	.0133	-.0595

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6446.7**	**10860.**	**219520.**	**12879.**
Stddev	52.9	98.	879.	4.
%RSD	.82057	.90166	.40037	.03115
#1	6409.3	10791.	218900.	12882.
#2	6484.1	10929.	220140.	12876.

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11.2
11

Zoom In Zoom Out

Sample Name: MC42342-10F Acquired: 10/26/2015 13:57:32 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**.0007**	**.0005**	**.0011**	**.0187**	**.0036**	**.0000**	**.0005**	**17.54**
Stddev	.0001	.0046	.0006	.0003	.0000	.0001	.0000	.0006	.00
%RSD	142.9	699.4	100.2	27.71	.0618	2.380	164.1	127.0	.0259
#1	.0002	-.0026	.0009	.0013	.0187	.0035	.0001	.0009	17.55
#2	.0000	.0039	.0002	.0009	.0187	.0036	.0000	.0001	17.54

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0002**	**-.0001**	**.0003**	**.0002**	**.0069**	**1.357**	**.0009**	**2.248**	**.0021**
Stddev	.0001	.0000	.0003	.0001	.0043	.012	.0005	.005	.0000
%RSD	58.50	21.36	83.53	41.25	62.00	.8830	53.61	.2082	.2924
#1	.0003	-.0001	.0001	.0003	.0099	1.365	.0012	2.245	.0021
#2	.0001	-.0001	.0005	.0002	.0039	1.348	.0005	2.251	.0021

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**5.198**	**-.0003**	**-.0002**	**.0023**	**.0019**	**1.528**	**-.0007**	**.0009**
Stddev	.0000	.011	.0000	.0001	.0000	.0057	.000	.0003	.0003
%RSD	4.476	.2022	3.823	36.41	1.994	304.3	.0127	44.04	30.02
#1	.0005	5.190	-.0003	-.0002	.0023	.0059	1.528	-.0009	.0007
#2	.0005	5.205	-.0003	-.0003	.0022	-.0022	1.528	-.0005	.0011

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.635**	**-.0002**	**.1129**	**.0002**	**-.0004**	**.0002**	**.0087**	**.0085**	**-.0443**
Stddev	.012	.0001	.0000	.0000	.0007	.0002	.0006	.0000	.0000
%RSD	.1396	58.88	.0270	12.27	161.8	87.01	6.732	.1281	.0615
#1	8.627	-.0001	.1128	.0002	-.0009	.0001	.0091	.0085	-.0443
#2	8.644	-.0003	.1129	.0001	.0001	.0003	.0082	.0085	-.0443

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Zoom In Zoom Out

Sample Name: MC42342-10F Acquired: 10/26/2015 13:57:32 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7181.1**	**11501.**	**230380.**	**13152.**
Stddev	1.3	7.	2251.	56.
%RSD	.01877	.06498	.97698	.42892
#1	7180.2	11507.	231970.	13192.
#2	7182.1	11496.	228790.	13112.

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Zoom In Zoom Out

Sample Name: MC42342-11F Acquired: 10/26/2015 14:03:24 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0003**	**.4991**	**-.0005**	**.0444**	**.0406**	**-.0001**	**-.0002**	**24.90**
Stddev	.0004	.0088	.0007	.0006	.0000	.0004	.0000	.0006	.07
%RSD	167.3	3060.	.1434	124.5	.0004	.9505	45.16	251.3	.2980
#1	-.0006	-.0060	.4986	-.0001	.0444	.0409	-.0001	-.0006	24.95
#2	.0000	.0065	.4996	-.0009	.0444	.0403	-.0001	.0002	24.85

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0075**	**.0095**	**-.0001**	**.0007**	**60.44**	**4.716**	**.0018**	**2.900**	**2.429**
Stddev	.0001	.0000	.0002	.0001	.23	.011	.0005	.003	.009
%RSD	.8655	.4960	270.0	10.97	.3796	.2343	24.44	.1067	.3614
#1	.0074	.0095	.0001	.0007	60.61	4.723	.0022	2.898	2.435
#2	.0075	.0096	-.0002	.0008	60.28	4.708	.0015	2.902	2.423

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**16.26**	**.0032**	**.0000**	**.0036**	**-.0003**	**14.27**	**.0003**	**.0001**
Stddev	.0000	.02	.0002	.0004	.0014	.0015	.00	.0005	.0005
%RSD	29.99	.1103	7.211	1564.	38.07	553.6	.0072	168.4	679.9
#1	.0001	16.27	.0031	-.0002	.0026	.0008	14.27	.0007	-.0003
#2	.0001	16.24	.0034	.0003	.0045	-.0014	14.27	-.0001	.0004

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.989**	**.0001**	**.0882**	**.0002**	**-.0007**	**.0001**	**.0096**	**.0086**	**-.0490**
Stddev	.001	.0003	.0001	.0001	.0005	.0000	.0001	.0000	.0002
%RSD	.0134	251.4	.0997	34.04	70.21	19.27	.7977	.0061	.3149
#1	8.990	-.0001	.0882	.0002	-.0003	.0001	.0096	.0086	-.0491
#2	8.988	.0003	.0881	.0003	-.0010	.0001	.0095	.0086	-.0488

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Zoom In Zoom Out

Sample Name: MC42342-11F Acquired: 10/26/2015 14:03:24 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6959.5**	**11319.**	**223800.**	**13038.**
Stddev	9.1	10.	981.	31.
%RSD	.13015	.08693	.43831	.23521
#1	6965.9	11326.	223110.	13016.
#2	6953.1	11312.	224500.	13060.

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11.2

11

Zoom In
Zoom Out

Sample Name: MC42342-12F Acquired: 10/26/2015 14:09:14 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0002	.0009	-.0001	.0327	.0055	.0000	-.0008	8.752
Stddev	.0002	.0093	.0004	.0002	.0001	.0001	.0000	.0004	.023
%RSD	88.64	5922.	45.74	169.0	.4056	1.568	49.25	56.50	.2629
#1	-.0001	-.0064	.0006	.0000	.0326	.0054	.0000	-.0005	8.735
#2	-.0004	.0067	.0012	-.0003	.0328	.0055	.0001	-.0011	8.768

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	.0026	.0018	.0019	.0291	3.647	.0094	1.002	1.167
Stddev	.0000	.0000	.0001	.0001	.0004	.014	.0007	.001	.004
%RSD	4.916	1.022	6.296	7.408	1.353	.3737	7.621	.0545	.3365
#1	.0007	.0025	.0019	.0018	.0294	3.656	.0099	1.002	1.165
#2	.0008	.0026	.0018	.0020	.0288	3.637	.0089	1.002	1.170

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	3.710	.0025	.0000	.0020	-.0015	1.428	-.0001	-.0003
Stddev	.0000	.011	.0001	.000	.0006	.0012	.001	.0001	.0006
%RSD	5.464	.3017	4.283	104.6	30.08	78.83	.0420	89.84	218.5
#1	.0003	3.702	.0024	.0000	.0024	-.0023	1.428	.0000	-.0008
#2	.0004	3.718	.0025	.0000	.0015	-.0007	1.427	-.0001	.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.773	-.0002	.0830	.0003	-.0002	-.0001	.0099	.0248	-.0244
Stddev	.012	.0001	.0001	.0002	.0005	.0001	.0000	.0000	.0001
%RSD	.2461	40.67	.1753	60.60	345.7	122.4	.2660	.1689	.5715
#1	4.765	-.0002	.0829	.0004	.0002	-.0002	.0099	.0249	-.0243
#2	4.782	-.0001	.0831	.0002	-.0005	.0000	.0099	.0248	-.0245

Zoom In
Zoom Out

Sample Name: MC42342-12F Acquired: 10/26/2015 14:09:14 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7184.4	11479.	229110.	12947.
Stddev	8.7	2.	854.	26.
%RSD	.12093	.01363	.37257	.20466
#1	7178.3	11478.	229720.	12965.
#2	7190.6	11481.	228510.	12928.

Zoom In
Zoom Out

Sample Name: MC42178-1F Acquired: 10/26/2015 14:15:06 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0019	.0118	.1057	-.0020	.0103	.3971	-.0001	.0030	191.9
Stddev	.0005	.0280	.0041	.0003	.0004	.0004	.0001	.0026	.1
%RSD	24.32	237.6	3.836	15.95	3.478	.0950	78.43	85.07	.0291
#1	-.0015	-.0080	.1086	-.0017	.0100	.3974	-.0001	.0049	191.9
#2	-.0022	.0315	.1028	-.0022	.0105	.3968	-.0002	.0012	192.0

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024	.0523	.0006	.0000	45.03	11.90	.0255	14.82	20.81
Stddev	.0004	.0002	.0002	.001	.08	.15	.0078	.05	.18
%RSD	17.42	.4366	31.76	1304.	.1771	1.270	30.52	.3256	.8523
#1	.0026	.0525	.0008	.0003	44.98	12.00	.0200	14.86	20.69
#2	.0021	.0522	.0005	-.0004	45.09	11.79	.0310	14.79	20.94

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	573.2	.0014	-.0005	.0021	.0043	10.20	-.0015	-.0044
Stddev	.0006	.3	.0008	.0001	.0063	.0092	.01	.0046	.0033
%RSD	94.21	.0489	56.29	24.62	301.7	213.9	.0663	303.1	75.06
#1	-.0002	573.0	.0020	-.0004	-.0024	.0109	10.20	.0017	-.0068
#2	-.0010	573.4	.0009	-.0006	.0065	-.0022	10.21	-.0047	-.0021

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.992	-.0016	3.848	-.0007	-.0009	.0013	.0052	.0128	-.0479
Stddev	.013	.0004	.012	.0003	.0022	.0010	.0006	.0001	.0002
%RSD	.1432	24.34	.2980	42.71	241.3	78.02	11.63	.6232	.3367
#1	8.983	-.0018	3.840	-.0009	-.0025	.0006	.0056	.0129	-.0480
#2	9.001	-.0013	3.856	-.0005	.0006	.0020	.0047	.0128	-.0478

Zoom In
Zoom Out

Sample Name: MC42178-1F Acquired: 10/26/2015 14:15:06 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6538.1	11054.	216620.	12692.
Stddev	4.9	7.	725.	38.
%RSD	.07515	.06693	.33446	.29777
#1	6541.6	11060.	216110.	12665.
#2	6534.7	11049.	217140.	12719.

Sample Name: MC42178-4FCONF Acquired: 10/26/2015 14:21:06 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	k .0019	k .0177	k .0236	k .0310	^ *****	k .1130	k .0001	k .0731
Stddev	.0001	.0521	.0283	.0058	-----	.0009	.0001	.0642
%RSD	7.563	295.0	119.7	18.72	-----	.7980	140.9	87.76
#1	k .0018	k .0545	k .0036	k .0269	k .0146	.1123	k .0002	k .0278
#2	k .0020	k -.0192	k .0436	k .0351	^ -----	k .1136	k .0000	k .1185

Elem	Ca3179	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	k 20.69	k -.0147	k .0073	k .0034	k -.0010	.0217	3.918	k .0120
Stddev	.04	.0134	.0046	.0018	.0001	.0066	.071	.0017
%RSD	.1805	91.25	62.51	53.86	7.653	30.64	1.816	13.95
#1	20.72	k -.0052	k .0041	k .0021	k -.0009	.0170	3.969	.0132
#2	k 20.66	k -.0241	k .0106	k .0047	k -.0010	.0264	3.868	k .0109

Elem	Mg2790	Mn2576	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	k 1.860	k 5.544	k .0964	283.0	k .0046	kF -.0742	k -.0006	k -.0101
Stddev	.021	.004	.0712	.2	.0041	.0423	.0001	.0057
%RSD	1.109	.0678	73.82	.0659	89.92	56.99	25.28	56.75
#1	k 1.846	k 5.547	k .0461	282.9	k .0017	k -.0443	k -.0005	k -.0061
#2	k 1.875	k 5.541	k .1467	283.1	k .0075	k -.1041	k -.0007	k -.0142

Elem	S_1820	Sb2068	Se1960	Si2124	Sn1899	Sr4077	Ti3349	Tl1908
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	k 6.371	^ *****	^ *****	^ *****	^ *****	.1086	k -.0008	^ *****
Stddev	.512	-----	-----	-----	-----	.0002	.0008	-----
%RSD	8.033	-----	-----	-----	-----	.1987	97.54	-----
#1	k 6.009	k -.1113	k .1427	^ -----	.0048	.1087	k -.0002	k .0551
#2	k 6.733	^ -----	^ -----	k 2.400	^ -----	.1084	k -.0014	^ -----

Sample Name: MC42178-4FCONF Acquired: 10/26/2015 14:21:06 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm
Avg	k -.0016	k .0936	k -.0298	k .0000
Stddev	.0005	.0650	.0260	.0007
%RSD	34.59	69.40	87.23	2065.
#1	k -.0012	k .0477	k -.0114	k -.0004
#2	k -.0019	k .1395	k -.0482	k .0005

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	8985.3	9912.5	216770.	12813.
Stddev	1862.1	268.5	5041.	18.
%RSD	20.724	2.7083	2.3257	.13827
#1	7668.5	10102.	220340.	12825.
#2	10302.	9722.7	213210.	12800.

Sample Name: MC42178-6F Acquired: 10/26/2015 14:26:53 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0022	.0092	.3643	-.0009	.0060	.1506	-.0003	-.0089	195.9
Stddev	.0020	.0774	.0041	.0015	.0009	.0017	.0003	.0037	.2
%RSD	92.69	839.8	1.129	173.9	14.29	1.157	101.4	41.72	.0772
#1	-.0036	.0640	.3672	-.0020	.0066	.1494	-.0005	-.0116	196.0
#2	-.0008	-.0455	.3614	.0002	.0054	.1518	-.0001	-.0063	195.8

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052	.0554	-.0002	-.0001	96.44	19.89	.0573	12.02	24.41
Stddev	.0003	.0015	.0014	.0004	.31	.50	.0002	.17	.19
%RSD	6.004	2.766	869.5	360.8	.3204	2.535	.3827	1.394	.7793
#1	.0050	.0564	.0008	.0002	96.22	19.54	.0575	11.90	24.27
#2	.0054	.0543	-.0012	-.0004	96.66	20.25	.0572	12.14	24.54

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0147	371.0	.0192	.0007	.0014	-.0095	.6195	-.0034	-.0014
Stddev	.0001	.7	.0006	.0056	.0096	.0114	.0085	.0022	.0176
%RSD	.9107	.1772	3.062	822.8	690.9	120.7	1.367	63.84	1218.
#1	.0148	370.5	.0196	-.0033	.0082	-.0014	.6255	-.0019	-.0139
#2	.0146	371.4	.0187	.0046	-.0054	-.0175	.6135	-.0049	.0110

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.513	-.0035	1.684	-.0006	.0034	.0037	.0057	.0205	-.0476
Stddev	.002	.0006	.002	.0003	.0019	.0020	.0019	.0002	.0016
%RSD	.0186	18.07	.1306	58.63	56.68	53.73	33.52	.7409	3.411
#1	8.512	-.0030	1.682	-.0003	.0020	.0051	.0044	.0206	-.0464
#2	8.514	-.0039	1.685	-.0008	.0047	.0023	.0071	.0204	-.0487

Sample Name: MC42178-6F Acquired: 10/26/2015 14:26:53 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6877.5	11334.	222740.	12830.
Stddev	.0	12.	929.	86.
%RSD	.00011	.10392	.41688	.67005
#1	6877.5	11325.	223390.	12770.
#2	6877.5	11342.	222080.	12891.

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/26/2015 14:32:46 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.2530**	**9.871**	**2.011**	**1.954**	**1.958**	**1.968**	**1.987**	**2.039**	**10.11**
Stddev	.0002	.021	.003	.008	.001	.011	.008	.004	.03
%RSD	.0595	.2119	.1301	.4015	.0629	.5572	.3894	.1794	.2566
#1	.2529	9.885	2.012	1.949	1.958	1.976	1.993	2.042	10.13
#2	.2531	9.856	2.009	1.960	1.959	1.960	1.982	2.036	10.09
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.026**	**2.010**	**1.992**	**1.952**	**10.11**	**9.729**	**1.938**	**9.885**	**2.047**
Stddev	.001	.001	.004	.006	.07	.071	.010	.070	.001
%RSD	.0707	.0319	.1888	.3237	.6815	.7325	.5219	.7081	.0672
#1	2.027	2.010	1.989	1.947	10.16	9.780	1.946	9.934	2.046
#2	2.025	2.011	1.994	1.956	10.06	9.679	1.931	9.835	2.048
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.040**	**10.21**	**1.972**	**1.969**	**1.965**	**1.991**	**1.968**	**1.984**	**2.012**
Stddev	.012	.01	.001	.002	.004	.011	.000	.001	.003
%RSD	.6099	.0851	.0566	.1036	.1870	.5355	.0102	.0547	.1558
#1	2.031	10.20	1.971	1.967	1.962	1.984	1.968	1.984	2.014
#2	2.049	10.22	1.973	1.970	1.967	1.999	1.968	1.983	2.010
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Zoom In Zoom Out

Sample Name: CCV Acquired: 10/26/2015 14:32:46 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**1.914**	**2.003**	**1.953**	**1.958**	**2.006**	**1.960**	**1.955**	**2.053**	**1.922**
Stddev	.001	.001	.006	.002	.002	.003	.004	.000	.007
%RSD	.0323	.0699	.2903	.1093	.1096	.1574	.2140	.0045	.3722
#1	1.914	2.002	1.957	1.956	2.004	1.957	1.952	2.053	1.917
#2	1.913	2.004	1.949	1.959	2.008	1.962	1.958	2.053	1.927
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6954.2**	**11415.**	**227410.**	**13024.**
Stddev	11.8	16.	173.	41.
%RSD	.16983	.14191	.07598	.31395
#1	6962.6	11426.	227530.	12995.
#2	6945.9	11404.	227290.	13053.

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Zoom In Zoom Out

Sample Name: CCB Acquired: 10/26/2015 14:47:52 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0031**	**-.0006**	**.0008**	**.0010**	**.0001**	**.0001**	**-.0015**	**-.0020**
Stddev	.0000	.0038	.0007	.0002	.0002	.0003	.0000	.0004	.0034
%RSD	63.85	125.9	113.0	20.20	17.31	337.5	26.46	25.16	168.5
#1	.0001	.0003	-.0011	.0007	.0009	-.0001	.0001	-.0012	.0004
#2	.0000	.0058	-.0001	.0009	.0011	.0003	.0002	-.0017	-.0044
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0003**	**.0003**	**.0002**	**-.0001**	**.0024**	**.0140**	**.0013**	**-.0232**	**.0002**
Stddev	.0000	.0001	.0003	.0000	.0008	.0006	.0000	.0032	.0000
%RSD	2.454	47.39	124.9	11.07	31.54	4.561	1.968	13.70	12.37
#1	.0003	.0002	.0004	-.0001	.0029	.0136	.0013	-.0254	.0002
#2	.0003	.0004	.0000	-.0001	.0019	.0145	.0013	-.0209	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0023**	**.0216**	**.0002**	**-.0001**	**.0007**	**-.0018**	**.0000**	**-.0004**	**.0002**
Stddev	.0001	.0010	.0001	.0001	.0004	.0017	.000	.0007	.0015
%RSD	5.481	4.840	23.16	158.5	50.23	94.44	590.2	167.7	685.7
#1	.0024	.0208	.0002	.0000	.0010	-.0006	.0000	-.0009	.0013
#2	.0023	.0223	.0003	-.0002	.0005	-.0031	.0000	.0001	-.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Zoom In Zoom Out

Sample Name: CCB Acquired: 10/26/2015 14:47:52 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0002**	**.0001**	**.0004**	**.0001**	**.0002**	**.0040**	**.0002**	**.0005**
Stddev	.0002	.0003	.0000	.0000	.0002	.0002	.0002	.0001	.0001
%RSD	32.63	113.1	21.01	4.308	166.5	121.4	6.177	53.24	22.77
#1	.0006	.0000	.0001	.0004	.0003	.0003	.0039	.0001	.0004
#2	.0009	.0004	.0002	.0004	.0000	.0000	.0042	.0002	.0006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7322.5**	**11624.**	**231300.**	**13039.**
Stddev	1.6	6.	2371.	.
%RSD	.02180	.05349	1.0252	.00272
#1	7323.7	11620.	232970.	13039.
#2	7321.4	11628.	229620.	13039.

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11.2

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Zoom In
Zoom Out

Sample Name: MC42178-7F Acquired: 10/26/2015 14:57:25 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0018	-.0371	.2292	-.0027	.0092	.0992	.0002	-.0031	98.84
Stddev	.0003	.0139	.0001	.0013	.0006	.0005	.0000	.0048	.08
%RSD	15.56	37.33	.0550	49.96	6.997	.5062	25.61	156.8	.0796
#1	-.0020	-.0469	.2291	-.0017	.0088	.0988	.0002	.0003	98.90
#2	-.0016	-.0273	.2293	-.0036	.0097	.0995	.0002	-.0064	98.79

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0037	.0545	.0006	.0010	75.06	35.98	.0670	9.782	11.33
Stddev	.0001	.0001	.0003	.0003	.15	.14	.0075	.020	.05
%RSD	3.596	.2378	44.06	33.71	.2056	.3987	11.24	.1993	.3996
#1	.0038	.0544	.0008	.0013	75.17	35.88	.0723	9.795	11.30
#2	.0036	.0546	.0004	.0008	74.95	36.08	.0616	9.768	11.36

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0053	108.8	.0037	-.0014	.0041	.0034	1.665	-.0020	-.0036
Stddev	.0002	.0	.0000	.0003	.0007	.0050	.010	.0017	.0017
%RSD	2.936	.0262	1.020	19.91	16.04	148.9	.5786	84.93	46.95
#1	.0054	108.7	.0037	-.0016	.0046	.0069	1.672	-.0032	-.0048
#2	.0052	108.8	.0038	-.0012	.0037	-.0002	1.659	-.0008	-.0024

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.607	-.0011	1.554	.0013	.0001	.0020	.0300	.0208	-.0404
Stddev	.010	.0004	.002	.0024	.0029	.0011	.0000	.0004	.0004
%RSD	.1266	39.49	.0968	184.4	2028.	54.79	.0341	2.158	.8943
#1	7.601	-.0014	1.556	-.0004	.0022	.0012	.0300	.0212	-.0402
#2	7.614	-.0008	1.553	.0029	-.0019	.0028	.0300	.0205	-.0407

Zoom In
Zoom Out

Sample Name: MC42178-7F Acquired: 10/26/2015 14:57:25 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6949.4	11366.	225740.	12908.
Stddev	14.0	9.	656.	32.
%RSD	.20111	.08208	.29067	.24573
#1	6959.3	11373.	226200.	12930.
#2	6939.5	11359.	225270.	12885.

Zoom In
Zoom Out

Sample Name: MC42178-8F Acquired: 10/26/2015 15:03:18 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0024	.0458	.4362	.0041	.0055	.0871	-.0001	-.0066	28.24
Stddev	.0010	.0421	.0089	.0027	.0009	.0020	.0003	.0022	.16
%RSD	43.35	91.88	2.039	66.21	15.83	2.268	648.4	32.97	.5641
#1	-.0017	.0756	.4299	.0022	.0049	.0857	-.0003	-.0081	28.13
#2	-.0031	.0161	.4425	.0060	.0061	.0885	.0002	-.0051	28.35

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0063	.0235	.0041	-.0005	101.5	35.96	.0097	7.724	1.701
Stddev	.0001	.0003	.0022	.0002	.8	.38	.0004	.127	.011
%RSD	1.428	1.491	52.95	42.66	.7759	1.069	4.020	1.638	.6629
#1	.0063	.0237	.0057	-.0004	101.0	35.69	.0094	7.635	1.709
#2	.0062	.0232	.0026	-.0007	102.1	36.23	.0099	7.814	1.693

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0070	40.10	.0018	-.0024	.0075	-.0174	.6405	-.0015	.0033
Stddev	.0003	.08	.0003	.0023	.0051	.0115	.0059	.0024	.0046
%RSD	4.631	.2067	15.29	97.45	68.55	66.09	.9212	155.0	140.2
#1	.0072	40.15	.0016	-.0007	.0038	-.0255	.6446	-.0032	.0066
#2	.0068	40.04	.0020	-.0041	.0111	-.0092	.6363	.0001	.0000

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.18	-.0009	.4692	.0030	.0010	.0044	.0156	.0220	-.0625
Stddev	.00	.0016	.0039	.0014	.0001	.0003	.0035	.0003	.0007
%RSD	.0342	185.6	.8268	48.29	13.84	6.982	22.40	1.170	1.141
#1	12.18	-.0020	.4664	.0040	.0009	.0046	.0180	.0222	-.0620
#2	12.18	.0003	.4719	.0020	.0011	.0042	.0131	.0218	-.0630

Zoom In
Zoom Out

Sample Name: MC42178-8F Acquired: 10/26/2015 15:03:18 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7214.7	11578.	229440.	12937.
Stddev	8.1	14.	1533.	42.
%RSD	.11226	.11822	.66828	.32810
#1	7220.4	11587.	228360.	12967.
#2	7209.0	11568.	230530.	12907.

Zoom In
Zoom Out

Sample Name: MC42178-10F Acquired: 10/26/2015 15:09:12 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0017	.0065	.2156	.0018	.0081	.0989	.0000	-.0005	98.85
Stddev	.0001	.0157	.0035	.0055	.0003	.0000	.000	.0029	.16
%RSD	3.464	240.9	1.642	307.6	4.217	.0451	1483.	550.8	.1658
#1	-.0017	-.0046	.2131	.0057	.0079	.0989	.0000	.0015	98.74
#2	-.0018	.0176	.2181	-.0021	.0084	.0989	.0000	-.0025	98.97

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0030	.0537	-.0004	.0009	74.47	35.46	.0572	9.726	11.48
Stddev	.0002	.0002	.0014	.0004	.24	.19	.0006	.021	.03
%RSD	7.976	.2989	384.3	47.37	.3167	.5235	1.111	.2186	.2601
#1	.0031	.0539	.0006	.0006	74.30	35.33	.0568	9.741	11.46
#2	.0028	.0536	-.0014	.0012	74.63	35.59	.0577	9.711	11.50

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0024	109.6	.0027	-.0010	.0003	.0057	1.626	-.0020	-.0041
Stddev	.0001	.3	.0003	.0010	.0015	.0066	.004	.0023	.0010
%RSD	3.737	.2464	10.13	103.4	592.3	116.8	.2316	115.9	23.81
#1	.0023	109.4	.0025	-.0003	.0013	.0010	1.623	-.0036	-.0034
#2	.0025	109.8	.0029	-.0016	-.0008	.0104	1.629	-.0004	-.0048

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.549	-.0019	1.545	.0009	-.0007	.0001	.0061	.0146	-.0408
Stddev	.010	.0002	.005	.0007	.0007	.0010	.0002	.0002	.0009
%RSD	.1318	11.74	.3331	76.43	95.60	1472.	2.615	1.647	2.169
#1	7.542	-.0017	1.542	.0004	-.0002	.0008	.0060	.0147	-.0402
#2	7.556	-.0020	1.549	.0014	-.0012	-.0007	.0062	.0144	-.0414

Zoom In
Zoom Out

Sample Name: MC42178-10F Acquired: 10/26/2015 15:09:12 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6949.3	11363.	224490.	12861.
Stddev	2.0	13.	134.	43.
%RSD	.02856	.11682	.05987	.33626
#1	6950.7	11373.	224590.	12830.
#2	6947.9	11354.	224400.	12891.

Zoom In
Zoom Out

Sample Name: MC42178-11F Acquired: 10/26/2015 15:15:06 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0056	-.1939	.5203	.0155	.0141	.2388	.0004	-.0008	89.79
Stddev	.0011	.1749	.0093	.0017	.0034	.0030	.0006	.0074	.06
%RSD	19.49	90.22	1.779	10.99	24.21	1.249	157.6	943.1	.0667
#1	-.0064	-.3176	.5137	.0167	.0165	.2367	.0000	-.0060	89.83
#2	-.0049	-.0702	.5268	.0143	.0117	.2410	.0008	.0044	89.74

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068	.0381	.0024	-.0023	260.2	41.62	.0321	23.18	21.25
Stddev	.0009	.0002	.0031	.0018	.6	.69	.0132	.10	.18
%RSD	13.01	.4191	131.3	78.55	.2190	1.657	41.06	.4362	.8573
#1	.0062	.0380	.0046	-.0010	259.8	42.11	.0414	23.11	21.12
#2	.0074	.0382	.0002	-.0035	260.6	41.14	.0227	23.25	21.38

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0037	165.8	.0051	-.0028	.0076	-.0003	1.279	-.0050	.0031
Stddev	.0000	.2	.0005	.0082	.0046	.0457	.005	.0135	.0310
%RSD	.3686	.1454	10.20	297.2	60.37	16050.	.3723	268.9	985.0
#1	.0037	166.0	.0055	.0031	.0108	-.0326	1.275	.0045	-.0188
#2	.0037	165.6	.0048	-.0086	.0044	.0320	1.282	-.0145	.0251

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.85	-.0034	1.383	.0061	.0076	.0075	.0234	.0229	-.0712
Stddev	.00	.0028	.002	.0020	.0000	.0032	.0253	.0012	.0008
%RSD	.0074	81.35	.1530	32.97	.0981	42.34	108.2	5.442	1.088
#1	12.85	-.0053	1.385	.0076	.0076	.0052	.0413	.0238	-.0706
#2	12.85	-.0014	1.382	.0047	.0076	.0097	.0055	.0220	-.0717

Zoom In
Zoom Out

Sample Name: MC42178-11F Acquired: 10/26/2015 15:15:06 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7154.7	11517.	227320.	12918.
Stddev	3.1	6.	624.	2.
%RSD	.04299	.05428	.27435	.01670
#1	7156.8	11522.	227760.	12919.
#2	7152.5	11513.	226880.	12916.

Zoom In Zoom Out

Sample Name: MC42178-12F Acquired: 10/26/2015 15:21:00 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0020**	**.0031**	**.5790**	**.0066**	**.0015**	**.4342**	**-.0001**	**-.0072**	**55.68**
Stddev	.0038	.0535	.0039	.0006	.0008	.0011	.0002	.0018	.09
%RSD	189.6	1715.	.6796	8.735	55.16	.2588	192.9	24.64	.1600
#1	-.0046	-.0347	.5762	.0070	.0020	.4350	-.0002	-.0085	55.74
#2	.0007	.0410	.5817	.0062	.0009	.4334	.0000	-.0060	55.62

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0080**	**.0520**	**-.0007**	**.0014**	**240.5**	**48.93**	**.0061**	**6.566**	**5.595**
Stddev	.0004	.0002	.0014	.0017	.3	.12	.0071	.056	.029
%RSD	4.939	.4317	206.8	122.5	.1169	.2549	116.1	.8590	.5265
#1	.0077	.0518	-.0017	.0002	240.7	49.02	.0112	6.606	5.615
#2	.0083	.0521	.0003	.0026	240.3	48.84	.0011	6.526	5.574

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0070**	**127.7**	**-.0072**	**.0001**	**.0110**	**-.0070**	**.6601**	**-.0031**	**-.0020**
Stddev	.0007	.3	.0002	.0020	.0050	.0022	.0111	.0011	.0002
%RSD	10.39	.2560	2.828	1407.	45.46	30.90	1.683	36.18	8.592
#1	.0065	128.0	-.0074	.0016	.0075	-.0055	.6522	-.0039	-.0021
#2	.0075	127.5	-.0071	-.0013	.0146	-.0085	.6679	-.0023	-.0019

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.34**	**.0000**	**1.186**	**.0006**	**-.0012**	**.0026**	**.0172**	**.0080**	**-.0689**
Stddev	.02	.0014	.002	.0013	.0002	.0003	.0011	.0001	.0004
%RSD	.1802	90630.	.1684	211.2	15.98	13.08	6.606	1.112	.6309
#1	11.33	-.0010	1.184	-.0003	-.0010	.0028	.0180	.0081	-.0686
#2	11.35	.0010	1.187	.0016	-.0013	.0024	.0164	.0079	-.0693

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Zoom In Zoom Out

Sample Name: MC42178-12F Acquired: 10/26/2015 15:21:00 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6948.9**	**11344.**	**221840.**	**12828.**
Stddev	7.8	2.	441.	50.
%RSD	.11172	.02116	.19874	.39168
#1	6943.4	11342.	221530.	12863.
#2	6954.4	11346.	222150.	12792.

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11.2

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Zoom In Zoom Out

Sample Name: MC42178-12F Acquired: 10/26/2015 15:26:54 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0024**	**.1018**	**.5757**	**.0120**	**.0095**	**.4282**	**.0006**	**-.0064**	**56.07**
Stddev	.0068	.0416	.0168	.0054	.0011	.0010	.0003	.0202	.06
%RSD	276.5	40.84	2.914	44.94	11.56	.2234	50.13	317.0	.1093
#1	-.0023	.1312	.5876	.0158	.0088	.4276	.0004	-.0206	56.11
#2	.0072	.0724	.5638	.0082	.0103	.4289	.0008	.0079	56.03

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0078**	**.0521**	**-.0048**	**.0050**	**241.2**	**48.81**	**.0332**	**6.248**	**5.480**
Stddev	.0009	.0005	.0013	.0002	.3	.28	.0115	.049	.003
%RSD	11.71	.9018	27.94	4.009	.1411	.5752	34.60	.7819	.0567
#1	.0071	.0524	-.0057	.0049	241.0	49.00	.0413	6.213	5.482
#2	.0084	.0518	-.0038	.0052	241.4	48.61	.0251	6.282	5.478

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0097**	**128.2**	**-.0058**	**.0031**	**-.0041**	**-.0126**	**.6586**	**-.0060**	**-.0155**
Stddev	.0009	.2	.0001	.0058	.0013	.0198	.0231	.0044	.0004
%RSD	9.547	.1595	2.317	187.6	32.55	156.4	3.504	72.52	2.523
#1	.0103	128.1	-.0057	-.0010	-.0032	-.0266	.6749	-.0029	-.0153
#2	.0090	128.4	-.0059	.0072	-.0051	.0013	.6423	-.0091	-.0158

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**11.26**	**-.0024**	**1.185**	**.0035**	**.0065**	**-.0002**	**.0166**	**.0424**	**-.0616**
Stddev	.01	.0003	.001	.0013	.0077	.0017	.0037	.0010	.0023
%RSD	.0542	13.68	.0930	38.09	118.6	735.9	22.00	2.364	3.802
#1	11.27	-.0027	1.184	.0045	.0010	-.0014	.0140	.0417	-.0600
#2	11.26	-.0022	1.186	.0026	.0119	.0010	.0192	.0431	-.0633

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Zoom In Zoom Out

Sample Name: MC42178-12F Acquired: 10/26/2015 15:26:54 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 20.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 20X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7203.2**	**11573.**	**230250.**	**12952.**
Stddev	5.3	5.	1.	24.
%RSD	.07370	.04437	.00022	.18527
#1	7207.0	11576.	230250.	12935.
#2	7199.5	11569.	230250.	12969.

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Zoom In
Zoom Out

Sample Name: MC42160-9F Acquired: 10/26/2015 15:32:49 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.1136	.1807	.0035	.0119	.1155	.0007	-.0061	30.11
Stddev	.001	.0807	.0102	.0007	.0013	.0008	.0008	.0102	.11
%RSD	3321.	71.07	5.625	20.93	10.93	.6674	121.7	167.6	.3813
#1	.0005	.1707	.1879	.0040	.0110	.1149	.0013	.0011	30.20
#2	-.0006	.0565	.1735	.0030	.0128	.1160	.0001	-.0134	30.03

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	.0020	.0029	.0018	116.4	26.60	.0174	2.117	3.695
Stddev	.0001	.0002	.0015	.0001	.8	.09	.0030	.022	.015
%RSD	2.055	9.459	50.28	2.827	.7222	.3557	17.27	1.049	.4162
#1	.0025	.0019	.0019	.0019	117.0	26.54	.0196	2.101	3.685
#2	.0026	.0021	.0040	.0018	115.8	26.67	.0153	2.132	3.706

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0013	24.68	-.0039	-.0027	.0018	-.0140	.5191	-.0053	-.0019
Stddev	.0005	.02	.0003	.0013	.0028	.0375	.0004	.0022	.0067
%RSD	41.89	.0625	7.440	47.91	157.9	268.2	.0811	41.94	359.4
#1	.0016	24.66	-.0041	-.0018	-.0002	-.0405	.5194	-.0037	-.0066
#2	.0009	24.69	-.0037	-.0036	.0038	.0125	.5188	-.0069	.0029

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.818	-.0002	.1289	.0013	.0031	.0028	.0086	.0309	-.0553
Stddev	.031	.0003	.0009	.0024	.0005	.0022	.0053	.0009	.0007
%RSD	.3189	190.4	.7155	186.9	17.59	78.18	61.53	2.980	1.182
#1	9.796	.0001	.1295	-.0004	.0027	.0013	.0048	.0302	-.0549
#2	9.840	-.0004	.1282	.0030	.0034	.0043	.0123	.0315	-.0558

Zoom In
Zoom Out

Sample Name: MC42160-9F Acquired: 10/26/2015 15:32:49 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7249.2	11589.	230710.	12879.
Stddev	5.7	13.	11.	43.
%RSD	.07823	.10913	.00460	.33356
#1	7253.2	11598.	230710.	12849.
#2	7245.2	11580.	230720.	12909.

Zoom In
Zoom Out

Sample Name: MC42160-12F Acquired: 10/26/2015 15:38:45 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0016	.0181	.0482	.0009	.0174	.4115	.0001	-.0003	44.67
Stddev	.0014	.0340	.0012	.0004	.0004	.0018	.0000	.0009	.12
%RSD	88.21	187.7	2.548	49.88	2.389	.4463	10.94	307.8	.2664
#1	-.0006	.0422	.0490	.0012	.0177	.4102	.0001	.0004	44.58
#2	-.0026	-.0059	.0473	.0006	.0171	.4128	.0001	-.0010	44.75

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	.0001	-.0001	-.0002	42.21	10.43	.0146	3.676	7.268
Stddev	.0001	.0002	.0008	.0019	.37	.13	.0026	.041	.321
%RSD	13.70	383.1	1018.	1239.	.8738	1.208	17.47	1.102	4.412
#1	.0008	.0002	.0005	-.0015	41.95	10.35	.0164	3.705	7.042
#2	.0010	-.0001	-.0006	.0012	42.47	10.52	.0128	3.648	7.495

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0009	358.1	-.0014	-.0017	.0010	-.0012	2.850	-.0011	-.0021
Stddev	.0001	.2	.0005	.0012	.0039	.0036	.007	.0032	.0006
%RSD	11.24	.0657	36.53	71.15	369.4	307.8	.2357	304.6	29.19
#1	-.0010	358.3	-.0018	-.0008	.0038	.0014	2.845	.0012	-.0025
#2	-.0008	357.9	-.0011	-.0025	-.0017	-.0037	2.855	-.0034	-.0016

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.038	-.0021	.6137	-.0001	.0015	.0011	.0082	.0079	-.0425
Stddev	.013	.0005	.0005	.0003	.0013	.0001	.0012	.0001	.0002
%RSD	.1602	23.65	.0827	314.5	84.83	10.87	14.98	1.513	.3764
#1	8.047	-.0025	.6133	-.0003	.0024	.0010	.0074	.0080	-.0424
#2	8.029	-.0018	.6140	.0001	.0006	.0012	.0091	.0079	-.0426

Zoom In
Zoom Out

Sample Name: MC42160-12F Acquired: 10/26/2015 15:38:45 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6792.7	11302.	221060.	12847.
Stddev	9.9	2.	10413.	10.
%RSD	.14644	.01766	4.7104	.07790
#1	6785.7	11301.	228420.	12854.
#2	6799.8	11304.	213700.	12840.

Zoom In
Zoom Out

Sample Name: MC42160-13FCONF Acquired: 10/26/2015 15:44:42 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0020	.0213	.2319	.0035	.0100	.3554	.0001	-.0060	74.21
Stddev	.0010	.1142	.0086	.0004	.0015	.0022	.0004	.0080	.28
%RSD	47.61	536.4	3.727	10.88	15.18	.6247	453.8	133.3	.3774
#1	-.0013	.1020	.2380	.0032	.0089	.3538	-.0002	-.0003	74.41
#2	-.0027	-.0594	.2258	.0037	.0111	.3570	.0003	-.0117	74.02

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0034	.0450	.0028	-.0005	107.5	64.20	.0314	20.78	1.032
Stddev	.0008	.0001	.0012	.0027	.2	.43	.0048	.15	.003
%RSD	24.96	.1683	44.30	503.6	.2043	.6694	15.19	.7122	.3226
#1	.0028	.0449	.0036	-.0025	107.7	63.90	.0280	20.88	1.034
#2	.0040	.0450	.0019	.0014	107.3	64.51	.0348	20.67	1.030

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	91.17	.0178	.0013	.0073	-.0067	1.478	-.0048	-.0001
Stddev	.0009	.37	.0008	.0026	.0033	.0333	.002	.0040	.0089
%RSD	153.1	.4049	4.351	202.2	45.68	495.3	.1025	82.08	10230.
#1	.0013	91.43	.0172	.0031	.0050	-.0303	1.477	-.0076	-.0064
#2	-.0001	90.91	.0183	-.0006	.0097	.0168	1.479	-.0020	.0062

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.07	-.0021	1.424	.0015	.0036	.0016	.0045	.0172	-.0598
Stddev	.04	.0004	.002	.0015	.0059	.0012	.0047	.0000	.0007
%RSD	.3465	17.76	.1359	101.7	165.3	72.32	104.8	.0753	1.190
#1	11.04	-.0019	1.422	.0004	.0078	.0025	.0012	.0172	-.0593
#2	11.10	-.0024	1.425	.0026	-.0006	.0008	.0078	.0172	-.0603

Zoom In
Zoom Out

Sample Name: MC42160-13FCONF Acquired: 10/26/2015 15:44:42 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7113.3	11506.	227390.	12802.
Stddev	2.4	8.	914.	33.
%RSD	.03411	.07082	.40175	.25839
#1	7111.6	11512.	226740.	12778.
#2	7115.0	11500.	228030.	12825.

11.2

11

Zoom In
Zoom Out

Sample Name: MC42160-14FCONF Acquired: 10/26/2015 15:50:38 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0006	.0008	.4123	.0022	.0073	.4577	.0001	.0003	41.00
Stddev	.0016	.0303	.0105	.0038	.0001	.0013	.0006	.0060	.13
%RSD	287.0	3985.	2.548	171.1	1.382	.2750	815.9	2094.	.3051
#1	-.0017	-.0207	.4197	.0049	.0073	.4568	.0005	.0045	41.09
#2	.0006	.0222	.4049	-.0005	.0072	.4586	-.0004	-.0040	40.91

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0058	.0261	.0015	.0030	94.53	19.85	.0131	5.416	5.751
Stddev	.0003	.0001	.0005	.0000	.24	.02	.0019	.107	.002
%RSD	5.571	.5390	34.58	.4681	.2553	.0901	14.35	1.971	.0333
#1	.0060	.0260	.0018	.0030	94.70	19.87	.0144	5.492	5.753
#2	.0055	.0262	.0011	.0030	94.36	19.84	.0118	5.341	5.750

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0052	644.5	-.0017	-.0020	.0055	-.0119	5.858	-.0009	.0040
Stddev	.0010	.2	.0005	.0022	.0003	.0060	.001	.0023	.0040
%RSD	18.56	.0266	27.97	107.7	5.613	50.66	.0241	249.3	99.45
#1	.0045	644.4	-.0013	-.0005	.0057	-.0076	5.857	-.0026	.0012
#2	.0059	644.7	-.0020	-.0036	.0052	-.0161	5.859	.0007	.0069

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.467	-.0012	.4903	-.0004	.0006	.0009	.0022	.0065	-.0477
Stddev	.004	.0000	.0013	.0000	.0013	.0002	.0017	.0001	.0005
%RSD	.0445	2.144	.2678	2.906	217.5	24.81	78.03	2.010	1.030
#1	8.465	-.0012	.4913	-.0004	.0015	.0010	.0034	.0066	-.0474
#2	8.470	-.0012	.4894	-.0004	-.0003	.0007	.0010	.0064	-.0480

Zoom In
Zoom Out

Sample Name: MC42160-14FCONF Acquired: 10/26/2015 15:50:38 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6618.8	11177.	218560.	12731.
Stddev	.5	3.	206.	9.
%RSD	.00816	.02853	.09437	.07438
#1	6619.2	11175.	218420.	12724.
#2	6618.4	11179.	218710.	12738.

Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/26/2015 15:56:32 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2564	10.08	2.003	2.011	1.947	2.010	2.012	2.027	10.25
Stddev	.0022	.06	.001	.021	.001	.014	.007	.005	.02
%RSD	.8569	.5938	.0590	1.025	.0553	.7101	.3609	.2381	.2279
#1	.2549	10.04	2.002	1.996	1.948	2.000	2.007	2.030	10.23
#2	.2580	10.12	2.004	2.025	1.947	2.020	2.017	2.023	10.27
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.029	2.012	2.076	1.965	10.43	9.977	1.989	10.13	2.089
Stddev	.001	.001	.018	.016	.08	.018	.013	.07	.018
%RSD	.0689	.0666	.8586	.8206	.7855	.1802	.6281	.7198	.8448
#1	2.030	2.011	2.064	1.953	10.38	9.964	1.980	10.08	2.077
#2	2.028	2.013	2.089	1.976	10.49	9.990	1.998	10.18	2.102
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.026	10.33	1.970	1.975	1.965	2.020	1.970	1.979	1.996
Stddev	.017	.00	.001	.002	.015	.022	.003	.003	.002
%RSD	.8163	.0022	.0423	.0760	.7558	1.080	.1543	.1656	.1008
#1	2.014	10.33	1.970	1.976	1.954	2.005	1.972	1.981	1.998
#2	2.037	10.33	1.971	1.974	1.975	2.036	1.968	1.977	1.995
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/26/2015 15:56:32 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.922	2.012	1.977	2.032	2.012	2.033	2.024	2.056	2.028
Stddev	.002	.001	.006	.016	.002	.019	.013	.003	.019
%RSD	.1247	.0707	.3313	.7876	.0941	.9565	.6424	.1296	.9424
#1	1.923	2.011	1.972	2.021	2.013	2.019	2.015	2.054	2.014
#2	1.920	2.013	1.981	2.044	2.010	2.046	2.033	2.058	2.041
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6947.7	11453.	224860.	12801.
Stddev	4.8	6.	2158.	38.
%RSD	.06843	.04855	.95981	.29558
#1	6951.1	11457.	226390.	12828.
#2	6944.3	11449.	223340.	12775.

Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/26/2015 16:02:16 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	.0035	.0011	.0011	.0015	.0003	.0002	-.0003	-.0017
Stddev	.0005	.0037	.0000	.0004	.0000	.0001	.0000	.0008	.0015
%RSD	232.3	106.7	.9298	36.86	1.714	37.93	3.047	242.5	88.53
#1	-.0005	.0062	.0011	.0014	.0015	.0004	.0002	-.0009	-.0006
#2	.0001	.0009	.0011	.0008	.0015	.0003	.0002	.0002	-.0027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0004	.0003	.0005	-.0002	.0042	.0232	.0024	.0010	.0002
Stddev	.0000	.0001	.0001	.0001	.0017	.0057	.0003	.0178	.0000
%RSD	7.926	42.45	27.91	33.94	40.52	24.47	13.77	1857.	8.150
#1	.0004	.0002	.0004	-.0001	.0054	.0272	.0026	.0135	.0002
#2	.0004	.0004	.0006	-.0002	.0030	.0192	.0022	-.0116	.0002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0130	.0244	.0001	.0002	.0014	-.0010	-.0009	.0005	.0007
Stddev	.0025	.0013	.0000	.0003	.0003	.0014	.0003	.0001	.0000
%RSD	19.21	5.503	3.035	112.8	25.15	146.7	33.41	27.77	1.464
#1	.0147	.0254	.0001	.0004	.0011	-.0020	-.0011	.0006	.0007
#2	.0112	.0235	.0001	.0000	.0016	.0000	-.0007	.0004	.0007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/26/2015 16:02:16 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0016	.0004	.0002	.0009	.0008	.0004	.0136	.0003	.0023
Stddev	.0004	.0000	.0000	.0001	.0001	.0002	.0020	.0001	.0001
%RSD	23.32	8.426	8.698	7.827	7.023	45.31	14.58	27.07	4.813
#1	.0019	.0005	.0002	.0009	.0009	.0003	.0150	.0002	.0024
#2	.0014	.0004	.0002	.0010	.0008	.0006	.0122	.0004	.0022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7361.6	11683.	229380.	12863.
Stddev	5.1	9.	65.	29.
%RSD	.06927	.08013	.02834	.22751
#1	7365.2	11689.	229420.	12842.
#2	7358.0	11676.	229330.	12884.

Zoom In
Zoom Out

Sample Name: MC42178-1F Acquired: 10/26/2015 16:08:11 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0019**	**-.0101**	**.1113**	**.0037**	**.0144**	**.3921**	**.0002**	**.0038**	**191.5**
Stddev	.0014	.1128	.0065	.0017	.0001	.0007	.0007	.0081	.4
%RSD	73.71	1122.	5.879	44.85	.4909	.1757	323.1	214.0	.2276
#1	-.0009	-.0898	.1067	.0049	.0144	.3916	-.0003	-.0019	191.2
#2	-.0029	.0697	.1159	.0025	.0143	.3926	.0008	.0095	191.8

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0033**	**.0519**	**.0020**	**-.0002**	**44.64**	**11.89**	**.0315**	**14.57**	**21.24**
Stddev	.0006	.0005	.0042	.0007	.10	.09	.0088	.13	.10
%RSD	19.61	.8916	212.2	361.0	.2228	.7542	27.82	.8822	.4936
#1	.0029	.0522	-.0010	.0003	44.57	11.83	.0376	14.66	21.32
#2	.0038	.0516	.0049	-.0007	44.71	11.96	.0253	14.48	21.17

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0354**	**573.6**	**.0004**	**-.0018**	**.0074**	**.0089**	**9.986**	**-.0008**	**-.0039**
Stddev	.0032	1.1	.0006	.0008	.0104	.0232	.024	.0016	.0003
%RSD	9.078	.1861	166.9	47.02	140.0	259.8	.2438	185.5	8.581
#1	.0377	572.8	.0008	-.0023	.0001	.0253	9.968	-.0020	-.0041
#2	.0332	574.3	-.0001	-.0012	.0148	-.0075	10.00	.0003	-.0037

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.900**	**-.0012**	**3.782**	**.0017**	**.0012**	**.0037**	**.0489**	**.0132**	**-.0392**
Stddev	.021	.0001	.001	.0006	.0013	.0022	.0069	.0000	.0019
%RSD	.2401	10.98	.0272	35.65	103.7	61.12	14.15	.2808	4.875
#1	8.885	-.0013	3.781	.0013	.0003	.0052	.0538	.0132	-.0378
#2	8.915	-.0011	3.782	.0021	.0021	.0021	.0440	.0132	-.0405

Zoom In
Zoom Out

Sample Name: MC42178-1F Acquired: 10/26/2015 16:08:11 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6813.7**	**11308.**	**222830.**	**12813.**
Stddev	2.5	18.	1076.	5.
%RSD	.03725	.16216	.48280	.03553
#1	6815.5	11321.	222070.	12816.
#2	6811.9	11295.	223590.	12810.

Zoom In
Zoom Out

Sample Name: MC42178-4F Acquired: 10/26/2015 16:14:05 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0016**	**-.0153**	**.0008**	**-.0006**	**.0194**	**.1139**	**-.0001**	**-.0026**	**20.85**
Stddev	.0024	.0505	.0052	.0011	.0010	.0012	.0003	.0028	.05
%RSD	153.3	329.9	649.6	196.7	5.097	1.058	421.1	106.5	.2506
#1	-.0032	-.0510	-.0029	-.0013	.0187	.1148	-.0003	-.0046	20.89
#2	.0001	.0204	.0045	.0002	.0201	.1131	.0001	-.0006	20.81

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0006**	**-.0002**	**.0003**	**-.0001**	**.0186**	**4.072**	**.0127**	**1.888**	**5.606**
Stddev	.0002	.0000	.0022	.0008	.0070	.081	.0018	.041	.084
%RSD	31.18	11.39	677.1	713.5	37.68	1.989	13.99	2.182	1.502
#1	.0007	-.0002	-.0012	.0004	.0235	4.015	.0139	1.918	5.666
#2	.0004	-.0002	.0019	-.0007	.0136	4.130	.0114	1.859	5.547

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0087**	**285.9**	**-.0003**	**-.0015**	**.0006**	**-.0028**	**6.218**	**-.0029**	**.0012**
Stddev	.0005	1.0	.0002	.0011	.0005	.0013	.003	.0003	.0030
%RSD	5.550	.3610	78.96	71.47	87.42	46.02	.0466	10.14	248.5
#1	.0090	286.6	-.0004	-.0007	.0010	-.0037	6.216	-.0027	-.0009
#2	.0083	285.2	-.0001	-.0022	.0002	-.0019	6.220	-.0031	.0033

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**2.315**	**-.0010**	**.1094**	**.0007**	**-.0003**	**.0009**	**.0147**	**.0079**	**-.0089**
Stddev	.009	.0010	.0004	.0008	.0024	.0004	.0033	.0000	.0002
%RSD	.3822	103.9	.3628	105.7	830.8	40.19	22.55	.5924	2.134
#1	2.308	-.0003	.1096	.0002	.0014	.0007	.0124	.0080	-.0088
#2	2.321	-.0017	.1091	.0013	-.0020	.0012	.0171	.0079	-.0091

Zoom In
Zoom Out

Sample Name: MC42178-4F Acquired: 10/26/2015 16:14:05 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6903.9**	**11386.**	**227270.**	**12771.**
Stddev	2.5	3.	3824.	19.
%RSD	.03582	.02662	1.6827	.14516
#1	6905.7	11388.	224570.	12758.
#2	6902.2	11383.	229980.	12784.

Zoom In
Zoom Out

Sample Name: MC42202-3FCONF Acquired: 10/26/2015 16:19:59 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0005**	**.0070**	**-.0006**	**.0012**	**.0090**	**.0154**	**.0000**	**.0005**	**25.83**
Stddev	.0003	.0040	.0001	.0000	.0001	.0001	.0000	.0002	.07
%RSD	51.68	57.29	11.26	1.451	.7677	.3669	173.9	41.06	.2673
#1	-.0003	.0042	-.0007	.0012	.0089	.0155	.0000	.0007	25.88
#2	-.0007	.0099	-.0006	.0012	.0090	.0154	.0000	.0004	25.78

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0000**	**.0000**	**.0005**	**.0008**	**.0036**	**2.008**	**.0053**	**3.347**	**.0200**
Stddev	.0000	.000	.0002	.0003	.0011	.014	.0009	.004	.0001
%RSD	59.35	21.07	35.18	30.84	31.38	.6941	16.69	.1276	.5150
#1	.0000	.0000	.0004	.0006	.0044	1.998	.0046	3.350	.0199
#2	.0001	.0000	.0006	.0010	.0028	2.018	.0059	3.344	.0201

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**19.44**	**.0017**	**-.0002**	**.0021**	**-.0018**	**7.295**	**-.0004**	**.0001**
Stddev	.0001	.05	.0000	.0006	.0003	.0022	.013	.0002	.0002
%RSD	7.718	.2476	.5170	271.4	12.46	120.7	.1720	49.29	369.1
#1	.0011	19.47	.0017	-.0006	.0019	-.0003	7.286	-.0003	-.0001
#2	.0010	19.41	.0017	.0002	.0023	-.0033	7.304	-.0006	.0002

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.172**	**-.0002**	**.3291**	**.0003**	**-.0006**	**.0004**	**.0049**	**.0121**	**-.0363**
Stddev	.011	.0003	.0000	.0002	.0004	.0001	.0006	.0001	.0000
%RSD	.1528	161.2	.0114	80.42	74.87	14.46	12.99	.5177	.0206
#1	7.164	.0000	.3291	.0005	-.0003	.0004	.0054	.0122	-.0363
#2	7.180	-.0004	.3291	.0001	-.0009	.0003	.0045	.0121	-.0363

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Zoom In
Zoom Out

Sample Name: MC42202-3FCONF Acquired: 10/26/2015 16:19:59 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7039.9**	**11434.**	**227860.**	**13153.**
Stddev	.3	7.	613.	83.
%RSD	.00386	.05942	.26891	.63073
#1	7040.1	11438.	228290.	13095.
#2	7039.7	11429.	227420.	13212.

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Zoom In
Zoom Out

Sample Name: MC42202-12F Acquired: 10/26/2015 16:25:53 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0001**	**-.0348**	**.3844**	**.0070**	**.0035**	**.0816**	**-.0003**	**-.0046**	**120.2**
Stddev	.0009	.0113	.0063	.0033	.0008	.0019	.0001	.0135	.1
%RSD	639.2	32.47	1.639	47.15	22.58	2.288	51.99	293.8	.0745
#1	-.0005	-.0268	.3888	.0047	.0029	.0803	-.0002	-.0141	120.1
#2	.0008	-.0427	.3799	.0094	.0040	.0829	-.0004	.0049	120.3

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0055**	**.0138**	**.0000**	**.0010**	**33.10**	**5.241**	**.0302**	**17.92**	**7.930**
Stddev	.0005	.0012	.001	.0013	.21	.162	.0083	.16	.035
%RSD	9.842	8.648	2299.	129.3	.6467	3.093	27.57	.8694	.4473
#1	.0051	.0146	.0007	.0020	32.95	5.127	.0361	17.81	7.955
#2	.0058	.0130	-.0008	.0001	33.25	5.356	.0243	18.03	7.905

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0079**	**179.8**	**.0024**	**-.0023**	**.0098**	**-.0064**	**1.749**	**-.0031**	**-.0085**
Stddev	.0001	.3	.0009	.0021	.0038	.0086	.003	.0004	.0010
%RSD	.8827	.1819	36.73	92.49	38.72	135.2	.1528	13.54	11.29
#1	.0078	179.6	.0018	-.0038	.0125	-.0125	1.748	-.0034	-.0091
#2	.0079	180.0	.0030	-.0008	.0071	-.0003	1.751	-.0028	-.0078

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**14.54**	**-.0002**	**.8864**	**.0007**	**.0005**	**.0029**	**.0221**	**.0195**	**-.0741**
Stddev	.01	.0031	.0014	.0029	.0007	.0002	.0065	.0007	.0006
%RSD	.0810	1719.	.1529	431.0	135.1	8.232	29.44	3.448	.8130
#1	14.55	.0020	.8855	.0027	.0010	.0027	.0267	.0200	-.0736
#2	14.53	-.0023	.8874	-.0014	.0000	.0030	.0175	.0190	-.0745

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Zoom In
Zoom Out

Sample Name: MC42202-12F Acquired: 10/26/2015 16:25:53 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7089.6**	**11492.**	**227940.**	**12965.**
Stddev	11.2	17.	1268.	51.
%RSD	.15727	.14794	.55633	.39132
#1	7097.5	11504.	227040.	12929.
#2	7081.8	11480.	228840.	13000.

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11.2
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Zoom In
Zoom Out

Sample Name: MC42202-1F Acquired: 10/26/2015 16:31:48 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0012	-.0014	.7198	.0035	.0041	.0285	-.0002	-.0055	85.01
Stddev	.0012	.0427	.0055	.0095	.0017	.0002	.0002	.0062	.23
%RSD	101.2	3149.	.7610	272.6	41.54	.8027	94.54	110.9	.2698
#1	-.0003	-.0315	.7236	.0102	.0053	.0283	-.0001	-.0099	84.85
#2	-.0020	.0288	.7159	-.0032	.0029	.0286	-.0003	-.0012	85.17

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0103	.0067	.0001	.0019	42.62	3.344	.0141	6.963	8.542
Stddev	.0006	.0006	.0027	.0013	.24	.008	.0071	.050	.043
%RSD	5.765	9.407	2054.	66.72	.5528	.2258	49.92	.7163	.5041
#1	.0107	.0072	-.0018	.0028	42.45	3.339	.0191	6.928	8.572
#2	.0099	.0063	.0021	.0010	42.79	3.350	.0091	6.999	8.511

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0126	41.55	.0052	-.0024	.0062	.0036	.1033	-.0035	-.0048
Stddev	.0014	.11	.0011	.0017	.0094	.0057	.0086	.0039	.0013
%RSD	11.42	.2556	21.43	68.19	152.2	158.3	8.333	111.4	27.50
#1	.0136	41.48	.0044	-.0013	.0129	-.0004	.1094	-.0063	-.0039
#2	.0116	41.63	.0060	-.0036	-.0005	.0076	.0972	-.0007	-.0058

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.85	-.0033	.5665	.0025	-.0017	.0036	.0105	.0283	-.0663
Stddev	.02	.0018	.0027	.0028	.0013	.0018	.0086	.0001	.0002
%RSD	.1907	53.92	.4817	111.7	74.76	49.39	81.93	.4899	.2851
#1	12.83	-.0046	.5646	.0046	-.0026	.0049	.0167	.0282	-.0665
#2	12.87	-.0020	.5684	.0005	-.0008	.0024	.0044	.0284	-.0662

Zoom In
Zoom Out

Sample Name: MC42202-1F Acquired: 10/26/2015 16:31:48 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7222.4	11578.	228600.	12990.
Stddev	6.1	12.	810.	23.
%RSD	.08489	.10115	.35414	.17553
#1	7218.1	11569.	228020.	13006.
#2	7226.8	11586.	229170.	12974.

Zoom In
Zoom Out

Sample Name: MC42202-2F Acquired: 10/26/2015 16:37:43 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.1154	.2015	.0016	.0067	.0429	.0000	-.0043	79.32
Stddev	.0016	.0289	.0056	.0038	.0023	.0001	.0002	.0069	.19
%RSD	1251.	25.09	2.777	235.0	34.64	.1453	578.2	161.4	.2353
#1	.0012	.1358	.2055	.0043	.0084	.0429	.0001	.0006	79.45
#2	-.0010	.0949	.1976	-.0011	.0051	.0430	-.0001	-.0091	79.19

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0026	.0125	.0018	.0036	30.21	6.611	.0189	6.908	15.13
Stddev	.0008	.0002	.0009	.0009	.13	.161	.0053	.006	.13
%RSD	29.09	1.711	48.41	26.07	.4157	2.431	28.05	.0882	.8444
#1	.0032	.0127	.0025	.0029	30.12	6.497	.0152	6.912	15.22
#2	.0021	.0124	.0012	.0042	30.30	6.725	.0227	6.904	15.04

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0042	121.4	.0127	-.0007	.0095	.0017	1.938	-.0054	-.0045
Stddev	.0002	.5	.0005	.0014	.0085	.0143	.031	.0031	.0005
%RSD	5.612	.3894	4.338	204.2	90.07	836.1	1.606	58.25	11.89
#1	.0040	121.8	.0123	-.0016	.0155	.0118	1.916	-.0032	-.0042
#2	.0044	121.1	.0131	.0003	.0034	-.0084	1.960	-.0076	-.0049

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.30	-.0032	.7662	-.0007	-.0020	.0010	.0108	.0332	-.0680
Stddev	.05	.0015	.0007	.0005	.0008	.0017	.0012	.0002	.0009
%RSD	.3394	45.89	.0891	68.39	39.63	170.5	10.87	.7265	1.358
#1	13.27	-.0022	.7667	-.0011	-.0026	.0022	.0100	.0331	-.0687
#2	13.33	-.0042	.7657	-.0004	-.0015	-.0002	.0117	.0334	-.0674

Zoom In
Zoom Out

Sample Name: MC42202-2F Acquired: 10/26/2015 16:37:43 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7138.5	11525.	227770.	12956.
Stddev	2.6	8.	2265.	19.
%RSD	.03703	.06588	.99451	.14883
#1	7136.6	11530.	226170.	12942.
#2	7140.3	11519.	229370.	12970.

Zoom In
Zoom Out

Sample Name: MC42202-4F Acquired: 10/26/2015 16:43:38 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0014**	**.0620**	**.4162**	**-.0030**	**.0056**	**.0526**	**.0001**	**-.0080**	**123.5**
Stddev	.0011	.0022	.0057	.0020	.0006	.0012	.0000	.0018	.0
%RSD	77.11	3.536	1.358	66.70	11.29	2.239	89.78	22.47	.0203
#1	-.0006	.0636	.4122	-.0016	.0052	.0534	.0000	-.0067	123.4
#2	-.0022	.0605	.4202	-.0044	.0061	.0518	.0001	-.0092	123.5

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0057**	**.0015**	**.0066**	**.0015**	**41.90**	**8.694**	**.0235**	**10.08**	**12.55**
Stddev	.0001	.0006	.0003	.0027	.11	.134	.0004	.14	.11
%RSD	2.500	39.44	4.811	179.7	.2655	1.542	1.781	1.411	.8527
#1	.0058	.0011	.0064	-.0004	41.82	8.599	.0238	10.18	12.47
#2	.0056	.0020	.0068	.0034	41.98	8.789	.0232	9.978	12.62

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0048**	**111.5**	**.0000**	**-.0049**	**.0057**	**-.0076**	**1.127**	**.0039**	**-.0048**
Stddev	.0003	.0	.0003	.0052	.0053	.0050	.015	.0089	.0086
%RSD	5.911	.0200	3384.	105.2	93.31	66.53	1.327	225.7	179.1
#1	.0046	111.5	.0002	-.0086	.0094	-.0040	1.116	.0102	-.0109
#2	.0050	111.5	-.0002	-.0013	.0019	-.0111	1.138	-.0024	.0013

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.40**	**-.0030**	**.8968**	**.0022**	**-.0032**	**.0026**	**.0113**	**.0131**	**-.0637**
Stddev	.01	.0006	.0020	.0015	.0013	.0013	.0030	.0003	.0004
%RSD	.0456	21.38	.2254	68.39	39.49	51.10	26.17	2.046	.6211
#1	12.40	-.0025	.8954	.0032	-.0041	.0036	.0135	.0129	-.0634
#2	12.40	-.0034	.8982	.0011	-.0023	.0017	.0092	.0133	-.0640

Zoom In
Zoom Out

Sample Name: MC42202-4F Acquired: 10/26/2015 16:43:38 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7137.2**	**11542.**	**227650.**	**13039.**
Stddev	2.7	1.	2516.	54.
%RSD	.03719	.01123	1.1052	.41161
#1	7139.1	11541.	229430.	13077.
#2	7135.3	11543.	225870.	13001.

11.2

11

Zoom In
Zoom Out

Sample Name: MC42202-5F Acquired: 10/26/2015 16:49:33 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0016**	**.0326**	**.5422**	**-.0004**	**.0051**	**.0273**	**-.0002**	**.0021**	**92.84**
Stddev	.0013	.0631	.0014	.0007	.0008	.0016	.0000	.0086	.06
%RSD	82.88	193.5	.2618	175.0	15.28	6.020	5.480	407.2	.0648
#1	.0025	-.0120	.5412	-.0009	.0056	.0284	-.0002	.0082	92.80
#2	.0006	.0773	.5432	.0001	.0045	.0261	-.0002	-.0040	92.88

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0086**	**.0086**	**-.0009**	**.0067**	**44.20**	**3.720**	**.0037**	**7.411**	**10.37**
Stddev	.0001	.0005	.0013	.0004	.21	.115	.0050	.082	.11
%RSD	1.102	6.357	146.8	5.733	.4715	3.092	136.2	1.111	1.098
#1	.0086	.0082	-.0018	.0070	44.05	3.638	.0072	7.470	10.29
#2	.0085	.0090	.0000	.0065	44.34	3.801	.0001	7.353	10.45

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0055**	**76.69**	**.0080**	**-.0005**	**.0044**	**-.0168**	**.1132**	**-.0019**	**-.0001**
Stddev	.0010	.18	.0005	.0006	.0046	.0098	.0111	.0025	.0001
%RSD	17.41	.2293	5.673	123.7	103.5	58.10	9.848	134.5	165.7
#1	.0061	76.81	.0077	-.0009	.0077	-.0099	.1053	-.0037	.0000
#2	.0048	76.57	.0083	-.0001	.0012	-.0238	.1211	-.0001	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**12.85**	**-.0031**	**.8055**	**-.0016**	**.0002**	**.0028**	**.0041**	**.0113**	**-.0660**
Stddev	.02	.0007	.0003	.0019	.0017	.0006	.0011	.0004	.0001
%RSD	.1830	23.24	.0316	116.5	810.3	21.25	26.13	3.247	.1523
#1	12.83	-.0026	.8053	-.0003	.0014	.0032	.0048	.0111	-.0660
#2	12.86	-.0036	.8057	-.0029	-.0010	.0024	.0033	.0116	-.0659

Zoom In
Zoom Out

Sample Name: MC42202-5F Acquired: 10/26/2015 16:49:33 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7177.7**	**11539.**	**231010.**	**13047.**
Stddev	12.2	25.	2433.	57.
%RSD	.17039	.21374	1.0533	.44019
#1	7186.3	11557.	232730.	13006.
#2	7169.0	11522.	229290.	13088.

Zoom In
Zoom Out

Sample Name: MC42202-6F Acquired: 10/26/2015 16:55:26 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0037	.0049	.4633	-.0015	.0072	.0516	.0003	-.0078	51.59
Stddev	.0038	.0231	.0045	.0063	.0005	.0001	.0002	.0003	.15
%RSD	101.8	473.4	.9684	423.7	6.643	.1740	60.50	3.255	.2848
#1	-.0010	-.0114	.4664	.0030	.0068	.0515	.0001	-.0079	51.49
#2	-.0064	.0212	.4601	-.0060	.0075	.0517	.0004	-.0076	51.70

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0067	.0108	.0027	.0087	69.32	6.454	.0194	9.012	2.527
Stddev	.0006	.0003	.0001	.0001	.33	.097	.0049	.285	.019
%RSD	9.543	3.041	5.381	1.582	.4715	1.503	25.53	3.161	.7495
#1	.0063	.0105	.0028	.0088	69.09	6.386	.0229	8.810	2.541
#2	.0072	.0110	.0026	.0086	69.55	6.523	.0159	9.213	2.514

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0048	147.3	.0025	-.0042	.0036	-.0193	2.183	-.0020	-.0048
Stddev	.0020	.4	.0012	.0017	.0016	.0501	.021	.0002	.0137
%RSD	40.57	.2431	46.72	41.48	44.13	259.3	.9670	9.065	287.2
#1	.0035	147.0	.0033	-.0029	.0025	-.0548	2.168	-.0019	.0049
#2	.0062	147.5	.0017	-.0054	.0047	.0161	2.198	-.0021	-.0144

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	13.45	-.0018	.3322	-.0009	-.0005	.0017	.0208	.0401	-.0713
Stddev	.04	.0004	.0001	.0015	.0027	.0020	.0044	.0006	.0004
%RSD	.2994	22.78	.0431	164.7	494.0	117.2	21.19	1.389	.6315
#1	13.42	-.0015	.3323	-.0020	-.0024	.0003	.0177	.0397	-.0709
#2	13.48	-.0021	.3321	.0002	.0014	.0031	.0239	.0404	-.0716

Zoom In
Zoom Out

Sample Name: MC42202-6F Acquired: 10/26/2015 16:55:26 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7127.4	11517.	226880.	12950.
Stddev	11.5	8.	882.	57.
%RSD	.16125	.06869	.38879	.43639
#1	7119.3	11511.	226260.	12990.
#2	7135.5	11523.	227510.	12910.

11.2

11

Zoom In
Zoom Out

Sample Name: MC42269-6F Acquired: 10/26/2015 17:01:19 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0010	.0346	.0037	.0004	.0059	.0984	.0000	-.0105	122.2
Stddev	.0002	.0417	.0051	.0085	.0018	.0005	.0003	.0036	.4
%RSD	17.58	120.7	139.8	2222.	30.37	.4843	682.1	34.16	.3155
#1	-.0009	.0641	.0073	.0064	.0046	.0987	-.0002	-.0080	121.9
#2	-.0011	.0051	.0000	-.0056	.0072	.0981	.0002	-.0131	122.5

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0039	.0023	.0039	5.015	5.854	.0283	19.32	10.62
Stddev	.0003	.0004	.0016	.0005	.040	.066	.0032	.42	.03
%RSD	244.4	9.094	69.58	13.73	.7894	1.134	11.26	2.196	.3287
#1	.0004	.0037	.0035	.0035	5.043	5.807	.0306	19.63	10.65
#2	-.0001	.0042	.0012	.0043	4.987	5.901	.0261	19.02	10.60

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	157.9	.0145	-.0006	.0059	-.0116	1.146	-.0023	-.0012
Stddev	.0007	.4	.0004	.0026	.0004	.0167	.005	.0009	.0045
%RSD	58.87	.2504	2.726	448.4	6.296	144.2	.4308	39.26	371.6
#1	.0007	157.6	.0148	-.0025	.0056	-.0234	1.150	-.0030	-.0044
#2	.0017	158.2	.0142	.0013	.0061	.0002	1.143	-.0017	.0020

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.969	-.0032	.8900	.0020	.0023	.0029	.0046	.0139	-.0438
Stddev	.022	.0004	.0002	.0008	.0013	.0029	.0003	.0008	.0005
%RSD	.2439	12.10	.0206	37.32	59.09	101.4	5.560	5.812	1.093
#1	8.985	-.0030	.8901	.0015	.0032	.0049	.0044	.0133	-.0434
#2	8.954	-.0035	.8898	.0025	.0013	.0008	.0047	.0145	-.0441

Zoom In
Zoom Out

Sample Name: MC42269-6F Acquired: 10/26/2015 17:01:19 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7097.4	11481.	229470.	13061.
Stddev	12.4	15.	822.	57.
%RSD	.17454	.13273	.35803	.43925
#1	7106.2	11492.	228890.	13020.
#2	7088.7	11470.	230050.	13102.

Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/26/2015 17:07:12 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2524	9.972	1.987	1.987	1.955	1.985	1.984	2.009	10.09
Stddev	.0004	.002	.003	.005	.003	.004	.006	.003	.04
%RSD	.1498	.0237	.1559	.2478	.1288	.2004	.2948	.1286	.3489
#1	.2527	9.973	1.985	1.990	1.953	1.982	1.980	2.007	10.07
#2	.2521	9.970	1.989	1.983	1.957	1.988	1.988	2.011	10.12
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.003	1.997	2.020	1.959	10.15	9.875	1.964	10.03	2.058
Stddev	.000	.002	.002	.012	.08	.044	.003	.01	.006
%RSD	.0023	.1159	.0833	.5880	.7460	.4480	.1581	.0548	.2888
#1	2.003	1.999	2.021	1.967	10.09	9.844	1.962	10.03	2.062
#2	2.003	1.996	2.018	1.950	10.20	9.907	1.966	10.02	2.054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.014	10.16	1.976	1.971	1.966	2.001	1.985	1.974	1.991
Stddev	.015	.01	.000	.002	.012	.005	.002	.002	.001
%RSD	.7247	.0729	.0106	.0974	.6183	.2340	.0807	.0933	.0607
#1	2.004	10.16	1.976	1.972	1.974	2.005	1.986	1.973	1.991
#2	2.025	10.15	1.976	1.970	1.957	1.998	1.984	1.976	1.992
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

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Zoom In
Zoom Out

Sample Name: CCV Acquired: 10/26/2015 17:07:12 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.928	2.002	1.969	1.991	2.008	1.990	2.009	2.031	2.013
Stddev	.002	.001	.002	.005	.001	.005	.012	.003	.008
%RSD	.1049	.0670	.0990	.2703	.0708	.2300	.6027	.1499	.3781
#1	1.927	2.001	1.968	1.994	2.007	1.993	2.000	2.033	2.018
#2	1.930	2.003	1.970	1.987	2.009	1.987	2.018	2.029	2.007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6942.2	11422.	227030.	12980.
Stddev	9.1	23.	129.	32.
%RSD	.13140	.20065	.05662	.24346
#1	6948.7	11439.	227120.	13002.
#2	6935.8	11406.	226940.	12958.

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Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/26/2015 17:12:54 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0049	.0009	.0007	.0016	-.0002	.0001	-.0008	.0000
Stddev	.0002	.0018	.0018	.0003	.0000	.0001	.0001	.0003	.001
%RSD	544.5	35.62	197.6	50.11	2.841	74.97	104.7	35.23	3869.
#1	.0002	.0062	-.0004	.0009	.0016	-.0001	.0001	-.0010	.0009
#2	-.0001	.0037	.0021	.0004	.0016	-.0002	.0000	-.0006	-.0009
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	.0001	.0002	.0001	.0038	.0329	.0016	-.0137	.0000
Stddev	.0000	.0001	.0001	.0000	.0026	.0065	.0000	.0040	.000
%RSD	29.66	56.54	67.06	7.424	69.22	19.88	1.337	29.21	47.31
#1	.0002	.0001	.0003	.0001	.0019	.0283	.0016	-.0108	.0000
#2	.0001	.0001	.0001	.0001	.0056	.0376	.0016	-.0165	.0000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0122	.0135	.0000	-.0003	.0005	.0004	-.0008	.0000	.0003
Stddev	.0027	.0069	.000	.0001	.0001	.0003	.0001	.000	.0015
%RSD	22.19	50.85	574.4	51.24	10.36	78.42	10.46	689.3	510.7
#1	.0141	.0183	-.0001	-.0004	.0006	.0002	-.0008	-.0003	.0014
#2	.0103	.0086	.0001	-.0002	.0005	.0006	-.0009	.0002	-.0008
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/26/2015 17:12:54 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0011	.0003	.0001	.0009	.0003	.0004	.0138	.0001	.0024
Stddev	.0006	.0003	.0000	.0001	.0008	.0001	.0019	.0001	.0003
%RSD	59.70	98.91	17.89	8.818	270.9	27.99	13.81	81.27	10.70
#1	-.0015	.0006	.0001	.0010	-.0003	.0005	.0152	.0000	.0026
#2	-.0006	.0001	.0001	.0009	.0009	.0003	.0125	.0001	.0023
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7338.5	11664.	233270.	13208.
Stddev	.9	8.	910.	6.
%RSD	.01220	.06567	.39006	.04254
#1	7339.1	11669.	232630.	13204.
#2	7337.8	11658.	233910.	13212.

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11.2
11

Zoom In
Zoom Out

Sample Name: MC42269-8F Acquired: 10/26/2015 17:29:51 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0011**	**-.0061**	**.0139**	**.0022**	**.0095**	**.0265**	**.0005**	**-.0100**	**41.04**
Stddev	.0001	.0892	.0106	.0019	.0011	.0024	.0003	.0024	.14
%RSD	7.298	1451.	76.66	85.85	11.61	9.001	48.78	23.74	.3437
#1	.0010	.0569	.0064	.0009	.0087	.0282	.0007	-.0084	40.94
#2	.0011	-.0692	.0214	.0036	.0103	.0248	.0003	-.0117	41.14

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0003**	**.0115**	**-.0003**	**.0060**	**.5900**	**4.539**	**.0197**	**9.133**	**4.592**
Stddev	.0003	.0001	.0013	.0021	.0304	.072	.0049	.142	.003
%RSD	99.61	.5001	373.1	35.00	5.145	1.584	24.79	1.557	.0733
#1	-.0005	.0115	-.0012	.0074	.5685	4.488	.0163	9.032	4.590
#2	-.0001	.0114	.0006	.0045	.6114	4.590	.0232	9.234	4.595

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0107**	**21.16**	**.0127**	**-.0019**	**.0048**	**-.0209**	**3.305**	**-.0072**	**.0034**
Stddev	.0003	.02	.0008	.0010	.0045	.0033	.006	.0079	.0013
%RSD	3.263	.1121	6.438	49.62	95.34	15.88	.1795	110.5	37.10
#1	.0104	21.18	.0121	-.0012	.0016	-.0233	3.301	-.0016	.0025
#2	.0109	21.14	.0133	-.0026	.0080	-.0186	3.309	-.0128	.0043

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.30**	**-.0015**	**.2722**	**.0029**	**.0041**	**.0009**	**.0317**	**.0420**	**-.0493**
Stddev	.02	.0011	.0000	.0010	.0017	.0021	.0027	.0001	.0007
%RSD	.2314	70.15	.0149	34.66	41.96	242.2	8.467	.2125	1.431
#1	10.28	-.0008	.2722	.0022	.0054	-.0006	.0298	.0420	-.0498
#2	10.31	-.0023	.2722	.0036	.0029	.0023	.0336	.0421	-.0488

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Zoom In
Zoom Out

Sample Name: MC42269-8F Acquired: 10/26/2015 17:29:51 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7291.0**	**11589.**	**231180.**	**13061.**
Stddev	9.1	13.	239.	21.
%RSD	.12522	.11284	.10353	.16436
#1	7297.5	11599.	231350.	13076.
#2	7284.6	11580.	231010.	13045.

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11.2

11

Zoom In
Zoom Out

Sample Name: MC42231-13F Acquired: 10/26/2015 17:35:46 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**.0149**	**.4841**	**-.0004**	**.0090**	**.1462**	**.0005**	**-.0079**	**74.21**
Stddev	.0020	.0085	.0002	.0001	.0003	.0014	.0002	.0026	.39
%RSD	392.2	57.37	.0380	18.14	3.777	.9822	49.49	32.83	.5193
#1	-.0009	.0088	.4842	-.0004	.0092	.1452	.0003	-.0097	73.94
#2	.0019	.0209	.4840	-.0005	.0088	.1472	.0007	-.0060	74.48

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0081**	**.0068**	**.0026**	**.0024**	**114.7**	**8.844**	**.0079**	**10.04**	**10.02**
Stddev	.0001	.0000	.0010	.0016	1.0	.178	.0115	.02	.10
%RSD	1.374	.4538	40.64	67.60	.8513	2.016	145.1	.2396	1.036
#1	.0080	.0069	.0018	.0036	114.0	8.970	-.0002	10.06	9.945
#2	.0081	.0068	.0033	.0013	115.4	8.718	.0160	10.03	10.09

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0085**	**228.6**	**-.0018**	**.0000**	**.0010**	**-.0034**	**.2028**	**-.0004**	**.0064**
Stddev	.0002	.4	.0011	.002	.0013	.0128	.0066	.0040	.0052
%RSD	2.872	.1544	60.00	11330.	120.4	374.1	3.266	1043.	81.02
#1	.0083	228.4	-.0026	-.0014	.0019	-.0125	.1981	.0024	.0101
#2	.0086	228.9	-.0010	.0014	.0002	.0056	.2074	-.0032	.0027

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**10.05**	**.0010**	**.8358**	**.0009**	**.0007**	**.0025**	**.0439**	**.0377**	**-.0548**
Stddev	.03	.0007	.0023	.0018	.0005	.0009	.0090	.0002	.0010
%RSD	.3220	70.08	.2731	191.5	73.03	36.85	20.51	.4031	1.915
#1	10.08	.0005	.8342	.0022	.0003	.0032	.0375	.0376	-.0540
#2	10.03	.0015	.8374	-.0003	.0011	.0019	.0503	.0378	-.0555

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Zoom In
Zoom Out

Sample Name: MC42231-13F Acquired: 10/26/2015 17:35:46 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 10.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 10X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7005.5**	**11410.**	**227660.**	**13076.**
Stddev	16.3	9.	1107.	71.
%RSD	.23197	.07824	.48618	.54580
#1	7017.0	11417.	228450.	13126.
#2	6994.0	11404.	226880.	13025.

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Zoom In
Zoom Out

Sample Name: MC42342-3F Acquired: 10/26/2015 17:41:38 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0336	.7703	-.0043	.1751	.0278	-.0001	-.0025	76.69
Stddev	.0021	.0524	.0109	.0002	.0001	.0012	.0002	.0002	.08
%RSD	375.6	155.9	1.415	5.229	.0830	4.371	150.5	9.965	.1096
#1	.0020	-.0034	.7626	-.0044	.1752	.0270	-.0003	-.0027	76.75
#2	-.0009	.0706	.7781	-.0041	.1750	.0287	.0000	-.0023	76.63

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0126	.0089	.0000	.0021	10.90	6.743	.0145	10.94	11.59
Stddev	.0001	.0002	.0003	.0017	.04	.075	.0028	.04	.03
%RSD	.4204	2.275	2424.	80.58	.3468	1.108	19.20	.3291	.2368
#1	.0127	.0087	-.0002	.0033	10.93	6.690	.0125	10.92	11.61
#2	.0126	.0090	.0003	.0009	10.88	6.796	.0165	10.97	11.57

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0044	26.81	.0068	-.0019	.0059	.0009	1.831	-.0016	.0006
Stddev	.0002	.04	.0002	.0014	.0022	.0011	.009	.0031	.0029
%RSD	4.598	.1306	2.341	72.33	37.69	124.5	.4704	190.6	475.1
#1	.0046	26.78	.0069	-.0029	.0043	.0016	1.825	.0006	-.0014
#2	.0043	26.83	.0067	-.0010	.0074	.0001	1.837	-.0038	.0027

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.00	.0007	.7092	.0016	-.0013	.0012	.0550	.0294	-.0557
Stddev	.02	.0006	.0026	.0003	.0004	.0010	.0007	.0002	.0006
%RSD	.1705	90.39	.3611	18.82	30.88	85.90	1.191	.8270	1.091
#1	10.98	.0011	.7074	.0013	-.0010	.0019	.0555	.0296	-.0553
#2	11.01	.0002	.7110	.0018	-.0016	.0005	.0546	.0292	-.0562

Zoom In
Zoom Out

Sample Name: MC42342-3F Acquired: 10/26/2015 17:41:38 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7139.3	11477.	230540.	13134.
Stddev	4.1	4.	317.	7.
%RSD	.05675	.03610	.13735	.05498
#1	7136.5	11474.	230320.	13139.
#2	7142.2	11480.	230760.	13129.

Zoom In
Zoom Out

Sample Name: MC42342-4F Acquired: 10/26/2015 17:47:31 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0028	3.630	-.0044	.0429	.0292	-.0004	-.0040	25.00
Stddev	.0007	.0166	.002	.0043	.0005	.0009	.0002	.0013	.00
%RSD	3972.	589.6	.0500	96.62	1.159	2.934	66.04	31.11	.0102
#1	.0005	.0146	3.631	-.0014	.0426	.0298	-.0002	-.0032	25.00
#2	-.0005	-.0089	3.629	-.0074	.0433	.0286	-.0005	-.0049	25.00

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0583	.0070	-.0007	.0009	85.61	4.729	.0034	2.152	7.763
Stddev	.0000	.0006	.0007	.0005	.20	.019	.0043	.004	.037
%RSD	.0480	9.034	94.56	54.97	.2317	.3981	124.6	.1923	.4761
#1	.0583	.0074	-.0002	.0013	85.47	4.716	.0065	2.149	7.737
#2	.0583	.0065	-.0012	.0006	85.75	4.742	.0004	2.155	7.789

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	4.286	.0077	-.0005	.0038	-.0064	1.316	-.0011	-.0019
Stddev	.0000	.031	.0006	.0021	.0062	.0010	.005	.0021	.0040
%RSD	4.255	.7304	7.244	396.0	164.3	15.86	.3509	187.0	217.5
#1	.0009	4.309	.0073	-.0020	.0082	-.0071	1.313	-.0026	.0010
#2	.0009	4.264	.0081	.0010	-.0006	-.0057	1.319	.0004	-.0047

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.083	.0000	.1292	-.0002	-.0001	.0002	.0104	.0256	-.0444
Stddev	.006	.000	.0001	.0006	.0016	.0004	.0025	.0001	.0000
%RSD	.0738	673.0	.0517	306.6	2115.	169.5	23.97	.3711	.0045
#1	8.087	.0001	.1292	-.0006	.0010	.0000	.0121	.0255	-.0444
#2	8.079	-.0002	.1293	.0002	-.0012	.0005	.0086	.0256	-.0444

Zoom In
Zoom Out

Sample Name: MC42342-4F Acquired: 10/26/2015 17:47:31 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7237.1	11562.	229240.	13077.
Stddev	8.2	6.	1080.	28.
%RSD	.11297	.04901	.47127	.21227
#1	7242.9	11558.	230010.	13096.
#2	7231.3	11566.	228480.	13057.

11.2
11

Sample Name: MC42342-5F Acquired: 10/26/2015 17:53:22 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**-.0006**	**.0390**	**3.692**	**-.0034**	**.0426**	**.0299**	**-.0004**	**-.0009**	**25.21**
Stddev	.0005	.0141	.004	.0020	.0004	.0004	.0000	.0022	.03
%RSD	82.89	36.10	.1095	58.86	.8345	1.191	3.718	246.5	.0993
#1	-.0010	.0291	3.689	-.0020	.0429	.0296	-.0004	-.0025	25.20
#2	-.0003	.0490	3.695	-.0048	.0424	.0301	-.0005	.0007	25.23

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0591**	**.0070**	**-.0004**	**.0007**	**85.93**	**4.641**	**-.0016**	**2.136**	**7.787**
Stddev	.0004	.0001	.0008	.0004	.32	.069	.0071	.049	.052
%RSD	.6483	2.098	189.9	54.84	.3767	1.485	431.9	2.279	.6636
#1	.0588	.0069	-.0010	.0004	85.71	4.689	-.0066	2.170	7.823
#2	.0594	.0071	.0001	.0010	86.16	4.592	.0034	2.101	7.750

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0005**	**4.238**	**.0078**	**-.0004**	**.0034**	**.0118**	**1.333**	**-.0011**	**-.0041**
Stddev	.0002	.022	.0002	.0013	.0037	.0016	.001	.0011	.0002
%RSD	44.71	.5245	1.963	312.8	108.0	13.23	.0924	95.57	4.954
#1	.0003	4.254	.0079	-.0013	.0060	.0107	1.332	-.0019	-.0039
#2	.0007	4.222	.0076	.0005	.0008	.0129	1.334	-.0004	-.0042

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**8.207**	**.0009**	**.1308**	**.0019**	**-.0006**	**.0017**	**.0063**	**.0256**	**-.0450**
Stddev	.012	.0002	.0000	.0002	.0011	.0009	.0020	.0009	.0007
%RSD	.1447	23.55	.0240	11.12	199.6	51.36	32.52	3.564	1.598
#1	8.215	.0007	.1308	.0020	.0002	.0024	.0077	.0249	-.0445
#2	8.198	.0010	.1309	.0017	-.0014	.0011	.0048	.0262	-.0455

◀ Zoom In ▶ Zoom Out

Sample Name: MC42342-5F Acquired: 10/26/2015 17:53:22 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7223.3**	**11543.**	**232090.**	**13149.**
Stddev	2.2	4.	995.	27.
%RSD	.03018	.03536	.42876	.20675
#1	7224.9	11546.	231390.	13168.
#2	7221.8	11540.	232790.	13130.

◀ Zoom In ▶ Zoom Out

Sample Name: MC42342-6F Acquired: 10/26/2015 17:59:13 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0010**	**.0239**	**.0436**	**-.0008**	**.2544**	**.0418**	**.0001**	**-.0007**	**64.33**
Stddev	.0020	.0514	.0004	.0011	.0009	.0010	.0002	.0004	.03
%RSD	209.3	215.5	1.013	130.3	.3629	2.437	241.9	55.40	.0440
#1	-.0005	.0603	.0439	-.0001	.2551	.0425	-.0001	-.0004	64.31
#2	.0024	-.0125	.0433	-.0016	.2538	.0410	.0002	-.0009	64.35

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0007**	**.0114**	**.0003**	**.0009**	**22.21**	**13.16**	**-.0002**	**9.804**	**7.820**
Stddev	.0003	.0004	.0003	.0001	.14	.03	.0041	.055	.057
%RSD	45.31	3.248	103.7	15.33	.6523	.1903	1902.	.5626	.7342
#1	.0009	.0112	.0004	.0008	22.10	13.18	-.0031	9.843	7.779
#2	.0005	.0117	.0001	.0010	22.31	13.14	.0027	9.765	7.860

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**.0009**	**26.92**	**.0034**	**-.0004**	**.0018**	**.0021**	**1.095**	**-.0034**	**.0009**
Stddev	.0000	.05	.0002	.0027	.0012	.0050	.003	.0062	.0012
%RSD	4.689	.2039	5.972	668.9	65.44	242.0	.2414	182.5	125.2
#1	.0009	26.96	.0033	-.0023	.0027	.0056	1.097	-.0078	.0018
#2	.0009	26.88	.0036	.0015	.0010	-.0015	1.093	.0010	.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	**7.635**	**-.0006**	**1.041**	**.0007**	**.0003**	**.0016**	**.0088**	**.0253**	**-.0392**
Stddev	.005	.0001	.000	.0009	.0015	.0006	.0040	.0003	.0002
%RSD	.0694	11.24	.0343	127.1	451.5	37.68	45.65	1.137	.5262
#1	7.638	-.0005	1.041	.0001	.0014	.0020	.0116	.0251	-.0393
#2	7.631	-.0006	1.041	.0013	-.0007	.0012	.0059	.0256	-.0390

◀ Zoom In ▶ Zoom Out

Sample Name: MC42342-6F Acquired: 10/26/2015 17:59:13 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7129.4**	**11470.**	**228730.**	**13128.**
Stddev	9.9	12.	1388.	60.
%RSD	.13919	.10261	.60689	.45819
#1	7136.4	11479.	229710.	13171.
#2	7122.4	11462.	227750.	13085.

Zoom In
Zoom Out

Sample Name: MC42342-9F Acquired: 10/26/2015 18:05:09 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0009	.0232	.0926	-.0071	.0022	.0458	.0001	.0016	131.1
Stddev	.0019	.0333	.0008	.0017	.0014	.0009	.0003	.0064	.2
%RSD	216.5	143.4	.8735	23.84	66.46	1.873	297.1	405.9	.1192
#1	-.0023	.0468	.0931	-.0059	.0032	.0464	.0003	-.0029	131.2
#2	.0005	-.0003	.0920	-.0082	.0011	.0452	-.0001	.0061	131.0

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0014	.0001	.0016	.0024	23.79	5.130	.0075	9.699	11.11
Stddev	.0003	.0001	.0008	.0003	.01	.062	.0026	.002	.08
%RSD	25.33	98.08	47.23	12.10	.0222	1.202	34.55	.0214	.7165
#1	.0011	.0002	.0022	.0022	23.79	5.087	.0057	9.700	11.06
#2	.0016	.0000	.0011	.0026	23.79	5.174	.0093	9.697	11.17

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0036	61.64	.0008	.0005	.0048	.0016	.1487	-.0048	-.0049
Stddev	.0005	.22	.0001	.0017	.0039	.0074	.0033	.0005	.0068
%RSD	14.34	.3546	16.82	356.1	81.18	469.9	2.224	11.01	137.1
#1	.0039	61.80	.0007	-.0007	.0021	-.0037	.1510	-.0044	-.0097
#2	.0032	61.49	.0009	.0017	.0076	.0068	.1463	-.0052	-.0001

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	11.35	-.0006	.6622	.0006	-.0011	.0019	.0255	.0293	-.0582
Stddev	.15	.0000	.0005	.0007	.0004	.0006	.0022	.0001	.0007
%RSD	1.353	6.214	.0758	104.9	39.09	29.53	8.478	.2207	1.139
#1	11.46	-.0007	.6626	.0011	-.0014	.0024	.0240	.0294	-.0587
#2	11.24	-.0006	.6619	.0002	-.0008	.0015	.0270	.0293	-.0578

Zoom In
Zoom Out

Sample Name: MC42342-9F Acquired: 10/26/2015 18:05:09 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6951.7	11291.	226070.	13102.
Stddev	80.8	139.	591.	10.
%RSD	1.1620	1.2304	.26144	.07255
#1	6894.6	11193.	226490.	13095.
#2	7008.8	11389.	225650.	13109.

Zoom In
Zoom Out

Sample Name: MC42342-11F Acquired: 10/26/2015 18:11:02 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	-.0317	.4892	-.0003	.0465	.0403	-.0001	-.0062	25.12
Stddev	.0008	.0010	.0003	.0020	.0013	.0002	.0000	.0036	.04
%RSD	670.6	3.115	.0693	653.4	2.812	.6109	.7866	58.22	.1671
#1	.0005	-.0324	.4890	.0011	.0474	.0404	-.0001	-.0088	25.15
#2	-.0007	-.0310	.4895	-.0017	.0456	.0401	-.0001	-.0037	25.09

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0078	.0095	.0010	.0020	59.72	4.866	.0019	2.863	2.404
Stddev	.0000	.0005	.0002	.0002	.47	.229	.0085	.021	.001
%RSD	.2980	5.169	15.40	11.67	.7840	4.709	443.4	.7306	.0188
#1	.0078	.0098	.0011	.0018	60.05	5.028	.0079	2.878	2.404
#2	.0078	.0091	.0009	.0021	59.39	4.704	-.0041	2.849	2.404

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	16.15	.0038	-.0016	.0051	-.0022	14.40	-.0020	-.0037
Stddev	.0001	.02	.0004	.0016	.0024	.0042	.02	.0008	.0057
%RSD	9.630	.1490	11.62	97.94	47.73	194.8	.1066	37.63	155.4
#1	.0009	16.17	.0041	-.0027	.0068	-.0051	14.41	-.0015	-.0077
#2	.0008	16.14	.0035	-.0005	.0034	.0008	14.39	-.0026	.0004

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	8.978	.0004	.0888	.0000	.0005	.0008	.0140	.0283	-.0482
Stddev	.004	.0011	.0004	.001	.0002	.0000	.0009	.0001	.0005
%RSD	.0398	288.5	.3984	2303.	34.15	2.995	6.500	.3331	.9932
#1	8.976	-.0004	.0885	-.0004	.0007	.0008	.0146	.0284	-.0485
#2	8.981	.0012	.0891	.0004	.0004	.0008	.0133	.0282	-.0478

Zoom In
Zoom Out

Sample Name: MC42342-11F Acquired: 10/26/2015 18:11:02 Type: Unk
Method: Accutest1(v138) Mode: CONC Corr. Factor: 5.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment: 5X

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7236.7	11545.	232570.	13170.
Stddev	6.0	18.	9.	30.
%RSD	.08319	.15910	.00388	.22509
#1	7240.9	11558.	232570.	13190.
#2	7232.4	11532.	232560.	13149.

Zoom In Zoom Out

Sample Name: CRI Acquired: 10/26/2015 18:16:53 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0051	.2028	.0047	.0504	.1012	.0491	.0040	.0519	5.043
Stddev	.0002	.0033	.0011	.0006	.0003	.0003	.0000	.0014	.015
%RSD	3.278	1.608	23.29	1.218	.2766	.5519	.6380	2.701	.2992
#1	.0050	.2051	.0055	.0499	.1010	.0493	.0040	.0509	5.054
#2	.0052	.2004	.0039	.0508	.1014	.0490	.0040	.0529	5.032
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0040	.0493	.0100	.0239	.1045	5.005	.4984	5.031	.0159
Stddev	.0000	.0002	.0002	.0001	.0007	.006	.0006	.004	.0000
%RSD	.2997	.3470	2.097	.5890	.6868	.1187	.1238	.0748	.2318
#1	.0040	.0494	.0102	.0240	.1050	5.010	.4988	5.034	.0159
#2	.0040	.0491	.0099	.0238	.1040	5.001	.4980	5.029	.0159
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1021	5.042	.0422	.0048	.0510	.0488	.0498	.0051	.0092
Stddev	.0007	.018	.0000	.0001	.0003	.0013	.0023	.0003	.0001
%RSD	.6728	.3462	.1124	2.128	.6107	2.685	4.648	5.286	1.377
#1	.1016	5.055	.0423	.0047	.0512	.0498	.0482	.0053	.0093
#2	.1026	5.030	.0422	.0048	.0507	.0479	.0515	.0049	.0091
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CRI Acquired: 10/26/2015 18:16:53 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.1023	.1010	.0099	.0492	.0052	.0099	F .0656	.0202	.0361
Stddev	.0009	.0003	.0000	.0001	.0002	.0002	.0010	.0001	.0015
%RSD	.9034	.2657	.2450	.1234	3.226	1.730	1.492	.3203	4.120
#1	.1017	.1012	.0099	.0493	.0053	.0101	.0649	.0202	.0351
#2	.1030	.1008	.0099	.0492	.0051	.0098	.0663	.0201	.0372
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value							.1000		
Range							-30.00%		

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7110.3	11483.	229160.	13036.
Stddev	5.1	3.	111.	31.
%RSD	.07205	.02928	.04865	.23508
#1	7106.7	11481.	229240.	13014.
#2	7114.0	11485.	229080.	13057.

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/26/2015 18:22:44 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2460	9.955	1.972	1.983	1.968	1.981	1.981	1.995	9.984
Stddev	.0019	.012	.006	.008	.003	.003	.001	.004	.011
%RSD	.7645	.1246	.3174	.4021	.1613	.1318	.0290	.1882	.1146
#1	.2473	9.964	1.968	1.989	1.966	1.983	1.980	1.992	9.976
#2	.2447	9.946	1.977	1.977	1.971	1.979	1.981	1.997	9.993
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.974	1.987	1.965	1.963	9.872	9.829	1.969	9.871	2.035
Stddev	.006	.003	.012	.016	.031	.012	.004	.042	.013
%RSD	.2886	.1642	.6238	.8048	.3148	.1242	.2126	.4288	.6209
#1	1.969	1.985	1.974	1.975	9.850	9.820	1.972	9.841	2.044
#2	1.978	1.990	1.956	1.952	9.894	9.838	1.966	9.901	2.026
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.000	9.964	1.998	1.981	1.980	1.963	1.995	1.972	1.979
Stddev	.016	.014	.001	.005	.016	.007	.003	.006	.005
%RSD	.7903	.1398	.0640	.2435	.7894	.3549	.1460	.3135	.2608
#1	1.988	9.954	1.997	1.977	1.991	1.968	1.992	1.968	1.975
#2	2.011	9.974	1.999	1.984	1.969	1.958	1.997	1.977	1.982
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Zoom In Zoom Out

Sample Name: CCV Acquired: 10/26/2015 18:22:44 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	1.905	1.984	1.972	1.942	2.017	1.942	1.934	1.999	1.991
Stddev	.002	.003	.001	.011	.007	.009	.013	.002	.010
%RSD	.0998	.1692	.0562	.5501	.3407	.4443	.6838	.0832	.5135
#1	1.904	1.982	1.973	1.950	2.012	1.949	1.925	1.998	1.998
#2	1.907	1.987	1.971	1.935	2.022	1.936	1.943	2.000	1.983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	6915.2	11383.	227130.	13105.
Stddev	2.0	.	526.	43.
%RSD	.02938	.00234	.23164	.32622
#1	6916.6	11383.	226750.	13135.
#2	6913.8	11382.	227500.	13075.

11.2

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Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/26/2015 18:28:28 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3961	As1890	Au2427	B_2089	Ba4554	Be3130	Bi2230	Ca3179
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0001	-.0031	.0006	.0012	.0017	.0002	.0002	-.0003	.0025
Stddev	.0002	.0003	.0007	.0001	.0000	.0001	.0000	.0002	.0041
%RSD	342.3	10.04	122.3	9.641	1.654	53.10	22.51	53.50	164.3
#1	.0002	-.0033	.0001	.0011	.0017	.0001	.0002	-.0004	.0054
#2	-.0001	-.0029	.0011	.0013	.0017	.0002	.0002	-.0002	-.0004
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Cd2288	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Li6707	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0003	.0003	.0003	.0002	.0023	.0325	.0016	-.0139	.0003
Stddev	.0001	.0001	.0005	.0000	.0006	.0013	.0007	.0018	.0000
%RSD	34.05	45.98	178.6	23.33	24.84	3.849	42.89	12.96	3.750
#1	.0002	.0002	.0006	.0002	.0019	.0334	.0011	-.0151	.0002
#2	.0004	.0004	-.0001	.0002	.0027	.0316	.0020	-.0126	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mo2020	Na5895	Ni2316	Pb2203	Pd3404	Pt2659	S_1820	Sb2068	Se1960
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0112	.0114	.0001	.0003	.0011	-.0007	-.0003	-.0001	.0003
Stddev	.0022	.0044	.0001	.0004	.0001	.0015	.0006	.0006	.0000
%RSD	19.19	39.08	72.99	117.4	5.367	224.1	219.1	1230.	5.133
#1	.0128	.0145	.0001	.0006	.0010	-.0017	.0001	-.0005	.0003
#2	.0097	.0082	.0002	.0001	.0011	.0004	-.0007	.0004	.0003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

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Zoom In
Zoom Out

Sample Name: CCB Acquired: 10/26/2015 18:28:28 Type: QC
Method: Accutest1(v138) Mode: CONC Corr. Factor: 1.000000
User: admin Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Si2124	Sn1899	Sr4077	Ti3349	Tl1908	V_2924	W_2079	Zn2062	Zr3391
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	.0004	.0002	.0009	.0008	.0005	.0122	.0005	.0024
Stddev	.0004	.0002	.0000	.0001	.0001	.0002	.0017	.0001	.0002
%RSD	45.14	52.92	22.12	14.64	8.649	51.95	13.83	22.86	8.637
#1	.0006	.0003	.0002	.0010	.0008	.0006	.0134	.0004	.0025
#2	.0011	.0006	.0002	.0008	.0009	.0003	.0110	.0006	.0022
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Int. Std.	In2306	Y_2243	Y_3600	Y_3710
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7321.6	11615.	232910.	13139.
Stddev	1.5	1.	1586.	20.
%RSD	.01997	.00701	.68079	.15266
#1	7320.6	11616.	231790.	13124.
#2	7322.7	11615.	234030.	13153.

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11.2

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	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
	Ag 328.068 {103}	☒	8	Fe	-0.000248	0.000000	No
				Mn	0.000271	0.000000	No
				Ti	-0.000312	0.000000	No
				V	-0.000431	0.000000	No
				Cu	0.000013	0.000000	No
				Mo	-0.000002	0.000000	No
				Zr	0.002357	0.000000	No
				Al	-0.000000	0.000000	No
	Al 396.152 { 85}	☒	5	Mo	0.037257	0.000000	No
				Mn	-0.000123	0.000000	No
				Ca	-0.000202	0.000000	No
				Zn	0.000284	0.000000	No
				Zr	0.002390	0.000000	No
	As 189.042 {478}	☒	16	Fe	-0.000003	0.000000	No
				Mg	-0.000001	0.000000	No
				Ca	-0.000013	0.000000	No
				Na	0.000003	0.000000	No
				Mn	-0.000012	0.000000	No
				Co	-0.001083	0.000000	No
				Cr	0.000368	0.000000	No
				Mo	0.002661	0.000000	No
				Ti	-0.000091	0.000000	No
				V	0.000157	0.000000	No
				Al	0.000007	0.000000	No
				Pd	0.022094	0.000000	No
				Zr	0.000248	0.000000	No
				B	0.000148	0.000000	No
				W	0.000729	0.000000	No
				Pt	-0.000581	0.000000	No
	Au 242.795 {139}	☒	5	Fe	0.000007	0.000000	No
				Mn	0.004788	0.000000	No
				W	-0.000630	0.000000	No
				Pt	-0.000655	0.000000	No
				Co	-0.003324	0.000000	No
	B 208.959 {462}	☒	5	Si	0.000469	0.000000	No
				Mo	0.042880	0.000000	No
				V	0.002173	0.000000	No
				Pt	0.001742	0.000000	No
				Sn	0.000934	0.000000	No
	Ba 455.403 { 74}	☒	1	Ca	0.000017	0.000000	No
	Be 313.042 {108}	☒	4	Ti	-0.000097	0.000000	No
				V	0.000094	0.000000	No
				Cd	0.007729	0.000000	No
				Pb	-0.000004	0.000000	No
	Bi 223.061 {451}	☒	7	Fe	0.000333	0.000000	No
				Co	-0.004413	0.000000	No
				Cr	0.001095	0.000000	No
				Ti	-0.001254	0.000000	No
				V	-0.000924	0.000000	No
				Cu	-0.002297	0.000000	No
				W	-0.003887	0.000000	No
	Ca 317.933 {106}	☒	4	Al	0.000075	0.000000	No
				Mg	0.000046	0.000000	No
				Cu	0.000277	0.000000	No
				Tl	-0.000688	0.000000	No
	Cd 228.802 {448}	☒	8	Fe	0.000015	0.000000	No
				Mg	0.000003	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Co	-0.002614	0.000000	No
				Ni	-0.000111	0.000000	No
				V	0.000084	0.000000	No
				As	0.001044	0.000000	No
				W	-0.001156	0.000000	No
				Pt	-0.006906	0.000000	No
	Co 228.616 {448}	☒	4	Fe	0.000042	0.000000	No
				Mo	-0.000565	0.000000	No
				Ti	0.002304	0.000000	No
				Mg	0.000002	0.000000	No
	Cr 267.716 {126}	☒	6	Cu	0.000036	0.000000	No
				Al	0.000004	0.000000	No
				Fe	-0.000005	0.000000	No
				Mn	0.000590	0.000000	No
				W	0.000136	0.000000	No
				Pt	0.005403	0.000000	No
	Cu 324.754 {104}2	☒	8	Fe	-0.000109	0.000000	No
				Co	-0.000833	0.000000	No
				Mo	0.000251	0.000000	No
				V	-0.000466	0.000000	No
				Zr	-0.000157	0.000000	No
				Mn	0.000003	0.000000	No
				Ca	0.000000	0.000000	No
				Ti	-0.000147	0.000000	No
	Fe 259.940 {130}	☒	None				
	In 230.606 {446}*	☒	None				
	K 766.490 { 44}	☒	2	Na	0.000226	0.000000	No
				Fe	-0.000119	0.000000	No
	Li 670.784 { 50}	☒	2	Ca	0.000012	0.000000	No
				Na	0.000006	0.000000	No
	Mg 279.079 {121}	☒	3	Fe	-0.000180	0.000000	No
				Mo	-0.005168	0.000000	No
				Mn	-0.000245	0.000000	No
	Mn 257.610 {131}	☒	3	Fe	-0.000036	0.000000	No
				Ca	0.000001	0.000000	No
				Si	0.000036	0.000000	No
	Mo 202.030 {467}	☒	8	Al	0.000001	0.000000	No
				Mg	0.000003	0.000000	No
				Ca	0.000002	0.000000	No
				Na	0.000001	0.000000	No
				Mn	-0.000024	0.000000	No
				Co	-0.000275	0.000000	No
				Cu	0.000005	0.000000	No
				Ni	0.000009	0.000000	No
	Na 589.592 { 57}	☒	2	Al	0.000307	0.000000	No
				Pb	0.006520	0.000000	No
	Ni 231.604 {446}	☒	4	Co	-0.000073	0.000000	No
				Mo	-0.000230	0.000000	No
				Fe	0.000050	0.000000	No
				Ca	-0.000001	0.000000	No
	Pb 220.353 {453}	☒	14	Fe	0.000023	0.000000	No
				Al	-0.000087	0.000000	No
				Si	0.000019	0.000000	No
				Co	0.000036	0.000000	No
				Cu	0.000195	0.000000	No
				Ni	0.000220	0.000000	No
				Mo	-0.001169	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Mg	0.000006	0.000000	No
				Ca	0.000004	0.000000	No
				Mn	0.000084	0.000000	No
				S	-0.000002	0.000000	No
				Ti	-0.000098	0.000000	No
				V	-0.000044	0.000000	No
				W	-0.003656	0.000000	No
	Pd 340.458 { 99}	☒	6	Fe	-0.000301	0.000000	No
				Ca	-0.000019	0.000000	No
				Co	-0.002552	0.000000	No
				Ti	-0.001187	0.000000	No
				Zr	-0.019958	0.000000	No
				Si	-0.000427	0.000000	No
	Pt 265.945 {127}	☒	7	Fe	-0.000136	0.000000	No
				Al	0.000015	0.000000	No
				Mn	-0.002073	0.000000	No
				Cr	0.006745	0.000000	No
				Mo	-0.003169	0.000000	No
				V	-0.009726	0.000000	No
				W	-0.001914	0.000000	No
	S 182.034 {485}	☒	8	Fe	0.000571	0.000000	No
				Al	-0.000044	0.000000	No
				Mg	0.000006	0.000000	No
				Ca	-0.000066	0.000000	No
				Mn	0.003113	0.000000	No
				Mo	-0.002859	0.000000	No
				Ti	0.000793	0.000000	No
				W	-0.020330	0.000000	No
	Sb 206.833 {463}	☒	14	Fe	0.000031	0.000000	No
				Al	0.000003	0.000000	No
				Mg	0.000001	0.000000	No
				Ca	-0.000004	0.000000	No
				Cr	0.012085	0.000000	No
				Ni	-0.000078	0.000000	No
				Mo	-0.003669	0.000000	No
				Cu	-0.000040	0.000000	No
				Sn	-0.008342	0.000000	No
				Zr	-0.000420	0.000000	No
				Ti	0.000152	0.000000	No
				V	-0.001971	0.000000	No
				W	0.001020	0.000000	No
				Pt	-0.000636	0.000000	No
	Se 196.090 {472}	☒	14	Fe	-0.000248	0.000000	No
				Al	-0.000007	0.000000	No
				Mg	0.000000	0.000000	No
				Ca	-0.000007	0.000000	No
				Na	-0.000001	0.000000	No
				Co	-0.000719	0.000000	No
				Ni	-0.000077	0.000000	No
				Mn	0.000522	0.000000	No
				Sn	0.000162	0.000000	No
				Pd	-0.000547	0.000000	No
				V	0.000026	0.000000	No
				Mo	0.000309	0.000000	No
				Ti	-0.000180	0.000000	No
				W	0.008207	0.000000	No
	Si 212.412 {459}	☒	7	Al	-0.000005	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Mo	0.022709	0.000000	No
				Ti	0.006756	0.000000	No
				V	0.013836	0.000000	No
				Ni	0.001773	0.000000	No
				Pb	0.000994	0.000000	No
				S	0.000176	0.000000	No
	Sn 189.989 {478}	☒	1	Ti	-0.003273	0.000000	No
	Sr 407.771 { 83}	☒	None				
	Ti 334.904 {101}	☒	3	Mo	0.000228	0.000000	No
				Ca	0.000007	0.000000	No
				Al	0.000002	0.000000	No
	Tl 190.856 {477}	☒	11	Al	-0.000002	0.000000	No
				Mg	-0.000002	0.000000	No
				Ca	-0.000003	0.000000	No
				Na	-0.000001	0.000000	No
				Mn	0.001201	0.000000	No
				Co	0.002991	0.000000	No
				Cr	0.000168	0.000000	No
				Ti	-0.001400	0.000000	No
				V	-0.035172	0.000000	No
				Fe	0.000007	0.000000	No
				Mo	-0.000003	0.000000	No
	V 292.402 {115}	☒	5	Fe	0.000006	0.000000	No
				Mn	-0.000180	0.000000	No
				Cr	-0.002833	0.000000	No
				Mo	-0.010232	0.000000	No
				Ti	0.000299	0.000000	No
	W 207.911 {462}	☒	6	Co	-0.000470	0.000000	No
				Cr	0.000348	0.000000	No
				Cu	0.000621	0.000000	No
				Ni	0.000331	0.000000	No
				Ti	-0.000410	0.000000	No
				V	0.000132	0.000000	No
	Y 224.306 {451}*	☒	None				
	Y 360.073 { 94}*	☒	None				
	Y 371.030 { 91}*	☒	None				
	Zn 206.200 {464}	☒	8	Mg	0.000004	0.000000	No
				Al	0.000002	0.000000	No
				Ca	0.000002	0.000000	No
				Na	0.000003	0.000000	No
				Cr	-0.000273	0.000000	No
				Ti	0.000018	0.000000	No
				Fe	0.000013	0.000000	No
				Pd	0.000030	0.000000	No
	Zr 339.198 { 99}	☒	7	Fe	0.000025	0.000000	No
				Ti	0.000616	0.000000	No
				V	0.011460	0.000000	No
				Mo	0.000222	0.000000	No
				S	-0.000027	0.000000	No
				Si	0.005167	0.000000	No
				Sn	0.004194	0.000000	No

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)
Ag 328.068 {103}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000005	0.107522	0.000000	1.000000
Al 396.152 { 85}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000068	0.033147	0.000000	1.000000
As 189.042 {478}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000018	0.028555	0.000000	1.000000
Au 242.795 {139}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000022	0.020317	0.000000	1.000000
B 208.959 {462}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000557	0.245960	0.000000	1.000000
Ba 455.403 { 74}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.003939	2.275040	0.000000	1.000000
Be 313.042 {108}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000089	3.013272	0.000000	1.000000
Bi 223.061 {451}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000625	0.076854	0.000000	1.000000
Ca 317.933 {106}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.006507	0.063736	0.000000	1.000000
Cd 228.802 {448}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000224	0.963171	0.000000	1.000000
Co 228.616 {448}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000246	1.455028	0.000000	1.000000
Cr 267.716 {126}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000031	0.055483	0.000000	1.000000
Cu 324.754 {104}2	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.001827	0.233401	0.000000	1.000000
Fe 259.940 {130}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000268	0.035325	0.000000	1.000000
In 230.606 {446}*	10/28/2015 10:01:45	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
K 766.490 { 44}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.003548	0.037746	0.000000	1.000000
Li 670.784 { 50}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000904	0.756597	0.000000	1.000000
Mg 279.079 {121}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000100	0.007054	0.000000	1.000000
Mn 257.610 {131}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000265	0.462954	0.000000	1.000000
Mo 202.030 {467}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000126	0.425255	0.000000	1.000000
Na 589.592 { 57}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.001329	0.109036	0.000000	1.000000
Ni 231.604 {446}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000950	1.276555	0.000000	1.000000
Pb 220.353 {453}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000014	0.300352	0.000000	1.000000
Pd 340.458 { 99}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000045	0.043008	0.000000	1.000000
Pt 265.945 {127}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000061	0.006464	0.000000	1.000000
S 182.034 {485}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000202	0.022019	0.000000	1.000000
Sb 206.833 {463}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000068	0.080584	0.000000	1.000000
Se 196.090 {472}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000097	0.039790	0.000000	1.000000
Si 212.412 {459}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.005690	0.169254	0.000000	1.000000
Sn 189.989 {478}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000028	0.200226	0.000000	1.000000
Sr 407.771 { 83}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.003156	5.073057	0.000000	1.000000
Ti 334.904 {101}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000149	0.151074	0.000000	1.000000
Tl 190.856 {477}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000572	0.178627	0.000000	1.000000
V 292.402 {115}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000007	0.067777	0.000000	1.000000
W 207.911 {462}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000986	0.135105	0.000000	1.000000
Y 224.306 {451}*	10/28/2015 10:01:45	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 360.073 { 94}*	10/28/2015 10:01:45	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Y 371.030 { 91}*	10/28/2015 10:01:45	12/23/2009 10:44:16	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000
Zn 206.200 {464}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	0.000053	0.873911	0.000000	1.000000
Zr 339.198 { 99}	10/28/2015 10:01:45	10/26/2015 10:16:45	Linear	1/Conc	-0.000078	0.181572	0.000000	1.000000

	Element, Wavelength and Order	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Reslope		QC Norm	
							Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	1.000000	0.000000	0.000389	0.001296	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	1.000000	0.000000	0.011130	0.037101	OK.	1.000000	0.000000	1	0
	As 189.042 {478}	1.000000	0.000000	0.001250	0.004167	OK.	1.000000	0.000000	1	0
	Au 242.795 {139}	1.000000	0.000000	0.000756	0.002519	OK.	1.000000	0.000000	1	0
	B 208.959 {462}	1.000000	0.000000	0.000250	0.000833	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	1.000000	0.000000	0.000239	0.000796	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	1.000000	0.000000	0.000070	0.000232	OK.	1.000000	0.000000	1	0
	Bi 223.061 {451}	1.000000	0.000000	0.001161	0.003871	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	1.000000	0.000000	0.003275	0.010918	OK.	1.000000	0.000000	1	0
	Cd 228.802 {448}	1.000000	0.000000	0.000086	0.000286	OK.	1.000000	0.000000	1	0
	Co 228.616 {448}	1.000000	0.000000	0.000100	0.000334	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	1.000000	0.000000	0.000341	0.001136	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}2	1.000000	0.000000	0.000229	0.000765	OK.	1.000000	0.000000	1	0
	Fe 259.940 {130}	1.000000	0.000000	0.003125	0.010416	OK.	1.000000	0.000000	1	0
	In 230.606 {446}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	K 766.490 { 44}	1.000000	0.000000	0.031072	0.103572	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	1.000000	0.000000	0.001357	0.004523	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	1.000000	0.000000	0.019909	0.066363	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	1.000000	0.000000	0.000041	0.000136	OK.	1.000000	0.000000	1	0
	Mo 202.030 {467}	1.000000	0.000000	0.000139	0.000463	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	1.000000	0.000000	0.008858	0.029528	OK.	1.000000	0.000000	1	0
	Ni 231.604 {446}	1.000000	0.000000	0.000129	0.000431	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	1.000000	0.000000	0.000585	0.001948	OK.	1.000000	0.000000	1	0
	Pd 340.458 { 99}	1.000000	0.000000	0.000888	0.002959	OK.	1.000000	0.000000	1	0
	Pt 265.945 {127}	1.000000	0.000000	0.003190	0.010634	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	1.000000	0.000000	0.001610	0.005368	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	1.000000	0.000000	0.000781	0.002603	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	1.000000	0.000000	0.001271	0.004237	OK.	1.000000	0.000000	1	0
	Si 212.412 {459}	1.000000	0.000000	0.000440	0.001468	OK.	1.000000	0.000000	1	0
	Sn 189.989 {478}	1.000000	0.000000	0.000237	0.000790	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	1.000000	0.000000	0.000080	0.000266	OK.	1.000000	0.000000	1	0
	Ti 334.904 {101}	1.000000	0.000000	0.000266	0.000887	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	1.000000	0.000000	0.000534	0.001778	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	1.000000	0.000000	0.000324	0.001081	OK.	1.000000	0.000000	1	0
	W 207.911 {462}	1.000000	0.000000	0.000749	0.002498	OK.	1.000000	0.000000	1	0
	Y 224.306 {451}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 360.073 { 94}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000	0.000000	1	0
	Zn 206.200 {464}	1.000000	0.000000	0.000072	0.000241	OK.	1.000000	0.000000	1	0
	Zr 339.198 { 99}	1.000000	0.000000	0.000161	0.000536	OK.	1.000000	0.000000	1	0

ACCUTEST

Date:	10/19/15
Time	15:30

Name:	ERICM1
MP Batch ID:	**MP25318**
QC Sample ID:	MC42178-3F
Reagent Lot #	
1:1 HNO3	
1:1 HCl	RGT-45914-METALS
Conc HNO3	VENDOR-15604
Conc HCl	
H2O2	
LCS Lot #	
Boiling Chips Lot #	

Aqueous EPA 200.7/ 200.8	○	WW
Aqueous SW846 3010A	◉	
Soil SW846 3050B	○	

Digetion Tube Lot #	223076
ML Used	Spike Lot#
0.5	METSTK-1256-METALS
Spike ID	MPICP7

Dig Block ID:	6	Therm ID	MP007	Temp. C	95	Factor	-1	Corrected Temp. C	94
Dig Block ID:		Therm ID		Temp. C		Factor		Corrected Temp. C	
Balance ID:	N/A	Repipetor ID	1	Filter Paper Lot #					

Note: (A)Serial dilution shown for QC purposes only (not a seperate digestion). (B) For DW samples <1NTU, measure pH prior to analysis.

Bot#	Sample #	Initial ML	Final ML			1:1 HNO3 ML	Conc. HNO3 ML	1:1 HCl ML	H2O2 ML	Comment
	MP25318-MB1	50	50				3	5		
	MP25318-B1	50	50				3	5		
13	MP25318-S1	50	50				3	5		
13	MP25318-SD1	50	50				3	5		
13	MP25318-S2	50	50				3	5		
4	MC42160-12F	50	50				3	5		
4	MC42160-13F	50	50				3	5		
1	MC42160-14F	50	50				3	5		
1	MC42160-9F	50	50				3	5		
11	MC42178-10F	50	50				3	5		
11	MC42178-11F	50	50				3	5		
11	MC42178-12F	50	50				3	5		
4	MC42178-1F	50	50				3	5		
11	MC42178-2F	50	50				3	5		
13	MC42178-3F	50	50				3	5		
11	MC42178-4F	50	50				3	5		
11	MC42178-5F	50	50				3	5		
11	MC42178-6F	50	50				3	5		
11	MC42178-7F	50	50				3	5		
11	MC42178-8F	50	50				3	5		

Protected Worksheet MMP003-04

(Format edits must be done by Dept. Manager)

QC Review	EAL	Date:	10/22/15

11.3.1

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New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

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METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN52114	5.0	0.0	mg/l	250	256	102.4	80-120%
Nitrogen, Nitrate + Nitrite	GP19724/GN52119	0.10	0.0	mg/l	2	2.10	105.0	90-110%
Nitrogen, Nitrite	GP19693/GN52037	0.010	0.0	mg/l	0.020	0.022	110.0	80-120%
Sulfide	GN52066	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Sulfide	GN52067	2.0	0.0	mg/l	13.4	12.8	95.5	80-120%
Total Organic Carbon	GP19721/GN52118	1.0	0.0	mg/l	10	9.98	99.8	80-120%
Total Organic Carbon	GP19722/GN52118	1.0	0.0	mg/l	10	9.44	94.4	80-120%

Associated Samples:
Batch GN52066: MC42178-7, MC42178-8, MC42178-10
Batch GN52067: MC42178-11
Batch GN52114: MC42178-7, MC42178-8, MC42178-10, MC42178-11
Batch GP19693: MC42178-7, MC42178-8, MC42178-10, MC42178-11
Batch GP19721: MC42178-7, MC42178-8, MC42178-10
Batch GP19722: MC42178-11, MC42178-12
Batch GP19724: MC42178-7, MC42178-8, MC42178-10, MC42178-11
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN52114	MC42193-3	mg/l	536	545	1.7	0-20%
Nitrogen, Nitrate + Nitrite	GP19724/GN52119	MC42193-3	mg/l	0.71	0.72	1.4	0-20%
Nitrogen, Nitrite	GP19693/GN52037	MC42173-1	mg/l	0.0	0.0	0.0	0-20%
Sulfide	GN52066	MC42263-1	mg/l	0.0	0.0	0.0	0-20%
Sulfide	GN52067	MC42202-11	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN52066: MC42178-7, MC42178-8, MC42178-10
Batch GN52067: MC42178-11
Batch GN52114: MC42178-7, MC42178-8, MC42178-10, MC42178-11
Batch GP19693: MC42178-7, MC42178-8, MC42178-10, MC42178-11
Batch GP19724: MC42178-7, MC42178-8, MC42178-10, MC42178-11
(*) Outside of QC limits

12.2
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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN52114	MC42193-3	mg/l	536	250	774	95.2	75-125%
Nitrogen, Nitrate + Nitrite	GP19724/GN52119	MC42193-3	mg/l	0.71	2	2.9	109.5	90-110%
Nitrogen, Nitrite	GP19693/GN52037	MC42173-1	mg/l	0.0	0.020	0.022	110.0	75-125%
Sulfide	GN52066	MC42263-1	mg/l	0.0	13.4	13.0	97.0	75-125%
Sulfide	GN52067	MC42202-11	mg/l	0.34 U	10.3	9.8	95.1	75-125%
Total Organic Carbon	GP19721/GN52118	MC42426-1	mg/l	0.27	10	10.0	97.3	75-125%
Total Organic Carbon	GP19722/GN52118	MC42202-11	mg/l	0.27 U	10	9.9	94.0	75-125%

Associated Samples:
Batch GN52066: MC42178-7, MC42178-8, MC42178-10
Batch GN52067: MC42178-11
Batch GN52114: MC42178-7, MC42178-8, MC42178-10, MC42178-11
Batch GP19693: MC42178-7, MC42178-8, MC42178-10, MC42178-11
Batch GP19721: MC42178-7, MC42178-8, MC42178-10
Batch GP19722: MC42178-11, MC42178-12
Batch GP19724: MC42178-7, MC42178-8, MC42178-10, MC42178-11
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19721/GN52118	MC42426-1	mg/l	0.27	10	9.9	1.0	20%
Total Organic Carbon	GP19722/GN52118	MC42202-11	mg/l	0.27 U	10	10.4	4.9	20%

Associated Samples:
Batch GP19721: MC42178-7, MC42178-8, MC42178-10
Batch GP19722: MC42178-11, MC42178-12
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: TOC102315W1.TXT   Date Analyzed: 10/23/15   Methods: SW846 9060
Analyst: CF   Run ID: GN52118
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:50	GN52118-ICV1	1		
21:09	GN52118-ICB1	1		
21:24	GN52118-CCV1	1		
21:42	GN52118-CCB1	1		
21:59	ZZZZZZ	1		Sparger check Standard.
22:13	GP19721-MB1	1		
22:31	GP19721-B1	1		
22:47	GP19721-S1	1		
23:04	GP19721-S2	1		
23:20	MC42426-1	1		(sample used for QC only; not part of login MC42178)
23:40	ZZZZZZ	1		
23:55	ZZZZZZ	1		
00:11	ZZZZZZ	22		
00:37	ZZZZZZ	1		
00:53	GN52118-CCV2	1		
01:12	GN52118-CCB2	1		
01:26	ZZZZZZ	1		
01:43	ZZZZZZ	1		
01:59	MC42178-7	1		
02:16	MC42178-8	1		
02:36	MC42178-10	1		
02:51	GN52118-CCV3	1		
03:09	GN52118-CCB3	1		
03:24	GN52118-ICV2	1		
03:43	GN52118-ICB2	1		
03:58	GN52118-CCV4	1		
04:16	GN52118-CCB4	1		
04:33	ZZZZZZ	1		Sparger check Standard.
04:49	GP19722-MB1	1		
05:07	GP19722-B1	1		
05:24	GP19722-S1	1		
05:40	GP19722-S2	1		
05:56	MC42202-11	1		(sample used for QC only; not part of login MC42178)

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: TOC102315W1.TXT   Date Analyzed: 10/23/15   Methods: SW846 9060
Analyst: CF   Run ID: GN52118
Parameters: Total Organic Carbon

Time	Sample Description	Dilution Factor	PS Recov	Comments
06:15	MC42178-11	2		
06:34	MC42178-12	1		
06:51	ZZZZZZ	1		
07:08	ZZZZZZ	1		
07:24	GN52118-CCV5	1		
07:42	GN52118-CCB5	1		
07:57	ZZZZZZ	1		
08:12	ZZZZZZ	1		
08:30	ZZZZZZ	1		
08:46	ZZZZZZ	1		
09:06	ZZZZZZ	1		
09:24	GN52118-CCV6	1		
09:41	GN52118-CCB6	1		
14:24	GN52118-CCV7	1		
14:43	GN52118-CCB7	1		
14:57	ZZZZZZ	20		DNR, cofirmation only.
15:15	GN52118-CCV8	1		
15:33	GN52118-CCB8	1		

Refer to raw data for calibration curve and standards.

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Instrument QC Summary
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: TOC102315W1.TXT   Date Analyzed: 10/23/15   Methods: SW846 9060
Run ID: GN52118   Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN52118-ICV1	Total Organic Carbon	30.7	1.0	0.27	30	102.3	90-110
GN52118-ICB1	Total Organic Carbon	0.29	1.0	0.27			
GN52118-CCV1	Total Organic Carbon	20.0	1.0	0.27	20	100.0	90-110
GN52118-CCB1	Total Organic Carbon	0.27 U	1.0	0.27			
GN52118-CCV2	Total Organic Carbon	20.3	1.0	0.27	20	101.5	90-110
GN52118-CCB2	Total Organic Carbon	0.36	1.0	0.27			
GN52118-CCV3	Total Organic Carbon	20.0	1.0	0.27	20	100.0	90-110
GN52118-CCB3	Total Organic Carbon	0.43	1.0	0.27			
GN52118-ICV2	Total Organic Carbon	29.7	1.0	0.27	30	99.0	90-110
GN52118-ICB2	Total Organic Carbon	0.48	1.0	0.27			
GN52118-CCV4	Total Organic Carbon	19.3	1.0	0.27	20	96.5	90-110
GN52118-CCB4	Total Organic Carbon	0.40	1.0	0.27			
GN52118-CCV5	Total Organic Carbon	19.2	1.0	0.27	20	96.0	90-110
GN52118-CCB5	Total Organic Carbon	0.40	1.0	0.27			
GN52118-CCV6	Total Organic Carbon	19.4	1.0	0.27	20	97.0	90-110
GN52118-CCB6	Total Organic Carbon	0.42	1.0	0.27			
GN52118-CCV7	Total Organic Carbon	19.5	1.0	0.27	20	97.5	90-110
GN52118-CCB7	Total Organic Carbon	0.35	1.0	0.27			
GN52118-CCV8	Total Organic Carbon	19.5	1.0	0.27	20	97.5	90-110
GN52118-CCB8	Total Organic Carbon	0.27	1.0	0.27			

(!) Outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: 102415W1.NO3 Date Analyzed: 10/24/15 Methods: EPA 353.2
Analyst: MC Run ID: GN52119
Parameters: Nitrogen, Nitrate + Nitrite

Time	Sample Description	Dilution Factor	PS Recov	Comments
07:39	GN52119-STD1	1		STDA5.0
07:40	GN52119-STD2	1		STDB2.0
07:41	GN52119-STD3	1		STDC1.0
07:42	GN52119-STD4	1		STDD0.80
07:44	GN52119-STD5	1		STDE0.50
07:45	GN52119-STD6	1		STDF0.30
07:46	GN52119-STD7	1		STDG0.10
07:47	GN52119-STD8	1		STDH0.0
07:50	GN52119-ICV1	1		
07:51	GN52119-ICB1	1		
07:53	GN52119-CCV1	1		
07:54	GN52119-CCB1	1		
07:55	ZZZZZZ	1		COLUMN EFFICIENCY STD.
07:56	GP19723-MB1	1		
07:58	GP19723-B1	1		
07:59	ZZZZZZ	1		DNR, OFFSCALE.
08:00	ZZZZZZ	1		DNR, OFFSCALE.
08:01	ZZZZZZ	1		DNR, OFFSCALE.
08:02	ZZZZZZ	1		
08:04	ZZZZZZ	1		
08:05	ZZZZZZ	1		
08:06	ZZZZZZ	1		
08:07	GN52119-CCV2	1		
08:09	GN52119-CCB2	1		
08:10	ZZZZZZ	1		
08:11	ZZZZZZ	1		
08:12	ZZZZZZ	1		
08:14	ZZZZZZ	1		
08:15	ZZZZZZ	1		
08:16	GP19723-S1	10		
08:17	GP19723-D1	10		
08:19	MC42193-1	10		(sample used for QC only; not part of login MC42178)
08:20	GN52119-CCV3	1		

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Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: 102415W1.NO3 Date Analyzed: 10/24/15 Methods: EPA 353.2
Analyst: MC Run ID: GN52119
Parameters: Nitrogen, Nitrate + Nitrite

Time	Sample Description	Dilution Factor	PS Recov	Comments
08:21	GN52119-CCB3	1		
08:22	GN52119-ICV2	1		
08:24	GN52119-ICB2	1		
08:25	GN52119-CCV4	1		
08:26	GN52119-CCB4	1		
08:27	ZZZZZZ	1		COLUMN EFFICIENCY STD.
08:28	GP19724-MB1	1		
08:30	GP19724-B1	1		
08:31	GP19724-S1	1		
08:32	GP19724-D1	1		
08:33	MC42193-3	1		(sample used for QC only; not part of login MC42178)
08:35	ZZZZZZ	1		
08:36	ZZZZZZ	1		
08:37	ZZZZZZ	1		
08:38	ZZZZZZ	1		
08:40	GN52119-CCV5	1		
08:41	GN52119-CCB5	1		
08:42	MC42178-7	1		
08:43	MC42178-8	1		
08:45	MC42178-10	1		
08:46	MC42178-11	1		
08:47	ZZZZZZ	1		
08:48	GN52119-CCV6	1		
08:50	GN52119-CCB6	1		
08:51	GN52119-ICV3	1		
08:52	GN52119-ICB3	1		
08:53	GN52119-CCV7	1		
08:55	GN52119-CCB7	1		
08:56	ZZZZZZ	1		COLUMN EFFICIENCY STD.
08:57	GP19725-MB1	1		
08:58	GP19725-B1	1		
09:00	GP19725-S1	1		
09:01	GP19725-D1	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: 102415W1.NO3 Date Analyzed: 10/24/15 Methods: EPA 353.2
Analyst: MC Run ID: GN52119
Parameters: Nitrogen, Nitrate + Nitrite

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:02	MC42204-3	1		(sample used for QC only; not part of login MC42178)
09:03	ZZZZZZ	1		
09:04	ZZZZZZ	1		DNR, OFFSCALE.
09:06	ZZZZZZ	1		
09:07	ZZZZZZ	1		
09:08	GN52119-CCV8	1		
09:09	GN52119-CCB8	1		
09:11	ZZZZZZ	1		
09:12	ZZZZZZ	1		
09:13	ZZZZZZ	1		
09:14	ZZZZZZ	1		
09:16	ZZZZZZ	1		
09:17	ZZZZZZ	10		
09:18	GN52119-CCV9	1		
09:21	GN52119-CCB9	1		

Refer to raw data for calibration curve and standards.

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Instrument QC Summary
Inorganics Analyses

Login Number: MC42178
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

File ID: 102415W1.NO3 Date Analyzed: 10/24/15 Methods: EPA 353.2
Run ID: GN52119 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN52119-ICV1	Nitrogen, Nitrate + Nitrite	3.1	0.10	0.018	3	103.3	90-110
GN52119-ICB1	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-CCV1	Nitrogen, Nitrate + Nitrite	2.1	0.10	0.018	2	105.0	90-110
GN52119-CCB1	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-CCV2	Nitrogen, Nitrate + Nitrite	2.1	0.10	0.018	2	105.0	90-110
GN52119-CCB2	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-CCV3	Nitrogen, Nitrate + Nitrite	2.1	0.10	0.018	2	105.0	90-110
GN52119-CCB3	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-ICV2	Nitrogen, Nitrate + Nitrite	3.1	0.10	0.018	3	103.3	90-110
GN52119-ICB2	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-CCV4	Nitrogen, Nitrate + Nitrite	2.1	0.10	0.018	2	105.0	90-110
GN52119-CCB4	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-CCV5	Nitrogen, Nitrate + Nitrite	2.1	0.10	0.018	2	105.0	90-110
GN52119-CCB5	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-CCV6	Nitrogen, Nitrate + Nitrite	2.1	0.10	0.018	2	105.0	90-110
GN52119-CCB6	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-ICV3	Nitrogen, Nitrate + Nitrite	3.2	0.10	0.018	3	106.7	90-110
GN52119-ICB3	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-CCV7	Nitrogen, Nitrate + Nitrite	2.1	0.10	0.018	2	105.0	90-110
GN52119-CCB7	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-CCV8	Nitrogen, Nitrate + Nitrite	2.1	0.10	0.018	2	105.0	90-110
GN52119-CCB8	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			
GN52119-CCV9	Nitrogen, Nitrate + Nitrite	2.1	0.10	0.018	2	105.0	90-110
GN52119-CCB9	Nitrogen, Nitrate + Nitrite	0.018 U	0.10	0.018			

(!) Outside of QC limits

New England ACCUTEST LABORATORIES

General Chemistry

Raw Data

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ACCUTEST

Protected Worksheet MGN 106-03
(Format edits must be done by Dept.Manager)

Test:	Nitrogen, Nitrite		Analyst:	CRYSTALL
Product:	NO2		GN Batch ID:	GN52037
Method:	SM 21TH 4500 NO2 B (Aqueous) ◉	Units: mg/l as N	GP Batch ID:	GP19693
	SM 21TH 4500 NO2 B M (Solids) ○	mg/kg as	Date:	10/14/2015
			Instrument ID:	spectronic 543nm

Original Calibration Information — Calibration Date: 10/14/2015

	Blank	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Std 7	Std 8	Std 9	Std 10
Known:	0.00	0.01	0.02	0.05	0.10	0.20	0.40				
Absorbance:	0.000	0.037	0.071	0.173	0.335	0.680					
Actual Value:	-0.001	0.010	0.020	0.051	0.099	0.201					

Reagents & Standards Log

Calib STD	GNSTD-39116-NO2	Reagent	RGT-46121-NO2
CCV	GNSTD-39116-NO2-5	Reagent	
ICV	GNSTD-39117-NO2-2	Reagent	
pH paper	LOT # 216814	Reagent	
Filter paper	LOT#40731102	Reagent	

Correlation Coeff. = 0.99994
Slope = 0.29562
Intercept = -0.00052
pH METER ID (if used): N/A

Dup Sample ID:	MC42173-1	Orig:	<0.010	Dup:	<0.010	RPD:	0%		
MS Sample ID:	MC42173-1	Orig:	<0.010	Spike Amt:	0.02	MS Res:	0.22	% Rec:	110%
MB Prep Date:	10/14/15			RL:	0.01	<RL ?:	Y		
SB Prep Date:	10/14/15	Res:	0.022	Spike Amt:	0.02	% Rec:	110%		
SB Prep Date:	10/14/15	Res:		Spike Amt:	0.02	% Rec:			
ICV:	SEE ABOVE	Control Limit:	10% +/-	Known:	0.1	Res:	0.103	% Rec:	103%
CCV (1) Res:	0.203	Known:	0.20	% Rec:	102%	CCV (2) Res:	0.2	Known: 0.20	% Rec: 100%
CCV (3) Res:	0.2	Known:	0.20	% Rec:	100%	CCV (4) Res:	0.2	Known: 0.20	% Rec: 100%
CCV (5) Res:		Known:	0.20	% Rec:		CCV (6) Res:		Known: 0.20	% Rec:

Time Analyzed	Sample ID	pH	Bottle #	Initial Wt (g) or Vol (ml)	Final Vol (ml)	Dilution	Sample Abs	Background Abs.	Result From Curve (mg/L)	Final Result	DL
	ICV	N/A		50	50	1	0.351	0.000	0.103	0.1032	0.010
17:15	CCV	N/A		50	50	1	0.689	0.000	0.203	0.2032	0.010
17:38	CCB	N/A		50	50	1	0.002	0.000	0.000	0.0001	0.010
17:38	GP19693-MB1	N/A		50	50	1	0.001	0.000	0.000	-0.0002	0.010
17:38	GP19693-B1	N/A		50	50	1	0.075	0.000	0.022	0.0217	0.010
17:38	GP19693-S1	5	1	50	50	1	0.076	0.000	0.022	0.0219	0.010
17:38	GP19693-D1	5	1	50	50	1	0.003	0.000	0.000	0.0004	0.010
17:38	MC42173-1	5	1	50	50	1	0.004	0.000	0.001	0.0007	0.010
17:38	MC42160-3	5	1	50	50	1	0.006	0.000	0.001	0.0013	0.010
17:38	MC42160-4	6	1	50	50	1	0.006	0.000	0.001	0.0013	0.010
17:38	MC42160-5	5	1	50	50	1	0.029	0.000	0.008	0.0081	0.010
17:38	MC42160-6	7	1	50	50	1	0.006	0.000	0.001	0.0013	0.010
17:38	MC42160-7	5	1	50	50	1	0.007	0.000	0.002	0.0015	0.010
17:38	CCV	N/A		50	50	1	0.683	0.000	0.201	0.2014	0.010
17:40	CCB	N/A		50	50	1	0.002	0.000	0.000	0.0001	0.010
17:40	MC42160-9	6	1	50	50	1	0.004	0.000	0.001	0.0007	0.010
17:40	MC42160-12	7	1	50	50	1	0.010	0.000	0.002	0.0024	0.010
17:40	CCV	N/A		50	50	1	0.683	0.000	0.201	0.2014	0.010
18:00	CCB	N/A		50	50	1	0.002	0.000	0.000	0.0001	0.010
18:00	MC42178-8	6	8	50	50	1	0.004	0.000	0.001	0.0007	0.010
18:00	MC42178-7	6	8	50	50	1	0.007	0.000	0.002	0.0015	0.010
18:00	MC42178-10	6	8	50	50	1	0.005	0.000	0.001	0.0010	0.010
18:00	MC42178-11	6	8	50	50	1	0.005	0.000	0.001	0.0010	0.010
18:00	CCV	N/A		50	50	1	0.680	0.000	0.201	0.2005	0.010
	CCB	N/A		50	50	1	0.000	0.000	-0.001	-0.0005	0.010

cw 10/14/15

Analyst: Crystall Date: 10/14/15 QC Reviewer: Date: 10/15/15

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ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN52066
Date: 10/19/15
Analyst: BIJANF

Reagents	Normality	Reagent LOT#
Sod. Thiosulfate :	0.025	VENDOR-15472
Iodine	0.025	RGT-46032-SREAC
HCl	6N	RGT-46033-S
External QC- ICV:		GNSTD-39147-S-1
Starch lot#		VENDOR-15467
Spike Lot#		GNSTD-39146-S-1

Iodine Standardization

	Ml Iodine	Start Titrant	End Titrant	Total ML	Ave. Ml of Titrant
STD#1	5	0	5	5	5
STD#2	5	5	10	5	

MS Sample ID	MC42263-1	Original:	<2
Dup Sample ID:	MC42263-1	Original:	<2
Method Blank Date	10/19/2015	Result:	<2
Spk Blk Date:	10/19/15	Result:	13
External QC (ICV):	GNSTD-39147-S-1	Cont.Limit	90-110

MS:	13	Spk Amt	13.4	%REC	97%
Duplicate:	<2	RPD:	0.0%		
RL:	2	<MDL?	Y		
SPK AMT.	13.4	%Rec	97.0%		
Known	13.40	Res	13	%REC	97%

Bottle #	Sample ID	Iodine (ML)	(VOL) (ML)	Initial Reading for titrant (ML)	Final Reading for titrant (ML)	Titrant Total (ML)	Result (mg/l)	Final Result (mg/l)	RL
	GN52066-MB1	5	200	0	5	5.00	0.0	<2	2
	GN52066-B1	20	200	5	18.5	13.50	13.0	13.0	2
	GN52066-S1	20	200	18.5	32	13.50	13.0	13.0	2
	GN52066-D1	5	200	32	37	5.00	0.0	<2	2
	MC42263-1	5	200	37	42	5.00	0.0	<2	2
3	MC42160-3	5	258	42	47	5.00	0.0	<2	2
3	MC42160-4	5	260	0	5	5.00	0.0	<2	2
3	MC42160-5	5	260	5	10	5.00	0.0	<2	2
3	MC42160-6	5	260	10	15	5.00	0.0	<2	2
3	MC42160-7	5	250	15	20	5.00	0.0	<2	2
3	MC42160-9	5	255	20	25	5.00	0.0	<2	2
10	MC42178-7	5	255	25	30	5.00	0.0	<2	2
10	MC42178-8	5	250	30	35	5.00	0.0	<2	2
10	MC42178-10	5	255	35	40	5.00	0.0	<2	2
	ICVCONF	20	200	0	13.5	13.50	13.0	13.0	2

10-19-15 BJ

Analyst: BJ Date: 10-19-15 QC Reviewer: [signature] Date: 10-19-15

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN52067
Date: 10/19/15
Analyst: BIJANF

Reagents	Normality	Reagent LOT#
Sod. Thiosulfate :	0.025	VENDOR-15472
Iodine	0.025	RGT-46032-SREAC
HCl	6N	RGT-46033-S
External QC- ICV:		GNSTD-39147-S-1
Starch lot#		VENDOR-15467
Spike Lot#		GNSTD-39146-S-1

Iodine Standardization

	Ml Iodine	Start Titrant	End Titrant	Total ML	Ave. Ml of Titrant
STD#1	5	0	5	5	5
STD#2	5	5	10	5	

MS Sample ID	MC42202-11
Dup Sample ID:	MC42202-11
Method Blank Date	10/19/2015
Spk Blk Date:	10/19/15
External QC (ICV):	GNSTD-39147-S-1

Original:	<2
Original:	<2
Result:	<2
Result:	12.8
Cont.Limit	90-110

MS:	9.8	Spk Amt	10.3	%REC	105%
Duplicate:	<2	RPD:	0.0%		
RL:	2	<MDL?	y		
SPK AMT.	13.4	%Rec	95.5%		
Known	13.40	Res	13	%REC	97%

Bottle #	Sample ID	Iodine (ML)	(VOL) (ML)	Initial Reading for titrant (ML)	Final Reading for titrant (ML)	Titrant Total (ML)	Result (mg/l)	Final Result (mg/l)	RL
	GN52067-MB1	5	200	0	5	5.00	0.0	<2	2
	GN52067-B1	20	200	5	18.6	13.60	12.8	12.8	2
31	GN52067-S1	20	260	18.6	32.2	13.60	9.8	9.8	2
30	GN52067-D1	5	260	32.2	37.2	5.00	0.0	<2	2
10	MC42202-11	5	260	37.2	42.2	5.00	0.0	<2	2
10	MC42202-1	5	260	42.2	47.2	5.00	0.0	<2	2
10	MC42202-3	5	260	0	5	5.00	0.0	<2	2
10	MC42202-4	5	260	5	10	5.00	0.0	<2	2
10	MC42202-5	5	260	10	15	5.00	0.0	<2	2
10	MC42202-6	5	260	15	20	5.00	0.0	<2	2
10	MC42202-12	5	260	20	25	5.00	0.0	<2	2
10	MC42231-6	5	260	25	30	5.00	0.0	<2	2
10	MC42231-10	5	260	30	35	5.00	0.0	<2	2
10	MC42178-11	5	260	35	39	4.00	1.5	<2	2
	ICVCONF	20	200	0	13.5	13.50	13.0	13.0	2
	LOD4CONF	5	200	0	4.6	4.60	0.8	<2	2
	LOQ4CONF	5	200	0	4	4.00	2.0	<2	2

10-19-15 BJ

Analyst: BJ Date: 10-19-15 QC Reviewer: [signature] Date: 10-19-15

ACCUTEST

Protected Worksheet MGN 115-02
(Format edits must be done by Dept. Manager)

SULFIDE
METHOD: SM21 4500 SF

GN Batch: GN52067
Date: 10/19/15

Analyst: BIJANF

Reagents	Normality	Reagent LOT#
Sod. Thiosulfate :	0.025	VENDOR-15472
Iodine	0.025	RGT-46032-SREAC
HCl	6N	RGT-46033-S

Iodine Standardization

	Ml Iodine	Start Titrant	End Titrant	Total ML	Ave. Ml of Titrant
STD#1	5	0	5	5	5

Comments:
LOD4 TV : 1.02 MG/L (3.8 ML OF 53.7 PPM GNSTD-39148-S-1) TO 200 ML OF DI H2O.
LOQ4 TV : 2.0 MG/L. (0.745 ML OF GNSTD-39146-S-1) TO 200 ML OF DI H2O.

Analyst: [signature] Date: 10-19-15 QC Reviewer: [signature] Date: 10-19-15

ACCUTEST LABORATORIES

Alkalinity

GN Batch ID:	**GN52114**
Analyst:	MIRANDAC
Analysis Date:	10/23/2015
Method:	SM21 2320B
Units:	mg/L

QC Summary:

MS Sample ID: MC42193-3 Original: 536 MS: 774 Spk Amt: 250

Dup Sample ID: MC42193-3 Original: 536 Duplicate: 545 % RPD:

MB Date: 10/23/2015 Result: <5.0 RL: 5.0 < RL?: Y

Spike blank: 256 Spike Amt: 250 % Rec: 102.4

External QC (ICV) GNSTD-37927-ALK-1 Cont. Limit: 90-110% Known 50.0 Res: 52.5

Sulfuric Normality: 0.0206 pH Meter ID: 520A ORION

Bottle #	Sample ID	Sample Volume (ml)	Initial pH	Initial Reading for Titrant in ml (D)	Final pH 4.5 reading for titrant in ml (E)	Total vol of Titrant to pH 4.5 in ml (E - D = A)	Volume used from 4.5 to 4.2 in mls (F)	Total vol of Titrant to pH 4.2 in ml (F + A = C)	Result (mg/L)
	GN52114-MB1	100	5.67	0.0	0.1	0.1			1.0
	GN52114-B1	100	8.85	0.1	25.0	24.9			256.5
9	GN52114-S1	100	6.71	25.0	100.1	75.1			773.5
9	GN52114-D1	100	6.70	0.1	53.0	52.9			544.9
9	MC42193-3	100	6.70	3.0	55.0	52.0			535.6
8	MC42178-7	100	6.47	5.0	37.7	32.7			336.8
8	MC42178-8	100	6.30	37.7	53.3	15.6			160.7
8	MC42178-10	100	6.48	3.3	30.2	26.9			277.1
8	MC42178-11	100	6.22	30.2	72.3	42.1			433.6
9	MC42193-4	100	6.76	22.3	76.5	54.2			558.3
9	MC42193-5	100	7.06	26.5	55.6	29.1			299.7
9	MC42193-6	100	6.73	5.6	59.0	53.4			550.0
9	MC42202-1	100	6.81	9.0	32.6	23.6			243.1
9	MC42220-1	100	7.06	32.6	76.0	43.4			447.0
	ICV	100	8.67	0.0	5.1	5.1			52.5

‹ Amt: 250 % Rec: 95%

% RPD: 2%

Res: 52.5 % REC: 105.0

Result (mg/L)	Final Result (mg/L)	RL
1.0	<5	5
256.5	256.47	5
773.5	773.53	5
544.9	544.87	5
535.6	535.6	5
336.8	336.81	5
160.7	160.68	5
277.1	277.07	5
433.6	433.63	5
558.3	558.26	5
299.7	299.73	5
550.0	550.02	5
243.1	243.08	5
447.0	447.02	5
52.5	52.53	5

13.4

13

ACCUTEST LABORATORIES

Alkalinity

	Reagent Lot #	pH Calib Verification (+/- 1 5%)	
#1			
#2			
#3			
#4			
#5			

Calculation for samples > 20 mg/l

$$ALK = \frac{A \times N \times 50000}{\text{Sample Vol}}$$

Calculation for samples < 20 mg/l

$$ALK = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$$

Comments:

Approved By: crystall   Date: 10/23/2015 5:24:29 PM

13.4

13

Page 2 of 2

Calculation for samples < 20 mg/l

$$\text{ALK} = \frac{(2A-C) \times N \times 50000}{\text{Sample Vol}}$$

ACCUTEST

Protected Worksheet MGN117-03
(Format edits must be done by Dept. manager)

Analyst	CRYSTALL	Test/Analysis	TOC SW846 9060A
Date	10/23/15	Analysis Batch ID	GN52118
Instrument ID	TOC/shimadzu	Prep Batch ID	GP19721,GP19722
File ID	TOC102315W1.TXT		

Reagents

Calib STD	GNSTD-	39184-TOC	2 M HCL	RGT-	44554-TOC
ICV	GNSTD-	39185-TOC-1			
CCV	GNSTD-	39185-TOC-2			
Sparger check STD	GNSTD-	39185-TOC			
1:1 Phosphoric Acid	RGT-	45805-TOC			

Standardization

Reagent/Stock Std:	NA ◉	Cyanide ○	
-	-	-	-

Sample ID	Bot#	pH	Sample ID	Bot#	pH	Sample ID	Bot#	pH	Sample ID	Bot#	pH
GP19721-S1	1	<2	MC42178-8	7	<2	MC42202-4	4	<2			
GP19721-D1	2	<2	MC42178-10	6	<2	MC42202-5	2	<2			
MC42426-1	3	<2	GP19722-S1	20	<2	MC42202-6	4	<2			
MC42160-3	6	<2	GP19722-D1	12	<2	MC42202-12	2	<2			
MC42160-4	6	<2	MC42202-11	15	<2						
MC42160-5	6	<2	MC42178-11	6	<2						
MC42160-6	6	<2	MC42178-12	6	<2						
MC42160-7	6	<2	MC42231-6	7	<2						
MC42160-9	6	<2	MC42202-11	5	<2						
MC42178-7	6	<2	MC42202-3	4	<2						

COMMENTS

QC Review

Date: 10/26/15

TOC-Control L Report

Wetchem
toc102315w1.tlx

Instr.Information

Instrument Options	TOC/ASI/
Catalyst	Regular Sensitivity

Cal. Curve

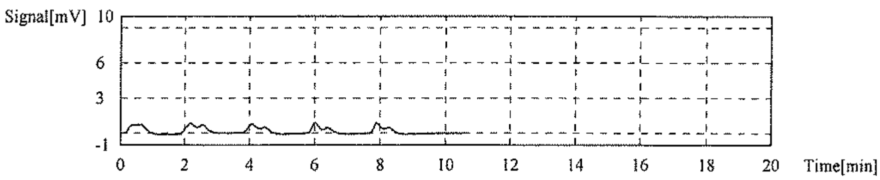
Sample Name:	STD
Sample ID:	
Cal. Curve:	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal
Status	Completed

Type	Anal
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj Vol	Aut Dil	Rem	Ex	Date / Time
1	2.773	100uL	1.000	*******	E	10/23/2015 6:56:20 PM
2	2.087	100uL	1.000	*******		10/23/2015 6:58:31 PM
3	2.032	100uL	1.000	*******		10/23/2015 7:00:41 PM
4	2.327	100uL	1.000	*******		10/23/2015 7:02:46 PM
5	1.836	100uL	1.000	*******		10/23/2015 7:05:52 PM

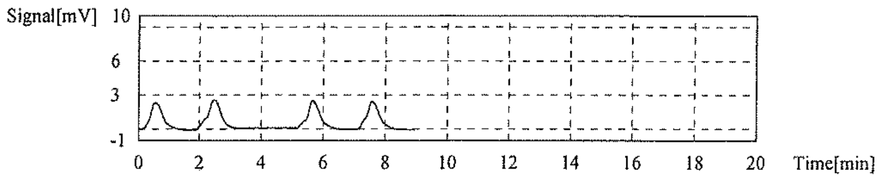
Acid Add.	1.500%
Sparge Gas Flow	77ml
Sp. Time	90.00sec
Mean Area	2.071



Conc: 1.000mg/L

No.	Area	Inj Vol	Aut Dil	Rem	Ex	Date / Time
1	6.863	100uL	1.000	*******		10/23/2015 7:14:02 PM
2	6.903	100uL	1.000	*******		10/23/2015 7:17:31 PM
3	6.605	100uL	1.000	*******		10/23/2015 7:19:41 PM
4	7.200	100uL	1.000	*******		10/23/2015 7:21:46 PM

Acid Add.	1.500%
Sparge Gas Flow	77ml
Sp. Time	90.00sec
Mean Area	6.893



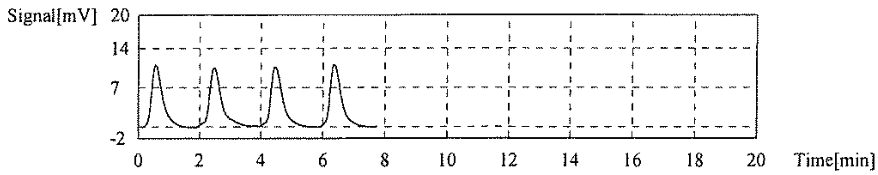
Conc: 5.000mg/L

No.	Area	Inj Vol	Aut Dil	Rem	Ex	Date / Time
1	28.50	100uL	1.000	*******		10/23/2015 7:30:05 PM
2	28.54	100uL	1.000	*******		10/23/2015 7:32:21 PM
3	28.73	100uL	1.000	*******		10/23/2015 7:34:30 PM
4	29.47	100uL	1.000	*******		10/23/2015 7:36:36 PM

TOC-Control L Report

Wetchem
toc102315w1.tlx

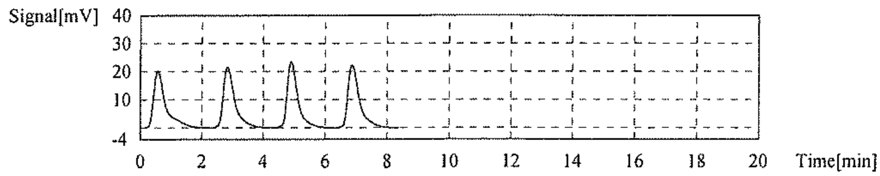
Acid Add. 1.500%
Sparge Gas Flow 77ml
Sp. Time 90.00sec
Mean Area 28.81



Conc: 10.00mg/L

No.	Area	Inj Vol.	Aut. Dil	Rem.	Ex.	Date / Time
1	56.80	100uL	1.000	*******		10/23/2015 7:45:16 PM
2	58.66	100uL	1.000	*******		10/23/2015 7:47:32 PM
3	57.92	100uL	1.000	*******		10/23/2015 7:49:43 PM
4	58.88	100uL	1.000	*******		10/23/2015 7:51:58 PM

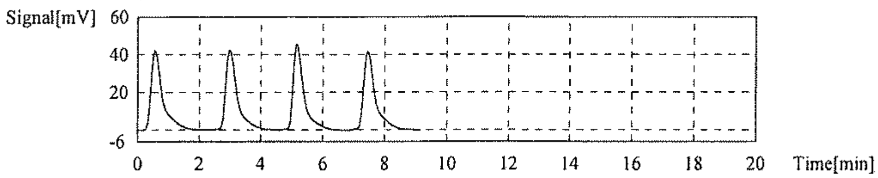
Acid Add. 1.500%
Sparge Gas Flow 77ml
Sp. Time 90.00sec
Mean Area 58.06



Conc: 20.00mg/L

No.	Area	Inj Vol.	Aut. Dil	Rem.	Ex.	Date / Time
1	111.5	100uL	1.000	*******		10/23/2015 8:00:48 PM
2	112.7	100uL	1.000	*******		10/23/2015 8:03:15 PM
3	112.9	100uL	1.000	*******		10/23/2015 8:05:46 PM
4	112.4	100uL	1.000	*******		10/23/2015 8:08:18 PM

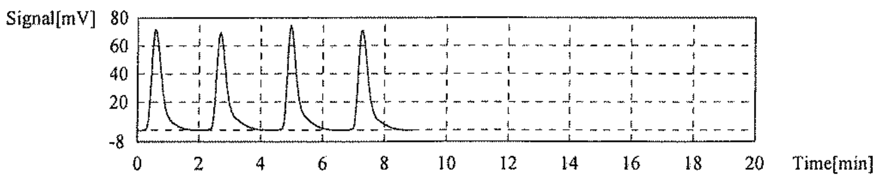
Acid Add. 1.500%
Sparge Gas Flow 77ml
Sp. Time 90.00sec
Mean Area 112.4



Conc: 30.00mg/L

No.	Area	Inj Vol.	Aut. Dil	Rem.	Ex.	Date / Time
1	171.4	100uL	1.000	*******		10/23/2015 8:16:49 PM
2	173.9	100uL	1.000	*******		10/23/2015 8:19:22 PM
3	174.6	100uL	1.000	*******		10/23/2015 8:21:54 PM
4	176.1	100uL	1.000	*******		10/23/2015 8:24:17 PM

Acid Add. 1.500%
Sparge Gas Flow 77ml
Sp. Time 90.00sec
Mean Area 174.0



Conc: 40.00mg/L

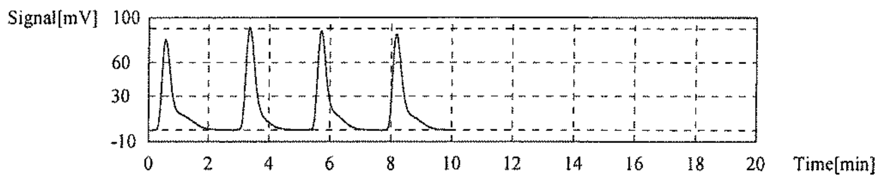
13.5
13

TOC-Control L Report

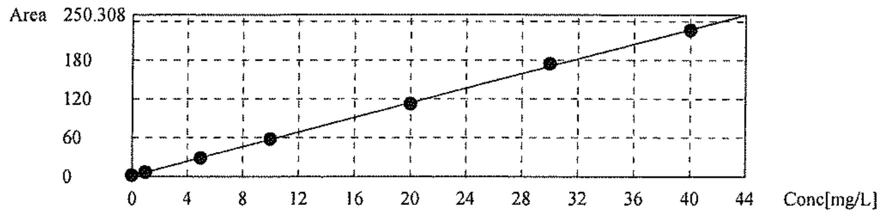
Wetchem
toc102315wl.tlx

No	Area	Inj. Vol	Aut. Dil	Rem	Ex	Date / Time
1	223.9	100uL	1.000	*******		10/23/2015 8:33:26 PM
2	227.0	100uL	1.000	*******		10/23/2015 8:36:04 PM
3	227.2	100uL	1.000	*******		10/23/2015 8:38:47 PM
4	227.3	100uL	1.000	*******		10/23/2015 8:41:27 PM

Acid Add 1.500%
Sparge Gas Flow 77ml
Sp. Time 90.00sec
Mean Area 226.4



Slope: 5.657
Intercept 1.275
r^2 0.9996
r 0.9998
Zero Shift No



Sample

Sample Name: ICV
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

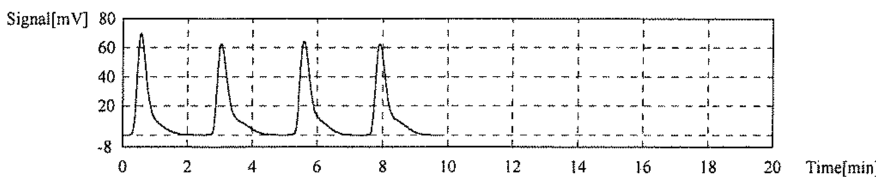
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:30.66mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil	Ex	Cal. Curve	Date / Time
1	174.2	30.57mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 8:50:29 PM
2	175.5	30.80mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 8:53:17 PM
3	174.5	30.62mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 8:55:52 PM
4	174.7	30.66mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 8:58:30 PM

Mean Area 174.7
Mean Conc. 30.66mg/L



13.5
13

TOC-Control L Report

Wetchem
toc102315w1.tlx

Sample

Sample Name: ICB
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

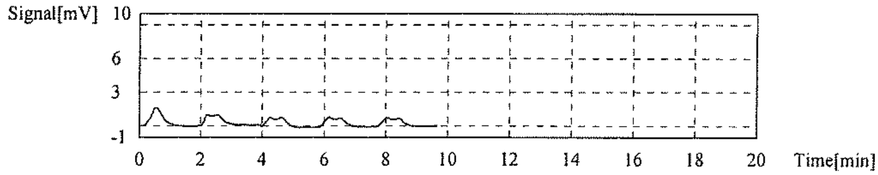
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2893mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil	Ex.	Cal. Curve	Date / Time
1	4.240	0.5241mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:06:49 PM
2	3.978	0.4778mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:09:04 PM
3	2.904	0.2879mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:11:13 PM
4	2.564	0.2278mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:13:23 PM
5	2.201	0.1636mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:15:34 PM

Mean Area 2.912
Mean Conc. 0.2893mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.97mg/L

1. Det

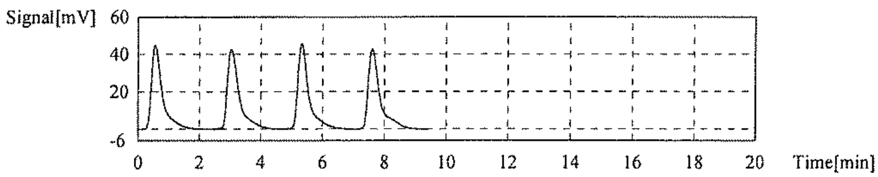
Anal.: NPOC

TOC-Control L Report

Wetchem
toc102315wl.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	112.3	19.63mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:24:22 PM
2	114.8	20.07mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:26:54 PM
3	114.2	19.96mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:29:26 PM
4	115.6	20.21mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:31:59 PM

Mean Area 114.2
Mean Conc. 19.97mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

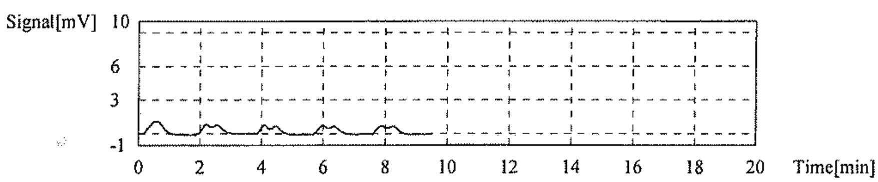
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2088mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.514	0.3957mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:40:16 PM
2	2.892	0.2858mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:42:25 PM
3	2.478	0.2126mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:44:34 PM
4	2.443	0.2064mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:46:44 PM
5	2.013	0.1304mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:48:55 PM

Mean Area 2.457
Mean Conc. 0.2088mg/L



Sample

13.5 13

TOC-Control L Report

Wetchem
toc102315w1.tlx

Sample Name:	SPARGERCHKCONF
Sample ID:	
Origin:	TOC AQ SW846 UP TO 40 PPM.met
Status	Completed
Chk. Result	

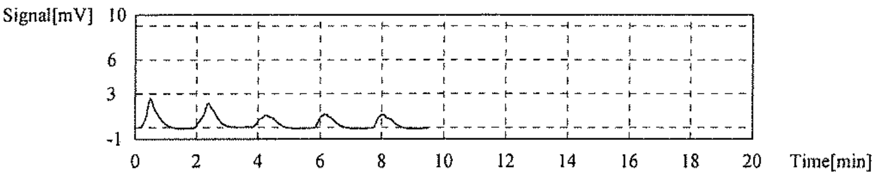
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.5395mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.203	0.8711mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:57:08 PM
2	5.805	0.8007mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 9:59:17 PM
3	3.673	0.4238mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:01:26 PM
4	3.961	0.4748mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:03:31 PM
5	3.871	0.4588mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:05:36 PM

Mean Area 4.328
Mean Conc. 0.5395mg/L



Sample

Sample Name:	GP19721-MB1
Sample ID:	
Origin:	TOC AQ SW846 UP TO 40 PPM.met
Status	Completed
Chk. Result	

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2088mg/L

1. Det

Anal.: NPOC

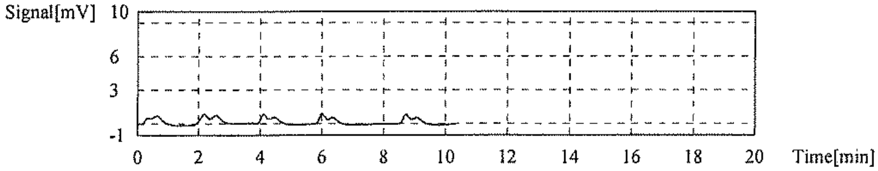
No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.455	0.2085mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:13:47 PM
2	2.477	0.2124mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:15:56 PM
3	2.476	0.2122mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:18:01 PM
4	2.022	0.1320mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:20:55 PM
5	2.419	0.2022mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:23:00 PM

13.5
13

TOC-Control L Report

Wetchem
toc102315w1.tlx

Mean Area 2.457
Mean Conc. 0.2088mg/L



Sample

Sample Name: GP19721-B1
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

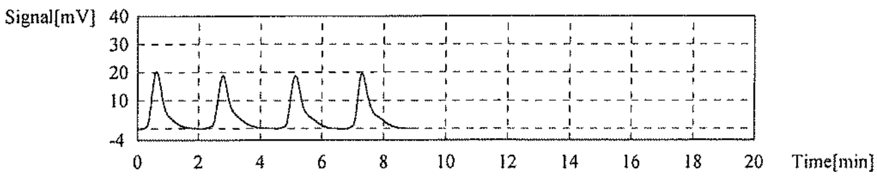
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.978mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex	Cal. Curve	Date / Time
1	56.47	9.757mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:31:26 PM
2	57.80	9.992mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:34:02 PM
3	57.73	9.980mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:36:30 PM
4	58.87	10.18mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:38:56 PM

Mean Area 57.72
Mean Conc. 9.978mg/L



Sample

Sample Name: GP19721-S1
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.02mg/L

1. Det

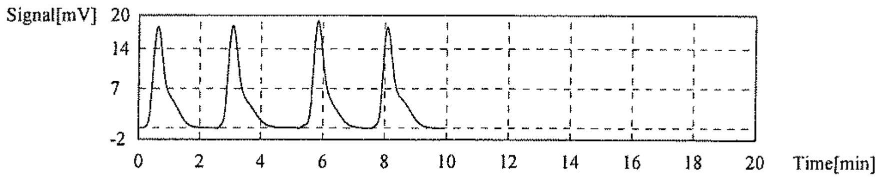
Anal.: NPOC

TOC-Control L Report

Wetchem
toc102315wl.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	57.54	9.946mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:47:49 PM
2	58.90	10.19mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:50:45 PM
3	57.04	9.858mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:53:17 PM
4	58.30	10.08mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 10:55:54 PM

Mean Area 57.95
Mean Conc. 10.02mg/L



Sample

Sample Name: GP19721-S2
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

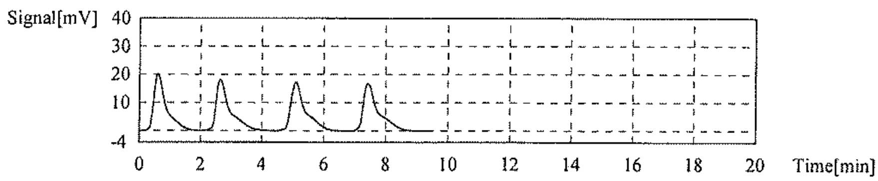
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.943mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	56.83	9.821mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:04:23 PM
2	58.10	10.05mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:07:03 PM
3	56.67	9.792mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:09:40 PM
4	58.48	10.11mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:12:19 PM

Mean Area 57.52
Mean Conc. 9.943mg/L



Sample

13.5
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TOC-Control L Report

Wetchem
toc102315w1.tlx

Sample Name: MC42426-1
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

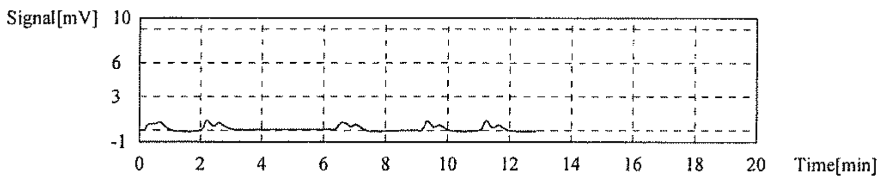
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2700mg/L

1. Det

Anal.: NPOC

No	Area	Conc	Inj Vol	Aut Dil	Ex	Cal Curve	Date / Time
1	2.671	0.2467mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:20:37 PM
2	3.695	0.4277mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:25:14 PM
3	0.9088	-0.06480mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:28:12 PM
4	2.467	0.2107mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:30:17 PM
5	2.379	0.1951mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:32:22 PM

Mean Area 2.803
Mean Conc. 0.2700mg/L



Sample

Sample Name: MC42160-3
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7098mg/L

1. Det

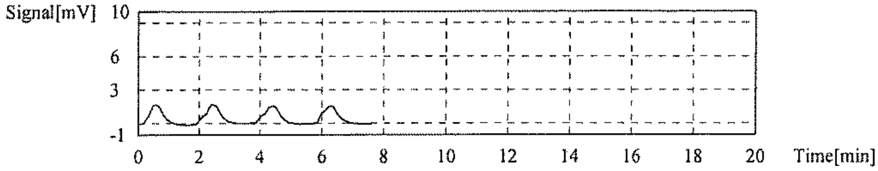
Anal.: NPOC

No	Area	Conc	Inj Vol	Aut Dil	Ex	Cal Curve	Date / Time
1	5.281	0.7081mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:40:36 PM
2	5.083	0.6731mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:42:47 PM
3	5.256	0.7037mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:44:56 PM
4	5.543	0.7544mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:47:01 PM

TOC-Control L Report

Wetchem
toc102315w1.tlx

Mean Area 5.291
Mean Conc. 0.7098mg/L



Sample

Sample Name: MC42160-4
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

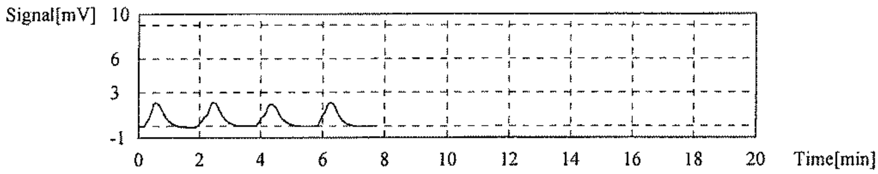
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.9293mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.479	0.9199mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:55:22 PM
2	6.660	0.9519mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:57:31 PM
3	6.303	0.8888mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/23/2015 11:59:40 PM
4	6.688	0.9568mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:01:45 AM

Mean Area 6.533
Mean Conc. 0.9293mg/L



Sample

Sample Name: MC42160-5 (22x dilution)
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1279mg/L

1. Det

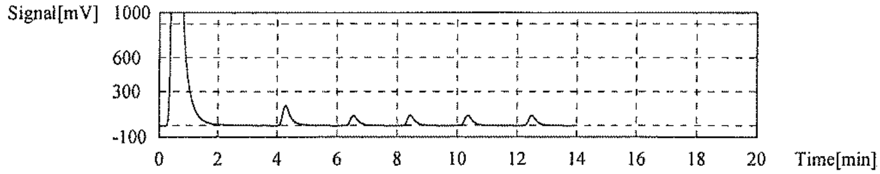
Anal.: NPOC

TOC-Control L Report

Wetchem
toc102315w1.tlx

No	Area	Conc.	Inj Vol	Aut. Dil	Ex.	Cal. Curve	Date / Time
1	4771	843.2mg/L	100uL	1.000	R	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:11:57 AM
2	350.2	1362mg/L	100uL	22.08	R	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:19:17 AM
3	168.3	1283mg/L	51uL	22.08		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:21:26 AM
4	167.8	1279mg/L	51uL	22.08		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:23:31 AM
5	166.6	1270mg/L	51uL	22.08		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:25:55 AM
6	168.4	1284mg/L	51uL	22.08		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:28:00 AM

Mean Area 167.8
Mean Conc. 1279mg/L



Sample

Sample Name: MC42160-6
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

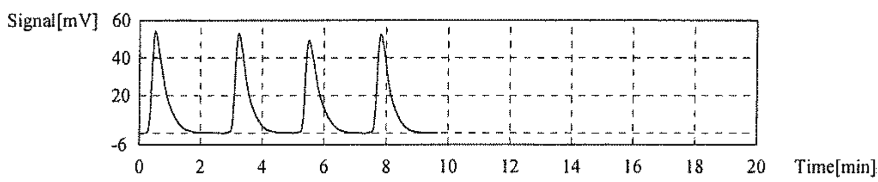
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:26.70mg/L

1. Det

Anal.: NPOC

No	Area	Conc.	Inj Vol	Aut. Dil	Ex.	Cal. Curve	Date / Time
1	158.7	27.83mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:37:02 AM
2	150.6	26.40mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:39:34 AM
3	150.0	26.29mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:42:09 AM
4	149.9	26.27mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:44:46 AM

Mean Area 152.3
Mean Conc. 26.70mg/L



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TOC-Control L Report

Wetchem
toc102315wl.tlx

Sample

Sample Name: CCV
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status: Completed
Chk. Result

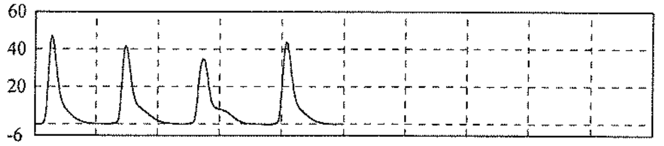
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:20.33mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	118.5	20.72mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:53:37 AM
2	116.2	20.32mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:56:21 AM
3	115.4	20.17mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 12:59:20 AM
4	115.1	20.12mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:01:54 AM

Mean Area 116.3
Mean Conc. 20.33mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status: Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3639mg/L

1. Det

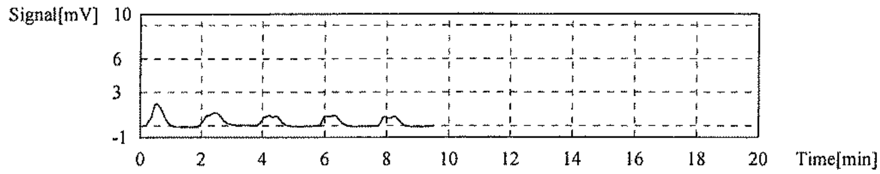
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.220	0.6973mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:10:13 AM
2	3.723	0.4327mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:12:22 AM
3	3.085	0.3199mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:14:31 AM
4	3.410	0.3774mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:16:36 AM
5	3.118	0.3257mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:18:41 AM

TOC-Control L Report

Wetchem
toc102315w1.tlx

Mean Area 3.334
Mean Conc. 0.3639mg/L



Sample

Sample Name: MC42160-7
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

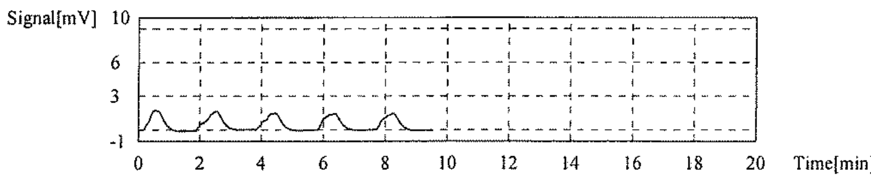
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.7110mg/L

1. Det

Anal.: NPOC

No	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex	Cal. Curve	Date / Time
1	5.594	0.7634mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:26:56 AM
2	4.699	0.6052mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:29:08 AM
3	5.135	0.6823mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:31:17 AM
4	5.334	0.7175mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:33:22 AM
5	5.127	0.6809mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:35:27 AM

Mean Area 5.298
Mean Conc. 0.7110mg/L



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Sample

Sample Name: MC42160-9
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:32.99mg/L

1. Det

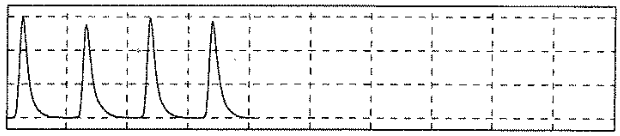
TOC-Control L Report

Wetchem
toc102315w1.tlx

Anal.: NPOC

No	Area	Conc	Inj. Vol	Aut. Dil	Ex	Cal Curve	Date / Time
1	186.8	32.80mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:43:55 AM
2	187.8	32.97mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:46:17 AM
3	186.5	32.74mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:48:35 AM
4	190.6	33.47mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:50:46 AM

Mean Area 187.9
Mean Conc. 32.99mg/L



Sample

Sample Name: MC42178-7
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

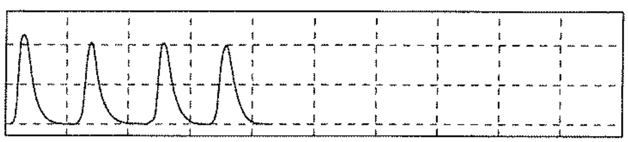
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:8.193mg/L

1. Det

Anal.: NPOC

No	Area	Conc	Inj. Vol	Aut. Dil	Ex	Cal Curve	Date / Time
1	50.06	8.624mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 1:59:20 AM
2	46.52	7.998mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:01:54 AM
3	46.30	7.959mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:04:07 AM
4	47.62	8.193mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:06:26 AM

Mean Area 47.63
Mean Conc. 8.193mg/L



Sample

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13

TOC-Control L Report

Wetchem
toc102315w1.tlx

Sample Name: MC42178-8
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

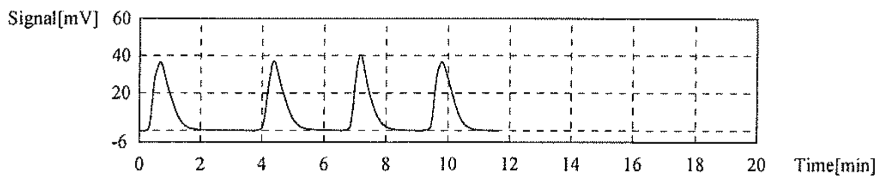
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:24.29mg/L

1. Det

Anal.: NPOC

No	Area	Conc.	Inj. Vol	Aut. Dil	Ex	Cal. Curve	Date / Time
1	142.6	24.98mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:16:33 AM
2	135.7	23.76mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:19:38 AM
3	135.0	23.64mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:22:28 AM
4	141.4	24.77mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:25:15 AM

Mean Area 138.7
Mean Conc. 24.29mg/L



Sample

Sample Name: MC42178-10
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:7.966mg/L

1. Det

Anal.: NPOC

No	Area	Conc.	Inj. Vol	Aut. Dil	Ex	Cal. Curve	Date / Time
1	51.78	8.928mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:33:34 AM
2	47.52	8.175mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:36:02 AM
3	45.60	7.835mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:38:17 AM
4	46.37	7.972mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:40:30 AM
5	45.87	7.883mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:42:41 AM

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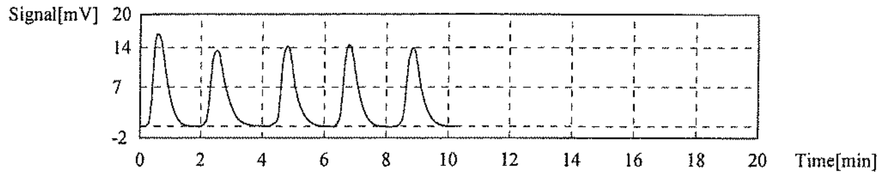
13

TOC-Control L Report

Wetchem
toc102315w1.tlx

Mean Area 46.34
Mean Conc. 7.966mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

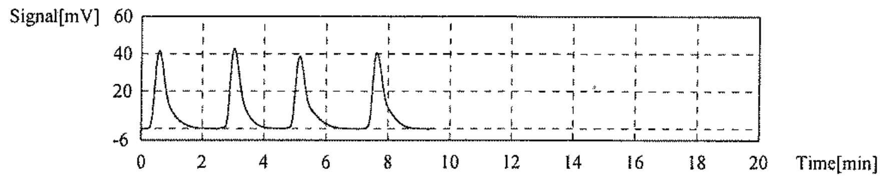
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.96mg/L

1. Det

Anal.: NPOC

No	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal Curve	Date / Time
1	116.7	20.40mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:51:29 AM
2	113.4	19.82mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:53:50 AM
3	112.0	19.57mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:56:35 AM
4	114.6	20.03mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:59:02 AM

Mean Area 114.2
Mean Conc. 19.96mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4336mg/L

1. Det

Anal.: NPOC

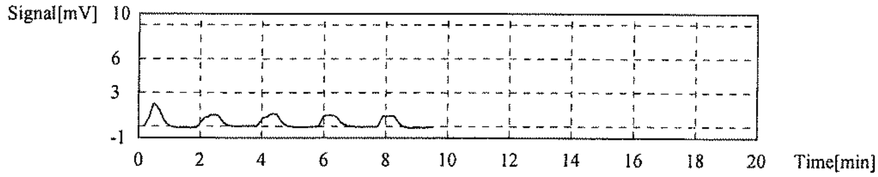
13.5
13

TOC-Control L Report

Wetchem
toc102315wl.tlx

No	Area	Conc	Inj Vol	Aut Dil	Ex	Cal Curve	Date / Time
1	5.142	0.6835mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:07:21 AM
2	3.377	0.3715mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:09:31 AM
3	3.882	0.4608mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:11:40 AM
4	3.922	0.4679mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:13:45 AM
5	3.732	0.4343mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:15:50 AM

Mean Area 3.728
Mean Conc. 0.4336mg/L



Sample

Sample Name: ICV
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

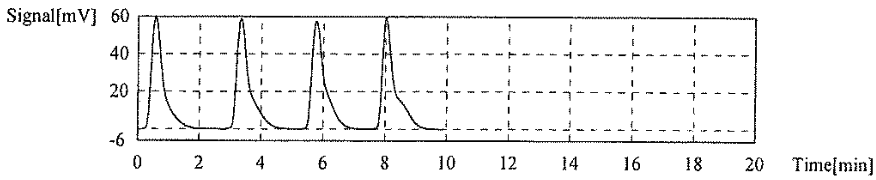
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:29.65mg/L

1. Det

Anal.: NPOC

No	Area	Conc	Inj Vol	Aut Dil	Ex	Cal Curve	Date / Time
1	165.1	28.96mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:24:58 AM
2	169.8	29.79mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:27:39 AM
3	169.5	29.74mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:30:12 AM
4	171.6	30.11mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:32:52 AM

Mean Area 169.0
Mean Conc. 29.65mg/L



Sample

13.5
13

TOC-Control L Report

Wetchem
toc102315wl.tlx

Sample Name: ICB
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status: Completed
Chk. Result

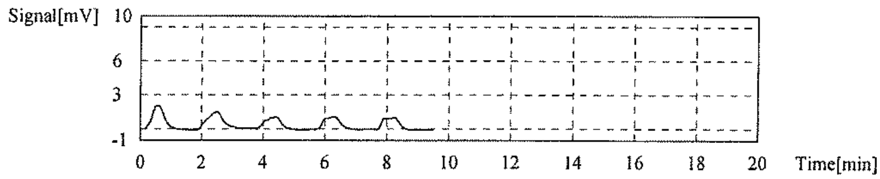
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4805mg/L

1. Det

Anal.: NPOC

No	Area	Conc.	Inj. Vol	Aut. Dil	Ex	Cal. Curve	Date / Time
1	5.717	0.7852mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:41:12 AM
2	4.597	0.5872mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:43:22 AM
3	3.537	0.3998mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:45:33 AM
4	3.932	0.4696mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:47:38 AM
5	3.908	0.4654mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:49:43 AM

Mean Area 3.994
Mean Conc. 0.4805mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status: Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.33mg/L

1. Det

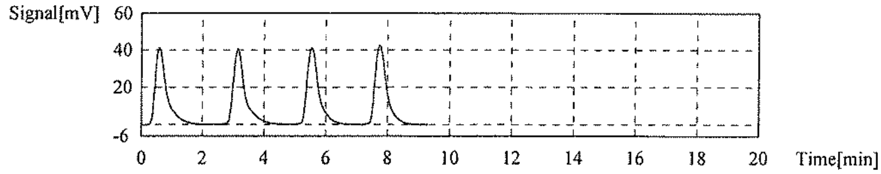
Anal.: NPOC

No	Area	Conc.	Inj. Vol	Aut. Dil	Ex	Cal. Curve	Date / Time
1	109.4	19.11mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:58:37 AM
2	109.5	19.13mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:01:16 AM
3	110.8	19.36mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:03:44 AM
4	112.7	19.70mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:06:08 AM

TOC-Control L Report

Wetchem
toc102315w1.tlx

Mean Area 110.6
Mean Conc. 19.33mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

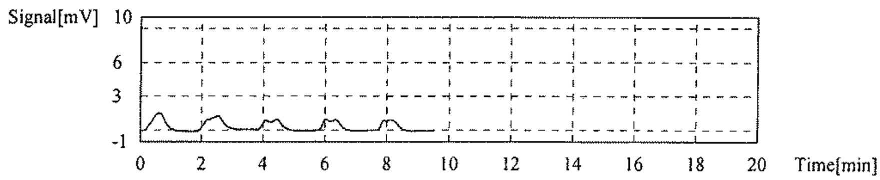
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4040mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.619	0.5911mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:14:28 AM
2	4.184	0.5142mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:16:37 AM
3	3.327	0.3627mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:18:46 AM
4	3.534	0.3993mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:20:51 AM
5	3.198	0.3399mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:22:56 AM

Mean Area 3.561
Mean Conc. 0.4040mg/L



Sample

Sample Name: SPARGERCHKCONF
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4992mg/L

1. Det

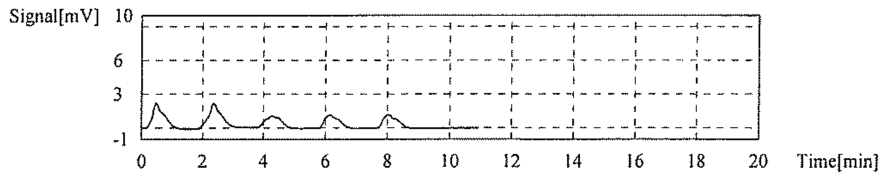
TOC-Control L Report

Wetchem
toc102315w1.tlx

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.822	0.8037mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:31:10 AM
2	5.600	0.7645mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:33:20 AM
3	3.592	0.4095mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:35:29 AM
4	3.846	0.4544mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:37:34 AM
5	3.359	0.3683mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:41:04 AM

Mean Area 4.099
Mean Conc. 0.4992mg/L



Sample

Sample Name: GP19722-MB1
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

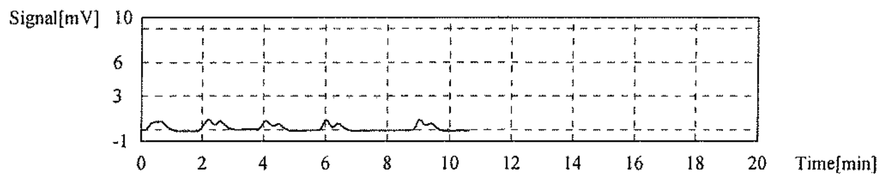
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2109mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.600	0.2342mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:49:20 AM
2	2.537	0.2230mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:51:30 AM
3	2.131	0.1513mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:53:40 AM
4	2.117	0.1488mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:56:52 AM
5	2.606	0.2352mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 4:58:57 AM

Mean Area 2.469
Mean Conc. 0.2109mg/L



TOC-Control L Report

Wetchem
toc102315w1.tlx

Sample

Sample Name: GP19722-B1
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status: Completed
Chk. Result

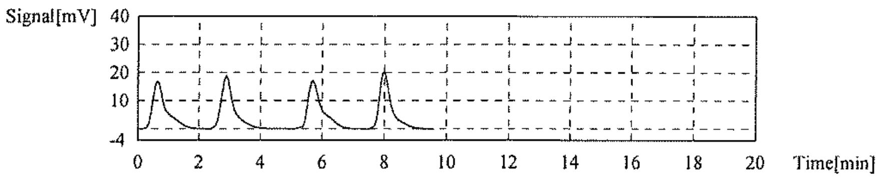
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.438mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	52.48	9.052mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:07:30 AM
2	55.45	9.577mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:10:31 AM
3	55.02	9.501mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:13:04 AM
4	55.72	9.624mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:15:28 AM

Mean Area 54.67
Mean Conc. 9.438mg/L



Sample

Sample Name: GP19722-S1
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status: Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:9.853mg/L

1. Det

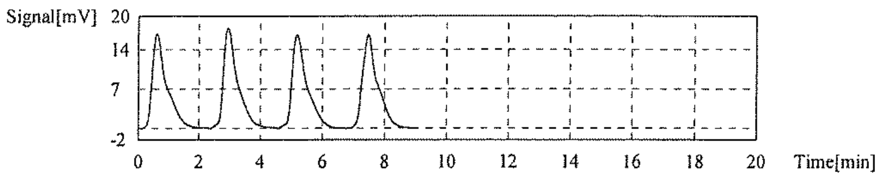
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	56.19	9.707mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:24:13 AM
2	57.31	9.905mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:26:40 AM
3	57.23	9.891mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:29:10 AM
4	57.32	9.907mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:31:29 AM

TOC-Control L Report

Wetchem
toc102315w1.tlx

Mean Area 57.01
Mean Conc. 9.853mg/L



Sample

Sample Name: GP19722-S2
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

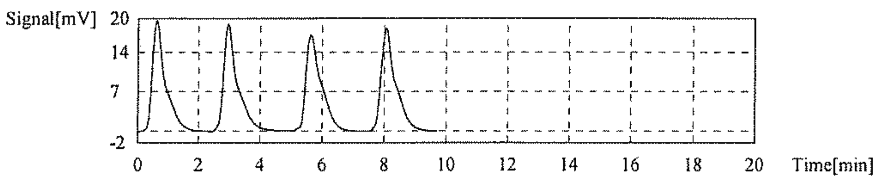
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:10.37mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	59.27	10.25mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:40:15 AM
2	60.55	10.48mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:43:06 AM
3	59.64	10.32mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:45:45 AM
4	60.34	10.44mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:48:12 AM

Mean Area 59.95
Mean Conc. 10.37mg/L



13.5
13

Sample

Sample Name: MC42202-11
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.5023mg/L

1. Det

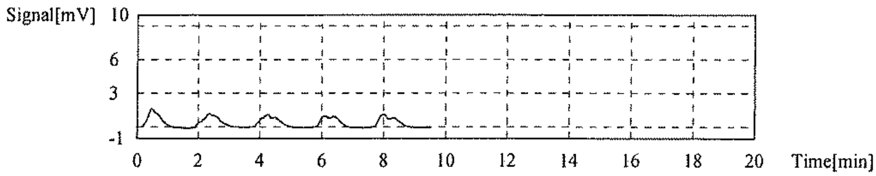
Anal.: NPOC

TOC-Control L Report

Wetchem
toc102315w1.tlx

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.653	0.5971mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:56:34 AM
2	3.109	0.3241mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 5:58:47 AM
3	3.636	0.4173mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:00:57 AM
4	4.115	0.5020mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:03:02 AM
5	4.064	0.4930mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:05:07 AM

Mean Area 4.117
Mean Conc. 0.5023mg/L



Sample

Sample Name: MC42178-11 (2x dilution)
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

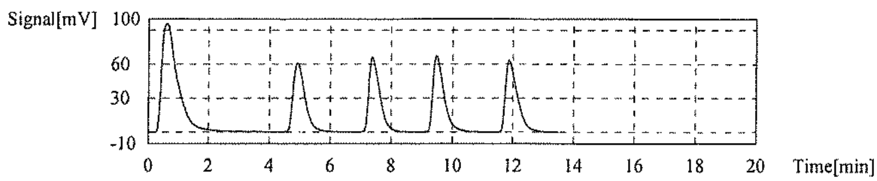
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:61.47mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	360.6	63.52mg/L	100uL	1.000	R	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:15:54 AM
2	170.6	60.09mg/L	50uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:18:40 AM
3	171.0	60.23mg/L	50uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:21:01 AM
4	176.6	62.21mg/L	50uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:23:39 AM
5	179.8	63.34mg/L	50uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:26:01 AM

Mean Area 174.5
Mean Conc. 61.47mg/L



TOC-Control L Report

Wetchem
toc102315w1.tlx

Sample

Sample Name: MC42178-12
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

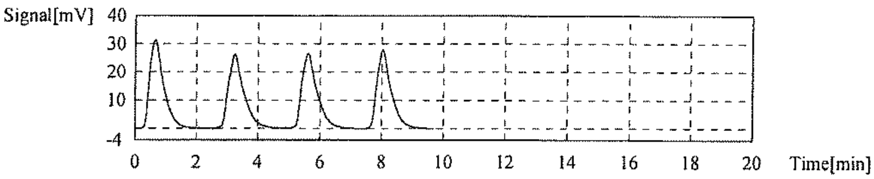
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:16.37mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex	Cal. Curve	Date / Time
1	99.91	17.44mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:34:54 AM
2	91.87	16.01mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:37:32 AM
3	92.34	16.10mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:40:13 AM
4	91.46	15.94mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:42:44 AM

Mean Area 93.90
Mean Conc. 16.37mg/L



Sample

Sample Name: MC42231-6
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:3.243mg/L

1. Det

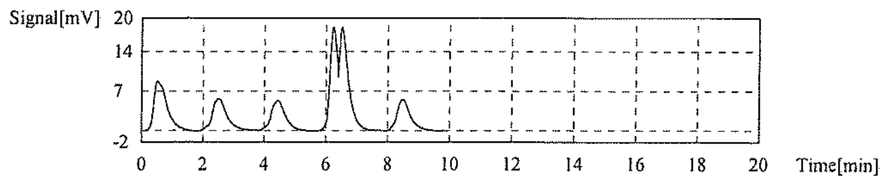
Anal.: NPOC

No.	Area	Conc.	Inj. Vol	Aut. Dil.	Ex	Cal. Curve	Date / Time
1	26.28	4.420mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:51:12 AM
2	18.13	2.979mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:53:21 AM
3	16.94	2.769mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:55:30 AM
4	41.44	7.100mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:57:35 AM
5	17.14	2.804mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 6:59:40 AM

TOC-Control L Report

Wetchem
toc102315wl.tlx

Mean Area 19.62
Mean Conc. 3.243mg/L



Sample

Sample Name: MC42202-1
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

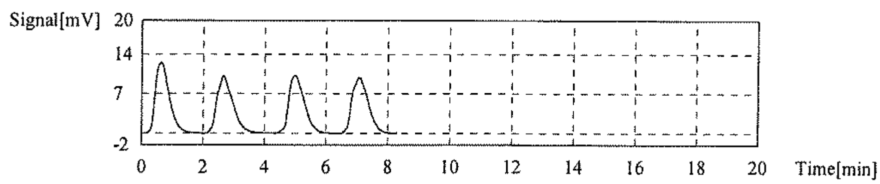
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:6.427mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	39.83	6.815mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:08:02 AM
2	37.37	6.381mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:10:35 AM
3	36.51	6.229mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:12:52 AM
4	36.81	6.282mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:14:58 AM

Mean Area 37.63
Mean Conc. 6.427mg/L



13.5
13

Sample

Sample Name: CCV
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.22mg/L

1. Det

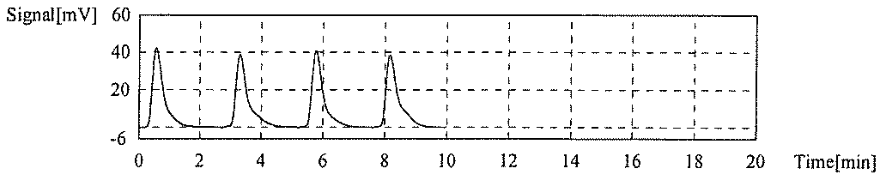
Anal.: NPOC

TOC-Control L Report

Wetchem
toc102315w1.tlx

No.	Area	Conc.	Inj. Vol.	Act. Dil.	Ex.	Cal. Curve	Date / Time
1	111.7	19.52mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:24:14 AM
2	108.7	18.99mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:26:58 AM
3	108.5	18.95mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:29:38 AM
4	111.0	19.40mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:32:13 AM

Mean Area 110.0
Mean Conc. 19.22mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

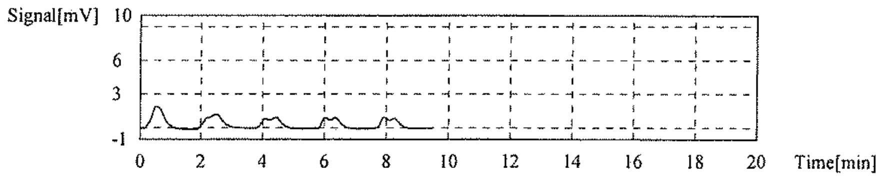
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4031mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Act. Dil.	Ex.	Cal. Curve	Date / Time
1	5.525	0.7512mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:40:38 AM
2	4.127	0.5041mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:42:47 AM
3	3.176	0.3360mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:44:56 AM
4	3.608	0.4124mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:47:01 AM
5	3.311	0.3599mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:49:06 AM

Mean Area 3.555
Mean Conc. 0.4031mg/L



Sample

TOC-Control L Report

Wetchem
toc102315w1.tlx

Sample Name: MC42202-3
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

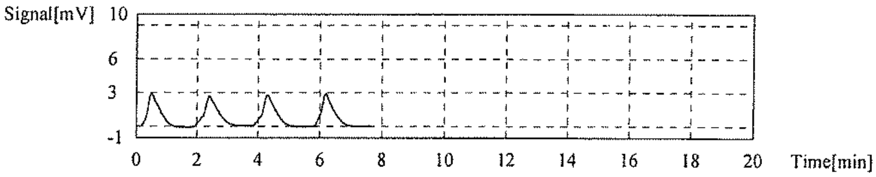
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.146mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj Vol	Aut Dil	Ex	Cal. Curve	Date / Time
1	7.720	1.139mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:57:24 AM
2	7.741	1.143mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 7:59:33 AM
3	7.663	1.129mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:01:42 AM
4	7.899	1.171mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:03:47 AM

Mean Area 7.756
Mean Conc. 1.146mg/L



Sample

Sample Name: MC42202-4
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.940mg/L

1. Det

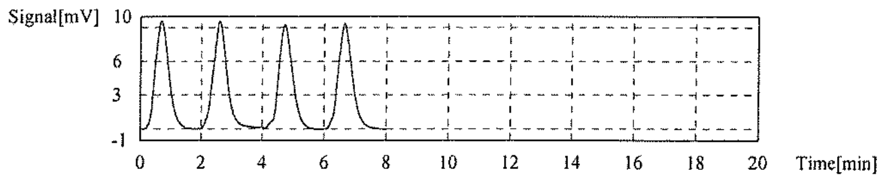
Anal.: NPOC

No.	Area	Conc.	Inj Vol	Aut Dil	Ex	Cal. Curve	Date / Time
1	29.48	4.986mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:12:09 AM
2	29.54	4.996mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:14:30 AM
3	28.24	4.767mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:16:40 AM
4	29.62	5.011mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:18:52 AM

TOC-Control L Report

Wetchem
toc102315wl.tlx

Mean Area 29.22
Mean Conc. 4.940mg/L



Sample

Sample Name: MC42202-5
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

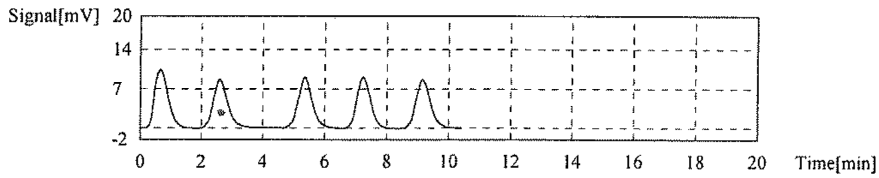
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:4.926mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	32.96	5.601mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:27:14 AM
2	29.36	4.965mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:30:10 AM
3	29.09	4.917mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:32:18 AM
4	29.08	4.915mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:34:23 AM
5	29.04	4.908mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:36:30 AM

Mean Area 29.14
Mean Conc. 4.926mg/L



Sample

Sample Name: MC42202-6
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:1.854mg/L

1. Det

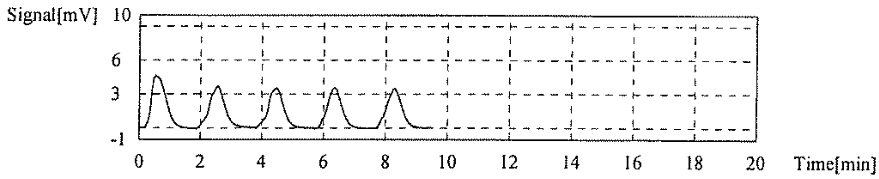
TOC-Control L Report

Wetchem
toc102315w1.tlx

Anal.: NPOC

No.	Area	Conc	Inj. Vol	Aut Dil	Ex	Cal Curve	Date / Time
1	15.21	2.463mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:44:45 AM
2	11.85	1.869mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:46:55 AM
3	11.54	1.815mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:49:04 AM
4	11.80	1.860mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:51:09 AM
5	11.87	1.873mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 8:53:14 AM

Mean Area 11.77
Mean Conc. 1.854mg/L



Sample

Sample Name: MC42202-12
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

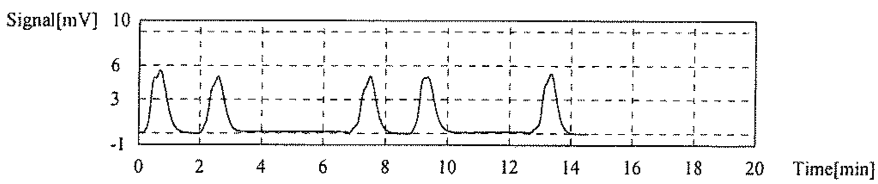
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:2.794mg/L

1. Det

Anal.: NPOC

No.	Area	Conc	Inj. Vol	Aut Dil	Ex	Cal Curve	Date / Time
1	19.00	3.133mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:01:36 AM
2	18.29	3.008mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:06:41 AM
3	16.17	2.633mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:08:50 AM
4	17.77	2.916mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:12:59 AM
5	16.10	2.621mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:15:10 AM

Mean Area 17.08
Mean Conc. 2.794mg/L



13.5
13

TOC-Control L Report

Wetchem
toc102315w1.tlx

Sample

Sample Name: CCV
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

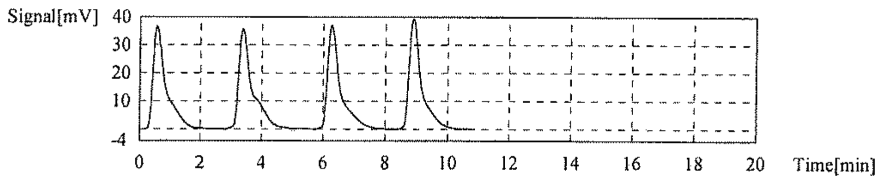
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.44mg/L

1. Det

Anal.: NPOC

No	Area	Conc.	Inj. Vol	Aut. Dil	Ex	Cal. Curve	Date / Time
1	112.0	19.57mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:24:29 AM
2	111.7	19.52mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:27:38 AM
3	110.1	19.24mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:30:30 AM
4	111.1	19.41mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:33:14 AM

Mean Area 111.2
Mean Conc. 19.44mg/L



Sample

Sample Name: CCB
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.4166mg/L

1. Det

Anal.: NPOC

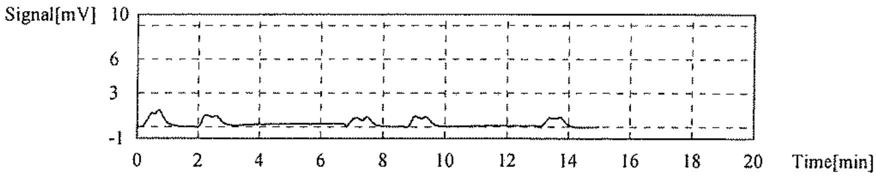
13.5
13

TOC-Control L Report

Wetchem
toc102315w1.tlx

No	Area	Conc	Inj Vol	Aut Dil	Ex	Cal Curve	Date / Time
1	4.890	0.6390mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:41:30 AM
2	5.902	0.8179mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:46:35 AM
3	2.887	0.2849mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:48:44 AM
4	3.834	0.4523mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:53:18 AM
5	2.917	0.2902mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 9:55:27 AM

Mean Area 3.632
Mean Conc. 0.4166mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

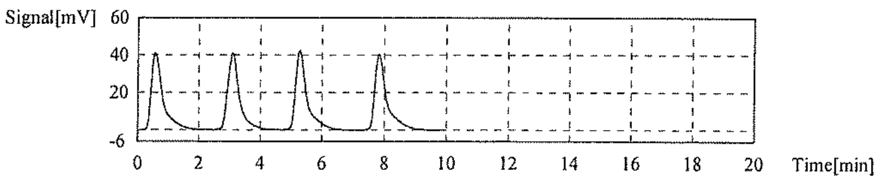
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.47mg/L

1. Det

Anal.: NPOC

No	Area	Conc	Inj Vol	Aut Dil	Ex	Cal Curve	Date / Time
1	109.2	19.08mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:24:25 PM
2	111.0	19.40mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:26:55 PM
3	112.4	19.64mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:29:43 PM
4	113.1	19.77mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:32:26 PM

Mean Area 111.4
Mean Conc. 19.47mg/L



Sample

13.5
13

TOC-Control L Report

Wetchem
toc102315w1.tlx

Sample Name: CCB
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

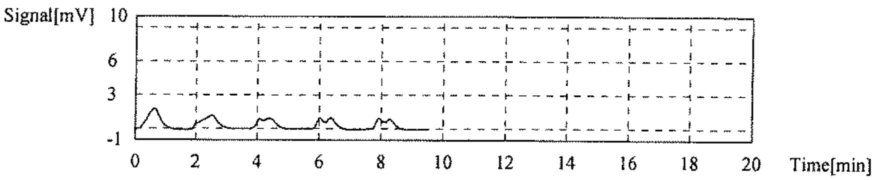
Type	Anal.	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.3459mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.314	0.7139mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:40:47 PM
2	2.841	0.2768mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:43:00 PM
3	3.184	0.3374mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:45:08 PM
4	3.516	0.3961mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:47:13 PM
5	3.387	0.3733mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:49:18 PM

Mean Area 3.232
Mean Conc. 0.3459mg/L



Sample

Sample Name: MC42160-5
Sample ID: 20X
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Dup confirmation only
av 10/23/15

Type	Anal.	Manual Dilution	Result
Unknown	NPOC	20.00	NPOC:1244mg/L

1. Det

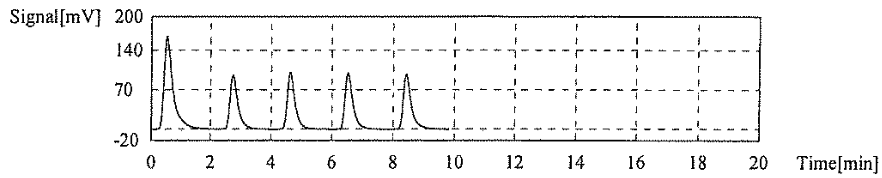
Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	353.7	1246mg/L	100uL	1.000	R	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 2:57:57 PM
2	175.6	1213mg/L	51uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:00:07 PM
3	182.0	1257mg/L	51uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:02:12 PM
4	182.2	1259mg/L	51uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:04:17 PM
5	180.8	1249mg/L	51uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:06:22 PM

TOC-Control L Report

Wetchem
toc102315w1.tlx

Mean Area 180.2
Mean Conc. 1244mg/L



Sample

Sample Name: CCV
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

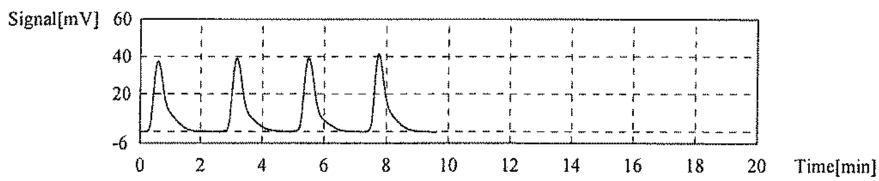
Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:19.54mg/L

1. Det

Anal.: NPOC

No.	Area	Conc	Inj. Vol	Aut. Dil	Ex	Cal. Curve	Date / Time
1	109.6	19.15mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:15:21 PM
2	111.8	19.54mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:17:55 PM
3	112.3	19.63mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:20:28 PM
4	113.5	19.84mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:23:05 PM

Mean Area 111.8
Mean Conc. 19.54mg/L



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Sample

Sample Name: CCB
Sample ID:
Origin: TOC AQ SW846 UP TO 40 PPM.met
Status Completed
Chk. Result

Type	Anal	Manual Dilution	Result
Unknown	NPOC	1.000	NPOC:0.2665mg/L

1. Det

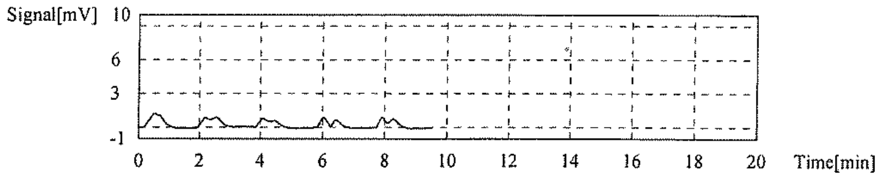
Anal.: NPOC

TOC-Control L Report

Wetchem
toc102315w1.tlx

No	Area	Conc.	Inj. Vol	Aut. Dil	Ex	Cal. Curve	Date / Time
1	3.784	0.4435mg/L	100uL	1.000	E	TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:31:28 PM
2	3.174	0.3356mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:33:37 PM
3	2.528	0.2214mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:35:46 PM
4	2.576	0.2299mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:37:51 PM
5	2.854	0.2791mg/L	100uL	1.000		TOC AQ SW846 UP TO 40 PPM.2015_10_23_18_48_49.cal	10/24/2015 3:39:56 PM

Mean Area 2.783
Mean Conc. 0.2665mg/L



13.5
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ACCUTEST

Protected Worksheet MGN117-03
(Format edits must be done by Dept. manager)

Analyst	MIRANDAC	Test/Analysis	NO32 EPA 353.2
Date	10/24/15	Analysis Batch ID	GN52119
Instrument ID	LACHAT	Prep Batch ID	GP19723, GP19724, GP19725
File ID	102415W1.NO3		

Reagents

Calib STD	GNSTD-	39187-NO3	Ammonium Hydroxide	VENDOR-	15088
ICV	GNSTD-	39188-NO3-2	Column EFF STD	GNSTD-	39189-NO3-2
CCV	GNSTD-	39187-NO3-4	FILTER PAPER	LOT#	40731102
Buffer	RGT-	46118-NO3			
Color Reagent	RGT-	46117-NO3			

Standardization

Reagent/Stock Std:	NA ◉	Cyanide ○
-	-	-

Sample ID	Bot#	pH	Sample ID	Bot#	pH	Sample ID	Bot#	pH	Sample ID	Bot#	pH
GP19723-S1	29	7.7	MC42160-9	2	8.1	MC42178-8	9	7.6	MC42202-3	11	7.8
GP19723-D1	29	7.7	MC42193-2	10	8.0	MC42178-10	9	8.0	MC42202-4	11	8.3
MC42193-1	29	7.7	GP19724-S1	10	7.4	MC42178-11	9	7.4	MC42202-5	11	8.6
MC42109-6	12	7.1	GP19724-D1	10	7.4	MC42204-2	3	8.9	MC42202-6	11	8.4
MC42109-7	12	7.9	MC42193-3	10	7.4	GP19725-S1	7	8.5	MC42202-12	11	7.7
MC42160-3	2	8.3	MC42193-4	10	7.3	GP19725-D1	7	8.5	MC42304-6	6	8.3
MC42160-4	2	8.0	MC42193-5	10	8.2	MC42204-3	7	8.5			
MC42160-5	2	7.6	MC42193-6	10	8.8	MC42204-4	3	7.7			
MC42160-6	2	7.6	MC42204-1	3	9.0	MC42220-1	10	8.0			
MC42160-7	2	8.4	MC42178-7	9	7.8	MC42202-1	11	8.1			

COMMENTS

QC Review: [signature] Date: 10/26/15

Author: chemistry

Date : 10/24/2015

Original Run Filename: OM_10-24-2015_07-38-04AM.OMN Created: 10/24/2015 7:38:04 AM
Original Run Author's Signature: [chemistry]
Current Run Filename: OM_10-24-2015_07-38-04AM.OMN Last Modified: 10/24/2015 9:23:14 AM
Current Run Author's Signature: [chemistry]
Description: Default New Run

Sample	Rep.	Channel 1 NO3 (mg/L)	MDF
StdA5.0	1	5.00	
StdB2.0	1	2.00	
StdC1.0	1	1.00	
StdD0.80	1	0.800	
StdE0.50	1	0.500	
StdF0.30	1	0.300	
StdG0.10	1	0.100	
StdH0.0	1	0.00	
ICV	1	3.12	
	Calibration:	Table/Fig. : 1	
ICB	1	-7.25e-3	
CCV	1	2.08	
CCB	1	-0.0126	
COLEFFCONF	1	2.13	
GP19723-MB1	1	-2.33e-3	
GP19723-B1	1	2.08	
GP19723-S1	1	11.7	DNR, offscale.
GP19723-D1	1	10.9	DNR, offscale.
MC42193-1	1	10.9	DNR, offscale.
MC42109-6	1	0.0237	
MC42109-7	1	0.164	
MC42160-3	1	4.79e-3	
MC42160-4	1	4.91e-3	
CCV	1	2.12	
CCB	1	-3.47e-3	
MC42160-5	1	0.0618	
MC42160-6	1	0.100	
MC42160-7	1	1.10	
MC42160-9	1	0.0624	
MC42193-2	1	0.114	
GP19723-S1	1	3.54	10.00
GP19723-D1	1	1.41	10.00
MC42193-1	1	1.43	10.00
CCV	1	2.08	
CCB	1	-6.38e-3	
ICV	1	3.11	
ICB	1	-6.16e-3	
CCV	1	2.10	
CCB	1	-2.06e-3	
COLEFFCONF	1	2.15	
GP19724-MB1	1	-3.82e-3	
GP19724-B1	1	2.10	
GP19724-S1	1	2.88	
GP19724-D1	1	0.718	
MC42193-3	1	0.714	
MC42193-4	1	8.85e-3	
MC42193-5	1	0.0105	
MC42193-6	1	8.77e-3	
MC42204-1	1	4.72e-3	
CCV	1	2.11	
CCB	1	-7.21e-3	
MC42178-7	1	0.133	
MC42178-8	1	0.0849	
MC42178-10	1	0.0631	
MC42178-11	1	0.0708	
MC42204-2	1	4.92e-3	
CCV	1	2.11	
CCB	1	-6.19e-3	
ICV	1	3.15	
ICB	1	-0.0104	

Cll
10/26/15

Author: chemistry

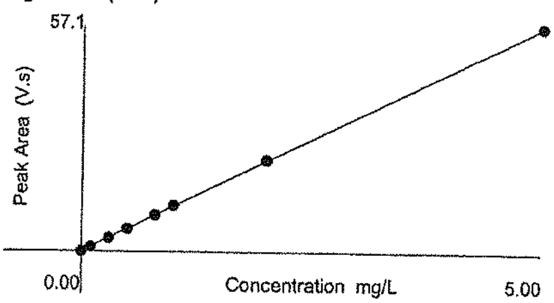
Date : 10/24/2015

CCV	1	2.11	
CCB	1	-3.64e-3	
COLEFFCONF	1	2.18	
GP19725-MB1	1	-7.96e-3	
GP19725-B1	1	2.11	
GP19725-S1	1	2.13	
GP19725-D1	1	-2.25e-3	
MC42204-3	1	5.13e-3	
MC42204-4	1	4.57e-3	
MC42220-1	1	11.0	Dve, offscale.
MC42202-1	1	0.0376	
MC42202-3	1	0.197	
CCV	1	2.11	
CCB	1	-6.85e-3	
MC42202-4	1	0.0706	
MC42202-5	1	0.0615	
MC42202-6	1	0.0529	
MC42202-12	1	0.163	
MC42304-6	1	0.0863	
MC42220-1	1	1.42	10.00
CCV	1	2.12	
CCB	1	1.72e-3	

Table : 1 (NO3)

	Known Conc. (mg/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg/L)	Detection Date	Detection Time
1	5.00	1	57.1	3.36	0.0	0.1	4.99	10/24/2015	7:39:00 AM
2	2.00	1	23.1	1.38	0.0	-0.7	2.01	10/24/2015	7:40:15 AM
3	1.00	1	11.6	0.698	0.0	-1.4	1.01	10/24/2015	7:41:31 AM
4	0.800	1	9.13	0.551	0.0	0.4	0.796	10/24/2015	7:42:46 AM
5	0.500	1	5.70	0.341	0.0	0.8	0.496	10/24/2015	7:44:01 AM
6	0.300	1	3.39	0.207	0.0	1.9	0.294	10/24/2015	7:45:17 AM
7	0.100	1	1.14	0.0694	0.0	2.3	0.0976	10/24/2015	7:46:32 AM
8	0.00	1	-0.0274	-2.08e-3			-4.84e-3	10/24/2015	7:47:48 AM

Figure : 1 (NO3)



Area = 11.4 * Conc + 0.0283
Conc = 0.0875 * Area - 2.45e-3
Correlation Coefficient (r) = 0.99999

Weighting : None

- 2 -

10/20/15

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New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Page 1 of 1

495 Technology Center West, Building One, Marlborough, MA 01752
TEL. 508-481-6200
www.accutest.com

FED-EX Tracking # 6484 9125 1893
Bottle Order Control #
Accutest Quote #
Accutest Job # MC42178

Client / Reporting Information
Company Name: Accutest Laboratories
Street Address: 495 Technology Center West, Bldg One
City: Marlborough, State: MA, Zip: (
Project Contact: frankd, E-mail: frankd@accutest.com
Phone #: 508-481-6200, Fax #
Sampler(s) Name(s): SE, Phone

Project Information
Project Name: Fort Devens, AOC50, Devens, MA
Street
City, State
Project #
Client Purchase Order #
Project Manager

Billing Information (if different from Report to)
Company Name
Street Address
City, State, Zip
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	SO4 by 300	LAB USE ONLY
7	G6M-04-03X_FAL15		10/14/15	12:53:00 PM	SE	AQ	1					1				X	
8	G6M-03-07X_FAL15		10/14/15	12:40:00 PM	SE	AQ	1					1				X	
10	G6M-DUP1_FAL15		10/14/15	1:05:00 PM	SE	AQ	1					1				X	MA
11	G6M-13-06X_FAL15		10/14/15	1:40:00 PM	SE	AQ	1					1				X	

Turnaround Time (Business days)
- [ ] Std. 10 Business Days
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [x] other Due 10/28/2015

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [x] Other COMMBN

Commercial "A" = Results Only

Comments / Special Instructions
Ship to ALNJ - SO4 by 300 "Limited Volume"

INITIAL ASESSMENT KF/KB
LABEL VERIFICATION JM

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	10/15/15	1 FedEX	2 Fed EX	10/16/15 10:00	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☐ Cooler Temp. 2.7°C IR

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MC42178: Chain of Custody
Page 1 of 2
Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42178 **Client:** **Project:**

Date / Time Received: 10/16/2015 10:00:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (2.7);

Cooler Temps (Corrected) °C: Cooler 1: (2.9);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y or N
1. Temp criteria achieved:	☑ Y ☐ N
2. Cooler temp verification:	IR Gun
3. Cooler media:	Ice (Bag)
4. No. Coolers:	1

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☑	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

MC42178: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Accutest Labs of New England, Inc.

Job No: MC42178

HSMAW: Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC42178-7 G6M-04-03X_FAL15	Collected: 14-OCT-15 12:53 By: SE		Received: 14-OCT-15 By: AM			
MC42178-7	EPA 300/SW846 9056A	23-OCT-15 21:17	NP	23-OCT-15	NP	SO4
MC42178-8 G6M-03-07X_FAL15	Collected: 14-OCT-15 12:40 By: SE		Received: 14-OCT-15 By: AM			
MC42178-8	EPA 300/SW846 9056A	23-OCT-15 21:41	NP	23-OCT-15	NP	SO4
MC42178-10 G6M-DUP1_FAL15	Collected: 14-OCT-15 13:05 By: SE		Received: 14-OCT-15 By: AM			
MC42178-10	EPA 300/SW846 9056A	23-OCT-15 22:05	NP	23-OCT-15	NP	SO4
MC42178-11 G6M-13-06X_FAL15	Collected: 14-OCT-15 13:40 By: SE		Received: 14-OCT-15 By: AM			
MC42178-11	EPA 300/SW846 9056A	23-OCT-15 22:29	NP	23-OCT-15	NP	SO4

Accutest Internal Chain of Custody

Job Number: MC42178
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Received: 10/14/15

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
MC42178-7.1	Secured Storage	Bernadette Vassilatos	10/23/15 06:24	Retrieve from Storage
MC42178-7.1	Bernadette Vassilatos	Secured Staging Area	10/23/15 06:24	Return to Storage
MC42178-7.1	Secured Staging Area	Aesha Patel	10/23/15 09:04	Retrieve from Storage
MC42178-7.1	Aesha Patel	Secured Storage	10/24/15 16:35	Return to Storage
MC42178-8.1	Secured Storage	Bernadette Vassilatos	10/23/15 06:24	Retrieve from Storage
MC42178-8.1	Bernadette Vassilatos	Secured Staging Area	10/23/15 06:24	Return to Storage
MC42178-8.1	Secured Staging Area	Aesha Patel	10/23/15 09:04	Retrieve from Storage
MC42178-8.1	Aesha Patel	Secured Storage	10/24/15 16:35	Return to Storage
MC42178-10.1	Secured Storage	Bernadette Vassilatos	10/23/15 06:24	Retrieve from Storage
MC42178-10.1	Bernadette Vassilatos	Secured Staging Area	10/23/15 06:24	Return to Storage
MC42178-10.1	Secured Staging Area	Aesha Patel	10/23/15 09:04	Retrieve from Storage
MC42178-10.1	Aesha Patel	Secured Storage	10/24/15 16:35	Return to Storage
MC42178-11.1	Secured Storage	Bernadette Vassilatos	10/23/15 06:24	Retrieve from Storage
MC42178-11.1	Bernadette Vassilatos	Secured Staging Area	10/23/15 06:24	Return to Storage
MC42178-11.1	Secured Staging Area	Aesha Patel	10/23/15 09:04	Retrieve from Storage
MC42178-11.1	Aesha Patel	Secured Storage	10/24/15 16:35	Return to Storage

QC Evaluation: DOD QSM5 Limits

Job Number: MC42178
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/14/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC42178

New England
ACCUTEST
LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42178
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP93103/GN34939	2.0	0.0	mg/l	80	81.3	101.6	90-110%
Sulfate	GP93103/GN34939	10	0.0	mg/l	80	80.8	101.0	90-110%

Associated Samples:
Batch GP93103: MC42178-7, MC42178-8, MC42178-10, MC42178-11
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42178
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP93103/GN34939	JC6249-1	mg/l	56.8	56.5	0.5	0-20%
Sulfate	GP93103/GN34939	JC6249-1	mg/l	28.0	27.9	0.4	0-20%

Associated Samples:
Batch GP93103: MC42178-7, MC42178-8, MC42178-10, MC42178-11
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42178
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP93103/GN34939	JC6249-1	mg/l	56.8	80	139	102.8	80-120%
Sulfate	GP93103/GN34939	JC6249-1	mg/l	28.0	80	111	103.8	80-120%

Associated Samples:
Batch GP93103: MC42178-7, MC42178-8, MC42178-10, MC42178-11
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

File ID: 215102301.TXT   Date Analyzed: 10/23/15   Methods: EPA 300/SW846 9056A
Analyst: NP   Run ID: GN34939
Parameters: Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:06	GN34939-STD1	1		Manually integrated chrom. peaks reviewed and verified to comply with criteria of Accutest SOP EQA044.
10:30	GN34939-STD2	1		STDB
10:54	GN34939-STD3	1		STDC
11:41	GN34939-STD4	1		STDD
12:29	GN34939-STD5	1		STDE
12:53	GN34939-STD6	1		STDF
13:17	GN34939-STD7	1		STDG
10:17	GN34939-ICV1	1		
10:40	GN34939-CCV1	1		
11:04	GN34939-CCB1	1		
11:28	GP93103-MB1	1		
11:28	GP92888-MB5	1		
11:28	GP92953-MB3	1		
11:52	GP93103-B1	1		
11:52	GP92888-B5	1		
11:52	GP92953-B3	1		
12:16	ZZZZZZ	1		
12:40	ZZZZZZ	1		
13:04	ZZZZZZ	1		
13:28	ZZZZZZ	1		
13:52	ZZZZZZ	3		
14:16	ZZZZZZ	2		
14:39	ZZZZZZ	20		
15:03	ZZZZZZ	2		
15:27	GN34939-CCV2	1		
15:51	GN34939-CCB2	1		
16:15	ZZZZZZ	20		
16:39	GP93103-S1	1		
17:03	GP93103-D1	1		
17:27	JC6249-1	1		(sample used for QC only; not part of login MC42178)
17:51	ZZZZZZ	1		
18:30	ZZZZZZ	1		
18:53	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

File ID: 215102301.TXT   Date Analyzed: 10/23/15   Methods: EPA 300/SW846 9056A
Analyst: NP   Run ID: GN34939
Parameters: Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:17	ZZZZZZ	1		
19:41	ZZZZZZ	1		
20:05	ZZZZZZ	1		
20:29	GN34939-CCV3	1		
20:53	GN34939-CCB3	1		
21:17	MC42178-7	1		
21:41	MC42178-8	1		
22:05	MC42178-10	1		
22:29	MC42178-11	1		
22:53	GP93103-S2	1		
23:17	JC6452-1	1		(sample used for QC only; not part of login MC42178)
23:41	GP93104-MB1	1		
00:04	GP93104-B1	1		
00:28	ZZZZZZ	1		
00:52	GP93104-S2	1		
01:16	GN34939-CCV4	1		
01:40	GN34939-CCB4	1		
02:04	JC6284-1	1		(sample used for QC only; not part of login MC42178)
02:28	ZZZZZZ	1		
02:52	ZZZZZZ	1		
03:16	ZZZZZZ	1		
03:40	ZZZZZZ	1		
04:04	ZZZZZZ	1		
04:28	ZZZZZZ	1		
04:52	ZZZZZZ	1		
05:16	ZZZZZZ	1		
05:39	ZZZZZZ	1		
06:03	GN34939-CCV5	1		
06:27	GN34939-CCB5	1		
06:51	ZZZZZZ	1		
07:15	ZZZZZZ	1		
07:39	ZZZZZZ	1		
08:03	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: MC42178
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

File ID: 215102301.TXT   Date Analyzed: 10/23/15   Methods: EPA 300/SW846 9056A
Analyst: NP   Run ID: GN34939
Parameters: Sulfate

Time	Sample Description	Dilution Factor	PS Recov	Comments
08:27	GP93104-S1	1		
08:51	GP93104-D1	1		
09:15	JC6366-4	1		(sample used for QC only; not part of login MC42178)
09:39	ZZZZZZ	1		
10:03	ZZZZZZ	1		
10:27	GN34939-CCV6	1		
10:51	GN34939-CCB6	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: MC42178
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

File ID: 215102301.TXT Date Analyzed: 10/23/15 Methods: EPA 300/SW846 9056A
Run ID: GN34939 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN34939-ICV1	Sulfate	97.7	10	0.22	100	97.7	90-110
GN34939-CCV1	Sulfate	199	10	0.22	200	99.5	90-110
GN34939-CCB1	Sulfate	0.22 U	10	0.22			
GN34939-CCV2	Sulfate	199	10	0.22	200	99.5	90-110
GN34939-CCB2	Sulfate	1.2	10	0.22			
GN34939-CCV3	Sulfate	200	10	0.22	200	100.0	90-110
GN34939-CCB3	Sulfate	1.1	10	0.22			
GN34939-CCV4	Sulfate	198	10	0.22	200	99.0	90-110
GN34939-CCB4	Sulfate	1.1	10	0.22			
GN34939-CCV5	Sulfate	198	10	0.22	200	99.0	90-110
GN34939-CCB5	Sulfate	1.2	10	0.22			
GN34939-CCV6	Sulfate	200	10	0.22	200	100.0	90-110
GN34939-CCB6	Sulfate	1.2	10	0.22			

(!) Outside of QC limits

New England
ACCUTEST
LABORATORIES

11/18/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

VOC/Metals

Accutest Job Number: MC42202

Sampling Date: 10/15/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
lekes@hsenv.com

ATTN: Laurie Ekes

Total number of pages in report: **125**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

Sections:

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Sample Summary

H&S Environmental

Job No: MC42202

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC42202-1	10/15/15	13:50	KGA	10/15/15	AQ	Ground Water	G6M-02-12X_FA115
MC42202-1F	10/15/15	13:50	KGA	10/15/15	AQ	Groundwater Filtered	G6M-02-12X_FA115
MC42202-2	10/15/15	11:35	KGA	10/15/15	AQ	Ground Water	MW-7_FA115
MC42202-2F	10/15/15	11:35	KGA	10/15/15	AQ	Groundwater Filtered	MW-7_FA115
MC42202-3	10/15/15	14:03	KGA	10/15/15	AQ	Ground Water	G6M-04-05X_FA115
MC42202-3F	10/15/15	14:03	KGA	10/15/15	AQ	Groundwater Filtered	G6M-04-05X_FA115
MC42202-4	10/15/15	11:00	KGA	10/15/15	AQ	Ground Water	MW-3_FA115
MC42202-4F	10/15/15	11:00	KGA	10/15/15	AQ	Groundwater Filtered	MW-3_FA115
MC42202-5	10/15/15	12:55	KGA	10/15/15	AQ	Ground Water	G6M-02-11X_FA115
MC42202-5F	10/15/15	12:55	KGA	10/15/15	AQ	Groundwater Filtered	G6M-02-11X_FA115
MC42202-6	10/15/15	13:00	KGA	10/15/15	AQ	Ground Water	G6M-03-10X_FA115
MC42202-6F	10/15/15	13:00	KGA	10/15/15	AQ	Groundwater Filtered	G6M-03-10X_FA115
MC42202-7	10/15/15	12:45	KGA	10/15/15	AQ	Ground Water	G6M-97-05B_FA115

Accutest Laboratories

Sample Summary

(continued)

H&S Environmental

Job No: MC42202

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC42202-7F	10/15/15	12:45	KGA	10/15/15	AQ	Groundwater Filtered	G6M-97-05B_FA115
MC42202-8	10/15/15	11:30	KGA	10/15/15	AQ	Ground Water	G6M-97-05B_FA115-H
MC42202-9	10/15/15	11:35	KGA	10/15/15	AQ	Ground Water	G6M-DUP-4_FA115
MC42202-9F	10/15/15	11:35	KGA	10/15/15	AQ	Groundwater Filtered	G6M-DUP-4_FA115
MC42202-10	10/15/15	00:00	KGA	10/15/15	AQ	Trip Blank Water	TRIP BLANK
MC42202-11	10/15/15	14:00	KGA	10/15/15	AQ	Ground Water	G6M-03-09X_FA115
MC42202-11D	10/15/15	14:00	KGA	10/15/15	AQ	Water Dup/MSD	G6M-03-09X_FA115
MC42202-11F	10/15/15	14:00	KGA	10/15/15	AQ	Groundwater Filtered	G6M-03-09X_FA115
MC42202-11FD	10/15/15	14:00	KGA	10/15/15	AQ	Water Dup/MSD	G6M-03-09X_FA115
MC42202-11FS	10/15/15	14:00	KGA	10/15/15	AQ	Water Matrix Spike	G6M-03-09X_FA115
MC42202-11S	10/15/15	14:00	KGA	10/15/15	AQ	Water Matrix Spike	G6M-03-09X_FA115
MC42202-12	10/15/15	11:16	KGA	10/15/15	AQ	Ground Water	G6M-13-04X_FA115
MC42202-12F	10/15/15	11:16	KGA	10/15/15	AQ	Groundwater Filtered	G6M-13-04X_FA115

ACCUTEST LABORATORIES

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC42202

Site: Fort Devens, AOC50, Devens, MA **Report Date** 11/18/2015 10:06:57 AM

11 Samples and 1 Trip Blank(s) were collected on 10/15/2015 and were received at Accutest on 10/15/2015 properly preserved, at 1.2 Deg. C and intact. These Samples received an Accutest job number of MC42202. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ **Batch ID:** MSU1365

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC42202-11MS, MC42202-11MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- RPD(s) for MSD for Acetone are outside control limits for sample MC42202-11MSD. High RPD due to possible matrix interference and/or sample non-homogeneity.
- RPD of MC42202-11MSD for 1,2-Dibromo-3-chloropropane, Naphthalene, 1,2,3-Trichlorobenzene: Outside DoD control limits, but within in-house control limits.
- MC42202-1,2 for Toluene-D: Outside DoD control limits, but within in-house control limits.
- MC42202-1 through MC42202-12, MC42202-11MS/MSD: Laboratory not DOD certified for method 8260c analysis. Samples were analyzed at Accutest New England in order to meet method required Holding Times.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1545

- Sample(s) MC42202-11MS, MC42202-11MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MC42202-11MS/MSD Recovery(s) for Methane are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- All samples were analyzed within the recommended method holding time.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25342

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11FMS, MC42202-11FMSD, MC42202-11FSDL were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** N:GP93105

- Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	**Batch ID:** GP19725

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42204-3DUP, MC42204-3MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	**Batch ID:** GP19726

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11DUP, MC42202-11MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ	**Batch ID:** R37508

- MC42202-11 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37529

- MC42202-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37530

- MC42202-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37535

- MC42202-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37536

- MC42202-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37537

- MC42202-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	**Batch ID:** R37538

- MC42202-12 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	**Batch ID:** GP19697

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11DUP, MC42202-11MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 2320B

Matrix: AQ	**Batch ID:** GN52114

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42193-3DUP, MC42193-3MS were used as the QC samples for Alkalinity, Total as CaCO3.

Matrix: AQ	**Batch ID:** GN52117

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11DUP, MC42202-11MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ	**Batch ID:** GN52067

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11DUP, MC42202-11MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SW846 9060

Matrix: AQ	**Batch ID:** GP19722

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11MS, MC42202-11MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC42202).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Accutest Labs of New England, Inc.	**Job No**	MC42202
Site:	HSMAW: Fort Devens, AOC50, Devens, MA	**Report Date**	10/27/2015 2:04:31 P

On 10/17/2015, 7 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3.2 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC42202 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP93105

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11DUP, MC42202-11MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42202-1	**G6M-02-12X_FA115**					
Methane		11300	200	100	ug/l	VRSK 175
Alkalinity, Total as CaCO3		243	5.0	3.9	mg/l	SM21 2320B
Sulfate [a]		1.0 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		6.4	1.0	0.81	mg/l	SW846 9060
MC42202-1F	**G6M-02-12X_FA115**					
Arsenic		714	4.0	2.0	ug/l	SW846 6010C
Iron		42600	1000	500	ug/l	SW846 6010C
Manganese		8540	150	75	ug/l	SW846 6010C
MC42202-2	**MW-7_FA115**					
cis-1,2-Dichloroethene [b]		12.4	1.0	0.50	ug/l	SW846 8260C
Trichloroethene [b]		1.7	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride [b]		1.1	1.0	0.50	ug/l	SW846 8260C
MC42202-2F	**MW-7_FA115**					
Arsenic		198	4.0	2.0	ug/l	SW846 6010C
Iron		30200	1000	500	ug/l	SW846 6010C
Manganese		15100	150	75	ug/l	SW846 6010C
MC42202-3	**G6M-04-05X_FA115**					
Chloroform [b]		1.0	1.0	0.50	ug/l	SW846 8260C
Methane		53.2	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		31.9	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [c]		0.20	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.20	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		21.9	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1.1	1.0	0.81	mg/l	SW846 9060
MC42202-3F	**G6M-04-05X_FA115**					
Manganese		19.6	15	7.5	ug/l	SW846 6010C
MC42202-4	**MW-3_FA115**					
Vinyl chloride [b]		0.54 J	1.0	0.50	ug/l	SW846 8260C
Methane		4570	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3		349	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [c]		0.071 J	0.11	0.057	mg/l	EPA 353.2

Summary of Hits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Nitrogen, Nitrate + Nitrite		0.071 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		2.8 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		4.9	1.0	0.81	mg/l	SW846 9060
MC42202-4F	**MW-3_FA115**					
Arsenic		420	4.0	2.0	ug/l	SW846 6010C
Iron		41900	1000	500	ug/l	SW846 6010C
Manganese		12600	150	75	ug/l	SW846 6010C
MC42202-5	**G6M-02-11X_FA115**					
Methane		9710	200	100	ug/l	VRSK 175
Ethane		5.8 J	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		229	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [c]		0.062 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.062 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		1.1 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		4.9	1.0	0.81	mg/l	SW846 9060
MC42202-5F	**G6M-02-11X_FA115**					
Arsenic		551	4.0	2.0	ug/l	SW846 6010C
Iron		44200	1000	500	ug/l	SW846 6010C
Manganese		10400	150	75	ug/l	SW846 6010C
MC42202-6	**G6M-03-10X_FA115**					
Methane		11500	200	100	ug/l	VRSK 175
Alkalinity, Total as CaCO3		64.9	5.0	3.9	mg/l	SM21 2320B
Sulfate [a]		7.8 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		1.9	1.0	0.81	mg/l	SW846 9060
MC42202-6F	**G6M-03-10X_FA115**					
Arsenic		457	4.0	2.0	ug/l	SW846 6010C
Iron		69300	1000	500	ug/l	SW846 6010C
Manganese		2410	15	7.5	ug/l	SW846 6010C
MC42202-7	**G6M-97-05B_FA115**					
Carbon tetrachloride [b]		1.0	1.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene [b]		3.4	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene [b]		117	1.0	0.50	ug/l	SW846 8260C
Trichloroethene [b]		6.9	1.0	0.50	ug/l	SW846 8260C

Summary of Hits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42202-7F	**G6M-97-05B_FA115**					
Iron		61.5 J	100	50	ug/l	SW846 6010C
Manganese		19.4	15	7.5	ug/l	SW846 6010C
MC42202-8	**G6M-97-05B_FA115-H**					
Carbon tetrachloride [b]		1.1	1.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene [b]		6.5	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene [b]		121	1.0	0.50	ug/l	SW846 8260C
Trichloroethene [b]		8.5	1.0	0.50	ug/l	SW846 8260C
MC42202-9	**G6M-DUP-4_FA115**					
Carbon tetrachloride [b]		0.98 J	1.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene [b]		3.2	1.0	0.50	ug/l	SW846 8260C
Tetrachloroethene [b]		115	1.0	0.50	ug/l	SW846 8260C
Trichloroethene [b]		6.7	1.0	0.50	ug/l	SW846 8260C
MC42202-9F	**G6M-DUP-4_FA115**					
Manganese		8.0 J	15	7.5	ug/l	SW846 6010C
MC42202-10	**TRIP BLANK**					
Chloromethane [b]		2.5	2.0	1.0	ug/l	SW846 8260C
MC42202-11	**G6M-03-09X_FA115**					
Methane		1090	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		27.8	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [c]		0.11	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite		0.11	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]		11.4	10	0.50	mg/l	EPA 300/SW846 9056A
MC42202-11F	**G6M-03-09X_FA115**					
Manganese		57.3	15	7.5	ug/l	SW846 6010C
MC42202-12	**G6M-13-04X_FA115**					
Chloroethane [b]		2.7	2.0	0.50	ug/l	SW846 8260C
cis-1,2-Dichloroethene [b]		52.1	1.0	0.50	ug/l	SW846 8260C
trans-1,2-Dichloroethene [b]		0.76 J	1.0	0.50	ug/l	SW846 8260C

Summary of Hits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

Lab Sample ID Client Sample ID Analyte	Result/ Qual	LOQ	LOD	Units	Method
Tetrachloroethene [b]	18.7	1.0	0.50	ug/l	SW846 8260C
Trichloroethene [b]	18.9	1.0	0.50	ug/l	SW846 8260C
Vinyl chloride [b]	32.7	1.0	0.50	ug/l	SW846 8260C
Methane	9470	200	100	ug/l	VRSK 175
Ethene	18.6	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3	269	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [c]	0.16	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.16	0.10	0.054	mg/l	EPA 353.2
Sulfate [a]	5.8 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	2.8	1.0	0.81	mg/l	SW846 9060
MC42202-12F G6M-13-04X_FA115					
Arsenic	388	4.0	2.0	ug/l	SW846 6010C
Iron	33100	1000	500	ug/l	SW846 6010C
Manganese	7930	150	75	ug/l	SW846 6010C

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.
(b) Laboratory not DOD certified for method 8260c analysis.
(c) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

New England ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-12X_FA115		
Lab Sample ID:	MC42202-1	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33407.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-12X_FA115		
Lab Sample ID:	MC42202-1	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-12X_FA115			
Lab Sample ID:	MC42202-1		**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water		**Date Received:**	10/15/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	88%		80-116%
460-00-4	4-Bromofluorobenzene	92%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-12X_FA115		
Lab Sample ID:	MC42202-1	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22713.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2	BA22714.D	1	10/19/15	AF	n/a	n/a	GBA1545

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	11300 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-12X_FA115		
Lab Sample ID:	MC42202-1	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	243	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	10/24/15 09:06	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	10/24/15 09:06	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/15/15 20:09	CF	SM 21 4500 NO2 B
Sulfate [b]	1.0 J	10	0.50	mg/l	1	10/23/15 18:03	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	6.4	1.0	0.81	mg/l	1	10/24/15 07:08	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-12X_FA115		
Lab Sample ID:	MC42202-1F	**Date Sampled:**	10/15/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	714	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	42600	1000	500	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	8540	150	75	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	MW-7_FA115			
Lab Sample ID:	MC42202-2		**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water		**Date Received:**	10/15/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33408.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	12.4	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7_FA115		
Lab Sample ID:	MC42202-2	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	1.7	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	1.1	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7_FA115		
Lab Sample ID:	MC42202-2	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	88%		80-116%
460-00-4	4-Bromofluorobenzene	92%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-7_FA115			
Lab Sample ID:	MC42202-2F		**Date Sampled:**	10/15/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	10/15/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	198	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	30200	1000	500	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	15100	150	75	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-05X_FA115		
Lab Sample ID:	MC42202-3	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33409.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	1.0	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-05X_FA115			
Lab Sample ID:	MC42202-3		**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water		**Date Received:**	10/15/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-05X_FA115		
Lab Sample ID:	MC42202-3	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		80-116%
460-00-4	4-Bromofluorobenzene	94%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-05X_FA115		
Lab Sample ID:	MC42202-3	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22715.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	53.2	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-05X_FA115		
Lab Sample ID:	MC42202-3	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	31.9	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.20	0.11	0.057	mg/l	1	10/24/15 09:07	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.20	0.10	0.054	mg/l	1	10/24/15 09:07	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/15/15 20:09	CF	SM 21 4500 NO2 B
Sulfate [b]	21.9	10	0.50	mg/l	1	10/23/15 18:53	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	1.1	1.0	0.81	mg/l	1	10/24/15 07:57	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-04-05X_FA115
Lab Sample ID: MC42202-3F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/15/15
Date Received: 10/15/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	19.6	15	7.5	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	MW-3_FA115		
Lab Sample ID:	MC42202-4	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33410.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3_FA115		
Lab Sample ID:	MC42202-4	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.54	1.0	0.50	ug/l	J
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-127%

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3_FA115			
Lab Sample ID:	MC42202-4		**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water		**Date Received:**	10/15/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	89%		80-116%
460-00-4	4-Bromofluorobenzene	94%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-3_FA115		
Lab Sample ID:	MC42202-4	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22717.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2	BA22718.D	1	10/19/15	AF	n/a	n/a	GBA1545

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	4570 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3_FA115		
Lab Sample ID:	MC42202-4	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	349	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.071 J	0.11	0.057	mg/l	1	10/24/15 09:11	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.071 J	0.10	0.054	mg/l	1	10/24/15 09:11	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/15/15 20:09	CF	SM 21 4500 NO2 B
Sulfate [b]	2.8 J	10	0.50	mg/l	1	10/23/15 19:17	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	4.9	1.0	0.81	mg/l	1	10/24/15 08:12	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-3_FA115		
Lab Sample ID:	MC42202-4F	**Date Sampled:**	10/15/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	420	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	41900	1000	500	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	12600	150	75	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-11X_FA115		
Lab Sample ID:	MC42202-5	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33411.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X_FA115		
Lab Sample ID:	MC42202-5	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X_FA115		
Lab Sample ID:	MC42202-5	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	95%		80-116%
460-00-4	4-Bromofluorobenzene	99%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-11X_FA115		
Lab Sample ID:	MC42202-5	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22719.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2	BA22720.D	1	10/19/15	AF	n/a	n/a	GBA1545

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	9710 [a]	200	100	ug/l	
74-84-0	Ethane	5.8	10	5.0	ug/l	J
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-11X_FA115		
Lab Sample ID:	MC42202-5	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	229	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.062 J	0.11	0.057	mg/l	1	10/24/15 09:12	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.062 J	0.10	0.054	mg/l	1	10/24/15 09:12	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/15/15 20:09	CF	SM 21 4500 NO2 B
Sulfate [b]	1.1 J	10	0.50	mg/l	1	10/23/15 19:41	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	4.9	1.0	0.81	mg/l	1	10/24/15 08:30	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-11X_FA115		
Lab Sample ID:	MC42202-5F	**Date Sampled:**	10/15/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	551	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	44200	1000	500	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	10400	150	75	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-10X_FA115				
Lab Sample ID:	MC42202-6	**Date Sampled:**	10/15/15		
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15		
Method:	SW846 8260C	**Percent Solids:**	n/a		
Project:	Fort Devens, AOC50, Devens, MA				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33412.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

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E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-10X_FA115		
Lab Sample ID:	MC42202-6	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-10X_FA115		
Lab Sample ID:	MC42202-6	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	90%		80-116%
460-00-4	4-Bromofluorobenzene	95%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-10X_FA115		
Lab Sample ID:	MC42202-6	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22721.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2	BA22722.D	1	10/19/15	AF	n/a	n/a	GBA1545

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	11500 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-10X_FA115		
Lab Sample ID:	MC42202-6	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	64.9	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	10/24/15 09:13	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	10/24/15 09:13	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/15/15 20:09	CF	SM 21 4500 NO2 B
Sulfate [b]	7.8 J	10	0.50	mg/l	1	10/23/15 20:05	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	1.9	1.0	0.81	mg/l	1	10/24/15 08:46	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-10X_FA115		
Lab Sample ID:	MC42202-6F	**Date Sampled:**	10/15/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	457	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	69300	1000	500	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	2410	15	7.5	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-97-05B_FA115		
Lab Sample ID:	MC42202-7	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33413.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	1.0	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.4	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-05B_FA115		
Lab Sample ID:	MC42202-7	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	117	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	6.9	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-05B_FA115		
Lab Sample ID:	MC42202-7	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	94%		80-116%
460-00-4	4-Bromofluorobenzene	97%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-05B_FA115		
Lab Sample ID:	MC42202-7F	**Date Sampled:**	10/15/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	61.5 J	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	19.4	15	7.5	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-97-05B_FA115-H		
Lab Sample ID:	MC42202-8	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33414.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	1.1	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	6.5	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-05B_FA115-H		
Lab Sample ID:	MC42202-8	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	121	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	8.5	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-97-05B_FA115-H		
Lab Sample ID:	MC42202-8	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		80-116%
460-00-4	4-Bromofluorobenzene	100%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP-4_FA115		
Lab Sample ID:	MC42202-9	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33415.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.98	1.0	0.50	ug/l	J
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	3.2	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP-4_FA115		
Lab Sample ID:	MC42202-9	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	115	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	6.7	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP-4_FA115		
Lab Sample ID:	MC42202-9	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%		80-116%
460-00-4	4-Bromofluorobenzene	102%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected　LOD = Limit of Detection　J = Indicates an estimated value
LOQ = Limit of Quantitation　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP-4_FA115		
Lab Sample ID:	MC42202-9F	**Date Sampled:**	10/15/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	8.0 J	15	7.5	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK			
Lab Sample ID:	MC42202-10		**Date Sampled:**	10/15/15
Matrix:	AQ - Trip Blank Water		**Date Received:**	10/15/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33403.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	2.5	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42202-10	**Date Sampled:**	10/15/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK			
Lab Sample ID:	MC42202-10		**Date Sampled:**	10/15/15
Matrix:	AQ - Trip Blank Water		**Date Received:**	10/15/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%		80-116%
460-00-4	4-Bromofluorobenzene	101%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	G6M-03-09X_FA115			
Lab Sample ID:	MC42202-11		**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water		**Date Received:**	10/15/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33406.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	0.50 U	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-09X_FA115		
Lab Sample ID:	MC42202-11	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	118%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-09X_FA115		
Lab Sample ID:	MC42202-11	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	91%		80-116%
460-00-4	4-Bromofluorobenzene	90%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-03-09X_FA115		
Lab Sample ID:	MC42202-11	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22709.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	1090	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-03-09X_FA115		
Lab Sample ID:	MC42202-11	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	27.8	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.11	0.11	0.057	mg/l	1	10/24/15 09:37	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.11	0.10	0.054	mg/l	1	10/24/15 09:37	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/15/15 20:09	CF	SM 21 4500 NO2 B
Sulfate [b]	11.4	10	0.50	mg/l	1	10/23/15 22:04	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	0.81 U	1.0	0.81	mg/l	1	10/24/15 05:56	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-03-09X_FA115		
Lab Sample ID:	MC42202-11F	**Date Sampled:**	10/15/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	57.3	15	7.5	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-04X_FA115			
Lab Sample ID:	MC42202-12		**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water		**Date Received:**	10/15/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U33416.D	1	10/29/15	AD	n/a	n/a	MSU1365
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	5.0 U	10	5.0	ug/l	
71-43-2	Benzene	0.50 U	0.50	0.50	ug/l	
108-86-1	Bromobenzene	1.0 U	5.0	1.0	ug/l	
74-97-5	Bromochloromethane	0.50 U	5.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
74-83-9	Bromomethane	1.0 U	2.0	1.0	ug/l	
78-93-3	2-Butanone (MEK)	5.0 U	10	5.0	ug/l	
104-51-8	n-Butylbenzene	1.0 U	5.0	1.0	ug/l	
135-98-8	sec-Butylbenzene	1.0 U	5.0	1.0	ug/l	
98-06-6	tert-Butylbenzene	1.0 U	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	1.0 U	5.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	2.7	2.0	0.50	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
74-87-3	Chloromethane	1.0 U	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
106-43-4	p-Chlorotoluene	1.0 U	5.0	1.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U	5.0	5.0	ug/l	
124-48-1	Dibromochloromethane	1.0 U	1.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	52.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.76	1.0	0.50	ug/l	J
78-87-5	1,2-Dichloropropane	0.50 U	2.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-04X_FA115		
Lab Sample ID:	MC42202-12	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

VOA 8260 List

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	1.0 U	5.0	1.0	ug/l	
594-20-7	2,2-Dichloropropane	2.0 U	5.0	2.0	ug/l	
563-58-6	1,1-Dichloropropene	1.0 U	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	0.50	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	2.0 U	5.0	2.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
74-88-4	Iodomethane	2.0 U	5.0	2.0	ug/l	
98-82-8	Isopropylbenzene	1.0 U	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	1.0 U	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U	5.0	5.0	ug/l	
74-95-3	Methylene bromide	1.0 U	5.0	1.0	ug/l	
75-09-2	Methylene chloride	1.0 U	2.0	1.0	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	1.0 U	5.0	1.0	ug/l	
100-42-5	Styrene	0.50 U	5.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	0.50	0.50	ug/l	
127-18-4	Tetrachloroethene	18.7	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	2.0 U	5.0	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethene	18.9	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	1.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	5.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	5.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	5.0	5.0	ug/l	
75-01-4	Vinyl chloride	32.7	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	1.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	0.50 U	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		79-127%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-04X_FA115			
Lab Sample ID:	MC42202-12		**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water		**Date Received:**	10/15/15
Method:	SW846 8260C		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	98%		80-116%
460-00-4	4-Bromofluorobenzene	102%		77-124%

(a) Laboratory not DOD certified for method 8260c analysis.

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-04X_FA115		
Lab Sample ID:	MC42202-12	**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water	**Date Received:**	10/15/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22723.D	1	10/19/15	AF	n/a	n/a	GBA1545
Run #2	BA22724.D	1	10/19/15	AF	n/a	n/a	GBA1545

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	9470 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	18.6	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-04X_FA115			
Lab Sample ID:	MC42202-12		**Date Sampled:**	10/15/15
Matrix:	AQ - Ground Water		**Date Received:**	10/15/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	269	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.16	0.11	0.057	mg/l	1	10/24/15 09:14	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.16	0.10	0.054	mg/l	1	10/24/15 09:14	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/15/15 20:10	CF	SM 21 4500 NO2 B
Sulfate [b]	5.8 J	10	0.50	mg/l	1	10/23/15 22:28	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	2.8	1.0	0.81	mg/l	1	10/24/15 09:06	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-04X_FA115		
Lab Sample ID:	MC42202-12F	**Date Sampled:**	10/15/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/15/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	388	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	33100	1000	500	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	7930	150	75	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

(p1of2)

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West
Building One, Marlborough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #:	MC42202
Accutest Control #:	

Client Information	Facility Information
Name: H&S Environmental	Project Name: Devens
Address: 160 East Main Street, Suite 2F	Location: AOC50 VOC/Metals
City: Westborough	Project No.
State: MA Zip: 01581	
Send Report to: Laurie Ekes (lekes@hsenv.com)	
Phone #: (508)367-7190	FAX #:

Analytical Information

Field ID / Point of Collection	Date	Time	Sampled By	Matrix	# of bottles	voc	NaOH	HNO3	H2So4	None	VOCs (3/40ml VOA vials/HCl)	Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3 (Field Filter)	Dissolved Gases (3-40ml VOA/HCl) RSK175	Alkalinity, Sulfate (1-500 ml P) 250	Nitrate/nitrite (1-250ml P/H2SO4) E353.2	Sulfide (1-250mlP/Znacetate/NaOH)	TOC (3-40ml VOA/HCl) H3PO4	6010				
66M-02-12X_Fa115	10/15/15	1350	VGA	WG	~~12~~ 11	~~9~~ 7	1	1	1	1	X	X	X	X	X	X	X					-1F
MW-7_Fa115	10/15/15	1135	VGA	WG	4 ~~13~~	~~9~~ 3	~~1~~	1	~~1~~	~~1~~	X	X										-2F
66M-04-05X_Fa115	10/15/15	1403		WG	11 ~~13~~	~~9~~ 7	1	1	1	1	X	X	X	X	X	X	X					-3F
~~66M-04-04X~~ MW-3_Fa115	10/15/15	1109		WG	11 ~~13~~	~~9~~ 7	1	1	1	1	X	X	X	X	X	X	X					-4F
66M-02-11X_Fa115	10/15/15	1255		WG	11	7	1	1	1	1	X	X	X	X	X	X	X					-5F
66M-03-10X_Fa115	10/15/15	1300		WG	11	7	1	1	1	1	X	X	X	X	X	X	X					-6F
66M-97-05R_Fa115	10/15/15	1245		WG	4	3		1			X	X										-7F
66M-97-05B_Fa115-M	10/15/15	1130		WG	3	3												X				-8
66M-Dup-4_Fa115	10/15/15	1135		WG	4	3		1			X	X										-9F
Trip Blank	10/15/15	—	VGA	WG	2	3					X											-10

Turnaround Information	Data Deliverable Information		Comments / Remarks
[X] 10 Day STD	[ ] Comm A	[ ] CT RCP	cc: HE, SD, SEI
[ ] 5 Day STD (By Contract only)	[ ] Comm B	[ ] MA MCP	
[ ] 5 Day Rush	[ ] Full T1	[ ] NYASP CAT A	
[ ] 3 Day Rush Approved By:	[ ] Other	[ ] NYASP CATB	
[ ] 2 Day Rush			
[ ] 1 Day Rush	EDD Format:		

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/15/15 1655	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved [ ]	On Ice: [✓] 1.2, 0.8C

5.1

5

MC42202: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

(p2 of 2)

495 Technology Center West
Building One, Marlbourough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #: MC42202
Accutest Control #:

Client Information	Facility Information
Name: H&S Environmental	Project Name: Devens
Address: 160 East Main Street, Suite 2F	Location: AOC50 VOC/Metals
City: Westborough	Project No.
State: MA Zip: 01581	
Send Report to: Laurie Ekes (lekes@hsenv.com)	
Phone #: (508)367-7190	FAX #:

Analytical Information: VOCs (3/40ml VOA vials/HCl); Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3 (Field Filter); Dissolved Gases (3-40ml VOA/HCl) RSK175; Alkalinity, Sulfate (1-500 ml P) 250; Nitrate/nitrite (1-250ml P/H2SO4) E353.2; Sulfide (1-250mlP/Znacetate/NaOH); TOC (3-40ml VOA/HCl) H3PO4

Field ID / Point of Collection	Date	Time	Sampled By	Matrix	# of bottles	voc	NaOH	HNO3	H2SO4	None	VOCs	Dissolved Metals	Dissolved Gases	Alkalinity, Sulfate	Nitrate/nitrite	Sulfide	TOC				
				~~WG~~	13	9	1	1	1	1											
				WG	~~13~~	9	1	1	1	1											
				WG	~~13~~	9	1	1	1	1											
				~~WG~~	13	9	1	1	1	1											
GM-03-09X_Fa115	10/15/15	1400		WG	11	7	1	1	1	1	X	X	X	X	X	X	X				-11F
GM-03-09X_Fa115-MS	10/15/15	1400		WG	11	7	1	1	1	1	X	X	X	X	X	X	X				
GM-03-09X_Fa115_MSD	10/15/15	1400		WG	11	7	1	1	1	1	X	X	X	X	X	X	X				
GM-13-04X-Fa115	10/15/15	1116		WG	11	7	1	1	1	1	X	X	X	X	X	X	X				-12F

WA (written next to second struck row)

Turnaround Information
- [x] 10 Day STD
- [ ] 5 Day STD (By Contract only)
- [ ] 5 Day Rush
- [ ] 3 Day Rush
- [ ] 2 Day Rush
- [ ] 1 Day Rush

Approved By:

Data Deliverable Information
- [ ] Comm A
- [ ] Comm B
- [ ] Full T1
- [ ] Other
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP CAT A
- [ ] NYASP CATB

EDD Format:

Comments / Remarks

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/15/15 1655	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved [ ]	On Ice: [x] 1.2-0.8

5.1 5

MC42202: Chain of Custody
Page 2 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42202 **Client:** HS **Project:**

Date / Time Received: 10/15/2015 4:55:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.2/1.2); #2: (0.8/0.8); #1: (1.2/1.2); #2

Cooler Security

	Y	N
1. Custody Seals Present:	☑	☐
2. Custody Seals Intact:	☑	☐
3. COC Present:	☑	☐
4. Smpl Dates/Time OK	☑	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1; G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	2	

Quality Control_Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	☐
2. Trip Blank listed on COC:	☑	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

MC42202: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1365	SW846 8260C						
MSU1365-BS	67-64-1	Acetone	BSP	REC	97	%	39-160
MSU1365-BS	71-43-2	Benzene	BSP	REC	93	%	79-120
MSU1365-BS	108-86-1	Bromobenzene	BSP	REC	103	%	80-120
MSU1365-BS	74-97-5	Bromochloromethane	BSP	REC	110	%	78-123
MSU1365-BS	75-27-4	Bromodichloromethane	BSP	REC	101	%	79-125
MSU1365-BS	75-25-2	Bromoform	BSP	REC	96	%	66-130
MSU1365-BS	74-83-9	Bromomethane	BSP	REC	98	%	53-141
MSU1365-BS	78-93-3	2-Butanone (MEK)	BSP	REC	114	%	56-143
MSU1365-BS	104-51-8	n-Butylbenzene	BSP	REC	105	%	75-128
MSU1365-BS	135-98-8	sec-Butylbenzene	BSP	REC	107	%	77-126
MSU1365-BS	98-06-6	tert-Butylbenzene	BSP	REC	102	%	78-124
MSU1365-BS	75-15-0	Carbon disulfide	BSP	REC	69	%	64-133
MSU1365-BS	56-23-5	Carbon tetrachloride	BSP	REC	96	%	72-136
MSU1365-BS	108-90-7	Chlorobenzene	BSP	REC	100	%	82-118
MSU1365-BS	75-00-3	Chloroethane	BSP	REC	123	%	60-138
MSU1365-BS	67-66-3	Chloroform	BSP	REC	98	%	79-124
MSU1365-BS	74-87-3	Chloromethane	BSP	REC	81	%	50-139
MSU1365-BS	95-49-8	o-Chlorotoluene	BSP	REC	102	%	79-122
MSU1365-BS	106-43-4	p-Chlorotoluene	BSP	REC	102	%	78-122
MSU1365-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	107	%	62-128
MSU1365-BS	124-48-1	Dibromochloromethane	BSP	REC	103	%	74-126
MSU1365-BS	106-93-4	1,2-Dibromoethane	BSP	REC	105	%	77-121
MSU1365-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	99	%	80-119
MSU1365-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	99	%	80-119
MSU1365-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	100	%	79-118
MSU1365-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	96	%	32-152
MSU1365-BS	75-34-3	1,1-Dichloroethane	BSP	REC	92	%	77-125
MSU1365-BS	107-06-2	1,2-Dichloroethane	BSP	REC	99	%	73-128
MSU1365-BS	75-35-4	1,1-Dichloroethene	BSP	REC	87	%	71-131
MSU1365-BS	156-59-2	cis-1,2-Dichloroethene	BSP	REC	99	%	78-123
MSU1365-BS	156-60-5	trans-1,2-Dichloroethene	BSP	REC	86	%	75-124
MSU1365-BS	78-87-5	1,2-Dichloropropane	BSP	REC	105	%	78-122
MSU1365-BS	142-28-9	1,3-Dichloropropane	BSP	REC	110	%	80-119
MSU1365-BS	594-20-7	2,2-Dichloropropane	BSP	REC	97	%	60-139
MSU1365-BS	563-58-6	1,1-Dichloropropene	BSP	REC	92	%	79-125
MSU1365-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	109	%	75-124
MSU1365-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	115	%	73-127
MSU1365-BS	100-41-4	Ethylbenzene	BSP	REC	99	%	79-121
MSU1365-BS	87-68-3	Hexachlorobutadiene	BSP	REC	102	%	66-134
MSU1365-BS	591-78-6	2-Hexanone	BSP	REC	111	%	57-139
MSU1365-BS	74-88-4	Iodomethane	BSP	REC	88	%	69-131
MSU1365-BS	98-82-8	Isopropylbenzene	BSP	REC	102	%	72-131

* Sample used for QC is not from job MC42202

QC Evaluation: DOD QSM5 Limits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MSU1365-BS	99-87-6	p-Isopropyltoluene	BSP	REC	108	%	77-127
MSU1365-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	107	%	71-124
MSU1365-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	120	%	67-130
MSU1365-BS	74-95-3	Methylene bromide	BSP	REC	102	%	79-123
MSU1365-BS	75-09-2	Methylene chloride	BSP	REC	93	%	74-124
MSU1365-BS	91-20-3	Naphthalene	BSP	REC	98	%	61-128
MSU1365-BS	103-65-1	n-Propylbenzene	BSP	REC	103	%	76-126
MSU1365-BS	100-42-5	Styrene	BSP	REC	99	%	78-123
MSU1365-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	96	%	78-124
MSU1365-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	118	%	71-121
MSU1365-BS	127-18-4	Tetrachloroethene	BSP	REC	95	%	74-129
MSU1365-BS	108-88-3	Toluene	BSP	REC	107	%	80-121
MSU1365-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	104	%	69-129
MSU1365-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	101	%	69-130
MSU1365-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	102	%	74-131
MSU1365-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	116	%	80-119
MSU1365-BS	79-01-6	Trichloroethene	BSP	REC	98	%	79-123
MSU1365-BS	75-69-4	Trichlorofluoromethane	BSP	REC	108	%	65-141
MSU1365-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	108	%	73-122
MSU1365-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	101	%	76-124
MSU1365-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	109	%	75-124
MSU1365-BS	108-05-4	Vinyl Acetate	BSP	REC	140	%	54-146
MSU1365-BS	75-01-4	Vinyl chloride	BSP	REC	109	%	58-137
MSU1365-BS		m,p-Xylene	BSP	REC	98	%	80-121
MSU1365-BS	95-47-6	o-Xylene	BSP	REC	95	%	78-122
MSU1365-BS	1330-20-7	Xylene (total)	BSP	REC	97	%	79-121
MSU1365-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	100	%	80-119
MSU1365-BS	2037-26-5	Toluene-D8	BSP	SURR	106	%	89-112
MSU1365-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	103	%	85-114
MC42202-11MS	67-64-1	Acetone	MS	REC	114	%	39-160
MC42202-11MS	71-43-2	Benzene	MS	REC	99	%	79-120
MC42202-11MS	108-86-1	Bromobenzene	MS	REC	101	%	80-120
MC42202-11MS	74-97-5	Bromochloromethane	MS	REC	114	%	78-123
MC42202-11MS	75-27-4	Bromodichloromethane	MS	REC	101	%	79-125
MC42202-11MS	75-25-2	Bromoform	MS	REC	88	%	66-130
MC42202-11MS	74-83-9	Bromomethane	MS	REC	106	%	53-141
MC42202-11MS	78-93-3	2-Butanone (MEK)	MS	REC	103	%	56-143
MC42202-11MS	104-51-8	n-Butylbenzene	MS	REC	113	%	75-128
MC42202-11MS	135-98-8	sec-Butylbenzene	MS	REC	119	%	77-126
MC42202-11MS	98-06-6	tert-Butylbenzene	MS	REC	118	%	78-124
MC42202-11MS	75-15-0	Carbon disulfide	MS	REC	72	%	64-133
MC42202-11MS	56-23-5	Carbon tetrachloride	MS	REC	98	%	72-136
MC42202-11MS	108-90-7	Chlorobenzene	MS	REC	103	%	82-118
MC42202-11MS	75-00-3	Chloroethane	MS	REC	117	%	60-138
MC42202-11MS	67-66-3	Chloroform	MS	REC	106	%	79-124

* Sample used for QC is not from job MC42202

QC Evaluation: DOD QSM5 Limits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42202-11MS	74-87-3	Chloromethane	MS	REC	108	%	50-139
MC42202-11MS	95-49-8	o-Chlorotoluene	MS	REC	108	%	79-122
MC42202-11MS	106-43-4	p-Chlorotoluene	MS	REC	101	%	78-122
MC42202-11MS	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	122	%	62-128
MC42202-11MS	124-48-1	Dibromochloromethane	MS	REC	101	%	74-126
MC42202-11MS	106-93-4	1,2-Dibromoethane	MS	REC	98	%	77-121
MC42202-11MS	95-50-1	1,2-Dichlorobenzene	MS	REC	109	%	80-119
MC42202-11MS	541-73-1	1,3-Dichlorobenzene	MS	REC	104	%	80-119
MC42202-11MS	106-46-7	1,4-Dichlorobenzene	MS	REC	104	%	79-118
MC42202-11MS	75-71-8	Dichlorodifluoromethane	MS	REC	94	%	32-152
MC42202-11MS	75-34-3	1,1-Dichloroethane	MS	REC	98	%	77-125
MC42202-11MS	107-06-2	1,2-Dichloroethane	MS	REC	102	%	73-128
MC42202-11MS	75-35-4	1,1-Dichloroethene	MS	REC	94	%	71-131
MC42202-11MS	156-59-2	cis-1,2-Dichloroethene	MS	REC	107	%	78-123
MC42202-11MS	156-60-5	trans-1,2-Dichloroethene	MS	REC	90	%	75-124
MC42202-11MS	78-87-5	1,2-Dichloropropane	MS	REC	104	%	78-122
MC42202-11MS	142-28-9	1,3-Dichloropropane	MS	REC	105	%	80-119
MC42202-11MS	594-20-7	2,2-Dichloropropane	MS	REC	85	%	60-139
MC42202-11MS	563-58-6	1,1-Dichloropropene	MS	REC	99	%	79-125
MC42202-11MS	10061-01-5	cis-1,3-Dichloropropene	MS	REC	97	%	75-124
MC42202-11MS	10061-02-6	trans-1,3-Dichloropropene	MS	REC	88	%	73-127
MC42202-11MS	100-41-4	Ethylbenzene	MS	REC	105	%	79-121
MC42202-11MS	87-68-3	Hexachlorobutadiene	MS	REC	116	%	66-134
MC42202-11MS	591-78-6	2-Hexanone	MS	REC	93	%	57-139
MC42202-11MS	74-88-4	Iodomethane	MS	REC	92	%	69-131
MC42202-11MS	98-82-8	Isopropylbenzene	MS	REC	113	%	72-131
MC42202-11MS	99-87-6	p-Isopropyltoluene	MS	REC	117	%	77-127
MC42202-11MS	1634-04-4	Methyl Tert Butyl Ether	MS	REC	109	%	71-124
MC42202-11MS	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	109	%	67-130
MC42202-11MS	74-95-3	Methylene bromide	MS	REC	102	%	79-123
MC42202-11MS	75-09-2	Methylene chloride	MS	REC	98	%	74-124
MC42202-11MS	91-20-3	Naphthalene	MS	REC	121	%	61-128
MC42202-11MS	103-65-1	n-Propylbenzene	MS	REC	105	%	76-126
MC42202-11MS	100-42-5	Styrene	MS	REC	99	%	78-123
MC42202-11MS	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	115	%	78-124
MC42202-11MS	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	119	%	71-121
MC42202-11MS	127-18-4	Tetrachloroethene	MS	REC	106	%	74-129
MC42202-11MS	108-88-3	Toluene	MS	REC	100	%	80-121
MC42202-11MS	87-61-6	1,2,3-Trichlorobenzene	MS	REC	129	%	69-129
MC42202-11MS	120-82-1	1,2,4-Trichlorobenzene	MS	REC	122	%	69-130
MC42202-11MS	71-55-6	1,1,1-Trichloroethane	MS	REC	104	%	74-131
MC42202-11MS	79-00-5	1,1,2-Trichloroethane	MS	REC	98	%	80-119
MC42202-11MS	79-01-6	Trichloroethene	MS	REC	105	%	79-123
MC42202-11MS	75-69-4	Trichlorofluoromethane	MS	REC	109	%	65-141
MC42202-11MS	96-18-4	1,2,3-Trichloropropane	MS	REC	104	%	73-122

* Sample used for QC is not from job MC42202

QC Evaluation: DOD QSM5 Limits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42202-11MS	95-63-6	1,2,4-Trimethylbenzene	MS	REC	108	%	76-124
MC42202-11MS	108-67-8	1,3,5-Trimethylbenzene	MS	REC	119	%	75-124
MC42202-11MS	108-05-4	Vinyl Acetate	MS	REC	135	%	54-146
MC42202-11MS	75-01-4	Vinyl chloride	MS	REC	110	%	58-137
MC42202-11MS		m,p-Xylene	MS	REC	104	%	80-121
MC42202-11MS	95-47-6	o-Xylene	MS	REC	107	%	78-122
MC42202-11MS	1330-20-7	Xylene (total)	MS	REC	105	%	79-121
MC42202-11MS	1868-53-7	Dibromofluoromethane	MS	SURR	105	%	80-119
MC42202-11MS	2037-26-5	Toluene-D8	MS	SURR	96	%	89-112
MC42202-11MS	460-00-4	4-Bromofluorobenzene	MS	SURR	94	%	85-114
MC42202-11MSD	67-64-1	Acetone	MSD	REC	77	%	39-160
MC42202-11MSD	67-64-1	Acetone	MSD	RPD	39 [a]	%	20
MC42202-11MSD	71-43-2	Benzene	MSD	REC	93	%	79-120
MC42202-11MSD	71-43-2	Benzene	MSD	RPD	6	%	20
MC42202-11MSD	108-86-1	Bromobenzene	MSD	REC	104	%	80-120
MC42202-11MSD	108-86-1	Bromobenzene	MSD	RPD	2	%	20
MC42202-11MSD	74-97-5	Bromochloromethane	MSD	REC	109	%	78-123
MC42202-11MSD	74-97-5	Bromochloromethane	MSD	RPD	5	%	20
MC42202-11MSD	75-27-4	Bromodichloromethane	MSD	REC	100	%	79-125
MC42202-11MSD	75-27-4	Bromodichloromethane	MSD	RPD	2	%	20
MC42202-11MSD	75-25-2	Bromoform	MSD	REC	88	%	66-130
MC42202-11MSD	75-25-2	Bromoform	MSD	RPD	0	%	20
MC42202-11MSD	74-83-9	Bromomethane	MSD	REC	104	%	53-141
MC42202-11MSD	74-83-9	Bromomethane	MSD	RPD	1	%	20
MC42202-11MSD	78-93-3	2-Butanone (MEK)	MSD	REC	104	%	56-143
MC42202-11MSD	78-93-3	2-Butanone (MEK)	MSD	RPD	1	%	20
MC42202-11MSD	104-51-8	n-Butylbenzene	MSD	REC	103	%	75-128
MC42202-11MSD	104-51-8	n-Butylbenzene	MSD	RPD	9	%	20
MC42202-11MSD	135-98-8	sec-Butylbenzene	MSD	REC	109	%	77-126
MC42202-11MSD	135-98-8	sec-Butylbenzene	MSD	RPD	8	%	20
MC42202-11MSD	98-06-6	tert-Butylbenzene	MSD	REC	106	%	78-124
MC42202-11MSD	98-06-6	tert-Butylbenzene	MSD	RPD	11	%	20
MC42202-11MSD	75-15-0	Carbon disulfide	MSD	REC	68	%	64-133
MC42202-11MSD	75-15-0	Carbon disulfide	MSD	RPD	5	%	20
MC42202-11MSD	56-23-5	Carbon tetrachloride	MSD	REC	94	%	72-136
MC42202-11MSD	56-23-5	Carbon tetrachloride	MSD	RPD	5	%	20
MC42202-11MSD	108-90-7	Chlorobenzene	MSD	REC	100	%	82-118
MC42202-11MSD	108-90-7	Chlorobenzene	MSD	RPD	3	%	20
MC42202-11MSD	75-00-3	Chloroethane	MSD	REC	121	%	60-138
MC42202-11MSD	75-00-3	Chloroethane	MSD	RPD	3	%	20
MC42202-11MSD	67-66-3	Chloroform	MSD	REC	100	%	79-124
MC42202-11MSD	67-66-3	Chloroform	MSD	RPD	6	%	20
MC42202-11MSD	74-87-3	Chloromethane	MSD	REC	90	%	50-139
MC42202-11MSD	74-87-3	Chloromethane	MSD	RPD	18	%	20
MC42202-11MSD	95-49-8	o-Chlorotoluene	MSD	REC	101	%	79-122

* Sample used for QC is not from job MC42202

QC Evaluation: DOD QSM5 Limits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42202-11MSD	95-49-8	o-Chlorotoluene	MSD	RPD	6	%	20
MC42202-11MSD	106-43-4	p-Chlorotoluene	MSD	REC	102	%	78-122
MC42202-11MSD	106-43-4	p-Chlorotoluene	MSD	RPD	1	%	20
MC42202-11MSD	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	98	%	62-128
MC42202-11MSD	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	22	%	20
MC42202-11MSD	124-48-1	Dibromochloromethane	MSD	REC	100	%	74-126
MC42202-11MSD	124-48-1	Dibromochloromethane	MSD	RPD	1	%	20
MC42202-11MSD	106-93-4	1,2-Dibromoethane	MSD	REC	103	%	77-121
MC42202-11MSD	106-93-4	1,2-Dibromoethane	MSD	RPD	5	%	20
MC42202-11MSD	95-50-1	1,2-Dichlorobenzene	MSD	REC	100	%	80-119
MC42202-11MSD	95-50-1	1,2-Dichlorobenzene	MSD	RPD	9	%	20
MC42202-11MSD	541-73-1	1,3-Dichlorobenzene	MSD	REC	100	%	80-119
MC42202-11MSD	541-73-1	1,3-Dichlorobenzene	MSD	RPD	4	%	20
MC42202-11MSD	106-46-7	1,4-Dichlorobenzene	MSD	REC	100	%	79-118
MC42202-11MSD	106-46-7	1,4-Dichlorobenzene	MSD	RPD	4	%	20
MC42202-11MSD	75-71-8	Dichlorodifluoromethane	MSD	REC	95	%	32-152
MC42202-11MSD	75-71-8	Dichlorodifluoromethane	MSD	RPD	1	%	20
MC42202-11MSD	75-34-3	1,1-Dichloroethane	MSD	REC	93	%	77-125
MC42202-11MSD	75-34-3	1,1-Dichloroethane	MSD	RPD	5	%	20
MC42202-11MSD	107-06-2	1,2-Dichloroethane	MSD	REC	97	%	73-128
MC42202-11MSD	107-06-2	1,2-Dichloroethane	MSD	RPD	5	%	20
MC42202-11MSD	75-35-4	1,1-Dichloroethene	MSD	REC	90	%	71-131
MC42202-11MSD	75-35-4	1,1-Dichloroethene	MSD	RPD	5	%	20
MC42202-11MSD	156-59-2	cis-1,2-Dichloroethene	MSD	REC	102	%	78-123
MC42202-11MSD	156-59-2	cis-1,2-Dichloroethene	MSD	RPD	5	%	20
MC42202-11MSD	156-60-5	trans-1,2-Dichloroethene	MSD	REC	86	%	75-124
MC42202-11MSD	156-60-5	trans-1,2-Dichloroethene	MSD	RPD	5	%	20
MC42202-11MSD	78-87-5	1,2-Dichloropropane	MSD	REC	105	%	78-122
MC42202-11MSD	78-87-5	1,2-Dichloropropane	MSD	RPD	2	%	20
MC42202-11MSD	142-28-9	1,3-Dichloropropane	MSD	REC	109	%	80-119
MC42202-11MSD	142-28-9	1,3-Dichloropropane	MSD	RPD	4	%	20
MC42202-11MSD	594-20-7	2,2-Dichloropropane	MSD	REC	84	%	60-139
MC42202-11MSD	594-20-7	2,2-Dichloropropane	MSD	RPD	2	%	20
MC42202-11MSD	563-58-6	1,1-Dichloropropene	MSD	REC	91	%	79-125
MC42202-11MSD	563-58-6	1,1-Dichloropropene	MSD	RPD	8	%	20
MC42202-11MSD	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	104	%	75-124
MC42202-11MSD	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	7	%	20
MC42202-11MSD	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	107	%	73-127
MC42202-11MSD	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	19	%	20
MC42202-11MSD	100-41-4	Ethylbenzene	MSD	REC	99	%	79-121
MC42202-11MSD	100-41-4	Ethylbenzene	MSD	RPD	6	%	20
MC42202-11MSD	87-68-3	Hexachlorobutadiene	MSD	REC	99	%	66-134
MC42202-11MSD	87-68-3	Hexachlorobutadiene	MSD	RPD	16	%	20
MC42202-11MSD	591-78-6	2-Hexanone	MSD	REC	107	%	57-139
MC42202-11MSD	591-78-6	2-Hexanone	MSD	RPD	13	%	20

* Sample used for QC is not from job MC42202

QC Evaluation: DOD QSM5 Limits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42202-11MSD	74-88-4	Iodomethane	MSD	REC	90	%	69-131
MC42202-11MSD	74-88-4	Iodomethane	MSD	RPD	3	%	20
MC42202-11MSD	98-82-8	Isopropylbenzene	MSD	REC	105	%	72-131
MC42202-11MSD	98-82-8	Isopropylbenzene	MSD	RPD	8	%	20
MC42202-11MSD	99-87-6	p-Isopropyltoluene	MSD	REC	108	%	77-127
MC42202-11MSD	99-87-6	p-Isopropyltoluene	MSD	RPD	8	%	20
MC42202-11MSD	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	107	%	71-124
MC42202-11MSD	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	1	%	20
MC42202-11MSD	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	116	%	67-130
MC42202-11MSD	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	6	%	20
MC42202-11MSD	74-95-3	Methylene bromide	MSD	REC	100	%	79-123
MC42202-11MSD	74-95-3	Methylene bromide	MSD	RPD	2	%	20
MC42202-11MSD	75-09-2	Methylene chloride	MSD	REC	94	%	74-124
MC42202-11MSD	75-09-2	Methylene chloride	MSD	RPD	4	%	20
MC42202-11MSD	91-20-3	Naphthalene	MSD	REC	98	%	61-128
MC42202-11MSD	91-20-3	Naphthalene	MSD	RPD	21	%	20
MC42202-11MSD	103-65-1	n-Propylbenzene	MSD	REC	103	%	76-126
MC42202-11MSD	103-65-1	n-Propylbenzene	MSD	RPD	3	%	20
MC42202-11MSD	100-42-5	Styrene	MSD	REC	97	%	78-123
MC42202-11MSD	100-42-5	Styrene	MSD	RPD	2	%	20
MC42202-11MSD	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	98	%	78-124
MC42202-11MSD	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	16	%	20
MC42202-11MSD	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	119	%	71-121
MC42202-11MSD	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	0	%	20
MC42202-11MSD	127-18-4	Tetrachloroethene	MSD	REC	95	%	74-129
MC42202-11MSD	127-18-4	Tetrachloroethene	MSD	RPD	11	%	20
MC42202-11MSD	108-88-3	Toluene	MSD	REC	105	%	80-121
MC42202-11MSD	108-88-3	Toluene	MSD	RPD	4	%	20
MC42202-11MSD	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	104	%	69-129
MC42202-11MSD	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	21	%	20
MC42202-11MSD	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	101	%	69-130
MC42202-11MSD	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	19	%	20
MC42202-11MSD	71-55-6	1,1,1-Trichloroethane	MSD	REC	101	%	74-131
MC42202-11MSD	71-55-6	1,1,1-Trichloroethane	MSD	RPD	3	%	20
MC42202-11MSD	79-00-5	1,1,2-Trichloroethane	MSD	REC	114	%	80-119
MC42202-11MSD	79-00-5	1,1,2-Trichloroethane	MSD	RPD	16	%	20
MC42202-11MSD	79-01-6	Trichloroethene	MSD	REC	97	%	79-123
MC42202-11MSD	79-01-6	Trichloroethene	MSD	RPD	8	%	20
MC42202-11MSD	75-69-4	Trichlorofluoromethane	MSD	REC	110	%	65-141
MC42202-11MSD	75-69-4	Trichlorofluoromethane	MSD	RPD	1	%	20
MC42202-11MSD	96-18-4	1,2,3-Trichloropropane	MSD	REC	106	%	73-122
MC42202-11MSD	96-18-4	1,2,3-Trichloropropane	MSD	RPD	2	%	20
MC42202-11MSD	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	102	%	76-124
MC42202-11MSD	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	6	%	20
MC42202-11MSD	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	109	%	75-124

* Sample used for QC is not from job MC42202

QC Evaluation: DOD QSM5 Limits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42202-11MSD	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	9	%	20
MC42202-11MSD	108-05-4	Vinyl Acetate	MSD	REC	126	%	54-146
MC42202-11MSD	108-05-4	Vinyl Acetate	MSD	RPD	7	%	20
MC42202-11MSD	75-01-4	Vinyl chloride	MSD	REC	114	%	58-137
MC42202-11MSD	75-01-4	Vinyl chloride	MSD	RPD	3	%	20
MC42202-11MSD		m,p-Xylene	MSD	REC	97	%	80-121
MC42202-11MSD		m,p-Xylene	MSD	RPD	7	%	20
MC42202-11MSD	95-47-6	o-Xylene	MSD	REC	95	%	78-122
MC42202-11MSD	95-47-6	o-Xylene	MSD	RPD	11	%	20
MC42202-11MSD	1330-20-7	Xylene (total)	MSD	REC	97	%	79-121
MC42202-11MSD	1330-20-7	Xylene (total)	MSD	RPD	8	%	20
MC42202-11MSD	1868-53-7	Dibromofluoromethane	MSD	SURR	103	%	80-119
MC42202-11MSD	2037-26-5	Toluene-D8	MSD	SURR	104	%	89-112
MC42202-11MSD	460-00-4	4-Bromofluorobenzene	MSD	SURR	102	%	85-114
MSU1365-MB	1868-53-7	Dibromofluoromethane	MB	SURR	102	%	80-119
MSU1365-MB	2037-26-5	Toluene-D8	MB	SURR	101	%	89-112
MSU1365-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	101	%	85-114
MC42202-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	80-119
MC42202-1	2037-26-5	Toluene-D8	SAMP	SURR	88	%	89-112
MC42202-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC42202-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC42202-2	2037-26-5	Toluene-D8	SAMP	SURR	88	%	89-112
MC42202-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC42202-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	103	%	80-119
MC42202-3	2037-26-5	Toluene-D8	SAMP	SURR	92	%	89-112
MC42202-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
MC42202-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	105	%	80-119
MC42202-4	2037-26-5	Toluene-D8	SAMP	SURR	89	%	89-112
MC42202-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
MC42202-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42202-5	2037-26-5	Toluene-D8	SAMP	SURR	95	%	89-112
MC42202-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
MC42202-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42202-6	2037-26-5	Toluene-D8	SAMP	SURR	90	%	89-112
MC42202-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC42202-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	103	%	80-119
MC42202-7	2037-26-5	Toluene-D8	SAMP	SURR	94	%	89-112
MC42202-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42202-8	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
MC42202-8	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42202-8	460-00-4	4-Bromofluorobenzene	SAMP	SURR	100	%	85-114
MC42202-9	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC42202-9	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42202-9	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114
MC42202-10	1868-53-7	Dibromofluoromethane	SAMP	SURR	106	%	80-119

* Sample used for QC is not from job MC42202

QC Evaluation: DOD QSM5 Limits

Job Number: MC42202
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42202-10	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42202-10	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114
MC42202-11	1868-53-7	Dibromofluoromethane	SAMP	SURR	118	%	80-119
MC42202-11	2037-26-5	Toluene-D8	SAMP	SURR	91	%	89-112
MC42202-11	460-00-4	4-Bromofluorobenzene	SAMP	SURR	90	%	85-114
MC42202-12	1868-53-7	Dibromofluoromethane	SAMP	SURR	104	%	80-119
MC42202-12	2037-26-5	Toluene-D8	SAMP	SURR	98	%	89-112
MC42202-12	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114
MP25342	SW846 6010C						
MP25342-B1	7440-38-2	Arsenic	BSP	REC	102.8	%	87-113
MP25342-B1	7439-89-6	Iron	BSP	REC	102	%	87-115
MP25342-B1	7439-96-5	Manganese	BSP	REC	105	%	90-114
MP25342-S1	7440-38-2	Arsenic	MS	REC	102	%	87-113
MP25342-S1	7439-89-6	Iron	MS	REC	102	%	87-115
MP25342-S1	7439-96-5	Manganese	MS	REC	104.9	%	90-114
MP25342-S2	7440-38-2	Arsenic	MSD	REC	102.6	%	87-113
MP25342-S2	7440-38-2	Arsenic	MSD	RPD	.6	%	20
MP25342-S2	7439-89-6	Iron	MSD	REC	101	%	87-115
MP25342-S2	7439-89-6	Iron	MSD	RPD	1	%	20
MP25342-S2	7439-96-5	Manganese	MSD	REC	105.3	%	90-114
MP25342-S2	7439-96-5	Manganese	MSD	RPD	.3	%	20

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

* Sample used for QC is not from job MC42202

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1365-MB	U33402.D	1	10/29/15	AD	n/a	n/a	MSU1365

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42202-1, MC42202-2, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-7, MC42202-8, MC42202-9, MC42202-10, MC42202-11, MC42202-12

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	0.50	0.27	ug/l	
108-86-1	Bromobenzene	ND	5.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	5.0	0.37	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.39	ug/l	
74-83-9	Bromomethane	ND	2.0	0.79	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	3.0	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.57	ug/l	
75-15-0	Carbon disulfide	ND	5.0	0.76	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.34	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.24	ug/l	
75-00-3	Chloroethane	ND	2.0	0.49	ug/l	
67-66-3	Chloroform	ND	1.0	0.40	ug/l	
74-87-3	Chloromethane	ND	2.0	0.49	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.60	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.46	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.8	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.61	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.33	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.24	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.24	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.37	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.53	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.31	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.28	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.48	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	0.63	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	0.72	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.27	ug/l	

Method Blank Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1365-MB	U33402.D	1	10/29/15	AD	n/a	n/a	MSU1365

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42202-1, MC42202-2, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-7, MC42202-8, MC42202-9, MC42202-10, MC42202-11, MC42202-12

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.43	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.24	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	1.3	ug/l	
591-78-6	2-Hexanone	ND	10	4.6	ug/l	
74-88-4	Iodomethane	ND	5.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	0.61	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.32	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.35	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	2.4	ug/l	
74-95-3	Methylene bromide	ND	5.0	0.30	ug/l	
75-09-2	Methylene chloride	0.34	2.0	0.27	ug/l	J
91-20-3	Naphthalene	ND	5.0	0.61	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.57	ug/l	
100-42-5	Styrene	ND	5.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.48	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.29	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.29	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.78	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.7	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.42	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.32	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.25	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.47	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.39	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	0.29	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	0.48	ug/l	
108-05-4	Vinyl Acetate	ND	5.0	3.2	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.45	ug/l	
	m,p-Xylene	ND	1.0	0.82	ug/l	
95-47-6	o-Xylene	ND	1.0	0.22	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.22	ug/l	

Method Blank Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1365-MB	U33402.D	1	10/29/15	AD	n/a	n/a	MSU1365

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42202-1, MC42202-2, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-7, MC42202-8, MC42202-9, MC42202-10, MC42202-11, MC42202-12

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	79-127%
2037-26-5	Toluene-D8	101%	80-116%
460-00-4	4-Bromofluorobenzene	101%	77-124%

Blank Spike Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1365-BS	U33399.D	1	10/29/15	AD	n/a	n/a	MSU1365

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42202-1, MC42202-2, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-7, MC42202-8, MC42202-9, MC42202-10, MC42202-11, MC42202-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	50	48.4	97	10-200
71-43-2	Benzene	50	46.6	93	74-124
108-86-1	Bromobenzene	50	51.7	103	80-117
74-97-5	Bromochloromethane	50	55.2	110	73-130
75-27-4	Bromodichloromethane	50	50.7	101	76-136
75-25-2	Bromoform	50	48.0	96	63-139
74-83-9	Bromomethane	50	48.9	98	49-161
78-93-3	2-Butanone (MEK)	50	56.9	114	44-191
104-51-8	n-Butylbenzene	50	52.5	105	84-134
135-98-8	sec-Butylbenzene	50	53.6	107	76-125
98-06-6	tert-Butylbenzene	50	50.8	102	74-123
75-15-0	Carbon disulfide	50	34.6	69	45-138
56-23-5	Carbon tetrachloride	50	48.0	96	64-149
108-90-7	Chlorobenzene	50	49.8	100	73-114
75-00-3	Chloroethane	50	61.4	123	43-165
67-66-3	Chloroform	50	48.8	98	72-132
74-87-3	Chloromethane	50	40.6	81	30-173
95-49-8	o-Chlorotoluene	50	50.9	102	75-116
106-43-4	p-Chlorotoluene	50	50.8	102	78-116
96-12-8	1,2-Dibromo-3-chloropropane	50	53.7	107	50-157
124-48-1	Dibromochloromethane	50	51.5	103	75-133
106-93-4	1,2-Dibromoethane	50	52.5	105	72-133
95-50-1	1,2-Dichlorobenzene	50	49.5	99	73-122
541-73-1	1,3-Dichlorobenzene	50	49.7	99	76-117
106-46-7	1,4-Dichlorobenzene	50	49.8	100	74-120
75-71-8	Dichlorodifluoromethane	50	47.9	96	30-180
75-34-3	1,1-Dichloroethane	50	46.0	92	62-130
107-06-2	1,2-Dichloroethane	50	49.5	99	65-140
75-35-4	1,1-Dichloroethene	50	43.7	87	57-132
156-59-2	cis-1,2-Dichloroethene	50	49.6	99	72-131
156-60-5	trans-1,2-Dichloroethene	50	43.0	86	69-127
78-87-5	1,2-Dichloropropane	50	52.3	105	74-130
142-28-9	1,3-Dichloropropane	50	55.1	110	80-129
594-20-7	2,2-Dichloropropane	50	48.4	97	54-162
563-58-6	1,1-Dichloropropene	50	46.0	92	75-116
10061-01-5	cis-1,3-Dichloropropene	50	54.3	109	86-141

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1365-BS	U33399.D	1	10/29/15	AD	n/a	n/a	MSU1365

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42202-1, MC42202-2, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-7, MC42202-8, MC42202-9, MC42202-10, MC42202-11, MC42202-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	57.3	115	80-134
100-41-4	Ethylbenzene	50	49.5	99	76-125
87-68-3	Hexachlorobutadiene	50	51.2	102	64-154
591-78-6	2-Hexanone	50	55.6	111	35-200
74-88-4	Iodomethane	50	43.9	88	50-154
98-82-8	Isopropylbenzene	50	51.2	102	74-121
99-87-6	p-Isopropyltoluene	50	54.1	108	84-128
1634-04-4	Methyl Tert Butyl Ether	50	53.5	107	67-145
108-10-1	4-Methyl-2-pentanone (MIBK)	50	60.0	120	61-155
74-95-3	Methylene bromide	50	50.8	102	75-124
75-09-2	Methylene chloride	50	46.3	93	62-137
91-20-3	Naphthalene	50	49.1	98	24-164
103-65-1	n-Propylbenzene	50	51.5	103	76-120
100-42-5	Styrene	50	49.6	99	74-132
630-20-6	1,1,1,2-Tetrachloroethane	50	48.2	96	71-136
79-34-5	1,1,2,2-Tetrachloroethane	50	59.1	118	65-145
127-18-4	Tetrachloroethene	50	47.6	95	73-122
108-88-3	Toluene	50	53.5	107	80-122
87-61-6	1,2,3-Trichlorobenzene	50	52.0	104	33-170
120-82-1	1,2,4-Trichlorobenzene	50	50.7	101	43-159
71-55-6	1,1,1-Trichloroethane	50	50.8	102	68-137
79-00-5	1,1,2-Trichloroethane	50	57.9	116	76-134
79-01-6	Trichloroethene	50	49.2	98	80-125
75-69-4	Trichlorofluoromethane	50	53.8	108	56-166
96-18-4	1,2,3-Trichloropropane	50	53.9	108	65-147
95-63-6	1,2,4-Trimethylbenzene	50	50.7	101	79-124
108-67-8	1,3,5-Trimethylbenzene	50	54.4	109	80-130
108-05-4	Vinyl Acetate	50	69.8	140	72-200
75-01-4	Vinyl chloride	50	54.6	109	39-176
	m,p-Xylene	100	98.0	98	75-121
95-47-6	o-Xylene	50	47.3	95	71-123
1330-20-7	Xylene (total)	150	145	97	74-122

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSU1365-BS	U33399.D	1	10/29/15	AD	n/a	n/a	MSU1365

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42202-1, MC42202-2, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-7, MC42202-8, MC42202-9, MC42202-10, MC42202-11, MC42202-12

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	79-127%
2037-26-5	Toluene-D8	106%	80-116%
460-00-4	4-Bromofluorobenzene	103%	77-124%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42202-11MS [a]	U33423.D	1	10/29/15	AD	n/a	n/a	MSU1365
MC42202-11MSD [a]	U33424.D	1	10/29/15	AD	n/a	n/a	MSU1365
MC42202-11 [a]	U33406.D	1	10/29/15	AD	n/a	n/a	MSU1365

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42202-1, MC42202-2, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-7, MC42202-8, MC42202-9, MC42202-10, MC42202-11, MC42202-12

CAS No.	Compound	MC42202-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	10 U		50	57.1	114	50	38.5	77	39* [b]	10-156/30
71-43-2	Benzene	0.50 U		50	49.5	99	50	46.4	93	6	63-135/30
108-86-1	Bromobenzene	5.0 U		50	50.7	101	50	51.9	104	2	75-116/30
74-97-5	Bromochloromethane	5.0 U		50	57.1	114	50	54.4	109	5	67-136/30
75-27-4	Bromodichloromethane	1.0 U		50	50.7	101	50	49.8	100	2	69-140/30
75-25-2	Bromoform	1.0 U		50	43.9	88	50	44.0	88	0	57-138/30
74-83-9	Bromomethane	2.0 U		50	52.8	106	50	52.1	104	1	25-169/30
78-93-3	2-Butanone (MEK)	10 U		50	51.5	103	50	52.0	104	1	23-159/30
104-51-8	n-Butylbenzene	5.0 U		50	56.5	113	50	51.4	103	9	75-135/30
135-98-8	sec-Butylbenzene	5.0 U		50	59.3	119	50	54.6	109	8	70-125/30
98-06-6	tert-Butylbenzene	5.0 U		50	59.0	118	50	53.0	106	11	64-128/30
75-15-0	Carbon disulfide	5.0 U		50	35.9	72	50	34.2	68	5	40-139/30
56-23-5	Carbon tetrachloride	1.0 U		50	49.1	98	50	46.9	94	5	60-149/30
108-90-7	Chlorobenzene	1.0 U		50	51.4	103	50	49.8	100	3	70-115/30
75-00-3	Chloroethane	2.0 U		50	58.5	117	50	60.4	121	3	37-175/30
67-66-3	Chloroform	1.0 U		50	53.1	106	50	50.0	100	6	64-141/30
74-87-3	Chloromethane	0.90		50	55.1	108	50	46.1	90	18	21-178/30
95-49-8	o-Chlorotoluene	5.0 U		50	53.9	108	50	50.7	101	6	60-130/30
106-43-4	p-Chlorotoluene	5.0 U		50	50.5	101	50	50.8	102	1	70-120/30
96-12-8	1,2-Dibromo-3-chloropropane	5.0 U		50	60.8	122	50	48.8	98	22	51-156/30
124-48-1	Dibromochloromethane	1.0 U		50	50.6	101	50	50.1	100	1	70-131/30
106-93-4	1,2-Dibromoethane	1.0 U		50	48.9	98	50	51.6	103	5	72-131/30
95-50-1	1,2-Dichlorobenzene	1.0 U		50	54.6	109	50	49.8	100	9	68-122/30
541-73-1	1,3-Dichlorobenzene	1.0 U		50	51.9	104	50	49.8	100	4	71-117/30
106-46-7	1,4-Dichlorobenzene	1.0 U		50	52.2	104	50	50.1	100	4	69-120/30
75-71-8	Dichlorodifluoromethane	2.0 U		50	46.9	94	50	47.4	95	1	28-181/30
75-34-3	1,1-Dichloroethane	1.0 U		50	49.2	98	50	46.6	93	5	56-138/30
107-06-2	1,2-Dichloroethane	1.0 U		50	51.1	102	50	48.7	97	5	60-146/30
75-35-4	1,1-Dichloroethene	1.0 U		50	47.1	94	50	45.0	90	5	52-137/30
156-59-2	cis-1,2-Dichloroethene	1.0 U		50	53.5	107	50	50.8	102	5	64-139/30
156-60-5	trans-1,2-Dichloroethene	1.0 U		50	44.8	90	50	42.8	86	5	63-132/30
78-87-5	1,2-Dichloropropane	2.0 U		50	51.8	104	50	52.6	105	2	67-137/30
142-28-9	1,3-Dichloropropane	5.0 U		50	52.3	105	50	54.3	109	4	78-130/30
594-20-7	2,2-Dichloropropane	5.0 U		50	42.7	85	50	41.8	84	2	36-166/30
563-58-6	1,1-Dichloropropene	5.0 U		50	49.5	99	50	45.7	91	8	68-123/30
10061-01-5	cis-1,3-Dichloropropene	0.50 U		50	48.3	97	50	51.9	104	7	77-142/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42202-11MS [a]	U33423.D	1	10/29/15	AD	n/a	n/a	MSU1365
MC42202-11MSD [a]	U33424.D	1	10/29/15	AD	n/a	n/a	MSU1365
MC42202-11 [a]	U33406.D	1	10/29/15	AD	n/a	n/a	MSU1365

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42202-1, MC42202-2, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-7, MC42202-8, MC42202-9, MC42202-10, MC42202-11, MC42202-12

CAS No.	Compound	MC42202-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	0.50 U		50	44.2	88	50	53.6	107	19	73-136/30
100-41-4	Ethylbenzene	1.0 U		50	52.5	105	50	49.5	99	6	60-136/30
87-68-3	Hexachlorobutadiene	5.0 U		50	57.9	116	50	49.5	99	16	63-143/30
591-78-6	2-Hexanone	10 U		50	46.7	93	50	53.3	107	13	29-151/30
74-88-4	Iodomethane	5.0 U		50	46.2	92	50	44.9	90	3	37-158/30
98-82-8	Isopropylbenzene	5.0 U		50	56.7	113	50	52.4	105	8	67-123/30
99-87-6	p-Isopropyltoluene	5.0 U		50	58.5	117	50	54.1	108	8	78-126/30
1634-04-4	Methyl Tert Butyl Ether	1.0 U		50	54.3	109	50	53.5	107	1	60-156/30
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		50	54.5	109	50	58.1	116	6	47-167/30
74-95-3	Methylene bromide	5.0 U		50	50.8	102	50	50.0	100	2	70-130/30
75-09-2	Methylene chloride	2.0 U		50	49.1	98	50	47.1	94	4	55-144/30
91-20-3	Naphthalene	5.0 U		50	60.6	121	50	49.1	98	21	23-167/30
103-65-1	n-Propylbenzene	5.0 U		50	52.7	105	50	51.3	103	3	66-124/30
100-42-5	Styrene	5.0 U		50	49.5	99	50	48.4	97	2	61-137/30
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U		50	57.6	115	50	48.9	98	16	71-132/30
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U		50	59.6	119	50	59.4	119	0	62-149/30
127-18-4	Tetrachloroethene	1.0 U		50	52.8	106	50	47.4	95	11	65-124/30
108-88-3	Toluene	1.0 U		50	50.2	100	50	52.5	105	4	69-134/30
87-61-6	1,2,3-Trichlorobenzene	5.0 U		50	64.3	129	50	52.2	104	21	41-157/30
120-82-1	1,2,4-Trichlorobenzene	5.0 U		50	61.0	122	50	50.6	101	19	46-147/30
71-55-6	1,1,1-Trichloroethane	1.0 U		50	51.8	104	50	50.4	101	3	61-144/30
79-00-5	1,1,2-Trichloroethane	1.0 U		50	48.8	98	50	57.1	114	16	69-142/30
79-01-6	Trichloroethene	1.0 U		50	52.6	105	50	48.6	97	8	69-133/30
75-69-4	Trichlorofluoromethane	1.0 U		50	54.5	109	50	55.0	110	1	60-163/30
96-18-4	1,2,3-Trichloropropane	5.0 U		50	51.8	104	50	53.0	106	2	57-150/30
95-63-6	1,2,4-Trimethylbenzene	5.0 U		50	54.0	108	50	51.0	102	6	67-130/30
108-67-8	1,3,5-Trimethylbenzene	5.0 U		50	59.6	119	50	54.7	109	9	66-137/30
108-05-4	Vinyl Acetate	5.0 U		50	67.7	135	50	63.0	126	7	48-200/30
75-01-4	Vinyl chloride	1.0 U		50	55.2	110	50	56.8	114	3	39-176/30
	m,p-Xylene	1.0 U		100	104	104	100	97.1	97	7	64-128/30
95-47-6	o-Xylene	1.0 U		50	53.3	107	50	47.7	95	11	64-126/30
1330-20-7	Xylene (total)	1.0 U		150	157	105	150	145	97	8	65-127/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42202-11MS [a]	U33423.D	1	10/29/15	AD	n/a	n/a	MSU1365
MC42202-11MSD [a]	U33424.D	1	10/29/15	AD	n/a	n/a	MSU1365
MC42202-11 [a]	U33406.D	1	10/29/15	AD	n/a	n/a	MSU1365

The QC reported here applies to the following samples: **Method:** SW846 8260C

MC42202-1, MC42202-2, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-7, MC42202-8, MC42202-9, MC42202-10, MC42202-11, MC42202-12

CAS No.	Surrogate Recoveries	MS	MSD	MC42202-11	Limits
1868-53-7	Dibromofluoromethane	105%	103%	118%	79-127%
2037-26-5	Toluene-D8	96%	104%	91%	80-116%
460-00-4	4-Bromofluorobenzene	94%	102%	90%	77-124%

(a) Laboratory not DOD certified for method 8260c analysis.
(b) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC42202-1	U33407.D	105	88	92
MC42202-2	U33408.D	109	88	92
MC42202-3	U33409.D	103	92	94
MC42202-4	U33410.D	105	89	94
MC42202-5	U33411.D	107	95	99
MC42202-6	U33412.D	107	90	95
MC42202-7	U33413.D	103	94	97
MC42202-8	U33414.D	99	100	100
MC42202-9	U33415.D	104	101	102
MC42202-10	U33403.D	106	101	101
MC42202-11	U33406.D	118	91	90
MC42202-12	U33416.D	104	98	102
MC42202-11MS	U33423.D	105	96	94
MC42202-11MSD	U33424.D	103	104	102
MSU1365-BS	U33399.D	100	106	103
MSU1365-MB	U33402.D	102	101	101

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	79-127%
S2 = Toluene-D8	80-116%
S3 = 4-Bromofluorobenzene	77-124%

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1545-MB	BA22706.D	1	10/19/15	AF	n/a	n/a	GBA1545

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1545-BSP	BA22708.D	1	10/19/15	AF	n/a	n/a	GBA1545

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	98.5	111	50-150
74-84-0	Ethane	166	178	107	50-150
74-85-1	Ethene	155	186	120	50-150

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42202
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42202-11MS	BA22711.D	1	10/19/15	AF	n/a	n/a	GBA1545
MC42202-11MSD	BA22712.D	1	10/19/15	AF	n/a	n/a	GBA1545
MC42202-11	BA22709.D	1	10/19/15	AF	n/a	n/a	GBA1545

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12

CAS No.	Compound	MC42202-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
74-82-8	Methane	1090		88.7	925	-186* [a]	88.7	1110	23* [a]	18	50-150/30
74-84-0	Ethane	10	U	166	165	99	166	170	102	3	50-150/30
74-85-1	Ethene	10	U	155	177	114	155	175	113	1	50-150/30

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

New England ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28		
Antimony	6.0	.76	2		
Arsenic	4.0	1.3	1.7	-0.40	<4.0
Barium	50	.24	1		
Beryllium	4.0	.18	.25		
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43		
Calcium	5000	5.3	15		
Chromium	10	.37	.48		
Cobalt	50	.14	.28		
Copper	25	.48	2.4		
Gold	50	.95	1.5		
Iron	100	3.2	17	3.6	<100
Lead	5.0	.56	1.7		
Lithium	500	2	2.5		
Magnesium	5000	22	54		
Manganese	15	.04	1.4	0.20	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5		
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49		
Selenium	10	1	2		
Silicon	100	13	30		
Silver	5.0	.6	1		
Sodium	5000	10	77		
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7		
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51		
Zinc	20	.096	1		
Zirconium	50	.29	1.2		

Associated samples MP25342: MC42202-1F, MC42202-2F, MC42202-3F, MC42202-4F, MC42202-5F, MC42202-6F, MC42202-7F, MC42202-9F, MC42202-11F, MC42202-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	510	500	102.0	75-125
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Gold					
Iron	0.0	10200	10000	102.0	75-125
Lead					
Lithium					
Magnesium					
Manganese	57.3	582	500	104.9	75-125
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Sulfur					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium					
Zinc					
Zirconium					

Associated samples MP25342: MC42202-1F, MC42202-2F, MC42202-3F, MC42202-4F, MC42202-5F, MC42202-6F, MC42202-7F, MC42202-9F, MC42202-11F, MC42202-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	513	500	102.6	0.6	20
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron	0.0	10100	10000	101.0	1.0	20
Lead						
Lithium						
Magnesium						
Manganese	57.3	584	500	105.3	0.3	20
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium					
Zinc					
Zirconium					

Associated samples MP25342: MC42202-1F, MC42202-2F, MC42202-3F, MC42202-4F, MC42202-5F, MC42202-6F, MC42202-7F, MC42202-9F, MC42202-11F, MC42202-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	514	500	102.8	80-120
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	10200	10000	102.0	80-120
Lead				
Lithium				
Magnesium				
Manganese	525	500	105.0	80-120
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25342: MC42202-1F, MC42202-2F, MC42202-3F, MC42202-4F, MC42202-5F, MC42202-6F, MC42202-7F, MC42202-9F, MC42202-11F, MC42202-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	0.00	0.00	NC	0-10
Lead				
Lithium				
Magnesium				
Manganese	57.3	59.3	3.5	0-10
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25342: MC42202-1F, MC42202-2F, MC42202-3F, MC42202-4F, MC42202-5F, MC42202-6F, MC42202-7F, MC42202-9F, MC42202-11F, MC42202-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

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METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN52114	5.0	0.0	mg/l	250	256	102.4	80-120%
Alkalinity, Total as CaCO3	GN52117	5.0	0.0	mg/l	250	255	102.0	80-120%
Nitrogen, Nitrate + Nitrite	GP19725/GN52119	0.10	0.0	mg/l	2	2.11	105.5	90-110%
Nitrogen, Nitrate + Nitrite	GP19726/GN52120	0.10	0.0	mg/l	2	2.12	106.0	90-110%
Nitrogen, Nitrite	GP19697/GN52049	0.010	0.0	mg/l	0.02	0.020	100.0	80-120%
Sulfide	GN52067	2.0	0.0	mg/l	13.4	12.8	95.5	80-120%
Total Organic Carbon	GP19722/GN52118	1.0	0.0	mg/l	10	9.44	94.4	80-120%

Associated Samples:
Batch GN52067: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GN52114: MC42202-1
Batch GN52117: MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GP19697: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GP19722: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GP19725: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-12
Batch GP19726: MC42202-11
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN52114	MC42193-3	mg/l	536	545	1.7	0-20%
Alkalinity, Total as CaCO3	GN52117	MC42202-11	mg/l	27.8	27.8	0.0	0-20%
Nitrogen, Nitrate + Nitrite	GP19725/GN52119	MC42204-3	mg/l	0.0	0.0	0.0	0-20%
Nitrogen, Nitrate + Nitrite	GP19726/GN52120	MC42202-11	mg/l	0.11	0.10	9.5	0-20%
Nitrogen, Nitrite	GP19697/GN52049	MC42202-11	mg/l	0.0011 U	0.0	0.0	0-20%
Sulfide	GN52067	MC42202-11	mg/l	0.34 U	0.0	0.0	0-20%

Associated Samples:
Batch GN52067: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GN52114: MC42202-1
Batch GN52117: MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GP19697: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GP19725: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-12
Batch GP19726: MC42202-11
(*) Outside of QC limits

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN52114	MC42193-3	mg/l	536	250	774	95.2	75-125%
Alkalinity, Total as CaCO3	GN52117	MC42202-11	mg/l	27.8	250	300	108.9	75-125%
Nitrogen, Nitrate + Nitrite	GP19725/GN52119	MC42204-3	mg/l	0.0	2	2.1	105.0	90-110%
Nitrogen, Nitrate + Nitrite	GP19726/GN52120	MC42202-11	mg/l	0.11	2	2.2	104.5	90-110%
Nitrogen, Nitrite	GP19697/GN52049	MC42202-11	mg/l	0.0011 U	0.02	0.018	90.0	75-125%
Sulfide	GN52067	MC42202-11	mg/l	0.34 U	10.3	9.8	95.1	75-125%
Total Organic Carbon	GP19722/GN52118	MC42202-11	mg/l	0.27 U	10	9.9	94.0	75-125%

Associated Samples:
Batch GN52067: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GN52114: MC42202-1
Batch GN52117: MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GP19697: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GP19722: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
Batch GP19725: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-12
Batch GP19726: MC42202-11
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42202
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19722/GN52118	MC42202-11	mg/l	0.27 U	10	10.4	4.9	20%

Associated Samples:
Batch GP19722: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Page 1 of 1

495 Technology Center West, Building One, Marlborough, MA 01752
TEL. 508-481-6200
www.accutest.com

FED-EX Tracking # 6484 9105 1996
Bottle Order Control #
Accutest Quote #
Accutest Job # MC42202

Client / Reporting Information	
Company Name:	Accutest Laboratories
Street Address	495 Technology Center West, Bldg One
City / State / Zip	Marlborough, MA (
Project Contact / E-mail	frankd / frankd@accutest.com
Phone # / Fax #	508-481-6200
Sampler(s) Name(s) / Phone	KGA

Project Information	
Project Name:	Fort Devens, AOC50, Devens, MA
Street	
City / State	
Project #	
Client Purchase Order #	
Project Manager	

Billing Information (if different from Report to)	
Company Name	
Street Address	
City / State / Zip	
Attention:	

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	SO4 by 300	LAB USE ONLY
1	G6M-02-12X_FA115		10/15/15	1:50:00 PM	KGA	AQ	1									X	MA
3	G6M-04-05X_FA115		10/15/15	2:03:00 PM	KGA	AQ	1									X	
4	MW-3_FA115		10/15/15	11:00:00 AM	KGA	AQ	1									X	
5	G6M-02-11X_FA115		10/15/15	12:55:00 PM	KGA	AQ	1									X	
6	G6M-03-10X_FA115		10/15/15	1:00:00 PM	KGA	AQ	1									X	
11S	G6M-03-09X_FA115		10/15/15	2:00:00 PM	KGA	AQ										X	
11D	G6M-03-09X_FA115		10/15/15	2:00:00 PM	KGA	AQ										X	
11	G6M-03-09X_FA115		10/15/15	2:00:00 PM	KGA	AQ	1									X	MS/MSD
12	G6M-13-04X_FA115		10/15/15	11:16:00 AM	KGA	AQ	1									X	

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Turnaround Time (Business days)

- ☐ Std. 10 Business Days
- ☐ 4 Day RUSH
- ☐ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY
- ☒ other Due 10/29/2015

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

INITIAL ASSESSMENT 3B3K

LABEL VERIFICATION

Data Deliverable Information

- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ NJ Reduced
- ☐ NJ Full
- ☐ FULL CLP
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format
- ☒ Other COMMBN

Commercial "A" = Results Only

Comments / Special Instructions

Ship to ALNJ -- SO4 by 300 "Limited Volume"

INITIAL ASSESMENT 3B3M

LABEL VERIFICATION JM

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 WM	10-16-15	1 FEDX	2 Fedex	10/17/15 0930	2 Jackie Kung
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☐ Cooler Temp. 3.0c IR

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MC42202: Chain of Custody
Page 1 of 2
Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42202 **Client:** **Project:**

Date / Time Received: 10/17/2015 9:45:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (3.2);

Cooler Security

	Y	N
1. Custody Seals Present:	✔	
2. Custody Seals Intact:	✔	
3. COC Present:	✔	
4. Smpl Dates/Time OK	✔	

Cooler Temperature

	Y	N
1. Temp criteria achieved:	✔	
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:		✔	
2. Trip Blank listed on COC:		✔	
3. Samples preserved properly:	✔		
4. VOCs headspace free:			✔

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	✔	
2. Container labeling complete:	✔	
3. Sample container label / COC agree:	✔	

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	✔	
2. All containers accounted for:	✔	
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	✔		
2. Bottles received for unspecified tests		✔	
3. Sufficient volume recvd for analysis:	✔		
4. Compositing instructions clear:			✔
5. Filtering instructions clear:			✔

Comments

MC42202: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC42202
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/15/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC42202

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42202
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP93105/GN34940	2.0	0.087	mg/l	80	84.4	105.5	90-110%
Sulfate	GP93105/GN34940	10	0.58	mg/l	80	79.8	99.8	90-110%

Associated Samples:
Batch GP93105: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42202
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP93105/GN34940	MC42202-11	mg/l	20.5	20.4	0.5	0-20%
Sulfate	GP93105/GN34940	MC42202-11	mg/l	11.4	11.5	0.9	0-20%

Associated Samples:
Batch GP93105: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42202
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP93105/GN34940	MC42202-11	mg/l	20.5	80	107	108.1	80-120%
Sulfate	GP93105/GN34940	MC42202-11	mg/l	11.4	80	94.3	103.6	80-120%

Associated Samples:
Batch GP93105: MC42202-1, MC42202-3, MC42202-4, MC42202-5, MC42202-6, MC42202-11, MC42202-12
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

11/04/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

VOC/Metals

Accutest Job Number: MC42231

Sampling Date: 10/16/15

Report to:

H&S Environmental

lekes@hsenv.com

ATTN: Laurie Ekes

Total number of pages in report: **162**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8 9 10 11 12

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Table of Contents

Accutest Laboratories

Sample Summary

H&S Environmental

Job No: MC42231

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC42231-1	10/16/15	00:00 KGA	10/16/15	AQ	Trip Blank Water	TRIP BLANK
MC42231-2	10/16/15	14:00 KGA	10/16/15	AQ	Ground Water	G6M-DUP-3
MC42231-2F	10/16/15	14:00 KGA	10/16/15	AQ	Groundwater Filtered	G6M-DUP-3
MC42231-3	10/16/15	14:00 KGA	10/16/15	AQ	Ground Water	G6M-RB-1
MC42231-4	10/16/15	13:20 KGA	10/16/15	AQ	Ground Water	G6M-13-01X
MC42231-4F	10/16/15	13:20 KGA	10/16/15	AQ	Groundwater Filtered	G6M-13-01X
MC42231-5	10/16/15	11:00 KGA	10/16/15	AQ	Ground Water	G6M-13-01X-H
MC42231-6	10/16/15	10:41 KGA	10/16/15	AQ	Ground Water	G6M-02-13X
MC42231-6F	10/16/15	10:41 KGA	10/16/15	AQ	Groundwater Filtered	G6M-02-13X
MC42231-7	10/16/15	10:43 KGA	10/16/15	AQ	Ground Water	G6M-02-04X
MC42231-7F	10/16/15	10:43 KGA	10/16/15	AQ	Groundwater Filtered	G6M-02-04X
MC42231-8	10/16/15	11:35 KGA	10/16/15	AQ	Ground Water	G6M-04-02X-H
MC42231-9	10/16/15	12:50 KGA	10/16/15	AQ	Ground Water	G6M-04-02X

Sample Summary
(continued)

H&S Environmental

Job No: MC42231

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC42231-9F	10/16/15	12:50 KGA	10/16/15	AQ	Groundwater Filtered	G6M-04-02X
MC42231-10	10/16/15	10:50 KGA	10/16/15	AQ	Ground Water	G6M-02-01X
MC42231-10F	10/16/15	10:50 KGA	10/16/15	AQ	Groundwater Filtered	G6M-02-01X
MC42231-11	10/16/15	13:00 KGA	10/16/15	AQ	Ground Water	G6M-13-03X
MC42231-11F	10/16/15	13:00 KGA	10/16/15	AQ	Groundwater Filtered	G6M-13-03X
MC42231-12	10/16/15	12:30 KGA	10/16/15	AQ	Ground Water	G6M-13-02X
MC42231-12F	10/16/15	12:30 KGA	10/16/15	AQ	Groundwater Filtered	G6M-13-02X
MC42231-13	10/16/15	10:55 KGA	10/16/15	AQ	Ground Water	G6M-04-04X_FAL15
MC42231-13F	10/16/15	10:55 KGA	10/16/15	AQ	Groundwater Filtered	G6M-04-04X_FAL15

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SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC42231

Site: Fort Devens, AOC50, Devens, MA **Report Date** 11/2/2015 6:30:10 PM

12 Sample(s) and 1 Trip Blank(s) were collected on 10/16/2015 and were received at Accutest on 10/16/2015 properly preserved, at 0.2 Deg. C and intact. These Samples received an Accutest job number of MC42231. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** F:VC4453

- Analysis performed at Accutest Laboratories, Orlando FL.

Matrix: AQ **Batch ID:** F:VC4454

- Analysis performed at Accutest Laboratories, Orlando FL.

Matrix: AQ **Batch ID:** F:VC4456

- Analysis performed at Accutest Laboratories, Orlando FL.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1548

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC42178-7DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25317

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42039-1FMS, MC42039-1FMSD, MC42039-1FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic, Iron are outside control limits for sample MP25317-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix: AQ **Batch ID:** MP25356

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42342-13FMS, MC42342-13FMSD, MC42342-13FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Manganese are outside control limits for sample MP25356-SD1. Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ	Batch ID: N:GP93114

- Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ	Batch ID: GP19744

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42231-6DUP, MC42231-6MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate + Nitrite are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

Matrix: AQ	Batch ID: R37557

- MC42231-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R37558

- MC42231-10 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R37571

- MC42231-13 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ	Batch ID: GP19703

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42220-1DUP, MC42220-1MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 2320B

Matrix: AQ	Batch ID: GN52117

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11DUP, MC42202-11MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ	Batch ID: GN52067

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11DUP, MC42202-11MS were used as the QC samples for Sulfide.

Matrix: AQ	Batch ID: GN52076

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42263-2DUP, MC42263-2MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SW846 9060

Matrix: AQ	**Batch ID:** GP19722

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11MS, MC42202-11MSD were used as the QC samples for Total Organic Carbon.

Matrix: AQ	**Batch ID:** GP19742

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42426-2MS, MC42426-2MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC42231).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Accutest Labs of New England, Inc. **Job No** MC42231

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 10/27/2015 2:02:55 P

On 10/20/2015, 3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 4.7 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC42231 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP93114

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC6498-10DUP, JC6498-10MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Accutest Labs of New England, Inc.	**Job No:**	MC42231
Site:	HSMAW: Fort Devens, AOC50, Devens, MA	**Report Date**	11/2/2015 5:47:27 PM

12 Samples and 1 Trip Blank were collected on 10/16/2015 and were received at Accutest SE on 10/29/2015 properly preserved, at 3.2 Deg. C and intact. These Samples received an Accutest job number of MC42231. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** VC4453

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA28607-20MS, FA28607-20MSD were used as the QC samples indicated.

Matrix Spike / Matrix Spike Duplicate Recovery(s) for Hexachlorobutadiene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Sample(s) MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-10, MC42231-11, MC42231-12, MC42231-13 have surrogates outside control limits. Probable cause is due to matrix interference.

MC42231-3 for Toluene-D8: Outside control limits due to matrix interference.

MC42231-4 for Toluene-D8: Outside control limits due to matrix interference.

MC42231-5 for Toluene-D8: Outside control limits due to matrix interference.

MC42231-6 for Toluene-D8: Outside control limits due to matrix interference.

MC42231-7 for Toluene-D8: Outside control limits due to matrix interference.

MC42231-8 for Toluene-D8: Outside control limits due to matrix interference.

MC42231-9 for Toluene-D8: Outside control limits due to matrix interference.

MC42231-11 for Toluene-D8: Outside control limits due to matrix interference.

MC42231-12 for Toluene-D8: Outside control limits due to matrix interference.

MC42231-13 for Toluene-D8: Outside control limits due to matrix interference.

Matrix: AQ **Batch ID:** VC4454

All samples were analyzed within the recommended method holding time.

Sample(s) MC42231-10MS, MC42231-10MSD were used as the QC samples indicated.

Sample(s) MC42231-13 has compound(s) reported with a “B” qualifier, indicating analyte is found in the associated method blank.

MC42231-8: Results from different vials are not consistent.

MC42231-8 for Trichloroethylene: Results from different vials are not consistent.

MC42231-10: Confirmation run.

Matrix: AQ **Batch ID:** VC4456

All method blanks for this batch meet method specific criteria.

Sample(s) D76470-3MS, D76470-3MSD were used as the QC samples indicated.

The following samples were run outside of holding time for method SW846 8260B: MC42231-8, MC42231-9, MC42231-10, MC42231-12. Samples re-analyzed beyond hold time; reported results are considered minimum values.

Matrix Spike / Matrix Spike Duplicate Recovery(s) for Tetrachloroethylene are outside control limits. Outside control limits due to high level in sample relative to spike amount.

Sample(s) MC42231-8, MC42231-9, MC42231-10, MC42231-12 have surrogates outside control limits.

MC42231-8 for Dibromofluoromethane: Outside control limits due to matrix interference.

MC42231-9 for Dibromofluoromethane: Outside control limits due to matrix interference.

MC42231-10 for Dibromofluoromethane: Outside control limits due to matrix interference.

MC42231-12 for Dibromofluoromethane: Outside control limits due to matrix interference.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

______________________________________ Date: November 2, 2015

Lovelie Metzgar, QA Officer (signature on file)

Summary of Hits

Job Number: MC42231
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42231-1	**TRIP BLANK**					
No hits reported in this sample.						
MC42231-2	**G6M-DUP-3**					
cis-1,2-Dichloroethylene [a]		2.4	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [a]		25.6	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [a]		1.1	1.0	0.50	ug/l	SW846 8260B
MC42231-2F	**G6M-DUP-3**					
Iron		60.5 J	100	50	ug/l	SW846 6010C
Manganese		15.5	15	7.5	ug/l	SW846 6010C
MC42231-3	**G6M-RB-1**					
No hits reported in this sample.						
MC42231-4	**G6M-13-01X**					
cis-1,2-Dichloroethylene [a]		2.6	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [a]		26.3	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [a]		1.1	1.0	0.50	ug/l	SW846 8260B
MC42231-4F	**G6M-13-01X**					
Iron		61.3 J	100	50	ug/l	SW846 6010C
Manganese		15.6	15	7.5	ug/l	SW846 6010C
MC42231-5	**G6M-13-01X-H**					
cis-1,2-Dichloroethylene [a]		1.6	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [a]		17.9	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [a]		0.93 J	1.0	0.50	ug/l	SW846 8260B
MC42231-6	**G6M-02-13X**					
cis-1,2-Dichloroethylene [a]		6.1	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [a]		3.6	1.0	0.50	ug/l	SW846 8260B
Vinyl Chloride [a]		3.3	1.0	0.50	ug/l	SW846 8260B
Methane		473	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3		261	5.0	3.9	mg/l	SM21 2320B
Sulfate [b]		1.5 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon		3.2	1.0	0.81	mg/l	SW846 9060

Summary of Hits

Job Number: MC42231
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42231-6F	**G6M-02-13X**					
Arsenic		114	4.0	2.0	ug/l	SW846 6010C
Iron		9770	100	50	ug/l	SW846 6010C
Manganese		12300	75	38	ug/l	SW846 6010C
MC42231-7	**G6M-02-04X**					
No hits reported in this sample.						
MC42231-7F	**G6M-02-04X**					
Arsenic		320	4.0	2.0	ug/l	SW846 6010C
Iron		15100	100	50	ug/l	SW846 6010C
Manganese		1000	15	7.5	ug/l	SW846 6010C
MC42231-8	**G6M-04-02X-H**					
cis-1,2-Dichloroethylene [c]		13.1	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [d]		117	5.0	2.5	ug/l	SW846 8260B
Toluene [c]		0.96 J	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [e]		32.7	1.0	0.50	ug/l	SW846 8260B
Vinyl Chloride [a]		1.6	1.0	0.50	ug/l	SW846 8260B
MC42231-9	**G6M-04-02X**					
cis-1,2-Dichloroethylene [a]		13.7	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [d]		105	5.0	2.5	ug/l	SW846 8260B
Toluene [a]		0.95 J	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [a]		30.5	1.0	0.50	ug/l	SW846 8260B
Vinyl Chloride [a]		1.6	1.0	0.50	ug/l	SW846 8260B
MC42231-9F	**G6M-04-02X**					
Arsenic		237	4.0	2.0	ug/l	SW846 6010C
Iron		65800	500	250	ug/l	SW846 6010C
Manganese		7570	75	38	ug/l	SW846 6010C
MC42231-10	**G6M-02-01X**					
cis-1,2-Dichloroethylene [a]		0.64 J	1.0	0.50	ug/l	SW846 8260B
Methane		14200	200	100	ug/l	VRSK 175
Alkalinity, Total as CaCO3		54.6	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [f]		0.084 J	0.11	0.057	mg/l	EPA 353.2

Summary of Hits

Job Number: MC42231
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

Lab Sample ID Client Sample ID Analyte	Result/ Qual	LOQ	LOD	Units	Method
Nitrogen, Nitrate + Nitrite	0.086 J	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]	1.1 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	2.1	1.0	0.81	mg/l	SW846 9060
MC42231-10F G6M-02-01X					
Arsenic	360	4.0	2.0	ug/l	SW846 6010C
Iron	56200	500	250	ug/l	SW846 6010C
Manganese	1750	15	7.5	ug/l	SW846 6010C
MC42231-11 G6M-13-03X					
Methyl Chloride [a]	1.7 J	2.0	1.0	ug/l	SW846 8260B
Tetrachloroethylene [a]	0.57 J	1.0	0.50	ug/l	SW846 8260B
MC42231-11F G6M-13-03X					
Manganese	362	15	7.5	ug/l	SW846 6010C
MC42231-12 G6M-13-02X					
cis-1,2-Dichloroethylene [a]	27.1	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [d]	69.6	2.0	1.0	ug/l	SW846 8260B
Trichloroethylene [a]	30.6	1.0	0.50	ug/l	SW846 8260B
Vinyl Chloride [a]	1.4 J	2.0	1.0	ug/l	SW846 8260B
MC42231-12F G6M-13-02X					
Iron	87.2 J	100	50	ug/l	SW846 6010C
Manganese	15.1	15	7.5	ug/l	SW846 6010C
MC42231-13 G6M-04-04X_FAL15					
trans-1,2-Dichloroethylene [a]	2.8 B	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [a]	0.76 J	1.0	0.50	ug/l	SW846 8260B
Methane	20000	200	100	ug/l	VRSK 175
Ethene	61.3	10	5.0	ug/l	VRSK 175
Alkalinity, Total as CaCO3	167	5.0	3.9	mg/l	SM21 2320B
Nitrogen, Nitrate [f]	0.098 J	0.11	0.057	mg/l	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.10	0.10	0.054	mg/l	EPA 353.2
Sulfate [b]	1.6 J	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	8.5	1.0	0.81	mg/l	SW846 9060

Summary of Hits

Job Number: MC42231
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42231-13F	**G6M-04-04X_FAL15**					
Arsenic		505	4.0	2.0	ug/l	SW846 6010C
Iron		115000	1000	500	ug/l	SW846 6010C
Manganese		10000	150	75	ug/l	SW846 6010C

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.
(c) Results from different vials are not consistant. Analysis performed at Accutest Laboratories, Orlando FL.
(d) Sample re-analyzed beyond hold time; reported results are considered minimum values. Analysis performed at Accutest Laboratories, Orlando FL. Sample vial(s) contained significant headspace; reported results are considered minimum values.
(e) Results from different vials are not consistant. Analysis performed at Accutest Laboratories, Orlando FL. Results from different vials are not consistant.
(f) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42231-1	**Date Sampled:**	10/16/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111587.D	1	10/29/15	AFL	n/a	n/a	F:VC4453
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42231-1	**Date Sampled:**	10/16/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		83-118%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42231-1	**Date Sampled:**	10/16/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	110%		79-125%
2037-26-5	Toluene-D8	110%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP-3		
Lab Sample ID:	MC42231-2	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111588.D	1	10/29/15	AFL	n/a	n/a	F:VC4453
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	2.4	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP-3		
Lab Sample ID:	MC42231-2	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	25.6	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	1.1	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP-3		
Lab Sample ID:	MC42231-2	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	111%		79-125%
2037-26-5	Toluene-D8	111%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-DUP-3		
Lab Sample ID:	MC42231-2F	**Date Sampled:**	10/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]
Iron	60.5 J	100	50	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]
Manganese	15.5	15	7.5	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18578
(2) Prep QC Batch: MP25317

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-RB-1		
Lab Sample ID:	MC42231-3	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111625.D	1	10/30/15	AFL	n/a	n/a	F:VC4454
Run #2 [a]	C0111589.D	1	10/29/15	AFL	n/a	n/a	F:VC4453

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U [b]	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-RB-1		
Lab Sample ID:	MC42231-3	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	108%	83-118%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-RB-1		
Lab Sample ID:	MC42231-3	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%	113%	79-125%
2037-26-5	Toluene-D8	101%	118% [c]	85-112%
460-00-4	4-Bromofluorobenzene	102%	96%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Result is from Run# 2
(c) Outside control limits due to matrix interference.

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-01X		
Lab Sample ID:	MC42231-4	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111626.D	1	10/30/15	AFL	n/a	n/a	F:VC4454
Run #2 [a]	C0111590.D	1	10/29/15	AFL	n/a	n/a	F:VC4453

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U [b]	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	2.6	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-01X		
Lab Sample ID:	MC42231-4	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	26.3	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	1.1	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	111%	83-118%

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-01X			
Lab Sample ID:	MC42231-4		**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%	114%	79-125%
2037-26-5	Toluene-D8	100%	118% c	85-112%
460-00-4	4-Bromofluorobenzene	100%	95%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Result is from Run# 2
(c) Outside control limits due to matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-01X			
Lab Sample ID:	MC42231-4F		**Date Sampled:**	10/16/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	10/16/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]
Iron	61.3 J	100	50	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]
Manganese	15.6	15	7.5	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18578
(2) Prep QC Batch: MP25317

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-01X-H		
Lab Sample ID:	MC42231-5	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111627.D	1	10/30/15	AFL	n/a	n/a	F:VC4454
Run #2 [a]	C0111591.D	1	10/29/15	AFL	n/a	n/a	F:VC4453

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U [b]	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.6	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	G6M-13-01X-H		
Lab Sample ID:	MC42231-5	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	17.9	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.93	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	112%	83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-01X-H			
Lab Sample ID:	MC42231-5		**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	112%	115%	79-125%
2037-26-5	Toluene-D8	101%	116% c	85-112%
460-00-4	4-Bromofluorobenzene	99%	96%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Result is from Run# 2
(c) Outside control limits due to matrix interference.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC42231-6	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111628.D	1	10/30/15	AFL	n/a	n/a	F:VC4454
Run #2 [a]	C0111592.D	1	10/30/15	AFL	n/a	n/a	F:VC4453

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U [b]	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	6.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC42231-6	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	3.6	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	3.3 [b]	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%	108%	83-118%

U = Not detected　LOD = Limit of Detection　J = Indicates an estimated value
LOQ = Limit of Quantitation　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC42231-6	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	113%	116%	79-125%
2037-26-5	Toluene-D8	103%	115% [c]	85-112%
460-00-4	4-Bromofluorobenzene	101%	99%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Result is from Run# 2
(c) Outside control limits due to matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC42231-6	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22778.D	1	10/21/15	AF	n/a	n/a	GBA1548
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	473	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-13X		
Lab Sample ID:	MC42231-6	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	261	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	10/28/15 15:49	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	10/28/15 15:49	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/16/15 18:25	MC	SM 21 4500 NO2 B
Sulfate [b]	1.5 J	10	0.50	mg/l	1	10/25/15 21:48	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	3.2	1.0	0.81	mg/l	1	10/24/15 06:51	CF	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID: G6M-02-13X
Lab Sample ID: MC42231-6F
Matrix: AQ - Groundwater Filtered
Date Sampled: 10/16/15
Date Received: 10/16/15
Percent Solids: n/a
Project: Fort Devens, AOC50, Devens, MA

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	114	4.0	2.0	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [3]
Iron	9770	100	50	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [3]
Manganese	12300	75	38	ug/l	5	10/19/15	10/21/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18578
(2) Instrument QC Batch: MA18582
(3) Prep QC Batch: MP25317

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-04X			
Lab Sample ID:	MC42231-7		**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111629.D	1	10/30/15	AFL	n/a	n/a	F:VC4454
Run #2 [a]	C0111593.D	1	10/30/15	AFL	n/a	n/a	F:VC4453

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U [b]	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
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E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-04X				
Lab Sample ID:	MC42231-7		**Date Sampled:**	10/16/15	
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15	
Method:	SW846 8260B		**Percent Solids:**	n/a	
Project:	Fort Devens, AOC50, Devens, MA				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%	111%	83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X		
Lab Sample ID:	MC42231-7	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	113%	117%	79-125%
2037-26-5	Toluene-D8	102%	116% [c]	85-112%
460-00-4	4-Bromofluorobenzene	102%	94%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Result is from Run# 2
(c) Outside control limits due to matrix interference.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-04X		
Lab Sample ID:	MC42231-7F	**Date Sampled:**	10/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	320	4.0	2.0	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]
Iron	15100	100	50	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]
Manganese	1000	15	7.5	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18578
(2) Prep QC Batch: MP25317

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-02X-H		
Lab Sample ID:	MC42231-8	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111630.D	1	10/30/15	AFL	n/a	n/a	F:VC4454
Run #2 [b]	C0111594.D	1	10/30/15	AFL	n/a	n/a	F:VC4453
Run #3 [c]	C0111659.D	5	10/31/15	AFL	n/a	n/a	F:VC4456

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml
Run #3	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U [d]	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	13.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X-H			
Lab Sample ID:	MC42231-8		**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene [e]	117 [f]	5.0	2.5	ug/l	
108-88-3	Toluene	0.96	1.0	0.50	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene [g]	32.7	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	1.6 [d]	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X-H		
Lab Sample ID:	MC42231-8	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	109%	112%	122% [h]	83-118%
17060-07-0	1,2-Dichloroethane-D4	114%	117%	118%	79-125%
2037-26-5	Toluene-D8	103%	116% [h]	100%	85-112%
460-00-4	4-Bromofluorobenzene	102%	92%	96%	83-118%

(a) Results from different vials are not consistant. Analysis performed at Accutest Laboratories, Orlando FL.
(b) Analysis performed at Accutest Laboratories, Orlando FL.
(c) Sample re-analyzed beyond hold time; reported results are considered minimum values. Analysis performed at Accutest Laboratories, Orlando FL.
(d) Result is from Run# 2
(e) Sample vial(s) contained significant headspace; reported results are considered minimum values.
(f) Result is from Run# 3
(g) Results from different vials are not consistant.
(h) Outside control limits due to matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-02X		
Lab Sample ID:	MC42231-9	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111631.D	1	10/30/15	AFL	n/a	n/a	F:VC4454
Run #2 [a]	C0111595.D	1	10/30/15	AFL	n/a	n/a	F:VC4453
Run #3 [b]	C0111660.D	5	10/31/15	AFL	n/a	n/a	F:VC4456

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml
Run #3	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U [c]	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	13.7	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X			
Lab Sample ID:	MC42231-9		**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene [d]	105 [e]	5.0	2.5	ug/l	
108-88-3	Toluene	0.95	1.0	0.50	ug/l	J
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	30.5	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	1.6 [c]	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-02X		
Lab Sample ID:	MC42231-9	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	108%	110%	125% f	83-118%
17060-07-0	1,2-Dichloroethane-D4	116%	117%	118%	79-125%
2037-26-5	Toluene-D8	102%	133% f	102%	85-112%
460-00-4	4-Bromofluorobenzene	97%	94%	92%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Sample re-analyzed beyond hold time; reported results are considered minimum values. Analysis performed at Accutest Laboratories, Orlando FL.
(c) Result is from Run# 2
(d) Sample vial(s) contained significant headspace; reported results are considered minimum values.
(e) Result is from Run# 3
(f) Outside control limits due to matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-02X		
Lab Sample ID:	MC42231-9F	**Date Sampled:**	10/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	237	4.0	2.0	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [3]
Iron	65800	500	250	ug/l	5	10/19/15	10/21/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	7570	75	38	ug/l	5	10/19/15	10/21/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18578
(2) Instrument QC Batch: MA18582
(3) Prep QC Batch: MP25317

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-01X			
Lab Sample ID:	MC42231-10		**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111596.D	1	10/30/15	AFL	n/a	n/a	F:VC4453
Run #2 [b]	C0111658.D	1	10/31/15	AFL	n/a	n/a	F:VC4456
Run #3 [c]	C0111632.D	5	10/30/15	AFL	n/a	n/a	F:VC4454

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml
Run #3	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone [d]	20 U [e]	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.64	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: G6M-02-01X
Lab Sample ID: MC42231-10 **Date Sampled:** 10/16/15
Matrix: AQ - Ground Water **Date Received:** 10/16/15
Method: SW846 8260B **Percent Solids:** n/a
Project: Fort Devens, AOC50, Devens, MA

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene [d]	0.50 U [e]	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01X			
Lab Sample ID:	MC42231-10		**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	113%	121% [f]	111%	83-118%
17060-07-0	1,2-Dichloroethane-D4	118%	115%	117%	79-125%
2037-26-5	Toluene-D8	112%	100%	104%	85-112%
460-00-4	4-Bromofluorobenzene	95%	96%	104%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Sample re-analyzed beyond hold time; reported results are considered minimum values. Analysis performed at Accutest Laboratories, Orlando FL.
(c) Confirmation run. Analysis performed at Accutest Laboratories, Orlando FL.
(d) Sample vial(s) contained significant headspace; reported results are considered minimum values.
(e) Result is from Run# 2
(f) Outside control limits due to matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-01X		
Lab Sample ID:	MC42231-10	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22779.D	1	10/21/15	AF	n/a	n/a	GBA1548
Run #2	BA22780.D	1	10/21/15	AF	n/a	n/a	GBA1548

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	14200 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-01X		
Lab Sample ID:	MC42231-10	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	54.6	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.084 J	0.11	0.057	mg/l	1	10/28/15 15:51	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.086 J	0.10	0.054	mg/l	1	10/28/15 15:51	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/16/15 18:25	MC	SM 21 4500 NO2 B
Sulfate [b]	1.1 J	10	0.50	mg/l	1	10/25/15 22:12	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	2.1	1.0	0.81	mg/l	1	10/27/15 23:19	MC	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-01X		
Lab Sample ID:	MC42231-10F	**Date Sampled:**	10/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	360	4.0	2.0	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [3]
Iron	56200	500	250	ug/l	5	10/19/15	10/21/15	EAL	SW846 6010C [2]	SW846 3010A [3]
Manganese	1750	15	7.5	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA18578
(2) Instrument QC Batch: MA18582
(3) Prep QC Batch: MP25317

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-03X			
Lab Sample ID:	MC42231-11		**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111633.D	1	10/30/15	AFL	n/a	n/a	F:VC4454
Run #2 [a]	C0111597.D	1	10/30/15	AFL	n/a	n/a	F:VC4453

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U [b]	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-03X			
Lab Sample ID:	MC42231-11		**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.7	2.0	1.0	ug/l	J
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.57	1.0	0.50	ug/l	J
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%	107%	83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-03X		
Lab Sample ID:	MC42231-11	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	118%	117%	79-125%
2037-26-5	Toluene-D8	105%	120% c	85-112%
460-00-4	4-Bromofluorobenzene	101%	99%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Result is from Run# 2
(c) Outside control limits due to matrix interference.

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-03X		
Lab Sample ID:	MC42231-11F	**Date Sampled:**	10/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]
Manganese	362	15	7.5	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18578
(2) Prep QC Batch: MP25317

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-13-02X			
Lab Sample ID:	MC42231-12		**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water		**Date Received:**	10/16/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111634.D	1	10/30/15	AFL	n/a	n/a	F:VC4454
Run #2 [a]	C0111598.D	2	10/30/15	AFL	n/a	n/a	F:VC4453
Run #3 [b]	C0111661.D	2	10/31/15	AFL	n/a	n/a	F:VC4456

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml
Run #3	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	40 U [c]	50	40	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	27.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	1.0 U [c]	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-02X		
Lab Sample ID:	MC42231-12	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene [d]	69.6 [e]	2.0	1.0	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	30.6	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	1.4 [c]	2.0	1.0	ug/l	J
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-13-02X		
Lab Sample ID:	MC42231-12	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	111%	108%	120% [f]	83-118%
17060-07-0	1,2-Dichloroethane-D4	117%	116%	120%	79-125%
2037-26-5	Toluene-D8	102%	158% [f]	101%	85-112%
460-00-4	4-Bromofluorobenzene	101%	96%	100%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Sample re-analyzed beyond hold time; reported results are considered minimum values. Analysis performed at Accutest Laboratories, Orlando FL.
(c) Result is from Run# 2
(d) Sample vial(s) contained significant headspace; reported results are considered minimum values.
(e) Result is from Run# 3
(f) Outside control limits due to matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-13-02X		
Lab Sample ID:	MC42231-12F	**Date Sampled:**	10/16/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]
Iron	87.2 J	100	50	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]
Manganese	15.1	15	7.5	ug/l	1	10/19/15	10/20/15	EC	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18578
(2) Prep QC Batch: MP25317

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-04X_FAL15		
Lab Sample ID:	MC42231-13	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111635.D	1	10/30/15	AFL	n/a	n/a	F:VC4454
Run #2 [a]	C0111599.D	1	10/30/15	AFL	n/a	n/a	F:VC4453

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U [b]	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	2.8	1.0	0.50	ug/l	B
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-04X_FAL15		
Lab Sample ID:	MC42231-13	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.76	1.0	0.50	ug/l	J
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%	113%	83-118%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-04X_FAL15		
Lab Sample ID:	MC42231-13	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%	118%	79-125%
2037-26-5	Toluene-D8	104%	116% c	85-112%
460-00-4	4-Bromofluorobenzene	98%	94%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Result is from Run# 2
(c) Outside control limits due to matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-04X_FAL15		
Lab Sample ID:	MC42231-13	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22781.D	1	10/21/15	AF	n/a	n/a	GBA1548
Run #2	BA22782.D	1	10/21/15	AF	n/a	n/a	GBA1548

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	10.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	20000 [a]	200	100	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	61.3	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-04X_FAL15		
Lab Sample ID:	MC42231-13	**Date Sampled:**	10/16/15
Matrix:	AQ - Ground Water	**Date Received:**	10/16/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	167	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.098 J	0.11	0.057	mg/l	1	10/28/15 16:33	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.10	0.10	0.054	mg/l	1	10/28/15 16:33	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/16/15 18:25	MC	SM 21 4500 NO2 B
Sulfate [b]	1.6 J	10	0.50	mg/l	1	10/25/15 22:36	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/19/15	BF	SM21 4500 S F
Total Organic Carbon	8.5	1.0	0.81	mg/l	1	10/27/15 23:35	MC	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-04X_FAL15			
Lab Sample ID:	MC42231-13F		**Date Sampled:**	10/16/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	10/16/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	505	4.0	2.0	ug/l	1	10/23/15	10/26/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	115000	1000	500	ug/l	10	10/23/15	10/26/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	10000	150	75	ug/l	10	10/23/15	10/26/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18606
(2) Prep QC Batch: MP25356

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England ACCUTEST LABORATORIES

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

(P1 of 2)

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West
Building One, Marlbourough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #: MC42231
Accutest Control #:

Client Information		Facility Information	
Name	H&S Environmental	Project Name	Devens
Address	160 East Main Street, Suite 2F	Location	AOC50 VOC/Metals
City	Westborough	Project No.	
State	MA Zip 01581		
Send Report to:	Laurie Ekes (lekes@hsenv.com)		
Phone #:	(508)367-7190	FAX #:	

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: Voc	NaOH	HNO3	H2So4	None	VOCs (3/40ml VOA vials/HCl)	Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3 Field F	Dissolved Gases (3-40ml VOA/HCl) RSK175	Alkalinity, Sulfate (1-500 ml P) 250	Nitrate/nitrite (1-250ml P/H2SO4) E353.2	Sulfide (1-250mlP/Znacetate/NaOH)	TOC (3-40ml VOA/HCl) H3PO4					
Trip Blank	10/16/15	—	WA	WG	3	3					X											-1
66M-DUP-3	10/16/15	1400	WA	WG	4	3		1			X	X										-2F
66M-RB-1	10/16/15	1400	—	WG	3	3					X											-3
66M-13-01X	10/16/15	1320	WA	WG	4	3		1			X	X										-4F
66M-13-01X-M	10/16/15	1100	WA	WG	3	3					X											-5
66M-02-13X	10/16/15	1041		WG	11	7	1	1	1	1	X	X	X	X	X	X	X					-6F
66M-02-04X	10/16/15	1043		WG	4	3		1			X	X										-7F
66M-04-02X-M	10/16/15	1135		WG	3	3					X											-8
66M-04-02X	10/16/15	1250		WG	4	3		1			X	X										-9F
66M-92-01X	10/16/15	1050		WG	11	7	1	1	1	1	X	X	X	X	X	X	X					-10F

Turnaround Information

- [X] 10 Day STD
- [ ] 5 Day STD (By Contract only)
- [ ] 5 Day Rush
- [ ] 3 Day Rush
- [ ] 2 Day Rush
- [ ] 1 Day Rush

Approved By:

Data Deliverable Information

- [ ] Comm A
- [ ] Comm B
- [ ] Full T1
- [ ] Other
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP CAT A
- [ ] NYASP CATB

EDD Format:

Comments / Remarks

12A, SE, SF2

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	10/16/15 1510	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved ☐	On Ice: ☑ 0.2

MC42231: Chain of Custody
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ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West
Building One, Marlbourough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #:	MC42231
Accutest Control #:	

Client Information	Facility Information
Name: H&S Environmental	Project Name: Devens
Address: 160 East Main Street, Suite 2F	Location: AOC50 VOC/Metals
City: Westborough	Project No.
State: MA Zip: 01581	
Send Report to: Laurie Ekes (lekes@hsenv.com)	
Phone #: (508)367-7190	FAX #:

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: Voc	NaOH	HNO3	H2So4	None	VOCs (3/40ml VOA vials/HCl)	Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3 Field Filter	Dissolved Gases (3-40ml VOA/HCl) RSK175	Alkalinity, Sulfate (1-~~5~~00 ml P) 250	Nitrate/nitrite (1-250ml P/H2SO4) E353.2	Sulfide (1-250mlP/Znacetate/NaOH)	TOC (3-40ml VOA/~~HCl~~) H3PO4				
66M-13-03X	10/16/15	1300		WG	4	3		1			X	X									-11F
66M-13-02X	10/16/15	1230		WG	4	3		1			X	X									+12F
				WG																	
				WG																	

Turnaround Information

- [X] 10 Day STD
- [ ] 5 Day STD (By Contract only)
- [ ] 5 Day Rush
- [ ] 3 Day Rush
- [ ] 2 Day Rush
- [ ] 1 Day Rush

Approved By:

Data Deliverable Information

- [ ] Comm A
- [ ] Comm B
- [ ] Full T1
- [ ] Other
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP CAT A
- [ ] NYASP CATB

EDD Format:

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/16/15 1510	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved ☐	On Ice: ☒ 0.2C

5.1

5

MC42231: Chain of Custody
Page 2 of 6

Frank D'Agostino MC42231

From: Laurie Ekes <LEkes@hsenv.com>
Sent: Monday, October 19, 2015 2:54 PM
To: Frank D'Agostino
Subject: RE: AOC50 VOC/Metals MC42231
Attachments: Pages from MC42231-chain Revised.pdf

Please add this sample as indicated on the COC.

Thanks Laurie

From: Frank D'Agostino [mailto:frankd@accutest.com]
Sent: Monday, October 19, 2015 2:43 PM
To: Laurie Ekes
Subject: AOC50 VOC/Metals MC42231
Importance: High

Hi Laurie,

We received a sample labeled as, "G6M-04-04X_FAL15" collected on 10/16/15 @ 10:55. Full suite of bottles (11) was received but, not listed on COC. Can you tell me if you need this added and if so, what analysis?

Please confirm

Frank D'Agostino
Project Manager
Accutest Laboratories of NE
Voice: 508.481.6200 Ext. 2104
Fax: 508.481.7753
frankd@accutest.com

ACCUTEST LABORATORIES

"The National Testing Laboratory with Total Performance you can count on"

(P2 of 2) NOTES

![ACCUTEST LABORATORIES]

CHAIN OF CUSTODY

495 Technology Center West
Building One, Marlbourough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #:	MC42231
Accutest Control #:	

Client Information	Facility Information
Name: H&S Environmental	Project Name: Devens
Address: 160 East Main Street, Suite 2F	Location: AOC50 VOC/Metals
City: Westborough	Project No.
State: MA Zip: 01581	
Send Report to: Laurie Ekes (lekes@hsenv.com)	
Phone #: (508)367-7190	FAX #:

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: Voc	NaOH	HNO3	H2So4	None	VOCs (3/40ml VOA vials/HCl)	Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3 Field Filter	Dissolved Gases (3-40ml VOA/HCl) RSK175	Alkalinity, Sulfate (1-~~500~~ 250 ml P)	Nitrate/nitrite (1-250ml P/H2SO4) E353.2	Sulfide (1-250mlP/Znacetate/NaOH)	TOC (3-40ml VOA/HCl)					
GGM-13-03X	10/11/15	1300		WG	4	3		1			X	X										-11F
GGM-13-02X	10/11/15	1230		WG	4	3		1			X	X										-12F
GGM-04-04X_FACIS	10/11/15	10:55		WG	11	8	1	1	1	1	✓	✓	✓	✓	✓	✓	✓					-13F
				WG																		

Turnaround Information	Data Deliverable Information		Comments / Remarks
[X] 10 Day STD	[ ] Comm A	[ ] CT RCP	
[ ] 5 Day STD (By Contract only)	[ ] Comm B	[ ] MA MCP	
[ ] 5 Day Rush	[ ] Full T1	[ ] NYASP CAT A	
[ ] 3 Day Rush Approved By:	[ ] Other	[ ] NYASP CATB	
[ ] 2 Day Rush			
[ ] 1 Day Rush	EDD Format:		

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/11/15 1510	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved [ ]	On Ice: [X] 0.2C

MC42231: Chain of Custody
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5.1

5

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42231 **Client:** H&S **Immediate Client Services Action Required:** No

Date / Time Received: 10/16/2015 3:10:00 PM **Delivery Method:**

Project: **No. Coolers:** 1 **Airbill #'s:**

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	Infared Gun	
3. Cooler media:	Ice (Bag)	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	
2. Trip Blank listed on COC:	☑	☐	
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample rec'd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☑	☐	
3. Sufficient volume rec'd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

-13 "G6M-04-04X_FAL15" collected 10/16/15 @ 10:55. Full suite of bottles (11) received. Sample not listed on COC.

MC42231: Chain of Custody
Page 5 of 6

Sample Receipt Summary - Problem Resolution

Accutest Job Number: MC42231

CSR: Frank D'Agostino **Response Date:** 10/19/2015

Response: Client advised to add sample for full suite of analyses. See scanned email.

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25317	SW846 6010C						
MP25317-B1	7440-38-2	Arsenic	BSP	REC	98.6	%	87-113
MP25317-B1	7439-89-6	Iron	BSP	REC	98.2	%	87-115
MP25317-B1	7439-96-5	Manganese	BSP	REC	100	%	90-114
MP25317-S1*	7440-38-2	Arsenic	MS	REC	101.3	%	87-113
MP25317-S1*	7439-89-6	Iron	MS	REC	98.5	%	87-115
MP25317-S1*	7439-96-5	Manganese	MS	REC	96.8	%	90-114
MP25317-S2*	7440-38-2	Arsenic	MSD	REC	101.9	%	87-113
MP25317-S2*	7440-38-2	Arsenic	MSD	RPD	.6	%	20
MP25317-S2*	7439-89-6	Iron	MSD	REC	99	%	87-115
MP25317-S2*	7439-89-6	Iron	MSD	RPD	.5	%	20
MP25317-S2*	7439-96-5	Manganese	MSD	REC	102.8	%	90-114
MP25317-S2*	7439-96-5	Manganese	MSD	RPD	2	%	20
MP25356	SW846 6010C						
MP25356-B1	7440-38-2	Arsenic	BSP	REC	103	%	87-113
MP25356-B1	7439-89-6	Iron	BSP	REC	101	%	87-115
MP25356-B1	7439-96-5	Manganese	BSP	REC	104	%	90-114
MP25356-S1*	7440-38-2	Arsenic	MS	REC	100.8	%	87-113
MP25356-S1*	7439-89-6	Iron	MS	REC	101	%	87-115
MP25356-S1*	7439-96-5	Manganese	MS	REC	101.9	%	90-114
MP25356-S2*	7440-38-2	Arsenic	MSD	REC	102.4	%	87-113
MP25356-S2*	7440-38-2	Arsenic	MSD	RPD	1.6	%	20
MP25356-S2*	7439-89-6	Iron	MSD	REC	102	%	87-115
MP25356-S2*	7439-89-6	Iron	MSD	RPD	1	%	20
MP25356-S2*	7439-96-5	Manganese	MSD	REC	103.5	%	90-114
MP25356-S2*	7439-96-5	Manganese	MSD	RPD	1.5	%	20

* Sample used for QC is not from job MC42231

New England ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC42231
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1548-MB	BA22764.D	1	10/21/15	AF	n/a	n/a	GBA1548

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42231-6, MC42231-10, MC42231-13

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC42231
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1548-BSP	BA22766.D	1	10/21/15	AF	n/a	n/a	GBA1548

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42231-6, MC42231-10, MC42231-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	88.8	100	50-150
74-84-0	Ethane	166	167	101	50-150
74-85-1	Ethene	155	185	119	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC42231
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42178-7DUP	BA22769.D	1	10/21/15	AF	n/a	n/a	GBA1548
MC42178-7	BA22767.D	1	10/21/15	AF	n/a	n/a	GBA1548
MC42178-7	BA22768.D	1	10/21/15	AF	n/a	n/a	GBA1548

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42231-6, MC42231-10, MC42231-13

CAS No.	Compound	MC42178-7 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	8190 [a]		8570	E	5	30
74-84-0	Ethane	10 U		ND		nc	30
74-85-1	Ethene	10 U		ND		nc	30

(a) Result is from Run #2.

* = Outside of Control Limits.

New England
ACCUTEST
LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25317
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28		
Antimony	6.0	.76	2		
Arsenic	4.0	1.3	1.7	0.90	<4.0
Barium	50	.24	1		
Beryllium	4.0	.18	.25		
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43		
Calcium	5000	5.3	15		
Chromium	10	.37	.48		
Cobalt	50	.14	.28		
Copper	25	.48	2.4		
Gold	50	.95	1.5		
Iron	100	3.2	17	13.3	<100
Lead	5.0	.56	1.7		
Lithium	500	2	2.5		
Magnesium	5000	22	54		
Manganese	15	.04	1.4	1.5	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5		
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49		
Selenium	10	1	2		
Silicon	100	13	30		
Silver	5.0	.6	1		
Sodium	5000	10	77		
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7		
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25317
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51		
Zinc	20	.096	1		
Zirconium	50	.29	1.2		

Associated samples MP25317: MC42231-2F, MC42231-4F, MC42231-6F, MC42231-7F, MC42231-9F, MC42231-10F, MC42231-11F, MC42231-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25317
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42039-1F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	1.6	508	500	101.3	75-125
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Gold					
Iron	97.6	9950	10000	98.5	75-125
Lead					
Lithium					
Magnesium					
Manganese	966	1450	500	96.8	75-125
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Sulfur					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25317
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42039-1F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium					
Zinc					
Zirconium					

Associated samples MP25317: MC42231-2F, MC42231-4F, MC42231-6F, MC42231-7F, MC42231-9F, MC42231-10F, MC42231-11F, MC42231-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25317
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42039-1F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	1.6	511	500	101.9	0.6	20
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron	97.6	10000	10000	99.0	0.5	20
Lead						
Lithium						
Magnesium						
Manganese	966	1480	500	102.8	2.0	20
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25317
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42039-1F Original MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium					
Zinc					
Zirconium					

Associated samples MP25317: MC42231-2F, MC42231-4F, MC42231-6F, MC42231-7F, MC42231-9F, MC42231-10F, MC42231-11F, MC42231-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25317
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	493	500	98.6	80-120
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	9820	10000	98.2	80-120
Lead				
Lithium				
Magnesium				
Manganese	500	500	100.0	80-120
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25317 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/19/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25317: MC42231-2F, MC42231-4F, MC42231-6F, MC42231-7F, MC42231-9F, MC42231-10F, MC42231-11F, MC42231-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25317
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42039-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	1.60	0.00	100.0(a)	0-10
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	97.6	110	12.3 (a)	0-10
Lead				
Lithium				
Magnesium				
Manganese	966	995	3.0	0-10
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25317
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/19/15

Metal	MC42039-1F Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25317: MC42231-2F, MC42231-4F, MC42231-6F, MC42231-7F, MC42231-9F, MC42231-10F, MC42231-11F, MC42231-12F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25356
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/23/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28		
Antimony	6.0	.76	2		
Arsenic	4.0	1.3	1.7	-0.30	<4.0
Barium	50	.24	1		
Beryllium	4.0	.18	.25		
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43		
Calcium	5000	5.3	15		
Chromium	10	.37	.48		
Cobalt	50	.14	.28		
Copper	25	.48	2.4		
Gold	50	.95	1.5		
Iron	100	3.2	17	7.1	<100
Lead	5.0	.56	1.7		
Lithium	500	2	2.5		
Magnesium	5000	22	54		
Manganese	15	.04	1.4	0.40	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5		
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49		
Selenium	10	1	2		
Silicon	100	13	30		
Silver	5.0	.6	1		
Sodium	5000	10	77		
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7		
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25356
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/23/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51		
Zinc	20	.096	1		
Zirconium	50	.29	1.2		

Associated samples MP25356: MC42231-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25356
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/23/15

Metal	MC42342-13F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	504	500	100.8	75-125
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Gold					
Iron	0.0	10100	10000	101.0	75-125
Lead					
Lithium					
Magnesium					
Manganese	9.3	519	500	101.9	75-125
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Sulfur					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25356
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/23/15

Metal	MC42342-13F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium					
Zinc					
Zirconium					

Associated samples MP25356: MC42231-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25356
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/23/15

Metal	MC42342-13F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	512	500	102.4	1.6	20
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron	0.0	10200	10000	102.0	1.0	20
Lead						
Lithium						
Magnesium						
Manganese	9.3	527	500	103.5	1.5	20
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25356
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/23/15

Metal	MC42342-13F Original MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium					
Zinc					
Zirconium					

Associated samples MP25356: MC42231-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25356
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/23/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	515	500	103.0	80-120
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	10100	10000	101.0	80-120
Lead				
Lithium				
Magnesium				
Manganese	520	500	104.0	80-120
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25356
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/23/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25356: MC42231-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25356
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/23/15

Metal	MC42342-13F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	0.00	0.00	NC	0-10
Lead				
Lithium				
Magnesium				
Manganese	9.30	10.6	14.0 (a)	0-10
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25356
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/23/15

Metal	MC42342-13F Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25356: MC42231-13F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN52117	5.0	0.0	mg/l	250	255	102.0	80-120%
Nitrogen, Nitrate + Nitrite	GP19744/GN52164	0.10	0.047	mg/l	2	2.06	103.0	90-110%
Nitrogen, Nitrite	GP19703/GN52057	0.010	0.0	mg/l	0.02	0.020	100.0	80-120%
Sulfide	GN52067	2.0	0.0	mg/l	13.4	12.8	95.5	80-120%
Sulfide	GN52076	2.0	0.0	mg/l	13.4	12.4	92.5	80-120%
Total Organic Carbon	GP19722/GN52118	1.0	0.0	mg/l	10	9.44	94.4	80-120%
Total Organic Carbon	GP19742/GN52178	1.0	0.0	mg/l	10	10.2	102.0	80-120%

Associated Samples:
Batch GN52067: MC42231-6, MC42231-10
Batch GN52076: MC42231-13
Batch GN52117: MC42231-6, MC42231-10, MC42231-13
Batch GP19703: MC42231-6, MC42231-10, MC42231-13
Batch GP19722: MC42231-6
Batch GP19742: MC42231-10, MC42231-13
Batch GP19744: MC42231-6, MC42231-10, MC42231-13
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN52117	MC42202-11	mg/l	27.8	27.8	0.0	0-20%
Nitrogen, Nitrate + Nitrite	GP19744/GN52164	MC42231-6	mg/l	0.018 U	0.036	13.0	0-20%
Nitrogen, Nitrite	GP19703/GN52057	MC42220-1	mg/l	0.0011 U	0.0029	14.8	0-20%
Sulfide	GN52067	MC42202-11	mg/l	0.34 U	0.0	0.0	0-20%
Sulfide	GN52076	MC42263-2	mg/l	0.0	0.0	0.0	0-20%

Associated Samples:
Batch GN52067: MC42231-6, MC42231-10
Batch GN52076: MC42231-13
Batch GN52117: MC42231-6, MC42231-10, MC42231-13
Batch GP19703: MC42231-6, MC42231-10, MC42231-13
Batch GP19744: MC42231-6, MC42231-10, MC42231-13
(*) Outside of QC limits

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN52117	MC42202-11	mg/l	27.8	250	300	108.9	75-125%
Nitrogen, Nitrate + Nitrite	GP19744/GN52164	MC42231-6	mg/l	0.018 U	2	1.8	88.0N(a)	90-110%
Nitrogen, Nitrite	GP19703/GN52057	MC42220-1	mg/l	0.0011 U	0.02	0.023	102.5	75-125%
Sulfide	GN52067	MC42202-11	mg/l	0.34 U	10.3	9.8	95.1	75-125%
Sulfide	GN52076	MC42263-2	mg/l	0.0	13.4	12.2	91.0	75-125%
Total Organic Carbon	GP19722/GN52118	MC42202-11	mg/l	0.27 U	10	9.9	94.0	75-125%
Total Organic Carbon	GP19742/GN52178	MC42426-2	mg/l	0.0	10	9.9	99.0	75-125%

Associated Samples:
Batch GN52067: MC42231-6, MC42231-10
Batch GN52076: MC42231-13
Batch GN52117: MC42231-6, MC42231-10, MC42231-13
Batch GP19703: MC42231-6, MC42231-10, MC42231-13
Batch GP19722: MC42231-6
Batch GP19742: MC42231-10, MC42231-13
Batch GP19744: MC42231-6, MC42231-10, MC42231-13
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42231
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19722/GN52118	MC42202-11	mg/l	0.27 U	10	10.4	4.9	20%
Total Organic Carbon	GP19742/GN52178	MC42426-2	mg/l	0.0	10	9.8	1.0	20%

Associated Samples:
Batch GP19722: MC42231-6
Batch GP19742: MC42231-10, MC42231-13
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Page 1 of 2

495 Technology Center West, Building One, Marlborough, MA 01752
TEL. 508-481-6200
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # MC42231

Client / Reporting Information	Project Information
Company Name: Accutest Laboratories	Project Name: Fort Devens, AOC50, Devens, MA
Street Address: 495 Technology Center West, Bldg One	Street
City: Marlborough, State: MA, Zip: (	City, State; Billing Information (if different from Report to) Company Name
Project Contact: frankd; E-mail: frankd@accutest.com	Project #; Street Address
Phone #: 508-481-6200; Fax #	Client Purchase Order #; City, State, Zip
Sampler(s) Name(s): KGA; Phone	Project Manager; Attention:

Requested Analysis (see TEST CODE sheet): V8260STD_VMS+MTBE

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V8260STD_VMS+MTBE	LAB USE ONLY
1	TRIP BLANK		10/16/15	12:00:00 AM	KGA	AQ	2	x								X	
2	G6M-DUP-3		10/16/15	2:00:00 PM	KGA	AQ	2	x								X	
3	G6M-RB-1		10/16/15	2:00:00 PM	KGA	AQ	2	x								X	
4	G6M-13-01X		10/16/15	1:20:00 PM	KGA	AQ	2	x								X	
5	G6M-13-01X-H		10/16/15	11:00:00 AM	KGA	AQ	2	x								X	
6	G6M-02-13X		10/16/15	10:41:00 AM	KGA	AQ	2	x								X	
7	G6M-02-04X		10/16/15	10:43:00 AM	KGA	AQ	2	x								X	
8	G6M-04-02X-H		10/16/15	11:35:00 AM	KGA	AQ	2	x								X	
9	G6M-04-02X		10/16/15	12:50:00 PM	KGA	AQ	2	x								X	
10	G6M-02-01X		10/16/15	10:50:00 AM	KGA	AQ	2	x								X	
11	G6M-13-03X		10/16/15	1:00:00 PM	KGA	AQ	2	x								X	
12	G6M-13-02X		10/16/15	12:30:00 PM	KGA	AQ	2	x								X	

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [x] other: Due 10/30/2015

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

RUSH!

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [x] Other COMMBN

Commercial "A" = Results Only

Comments / Special Instructions: Ship to ALSE – DOD **Watch Hold Time / 14 Day expires 10/30/15**

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/28/15	1 FedEx	2 FED Ex	10-29-15 10:00	2 Michael [signature]
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Intact / Not intact; Preserved where applicable	On Ice; Cooler Temp. 3.2

MC42231: Chain of Custody
Page 1 of 4
Accutest Laboratories Southeast, Inc.

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ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West, Building One, Marlborough, MA 01752
TEL. 508-481-6200
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # MC42231

Client / Reporting Information

Company Name:	Accutest Laboratories
Street Address	495 Technology Center West, Bldg One
City / State / Zip	Marlborough, MA (
Project Contact / E-mail	frankd / frankd@accutest.com
Phone # / Fax #	508-481-6200
Sampler(s) Name(s) / Phone	KGA

Project Information

Project Name:	Fort Devens, AOC50, Devens, MA
Street	
City / State	
Project #	
Client Purchase Order #	
Project Manager	

Billing Information (if different from Report to)

Company Name	
Street Address	
City / State / Zip	
Attention:	

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V8260STD VMS+MTBE	LAB USE ONLY
13	G6M-04-04X_FAL15		10/16/15	10:55:00 AM	KGA	AQ	2	x								X	

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [x] other Due 10/30/2015

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

RUSH!

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [x] Other COMMBN

Commercial "A" = Results Only

Comments / Special Instructions

Ship to ALSE -- DOD **Watch Hold Time / 14 Day expires 10/30/15**

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	10/28/15	1 FED	2 FED Ex	10-29-15 10:00	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☐ Cooler Temp. 3.2

MC42231: Chain of Custody
Page 2 of 4

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: MC42231 CLIENT: ALNE PROJECT: Fort Devens, AOC50

DATE/TIME RECEIVED: 10-29-15 10:00 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX (circled) UPS ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 6484 9125 3407

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ CHAIN OF CUSTODY NOT RECEIVED (COC)
- ☐ ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- ☐ SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- ☐ TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- ☒ TRIP BLANK PROVIDED
- ☐ TRIP BLANK NOT PROVIDED
- ☐ TRIP BLANK NOT ON COC
- ☒ TRIP BLANK INTACT
- ☐ TRIP BLANK NOT INTACT
- ☒ RECEIVED WATER TRIP BLANK
- ☐ RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM____ 5-GRAM____

NUMBER OF 5035 FIELD KITS ? ____

NUMBER OF LAB FILTERED METALS ? ____

TEMPERATURE INFORMATION

- ☐ IR THERM ID 1 CORR. FACTOR -0.4
- ☐ OBSERVED TEMPS: 3.6
- ☐ CORRECTED TEMPS: 3.2

SAMPLE INFORMATION

- ☐ INCORRECT NUMBER OF CONTAINERS USED
- ☐ SAMPLE RECEIVED IMPROPERLY PRESERVED
- ☐ INSUFFICIENT VOLUME FOR ANALYSIS
- ☐ DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- ☐ ID'S ON COC DO NOT MATCH LABEL
- ☐ VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- ☐ BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- ☐ NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- ☐ UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- ☐ SAMPLE CONTAINER(S) RECEIVED BROKEN
- ☐ 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- ☐ BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- ☐ % SOLIDS JAR NOT RECEIVED
- ☐ RESIDUAL CHLORINE PRESENT LOT#____

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

pH PAPER LOT#s WIDIHC131225 NARROW RANGE A036133 OTHER (specify) 405-230010

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE [signature] 10-29-15 REVIEWER SIGNATURE/DATE [signature] 10/29/15

NF 10/14 YELLOWSHEET110514.xls

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MC42231: Chain of Custody

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ORIGIN ID:BBFA (508) 481-6200
SAMPLE MANAGEMENT
ACCUTEST LABORATORIES
50 D'ANGELO DR.
495 TECH CENTER W., BUILDING 1
MARLBOROUGH, MA 01752
UNITED STATES US

SHIP DATE: 28OCT15
ACTWGT: 12.0 LB MAN
CAD: 0990801/CAFE2807

BILL SENDER

TO RICK WATKINS
ACCUTEST SOUTHEAST
4405 VINELAND RD
SUITE C-15
ORLANDO FL 328115803
(407) 425-6700 REF:
INV:
PO: DEPT:

521C2/9787/6F03

FedEx
Express

E

J141214073001uv

THU - 29 OCT AA
STANDARD OVERNIGHT

TRK# 0201 6484 9125 3407

EA TIXA

32811
FL-US MCO

Part # 156148-434 RIT2 07/14

MC42231: Chain of Custody
Page 4 of 4

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC4453	SW846 8260B						
VC4453-BS	67-64-1	Acetone	BSP	REC	99	%	39-160
VC4453-BS	71-43-2	Benzene	BSP	REC	107	%	79-120
VC4453-BS	108-86-1	Bromobenzene	BSP	REC	92	%	80-120
VC4453-BS	74-97-5	Bromochloromethane	BSP	REC	101	%	78-123
VC4453-BS	75-27-4	Bromodichloromethane	BSP	REC	109	%	79-125
VC4453-BS	75-25-2	Bromoform	BSP	REC	82	%	66-130
VC4453-BS	78-93-3	2-Butanone (MEK)	BSP	REC	98	%	56-143
VC4453-BS	104-51-8	n-Butylbenzene	BSP	REC	99	%	75-128
VC4453-BS	135-98-8	sec-Butylbenzene	BSP	REC	111	%	77-126
VC4453-BS	98-06-6	tert-Butylbenzene	BSP	REC	104	%	78-124
VC4453-BS	75-15-0	Carbon Disulfide	BSP	REC	102	%	64-133
VC4453-BS	56-23-5	Carbon Tetrachloride	BSP	REC	103	%	72-136
VC4453-BS	108-90-7	Chlorobenzene	BSP	REC	106	%	82-118
VC4453-BS	75-00-3	Chloroethane	BSP	REC	92	%	60-138
VC4453-BS	67-66-3	Chloroform	BSP	REC	104	%	79-124
VC4453-BS	95-49-8	o-Chlorotoluene	BSP	REC	110	%	79-122
VC4453-BS	106-43-4	p-Chlorotoluene	BSP	REC	111	%	78-122
VC4453-BS	124-48-1	Dibromochloromethane	BSP	REC	92	%	74-126
VC4453-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	93	%	62-128
VC4453-BS	106-93-4	1,2-Dibromoethane	BSP	REC	94	%	77-121
VC4453-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	91	%	32-152
VC4453-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	102	%	80-119
VC4453-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	104	%	80-119
VC4453-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	103	%	79-118
VC4453-BS	75-34-3	1,1-Dichloroethane	BSP	REC	109	%	77-125
VC4453-BS	107-06-2	1,2-Dichloroethane	BSP	REC	106	%	73-128
VC4453-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	107	%	71-131
VC4453-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	102	%	78-123
VC4453-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	114	%	75-124
VC4453-BS	78-87-5	1,2-Dichloropropane	BSP	REC	108	%	78-122
VC4453-BS	142-28-9	1,3-Dichloropropane	BSP	REC	95	%	80-119
VC4453-BS	594-20-7	2,2-Dichloropropane	BSP	REC	105	%	60-139
VC4453-BS	563-58-6	1,1-Dichloropropene	BSP	REC	105	%	79-125
VC4453-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	92	%	75-124
VC4453-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	104	%	73-127
VC4453-BS	100-41-4	Ethylbenzene	BSP	REC	109	%	79-121
VC4453-BS	87-68-3	Hexachlorobutadiene	BSP	REC	82	%	66-134
VC4453-BS	591-78-6	2-Hexanone	BSP	REC	102	%	57-139
VC4453-BS	98-82-8	Isopropylbenzene	BSP	REC	104	%	72-131
VC4453-BS	99-87-6	p-Isopropyltoluene	BSP	REC	104	%	77-127
VC4453-BS	74-83-9	Methyl Bromide	BSP	REC	105	%	53-141
VC4453-BS	74-87-3	Methyl Chloride	BSP	REC	109	%	50-139

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC4453-BS	74-88-4	Methyl Iodide	BSP	REC	96	%	69-131
VC4453-BS	74-95-3	Methylene Bromide	BSP	REC	108	%	79-123
VC4453-BS	75-09-2	Methylene Chloride	BSP	REC	102	%	74-124
VC4453-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	97	%	67-130
VC4453-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	111	%	71-124
VC4453-BS	91-20-3	Naphthalene	BSP	REC	106	%	61-128
VC4453-BS	103-65-1	n-Propylbenzene	BSP	REC	120	%	76-126
VC4453-BS	100-42-5	Styrene	BSP	REC	98	%	78-123
VC4453-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	106	%	78-124
VC4453-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	104	%	71-121
VC4453-BS	127-18-4	Tetrachloroethylene	BSP	REC	89	%	74-129
VC4453-BS	108-88-3	Toluene	BSP	REC	104	%	80-121
VC4453-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	90	%	69-129
VC4453-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	88	%	69-130
VC4453-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	102	%	74-131
VC4453-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	110	%	80-119
VC4453-BS	79-01-6	Trichloroethylene	BSP	REC	106	%	79-123
VC4453-BS	75-69-4	Trichlorofluoromethane	BSP	REC	102	%	65-141
VC4453-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	106	%	73-122
VC4453-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	111	%	76-124
VC4453-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	109	%	75-124
VC4453-BS	108-05-4	Vinyl Acetate	BSP	REC	114	%	54-146
VC4453-BS	75-01-4	Vinyl Chloride	BSP	REC	106	%	58-137
VC4453-BS		m,p-Xylene	BSP	REC	102	%	80-121
VC4453-BS	95-47-6	o-Xylene	BSP	REC	101	%	78-122
VC4453-BS	1330-20-7	Xylene (total)	BSP	REC	102	%	79-121
VC4453-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	97	%	80-119
VC4453-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	98	%	81-118
VC4453-BS	2037-26-5	Toluene-D8	BSP	SURR	99	%	89-112
VC4453-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	96	%	85-114
FA28607-20MS*	67-64-1	Acetone	MS	REC	110	%	39-160
FA28607-20MS*	71-43-2	Benzene	MS	REC	108	%	79-120
FA28607-20MS*	108-86-1	Bromobenzene	MS	REC	88	%	80-120
FA28607-20MS*	74-97-5	Bromochloromethane	MS	REC	104	%	78-123
FA28607-20MS*	75-27-4	Bromodichloromethane	MS	REC	111	%	79-125
FA28607-20MS*	75-25-2	Bromoform	MS	REC	74	%	66-130
FA28607-20MS*	78-93-3	2-Butanone (MEK)	MS	REC	105	%	56-143
FA28607-20MS*	104-51-8	n-Butylbenzene	MS	REC	89	%	75-128
FA28607-20MS*	135-98-8	sec-Butylbenzene	MS	REC	104	%	77-126
FA28607-20MS*	98-06-6	tert-Butylbenzene	MS	REC	97	%	78-124
FA28607-20MS*	75-15-0	Carbon Disulfide	MS	REC	102	%	64-133
FA28607-20MS*	56-23-5	Carbon Tetrachloride	MS	REC	108	%	72-136
FA28607-20MS*	108-90-7	Chlorobenzene	MS	REC	104	%	82-118
FA28607-20MS*	75-00-3	Chloroethane	MS	REC	105	%	60-138
FA28607-20MS*	67-66-3	Chloroform	MS	REC	110	%	79-124

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA28607-20MS*	95-49-8	o-Chlorotoluene	MS	REC	102	%	79-122
FA28607-20MS*	106-43-4	p-Chlorotoluene	MS	REC	104	%	78-122
FA28607-20MS*	124-48-1	Dibromochloromethane	MS	REC	81	%	74-126
FA28607-20MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	91	%	62-128
FA28607-20MS*	106-93-4	1,2-Dibromoethane	MS	REC	81	%	77-121
FA28607-20MS*	75-71-8	Dichlorodifluoromethane	MS	REC	77	%	32-152
FA28607-20MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	95	%	80-119
FA28607-20MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	95	%	80-119
FA28607-20MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	101	%	79-118
FA28607-20MS*	75-34-3	1,1-Dichloroethane	MS	REC	112	%	77-125
FA28607-20MS*	107-06-2	1,2-Dichloroethane	MS	REC	114	%	73-128
FA28607-20MS*	75-35-4	1,1-Dichloroethylene	MS	REC	111	%	71-131
FA28607-20MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	100	%	78-123
FA28607-20MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	107	%	75-124
FA28607-20MS*	78-87-5	1,2-Dichloropropane	MS	REC	108	%	78-122
FA28607-20MS*	142-28-9	1,3-Dichloropropane	MS	REC	88	%	80-119
FA28607-20MS*	594-20-7	2,2-Dichloropropane	MS	REC	79	%	60-139
FA28607-20MS*	563-58-6	1,1-Dichloropropene	MS	REC	98	%	79-125
FA28607-20MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	90	%	75-124
FA28607-20MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	85	%	73-127
FA28607-20MS*	100-41-4	Ethylbenzene	MS	REC	106	%	79-121
FA28607-20MS*	87-68-3	Hexachlorobutadiene	MS	REC	73 [a]	%	66-134
FA28607-20MS*	591-78-6	2-Hexanone	MS	REC	101	%	57-139
FA28607-20MS*	98-82-8	Isopropylbenzene	MS	REC	93	%	72-131
FA28607-20MS*	99-87-6	p-Isopropyltoluene	MS	REC	96	%	77-127
FA28607-20MS*	74-83-9	Methyl Bromide	MS	REC	109	%	53-141
FA28607-20MS*	74-87-3	Methyl Chloride	MS	REC	94	%	50-139
FA28607-20MS*	74-88-4	Methyl Iodide	MS	REC	95	%	69-131
FA28607-20MS*	74-95-3	Methylene Bromide	MS	REC	111	%	79-123
FA28607-20MS*	75-09-2	Methylene Chloride	MS	REC	111	%	74-124
FA28607-20MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	102	%	67-130
FA28607-20MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	101	%	71-124
FA28607-20MS*	91-20-3	Naphthalene	MS	REC	85	%	61-128
FA28607-20MS*	103-65-1	n-Propylbenzene	MS	REC	109	%	76-126
FA28607-20MS*	100-42-5	Styrene	MS	REC	91	%	78-123
FA28607-20MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	102	%	78-124
FA28607-20MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	107	%	71-121
FA28607-20MS*	127-18-4	Tetrachloroethylene	MS	REC	102	%	74-129
FA28607-20MS*	108-88-3	Toluene	MS	REC	98	%	80-121
FA28607-20MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	85	%	69-129
FA28607-20MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	75	%	69-130
FA28607-20MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	112	%	74-131
FA28607-20MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	108	%	80-119
FA28607-20MS*	79-01-6	Trichloroethylene	MS	REC	109	%	79-123
FA28607-20MS*	75-69-4	Trichlorofluoromethane	MS	REC	111	%	65-141

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA28607-20MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	105	%	73-122
FA28607-20MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	106	%	76-124
FA28607-20MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	107	%	75-124
FA28607-20MS*	108-05-4	Vinyl Acetate	MS	REC	114	%	54-146
FA28607-20MS*	75-01-4	Vinyl Chloride	MS	REC	97	%	58-137
FA28607-20MS*		m,p-Xylene	MS	REC	98	%	80-121
FA28607-20MS*	95-47-6	o-Xylene	MS	REC	85	%	78-122
FA28607-20MS*	1330-20-7	Xylene (total)	MS	REC	93	%	79-121
FA28607-20MS*	1868-53-7	Dibromofluoromethane	MS	SURR	103	%	80-119
FA28607-20MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	108	%	81-118
FA28607-20MS*	2037-26-5	Toluene-D8	MS	SURR	93	%	89-112
FA28607-20MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	85	%	85-114
FA28607-20MSD*	67-64-1	Acetone	MSD	REC	108	%	39-160
FA28607-20MSD*	67-64-1	Acetone	MSD	RPD	3	%	20
FA28607-20MSD*	71-43-2	Benzene	MSD	REC	105	%	79-120
FA28607-20MSD*	71-43-2	Benzene	MSD	RPD	3	%	20
FA28607-20MSD*	108-86-1	Bromobenzene	MSD	REC	89	%	80-120
FA28607-20MSD*	108-86-1	Bromobenzene	MSD	RPD	1	%	20
FA28607-20MSD*	74-97-5	Bromochloromethane	MSD	REC	103	%	78-123
FA28607-20MSD*	74-97-5	Bromochloromethane	MSD	RPD	1	%	20
FA28607-20MSD*	75-27-4	Bromodichloromethane	MSD	REC	106	%	79-125
FA28607-20MSD*	75-27-4	Bromodichloromethane	MSD	RPD	4	%	20
FA28607-20MSD*	75-25-2	Bromoform	MSD	REC	75	%	66-130
FA28607-20MSD*	75-25-2	Bromoform	MSD	RPD	0	%	20
FA28607-20MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	104	%	56-143
FA28607-20MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	1	%	20
FA28607-20MSD*	104-51-8	n-Butylbenzene	MSD	REC	86	%	75-128
FA28607-20MSD*	104-51-8	n-Butylbenzene	MSD	RPD	3	%	20
FA28607-20MSD*	135-98-8	sec-Butylbenzene	MSD	REC	100	%	77-126
FA28607-20MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	3	%	20
FA28607-20MSD*	98-06-6	tert-Butylbenzene	MSD	REC	96	%	78-124
FA28607-20MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	2	%	20
FA28607-20MSD*	75-15-0	Carbon Disulfide	MSD	REC	100	%	64-133
FA28607-20MSD*	75-15-0	Carbon Disulfide	MSD	RPD	2	%	20
FA28607-20MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	101	%	72-136
FA28607-20MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	7	%	20
FA28607-20MSD*	108-90-7	Chlorobenzene	MSD	REC	102	%	82-118
FA28607-20MSD*	108-90-7	Chlorobenzene	MSD	RPD	3	%	20
FA28607-20MSD*	75-00-3	Chloroethane	MSD	REC	95	%	60-138
FA28607-20MSD*	75-00-3	Chloroethane	MSD	RPD	10	%	20
FA28607-20MSD*	67-66-3	Chloroform	MSD	REC	106	%	79-124
FA28607-20MSD*	67-66-3	Chloroform	MSD	RPD	3	%	20
FA28607-20MSD*	95-49-8	o-Chlorotoluene	MSD	REC	102	%	79-122
FA28607-20MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	0	%	20
FA28607-20MSD*	106-43-4	p-Chlorotoluene	MSD	REC	104	%	78-122

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA28607-20MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	0	%	20
FA28607-20MSD*	124-48-1	Dibromochloromethane	MSD	REC	82	%	74-126
FA28607-20MSD*	124-48-1	Dibromochloromethane	MSD	RPD	0	%	20
FA28607-20MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	91	%	62-128
FA28607-20MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	1	%	20
FA28607-20MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	84	%	77-121
FA28607-20MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	4	%	20
FA28607-20MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	79	%	32-152
FA28607-20MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	2	%	20
FA28607-20MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	96	%	80-119
FA28607-20MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	1	%	20
FA28607-20MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	96	%	80-119
FA28607-20MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	1	%	20
FA28607-20MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	100	%	79-118
FA28607-20MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	1	%	20
FA28607-20MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	107	%	77-125
FA28607-20MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	5	%	20
FA28607-20MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	109	%	73-128
FA28607-20MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	4	%	20
FA28607-20MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	106	%	71-131
FA28607-20MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	4	%	20
FA28607-20MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	101	%	78-123
FA28607-20MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	1	%	20
FA28607-20MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	106	%	75-124
FA28607-20MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	1	%	20
FA28607-20MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	107	%	78-122
FA28607-20MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	1	%	20
FA28607-20MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	90	%	80-119
FA28607-20MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	3	%	20
FA28607-20MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	77	%	60-139
FA28607-20MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	3	%	20
FA28607-20MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	98	%	79-125
FA28607-20MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	1	%	20
FA28607-20MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	88	%	75-124
FA28607-20MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	3	%	20
FA28607-20MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	85	%	73-127
FA28607-20MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	0	%	20
FA28607-20MSD*	100-41-4	Ethylbenzene	MSD	REC	103	%	79-121
FA28607-20MSD*	100-41-4	Ethylbenzene	MSD	RPD	3	%	20
FA28607-20MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	69 [a]	%	66-134
FA28607-20MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	5	%	20
FA28607-20MSD*	591-78-6	2-Hexanone	MSD	REC	104	%	57-139
FA28607-20MSD*	591-78-6	2-Hexanone	MSD	RPD	3	%	20
FA28607-20MSD*	98-82-8	Isopropylbenzene	MSD	REC	90	%	72-131
FA28607-20MSD*	98-82-8	Isopropylbenzene	MSD	RPD	3	%	20

* Sample used for QC is not from job MC42231

9.2

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QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA28607-20MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	95	%	77-127
FA28607-20MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	1	%	20
FA28607-20MSD*	74-83-9	Methyl Bromide	MSD	REC	104	%	53-141
FA28607-20MSD*	74-83-9	Methyl Bromide	MSD	RPD	4	%	20
FA28607-20MSD*	74-87-3	Methyl Chloride	MSD	REC	92	%	50-139
FA28607-20MSD*	74-87-3	Methyl Chloride	MSD	RPD	2	%	20
FA28607-20MSD*	74-88-4	Methyl Iodide	MSD	REC	96	%	69-131
FA28607-20MSD*	74-88-4	Methyl Iodide	MSD	RPD	1	%	20
FA28607-20MSD*	74-95-3	Methylene Bromide	MSD	REC	108	%	79-123
FA28607-20MSD*	74-95-3	Methylene Bromide	MSD	RPD	2	%	20
FA28607-20MSD*	75-09-2	Methylene Chloride	MSD	REC	105	%	74-124
FA28607-20MSD*	75-09-2	Methylene Chloride	MSD	RPD	5	%	20
FA28607-20MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	104	%	67-130
FA28607-20MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	1	%	20
FA28607-20MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	107	%	71-124
FA28607-20MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	6	%	20
FA28607-20MSD*	91-20-3	Naphthalene	MSD	REC	86	%	61-128
FA28607-20MSD*	91-20-3	Naphthalene	MSD	RPD	1	%	20
FA28607-20MSD*	103-65-1	n-Propylbenzene	MSD	REC	109	%	76-126
FA28607-20MSD*	103-65-1	n-Propylbenzene	MSD	RPD	1	%	20
FA28607-20MSD*	100-42-5	Styrene	MSD	REC	89	%	78-123
FA28607-20MSD*	100-42-5	Styrene	MSD	RPD	2	%	20
FA28607-20MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	101	%	78-124
FA28607-20MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	1	%	20
FA28607-20MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	109	%	71-121
FA28607-20MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	1	%	20
FA28607-20MSD*	127-18-4	Tetrachloroethylene	MSD	REC	85	%	74-129
FA28607-20MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	5	%	20
FA28607-20MSD*	108-88-3	Toluene	MSD	REC	96	%	80-121
FA28607-20MSD*	108-88-3	Toluene	MSD	RPD	3	%	20
FA28607-20MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	81	%	69-129
FA28607-20MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	5	%	20
FA28607-20MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	73	%	69-130
FA28607-20MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	3	%	20
FA28607-20MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	105	%	74-131
FA28607-20MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	6	%	20
FA28607-20MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	108	%	80-119
FA28607-20MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	1	%	20
FA28607-20MSD*	79-01-6	Trichloroethylene	MSD	REC	104	%	79-123
FA28607-20MSD*	79-01-6	Trichloroethylene	MSD	RPD	5	%	20
FA28607-20MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	107	%	65-141
FA28607-20MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	4	%	20
FA28607-20MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	109	%	73-122
FA28607-20MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	3	%	20
FA28607-20MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	103	%	76-124

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA28607-20MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	3	%	20
FA28607-20MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	105	%	75-124
FA28607-20MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	1	%	20
FA28607-20MSD*	108-05-4	Vinyl Acetate	MSD	REC	112	%	54-146
FA28607-20MSD*	108-05-4	Vinyl Acetate	MSD	RPD	2	%	20
FA28607-20MSD*	75-01-4	Vinyl Chloride	MSD	REC	99	%	58-137
FA28607-20MSD*	75-01-4	Vinyl Chloride	MSD	RPD	2	%	20
FA28607-20MSD*		m,p-Xylene	MSD	REC	94	%	80-121
FA28607-20MSD*		m,p-Xylene	MSD	RPD	3	%	20
FA28607-20MSD*	95-47-6	o-Xylene	MSD	REC	87	%	78-122
FA28607-20MSD*	95-47-6	o-Xylene	MSD	RPD	2	%	20
FA28607-20MSD*	1330-20-7	Xylene (total)	MSD	REC	92	%	79-121
FA28607-20MSD*	1330-20-7	Xylene (total)	MSD	RPD	1	%	20
FA28607-20MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	100	%	80-119
FA28607-20MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	105	%	81-118
FA28607-20MSD*	2037-26-5	Toluene-D8	MSD	SURR	94	%	89-112
FA28607-20MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	89	%	85-114
VC4453-MB	1868-53-7	Dibromofluoromethane	MB	SURR	106	%	80-119
VC4453-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	108	%	81-118
VC4453-MB	2037-26-5	Toluene-D8	MB	SURR	111	%	89-112
VC4453-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	97	%	85-114
MC42231-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42231-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	110	%	81-118
MC42231-1	2037-26-5	Toluene-D8	SAMP	SURR	110	%	89-112
MC42231-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	98	%	85-114
MC42231-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42231-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	111	%	81-118
MC42231-2	2037-26-5	Toluene-D8	SAMP	SURR	111	%	89-112
MC42231-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114
MC42231-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	108	%	80-119
MC42231-3	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	113	%	81-118
MC42231-3	2037-26-5	Toluene-D8	SAMP	SURR	118 [b]	%	89-112
MC42231-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC42231-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	111	%	80-119
MC42231-4	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	114	%	81-118
MC42231-4	2037-26-5	Toluene-D8	SAMP	SURR	118 [b]	%	89-112
MC42231-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC42231-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	112	%	80-119
MC42231-5	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	115	%	81-118
MC42231-5	2037-26-5	Toluene-D8	SAMP	SURR	116 [b]	%	89-112
MC42231-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC42231-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	108	%	80-119
MC42231-6	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	116	%	81-118
MC42231-6	2037-26-5	Toluene-D8	SAMP	SURR	115 [b]	%	89-112
MC42231-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42231-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	111	%	80-119
MC42231-7	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	117	%	81-118
MC42231-7	2037-26-5	Toluene-D8	SAMP	SURR	116 [b]	%	89-112
MC42231-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
MC42231-8	1868-53-7	Dibromofluoromethane	SAMP	SURR	112	%	80-119
MC42231-8	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	117	%	81-118
MC42231-8	2037-26-5	Toluene-D8	SAMP	SURR	116 [b]	%	89-112
MC42231-8	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC42231-9	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC42231-9	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	117	%	81-118
MC42231-9	2037-26-5	Toluene-D8	SAMP	SURR	133 [b]	%	89-112
MC42231-9	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
MC42231-10	1868-53-7	Dibromofluoromethane	SAMP	SURR	113	%	80-119
MC42231-10	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	118	%	81-118
MC42231-10	2037-26-5	Toluene-D8	SAMP	SURR	112	%	89-112
MC42231-10	460-00-4	4-Bromofluorobenzene	SAMP	SURR	95	%	85-114
MC42231-11	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42231-11	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	117	%	81-118
MC42231-11	2037-26-5	Toluene-D8	SAMP	SURR	120 [b]	%	89-112
MC42231-11	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
MC42231-12	1868-53-7	Dibromofluoromethane	SAMP	SURR	108	%	80-119
MC42231-12	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	116	%	81-118
MC42231-12	2037-26-5	Toluene-D8	SAMP	SURR	158 [b]	%	89-112
MC42231-12	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC42231-13	1868-53-7	Dibromofluoromethane	SAMP	SURR	113	%	80-119
MC42231-13	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	118	%	81-118
MC42231-13	2037-26-5	Toluene-D8	SAMP	SURR	116 [b]	%	89-112
MC42231-13	460-00-4	4-Bromofluorobenzene	SAMP	SURR	94	%	85-114
VC4454	SW846 8260B						
VC4454-BS	71-43-2	Benzene	BSP	REC	108	%	79-120
VC4454-BS	108-86-1	Bromobenzene	BSP	REC	99	%	80-120
VC4454-BS	74-97-5	Bromochloromethane	BSP	REC	102	%	78-123
VC4454-BS	75-27-4	Bromodichloromethane	BSP	REC	100	%	79-125
VC4454-BS	75-25-2	Bromoform	BSP	REC	90	%	66-130
VC4454-BS	78-93-3	2-Butanone (MEK)	BSP	REC	102	%	56-143
VC4454-BS	104-51-8	n-Butylbenzene	BSP	REC	104	%	75-128
VC4454-BS	135-98-8	sec-Butylbenzene	BSP	REC	104	%	77-126
VC4454-BS	98-06-6	tert-Butylbenzene	BSP	REC	108	%	78-124
VC4454-BS	75-15-0	Carbon Disulfide	BSP	REC	100	%	64-133
VC4454-BS	56-23-5	Carbon Tetrachloride	BSP	REC	104	%	72-136
VC4454-BS	108-90-7	Chlorobenzene	BSP	REC	104	%	82-118
VC4454-BS	75-00-3	Chloroethane	BSP	REC	95	%	60-138
VC4454-BS	67-66-3	Chloroform	BSP	REC	103	%	79-124

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC4454-BS	95-49-8	o-Chlorotoluene	BSP	REC	104	%	79-122
VC4454-BS	106-43-4	p-Chlorotoluene	BSP	REC	102	%	78-122
VC4454-BS	124-48-1	Dibromochloromethane	BSP	REC	95	%	74-126
VC4454-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	91	%	62-128
VC4454-BS	106-93-4	1,2-Dibromoethane	BSP	REC	97	%	77-121
VC4454-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	99	%	32-152
VC4454-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	105	%	80-119
VC4454-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	108	%	80-119
VC4454-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	106	%	79-118
VC4454-BS	75-34-3	1,1-Dichloroethane	BSP	REC	102	%	77-125
VC4454-BS	107-06-2	1,2-Dichloroethane	BSP	REC	98	%	73-128
VC4454-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	102	%	71-131
VC4454-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	100	%	78-123
VC4454-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	107	%	75-124
VC4454-BS	78-87-5	1,2-Dichloropropane	BSP	REC	101	%	78-122
VC4454-BS	142-28-9	1,3-Dichloropropane	BSP	REC	99	%	80-119
VC4454-BS	594-20-7	2,2-Dichloropropane	BSP	REC	103	%	60-139
VC4454-BS	563-58-6	1,1-Dichloropropene	BSP	REC	105	%	79-125
VC4454-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	98	%	75-124
VC4454-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	105	%	73-127
VC4454-BS	100-41-4	Ethylbenzene	BSP	REC	100	%	79-121
VC4454-BS	87-68-3	Hexachlorobutadiene	BSP	REC	88	%	66-134
VC4454-BS	591-78-6	2-Hexanone	BSP	REC	99	%	57-139
VC4454-BS	98-82-8	Isopropylbenzene	BSP	REC	104	%	72-131
VC4454-BS	99-87-6	p-Isopropyltoluene	BSP	REC	102	%	77-127
VC4454-BS	74-83-9	Methyl Bromide	BSP	REC	95	%	53-141
VC4454-BS	74-87-3	Methyl Chloride	BSP	REC	98	%	50-139
VC4454-BS	74-88-4	Methyl Iodide	BSP	REC	98	%	69-131
VC4454-BS	74-95-3	Methylene Bromide	BSP	REC	99	%	79-123
VC4454-BS	75-09-2	Methylene Chloride	BSP	REC	99	%	74-124
VC4454-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	101	%	67-130
VC4454-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	110	%	71-124
VC4454-BS	91-20-3	Naphthalene	BSP	REC	105	%	61-128
VC4454-BS	103-65-1	n-Propylbenzene	BSP	REC	105	%	76-126
VC4454-BS	100-42-5	Styrene	BSP	REC	103	%	78-123
VC4454-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	100	%	78-124
VC4454-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	106	%	71-121
VC4454-BS	127-18-4	Tetrachloroethylene	BSP	REC	98	%	74-129
VC4454-BS	108-88-3	Toluene	BSP	REC	110	%	80-121
VC4454-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	89	%	69-129
VC4454-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	92	%	69-130
VC4454-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	102	%	74-131
VC4454-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	106	%	80-119
VC4454-BS	79-01-6	Trichloroethylene	BSP	REC	104	%	79-123
VC4454-BS	75-69-4	Trichlorofluoromethane	BSP	REC	98	%	65-141

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC4454-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	106	%	73-122
VC4454-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	101	%	76-124
VC4454-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	100	%	75-124
VC4454-BS	108-05-4	Vinyl Acetate	BSP	REC	98	%	54-146
VC4454-BS	75-01-4	Vinyl Chloride	BSP	REC	100	%	58-137
VC4454-BS		m,p-Xylene	BSP	REC	100	%	80-121
VC4454-BS	95-47-6	o-Xylene	BSP	REC	104	%	78-122
VC4454-BS	1330-20-7	Xylene (total)	BSP	REC	101	%	79-121
VC4454-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	96	%	80-119
VC4454-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	91	%	81-118
VC4454-BS	2037-26-5	Toluene-D8	BSP	SURR	101	%	89-112
VC4454-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	103	%	85-114
MC42231-10MS	71-43-2	Benzene	MS	REC	106	%	79-120
MC42231-10MS	108-86-1	Bromobenzene	MS	REC	100	%	80-120
MC42231-10MS	74-97-5	Bromochloromethane	MS	REC	94	%	78-123
MC42231-10MS	75-27-4	Bromodichloromethane	MS	REC	99	%	79-125
MC42231-10MS	75-25-2	Bromoform	MS	REC	71	%	66-130
MC42231-10MS	78-93-3	2-Butanone (MEK)	MS	REC	105	%	56-143
MC42231-10MS	104-51-8	n-Butylbenzene	MS	REC	95	%	75-128
MC42231-10MS	135-98-8	sec-Butylbenzene	MS	REC	98	%	77-126
MC42231-10MS	98-06-6	tert-Butylbenzene	MS	REC	103	%	78-124
MC42231-10MS	75-15-0	Carbon Disulfide	MS	REC	100	%	64-133
MC42231-10MS	56-23-5	Carbon Tetrachloride	MS	REC	108	%	72-136
MC42231-10MS	108-90-7	Chlorobenzene	MS	REC	102	%	82-118
MC42231-10MS	75-00-3	Chloroethane	MS	REC	99	%	60-138
MC42231-10MS	67-66-3	Chloroform	MS	REC	100	%	79-124
MC42231-10MS	95-49-8	o-Chlorotoluene	MS	REC	102	%	79-122
MC42231-10MS	106-43-4	p-Chlorotoluene	MS	REC	101	%	78-122
MC42231-10MS	124-48-1	Dibromochloromethane	MS	REC	82	%	74-126
MC42231-10MS	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	85	%	62-128
MC42231-10MS	106-93-4	1,2-Dibromoethane	MS	REC	86	%	77-121
MC42231-10MS	75-71-8	Dichlorodifluoromethane	MS	REC	88	%	32-152
MC42231-10MS	95-50-1	1,2-Dichlorobenzene	MS	REC	98	%	80-119
MC42231-10MS	541-73-1	1,3-Dichlorobenzene	MS	REC	101	%	80-119
MC42231-10MS	106-46-7	1,4-Dichlorobenzene	MS	REC	104	%	79-118
MC42231-10MS	75-34-3	1,1-Dichloroethane	MS	REC	109	%	77-125
MC42231-10MS	107-06-2	1,2-Dichloroethane	MS	REC	108	%	73-128
MC42231-10MS	75-35-4	1,1-Dichloroethylene	MS	REC	110	%	71-131
MC42231-10MS	156-59-2	cis-1,2-Dichloroethylene	MS	REC	105	%	78-123
MC42231-10MS	156-60-5	trans-1,2-Dichloroethylene	MS	REC	108	%	75-124
MC42231-10MS	78-87-5	1,2-Dichloropropane	MS	REC	99	%	78-122
MC42231-10MS	142-28-9	1,3-Dichloropropane	MS	REC	96	%	80-119
MC42231-10MS	594-20-7	2,2-Dichloropropane	MS	REC	99	%	60-139
MC42231-10MS	563-58-6	1,1-Dichloropropene	MS	REC	100	%	79-125
MC42231-10MS	10061-01-5	cis-1,3-Dichloropropene	MS	REC	82	%	75-124

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42231-10MS	10061-02-6	trans-1,3-Dichloropropene	MS	REC	93	%	73-127
MC42231-10MS	100-41-4	Ethylbenzene	MS	REC	98	%	79-121
MC42231-10MS	87-68-3	Hexachlorobutadiene	MS	REC	81	%	66-134
MC42231-10MS	591-78-6	2-Hexanone	MS	REC	103	%	57-139
MC42231-10MS	98-82-8	Isopropylbenzene	MS	REC	91	%	72-131
MC42231-10MS	99-87-6	p-Isopropyltoluene	MS	REC	94	%	77-127
MC42231-10MS	74-83-9	Methyl Bromide	MS	REC	109	%	53-141
MC42231-10MS	74-87-3	Methyl Chloride	MS	REC	103	%	50-139
MC42231-10MS	74-88-4	Methyl Iodide	MS	REC	102	%	69-131
MC42231-10MS	74-95-3	Methylene Bromide	MS	REC	95	%	79-123
MC42231-10MS	75-09-2	Methylene Chloride	MS	REC	110	%	74-124
MC42231-10MS	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	108	%	67-130
MC42231-10MS	1634-04-4	Methyl Tert Butyl Ether	MS	REC	104	%	71-124
MC42231-10MS	91-20-3	Naphthalene	MS	REC	85	%	61-128
MC42231-10MS	103-65-1	n-Propylbenzene	MS	REC	102	%	76-126
MC42231-10MS	100-42-5	Styrene	MS	REC	97	%	78-123
MC42231-10MS	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	94	%	78-124
MC42231-10MS	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	109	%	71-121
MC42231-10MS	127-18-4	Tetrachloroethylene	MS	REC	89	%	74-129
MC42231-10MS	108-88-3	Toluene	MS	REC	106	%	80-121
MC42231-10MS	87-61-6	1,2,3-Trichlorobenzene	MS	REC	82	%	69-129
MC42231-10MS	120-82-1	1,2,4-Trichlorobenzene	MS	REC	78	%	69-130
MC42231-10MS	71-55-6	1,1,1-Trichloroethane	MS	REC	110	%	74-131
MC42231-10MS	79-00-5	1,1,2-Trichloroethane	MS	REC	108	%	80-119
MC42231-10MS	79-01-6	Trichloroethylene	MS	REC	109	%	79-123
MC42231-10MS	75-69-4	Trichlorofluoromethane	MS	REC	111	%	65-141
MC42231-10MS	96-18-4	1,2,3-Trichloropropane	MS	REC	106	%	73-122
MC42231-10MS	95-63-6	1,2,4-Trimethylbenzene	MS	REC	99	%	76-124
MC42231-10MS	108-67-8	1,3,5-Trimethylbenzene	MS	REC	102	%	75-124
MC42231-10MS	108-05-4	Vinyl Acetate	MS	REC	102	%	54-146
MC42231-10MS	75-01-4	Vinyl Chloride	MS	REC	100	%	58-137
MC42231-10MS		m,p-Xylene	MS	REC	98	%	80-121
MC42231-10MS	95-47-6	o-Xylene	MS	REC	90	%	78-122
MC42231-10MS	1330-20-7	Xylene (total)	MS	REC	95	%	79-121
MC42231-10MS	1868-53-7	Dibromofluoromethane	MS	SURR	99	%	80-119
MC42231-10MS	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	99	%	81-118
MC42231-10MS	2037-26-5	Toluene-D8	MS	SURR	96	%	89-112
MC42231-10MS	460-00-4	4-Bromofluorobenzene	MS	SURR	98	%	85-114
MC42231-10MSD	71-43-2	Benzene	MSD	REC	106	%	79-120
MC42231-10MSD	71-43-2	Benzene	MSD	RPD	1	%	20
MC42231-10MSD	108-86-1	Bromobenzene	MSD	REC	97	%	80-120
MC42231-10MSD	108-86-1	Bromobenzene	MSD	RPD	3	%	20
MC42231-10MSD	74-97-5	Bromochloromethane	MSD	REC	106	%	78-123
MC42231-10MSD	74-97-5	Bromochloromethane	MSD	RPD	12	%	20
MC42231-10MSD	75-27-4	Bromodichloromethane	MSD	REC	98	%	79-125

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42231-10MSD	75-27-4	Bromodichloromethane	MSD	RPD	1	%	20
MC42231-10MSD	75-25-2	Bromoform	MSD	REC	74	%	66-130
MC42231-10MSD	75-25-2	Bromoform	MSD	RPD	4	%	20
MC42231-10MSD	78-93-3	2-Butanone (MEK)	MSD	REC	112	%	56-143
MC42231-10MSD	78-93-3	2-Butanone (MEK)	MSD	RPD	6	%	20
MC42231-10MSD	104-51-8	n-Butylbenzene	MSD	REC	93	%	75-128
MC42231-10MSD	104-51-8	n-Butylbenzene	MSD	RPD	3	%	20
MC42231-10MSD	135-98-8	sec-Butylbenzene	MSD	REC	96	%	77-126
MC42231-10MSD	135-98-8	sec-Butylbenzene	MSD	RPD	2	%	20
MC42231-10MSD	98-06-6	tert-Butylbenzene	MSD	REC	102	%	78-124
MC42231-10MSD	98-06-6	tert-Butylbenzene	MSD	RPD	1	%	20
MC42231-10MSD	75-15-0	Carbon Disulfide	MSD	REC	97	%	64-133
MC42231-10MSD	75-15-0	Carbon Disulfide	MSD	RPD	3	%	20
MC42231-10MSD	56-23-5	Carbon Tetrachloride	MSD	REC	116	%	72-136
MC42231-10MSD	56-23-5	Carbon Tetrachloride	MSD	RPD	7	%	20
MC42231-10MSD	108-90-7	Chlorobenzene	MSD	REC	100	%	82-118
MC42231-10MSD	108-90-7	Chlorobenzene	MSD	RPD	2	%	20
MC42231-10MSD	75-00-3	Chloroethane	MSD	REC	94	%	60-138
MC42231-10MSD	75-00-3	Chloroethane	MSD	RPD	6	%	20
MC42231-10MSD	67-66-3	Chloroform	MSD	REC	102	%	79-124
MC42231-10MSD	67-66-3	Chloroform	MSD	RPD	2	%	20
MC42231-10MSD	95-49-8	o-Chlorotoluene	MSD	REC	99	%	79-122
MC42231-10MSD	95-49-8	o-Chlorotoluene	MSD	RPD	2	%	20
MC42231-10MSD	106-43-4	p-Chlorotoluene	MSD	REC	99	%	78-122
MC42231-10MSD	106-43-4	p-Chlorotoluene	MSD	RPD	2	%	20
MC42231-10MSD	124-48-1	Dibromochloromethane	MSD	REC	84	%	74-126
MC42231-10MSD	124-48-1	Dibromochloromethane	MSD	RPD	2	%	20
MC42231-10MSD	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	93	%	62-128
MC42231-10MSD	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	9	%	20
MC42231-10MSD	106-93-4	1,2-Dibromoethane	MSD	REC	91	%	77-121
MC42231-10MSD	106-93-4	1,2-Dibromoethane	MSD	RPD	5	%	20
MC42231-10MSD	75-71-8	Dichlorodifluoromethane	MSD	REC	89	%	32-152
MC42231-10MSD	75-71-8	Dichlorodifluoromethane	MSD	RPD	1	%	20
MC42231-10MSD	95-50-1	1,2-Dichlorobenzene	MSD	REC	99	%	80-119
MC42231-10MSD	95-50-1	1,2-Dichlorobenzene	MSD	RPD	1	%	20
MC42231-10MSD	541-73-1	1,3-Dichlorobenzene	MSD	REC	100	%	80-119
MC42231-10MSD	541-73-1	1,3-Dichlorobenzene	MSD	RPD	1	%	20
MC42231-10MSD	106-46-7	1,4-Dichlorobenzene	MSD	REC	102	%	79-118
MC42231-10MSD	106-46-7	1,4-Dichlorobenzene	MSD	RPD	2	%	20
MC42231-10MSD	75-34-3	1,1-Dichloroethane	MSD	REC	102	%	77-125
MC42231-10MSD	75-34-3	1,1-Dichloroethane	MSD	RPD	6	%	20
MC42231-10MSD	107-06-2	1,2-Dichloroethane	MSD	REC	102	%	73-128
MC42231-10MSD	107-06-2	1,2-Dichloroethane	MSD	RPD	5	%	20
MC42231-10MSD	75-35-4	1,1-Dichloroethylene	MSD	REC	103	%	71-131
MC42231-10MSD	75-35-4	1,1-Dichloroethylene	MSD	RPD	7	%	20

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42231-10MSD	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	101	%	78-123
MC42231-10MSD	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	4	%	20
MC42231-10MSD	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	102	%	75-124
MC42231-10MSD	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	6	%	20
MC42231-10MSD	78-87-5	1,2-Dichloropropane	MSD	REC	98	%	78-122
MC42231-10MSD	78-87-5	1,2-Dichloropropane	MSD	RPD	1	%	20
MC42231-10MSD	142-28-9	1,3-Dichloropropane	MSD	REC	98	%	80-119
MC42231-10MSD	142-28-9	1,3-Dichloropropane	MSD	RPD	2	%	20
MC42231-10MSD	594-20-7	2,2-Dichloropropane	MSD	REC	94	%	60-139
MC42231-10MSD	594-20-7	2,2-Dichloropropane	MSD	RPD	5	%	20
MC42231-10MSD	563-58-6	1,1-Dichloropropene	MSD	REC	100	%	79-125
MC42231-10MSD	563-58-6	1,1-Dichloropropene	MSD	RPD	0	%	20
MC42231-10MSD	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	85	%	75-124
MC42231-10MSD	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	3	%	20
MC42231-10MSD	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	94	%	73-127
MC42231-10MSD	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	1	%	20
MC42231-10MSD	100-41-4	Ethylbenzene	MSD	REC	95	%	79-121
MC42231-10MSD	100-41-4	Ethylbenzene	MSD	RPD	3	%	20
MC42231-10MSD	87-68-3	Hexachlorobutadiene	MSD	REC	83	%	66-134
MC42231-10MSD	87-68-3	Hexachlorobutadiene	MSD	RPD	3	%	20
MC42231-10MSD	591-78-6	2-Hexanone	MSD	REC	108	%	57-139
MC42231-10MSD	591-78-6	2-Hexanone	MSD	RPD	5	%	20
MC42231-10MSD	98-82-8	Isopropylbenzene	MSD	REC	93	%	72-131
MC42231-10MSD	98-82-8	Isopropylbenzene	MSD	RPD	2	%	20
MC42231-10MSD	99-87-6	p-Isopropyltoluene	MSD	REC	94	%	77-127
MC42231-10MSD	99-87-6	p-Isopropyltoluene	MSD	RPD	0	%	20
MC42231-10MSD	74-83-9	Methyl Bromide	MSD	REC	106	%	53-141
MC42231-10MSD	74-83-9	Methyl Bromide	MSD	RPD	3	%	20
MC42231-10MSD	74-87-3	Methyl Chloride	MSD	REC	100	%	50-139
MC42231-10MSD	74-87-3	Methyl Chloride	MSD	RPD	3	%	20
MC42231-10MSD	74-88-4	Methyl Iodide	MSD	REC	97	%	69-131
MC42231-10MSD	74-88-4	Methyl Iodide	MSD	RPD	6	%	20
MC42231-10MSD	74-95-3	Methylene Bromide	MSD	REC	98	%	79-123
MC42231-10MSD	74-95-3	Methylene Bromide	MSD	RPD	3	%	20
MC42231-10MSD	75-09-2	Methylene Chloride	MSD	REC	105	%	74-124
MC42231-10MSD	75-09-2	Methylene Chloride	MSD	RPD	5	%	20
MC42231-10MSD	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	114	%	67-130
MC42231-10MSD	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	6	%	20
MC42231-10MSD	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	103	%	71-124
MC42231-10MSD	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	1	%	20
MC42231-10MSD	91-20-3	Naphthalene	MSD	REC	95	%	61-128
MC42231-10MSD	91-20-3	Naphthalene	MSD	RPD	12	%	20
MC42231-10MSD	103-65-1	n-Propylbenzene	MSD	REC	98	%	76-126
MC42231-10MSD	103-65-1	n-Propylbenzene	MSD	RPD	3	%	20
MC42231-10MSD	100-42-5	Styrene	MSD	REC	96	%	78-123

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42231-10MSD	100-42-5	Styrene	MSD	RPD	1	%	20
MC42231-10MSD	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	95	%	78-124
MC42231-10MSD	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	2	%	20
MC42231-10MSD	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	113	%	71-121
MC42231-10MSD	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	4	%	20
MC42231-10MSD	127-18-4	Tetrachloroethylene	MSD	REC	84	%	74-129
MC42231-10MSD	127-18-4	Tetrachloroethylene	MSD	RPD	5	%	20
MC42231-10MSD	108-88-3	Toluene	MSD	REC	103	%	80-121
MC42231-10MSD	108-88-3	Toluene	MSD	RPD	2	%	20
MC42231-10MSD	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	90	%	69-129
MC42231-10MSD	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	9	%	20
MC42231-10MSD	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	83	%	69-130
MC42231-10MSD	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	7	%	20
MC42231-10MSD	71-55-6	1,1,1-Trichloroethane	MSD	REC	106	%	74-131
MC42231-10MSD	71-55-6	1,1,1-Trichloroethane	MSD	RPD	4	%	20
MC42231-10MSD	79-00-5	1,1,2-Trichloroethane	MSD	REC	107	%	80-119
MC42231-10MSD	79-00-5	1,1,2-Trichloroethane	MSD	RPD	1	%	20
MC42231-10MSD	79-01-6	Trichloroethylene	MSD	REC	103	%	79-123
MC42231-10MSD	79-01-6	Trichloroethylene	MSD	RPD	5	%	20
MC42231-10MSD	75-69-4	Trichlorofluoromethane	MSD	REC	106	%	65-141
MC42231-10MSD	75-69-4	Trichlorofluoromethane	MSD	RPD	4	%	20
MC42231-10MSD	96-18-4	1,2,3-Trichloropropane	MSD	REC	107	%	73-122
MC42231-10MSD	96-18-4	1,2,3-Trichloropropane	MSD	RPD	2	%	20
MC42231-10MSD	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	98	%	76-124
MC42231-10MSD	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	1	%	20
MC42231-10MSD	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	99	%	75-124
MC42231-10MSD	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	2	%	20
MC42231-10MSD	108-05-4	Vinyl Acetate	MSD	REC	100	%	54-146
MC42231-10MSD	108-05-4	Vinyl Acetate	MSD	RPD	2	%	20
MC42231-10MSD	75-01-4	Vinyl Chloride	MSD	REC	99	%	58-137
MC42231-10MSD	75-01-4	Vinyl Chloride	MSD	RPD	1	%	20
MC42231-10MSD		m,p-Xylene	MSD	REC	96	%	80-121
MC42231-10MSD		m,p-Xylene	MSD	RPD	2	%	20
MC42231-10MSD	95-47-6	o-Xylene	MSD	REC	94	%	78-122
MC42231-10MSD	95-47-6	o-Xylene	MSD	RPD	3	%	20
MC42231-10MSD	1330-20-7	Xylene (total)	MSD	REC	95	%	79-121
MC42231-10MSD	1330-20-7	Xylene (total)	MSD	RPD	0	%	20
MC42231-10MSD	1868-53-7	Dibromofluoromethane	MSD	SURR	100	%	80-119
MC42231-10MSD	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	95	%	81-118
MC42231-10MSD	2037-26-5	Toluene-D8	MSD	SURR	97	%	89-112
MC42231-10MSD	460-00-4	4-Bromofluorobenzene	MSD	SURR	98	%	85-114
VC4454-MB	1868-53-7	Dibromofluoromethane	MB	SURR	106	%	80-119
VC4454-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	104	%	81-118
VC4454-MB	2037-26-5	Toluene-D8	MB	SURR	100	%	89-112
VC4454-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	103	%	85-114

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42231-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42231-3	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	107	%	81-118
MC42231-3	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42231-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114
MC42231-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42231-4	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	108	%	81-118
MC42231-4	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42231-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	100	%	85-114
MC42231-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42231-5	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	112	%	81-118
MC42231-5	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42231-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
MC42231-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	111	%	80-119
MC42231-6	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	113	%	81-118
MC42231-6	2037-26-5	Toluene-D8	SAMP	SURR	103	%	89-112
MC42231-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114
MC42231-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC42231-7	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	113	%	81-118
MC42231-7	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42231-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114
MC42231-8	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC42231-8	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	114	%	81-118
MC42231-8	2037-26-5	Toluene-D8	SAMP	SURR	103	%	89-112
MC42231-8	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114
MC42231-9	1868-53-7	Dibromofluoromethane	SAMP	SURR	108	%	80-119
MC42231-9	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	116	%	81-118
MC42231-9	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42231-9	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42231-10	1868-53-7	Dibromofluoromethane	SAMP	SURR	111	%	80-119
MC42231-10	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	117	%	81-118
MC42231-10	2037-26-5	Toluene-D8	SAMP	SURR	104	%	89-112
MC42231-10	460-00-4	4-Bromofluorobenzene	SAMP	SURR	104	%	85-114
MC42231-11	1868-53-7	Dibromofluoromethane	SAMP	SURR	114	%	80-119
MC42231-11	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	118	%	81-118
MC42231-11	2037-26-5	Toluene-D8	SAMP	SURR	105	%	89-112
MC42231-11	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114
MC42231-12	1868-53-7	Dibromofluoromethane	SAMP	SURR	111	%	80-119
MC42231-12	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	117	%	81-118
MC42231-12	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42231-12	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114
MC42231-13	1868-53-7	Dibromofluoromethane	SAMP	SURR	112	%	80-119
MC42231-13	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	106	%	81-118
MC42231-13	2037-26-5	Toluene-D8	SAMP	SURR	104	%	89-112
MC42231-13	460-00-4	4-Bromofluorobenzene	SAMP	SURR	98	%	85-114

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC4456	SW846 8260B						
VC4456-BS	67-64-1	Acetone	BSP	REC	111	%	39-160
VC4456-BS	127-18-4	Tetrachloroethylene	BSP	REC	98	%	74-129
VC4456-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	108	%	80-119
VC4456-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	103	%	81-118
VC4456-BS	2037-26-5	Toluene-D8	BSP	SURR	96	%	89-112
VC4456-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	91	%	85-114
D76470-3MS*	67-64-1	Acetone	MS	REC	113	%	39-160
D76470-3MS*	127-18-4	Tetrachloroethylene	MS	REC	52 [c]	%	74-129
D76470-3MS*	1868-53-7	Dibromofluoromethane	MS	SURR	115	%	80-119
D76470-3MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	112	%	81-118
D76470-3MS*	2037-26-5	Toluene-D8	MS	SURR	94	%	89-112
D76470-3MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	86	%	85-114
D76470-3MSD*	67-64-1	Acetone	MSD	REC	123	%	39-160
D76470-3MSD*	67-64-1	Acetone	MSD	RPD	8	%	20
D76470-3MSD*	127-18-4	Tetrachloroethylene	MSD	REC	60 [c]	%	74-129
D76470-3MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	3	%	20
D76470-3MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	107	%	80-119
D76470-3MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	110	%	81-118
D76470-3MSD*	2037-26-5	Toluene-D8	MSD	SURR	93	%	89-112
D76470-3MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	94	%	85-114
VC4456-MB	1868-53-7	Dibromofluoromethane	MB	SURR	115	%	80-119
VC4456-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	115	%	81-118
VC4456-MB	2037-26-5	Toluene-D8	MB	SURR	100	%	89-112
VC4456-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	102	%	85-114
MC42231-8	1868-53-7	Dibromofluoromethane	SAMP	SURR	122 [b]	%	80-119
MC42231-8	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	118	%	81-118
MC42231-8	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42231-8	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC42231-9	1868-53-7	Dibromofluoromethane	SAMP	SURR	125 [b]	%	80-119
MC42231-9	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	118	%	81-118
MC42231-9	2037-26-5	Toluene-D8	SAMP	SURR	102	%	89-112
MC42231-9	460-00-4	4-Bromofluorobenzene	SAMP	SURR	92	%	85-114
MC42231-10	1868-53-7	Dibromofluoromethane	SAMP	SURR	121 [b]	%	80-119
MC42231-10	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	115	%	81-118
MC42231-10	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42231-10	460-00-4	4-Bromofluorobenzene	SAMP	SURR	96	%	85-114
MC42231-12	1868-53-7	Dibromofluoromethane	SAMP	SURR	120 [b]	%	80-119
MC42231-12	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	120	%	81-118
MC42231-12	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42231-12	460-00-4	4-Bromofluorobenzene	SAMP	SURR	100	%	85-114

(a) Outside control limits.

* Sample used for QC is not from job MC42231

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

(b) Outside control limits due to matrix interference.
(c) Outside control limits due to high level in sample relative to spike amount.

* Sample used for QC is not from job MC42231

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4453-MB	C0111586.D	1	10/29/15	EP	n/a	n/a	VC4453

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-1, MC42231-2, MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-10, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.27	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.34	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.32	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.2	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.22	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.20	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.20	ug/l	
75-15-0	Carbon Disulfide	0.69	2.0	0.29	ug/l	J
56-23-5	Carbon Tetrachloride	ND	1.0	0.28	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.20	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.61	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.42	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.22	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.27	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.37	1.0	0.21	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.27	ug/l	
563-58-6	1,1-Dichloropropene	0.26	1.0	0.21	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	

10.1.1 10

Method Blank Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4453-MB	C0111586.D	1	10/29/15	EP	n/a	n/a	VC4453

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-1, MC42231-2, MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-10, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	Result	RL	MDL	Units	Q
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl Iodide	ND	1.0	0.24	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.30	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.20	ug/l	
100-42-5	Styrene	ND	1.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.22	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.33	ug/l	
108-88-3	Toluene	ND	1.0	0.40	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.26	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.31	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.22	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.66	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.25	ug/l	
	m,p-Xylene	ND	2.0	0.31	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.51	ug/l	

10.1.1
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Method Blank Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4453-MB	C0111586.D	1	10/29/15	EP	n/a	n/a	VC4453

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-1, MC42231-2, MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-10, MC42231-11, MC42231-12, MC42231-13

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	83-118%
17060-07-0	1,2-Dichloroethane-D4	108%	79-125%
2037-26-5	Toluene-D8	111%	85-112%
460-00-4	4-Bromofluorobenzene	97%	83-118%

Method Blank Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4454-MB	C0111624.D	1	10/30/15	EP	n/a	n/a	VC4454

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.27	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.34	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.32	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.2	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.22	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.20	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.20	ug/l	
75-15-0	Carbon Disulfide	0.96	2.0	0.29	ug/l	J
56-23-5	Carbon Tetrachloride	ND	1.0	0.28	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.20	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.61	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.42	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.22	ug/l	
541-73-1	1,3-Dichlorobenzene	0.22	1.0	0.22	ug/l	J
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.27	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.45	1.0	0.21	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.27	ug/l	
563-58-6	1,1-Dichloropropene	0.31	1.0	0.21	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	

Method Blank Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4454-MB	C0111624.D	1	10/30/15	EP	n/a	n/a	VC4454

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	Result	RL	MDL	Units	Q
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl Iodide	ND	1.0	0.24	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.30	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.20	ug/l	
100-42-5	Styrene	ND	1.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.22	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.33	ug/l	
108-88-3	Toluene	ND	1.0	0.40	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.26	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.31	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.22	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.66	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	0.26	1.0	0.25	ug/l	J
	m,p-Xylene	ND	2.0	0.31	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.51	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	83-118%

10.1.2
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Method Blank Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4454-MB	C0111624.D	1	10/30/15	EP	n/a	n/a	VC4454

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-11, MC42231-12, MC42231-13

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	104%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	103%	83-118%

10.1.2
10

Method Blank Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4456-MB	C0111657.D	1	10/31/15	EP	n/a	n/a	VC4456

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-8, MC42231-9, MC42231-10, MC42231-12

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.33	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	115%	83-118%
17060-07-0	1,2-Dichloroethane-D4	115%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

Blank Spike Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4453-BS	C0111585.D	1	10/29/15	EP	n/a	n/a	VC4453

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-1, MC42231-2, MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-10, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	124	99	50-147
71-43-2	Benzene	25	26.8	107	81-122
108-86-1	Bromobenzene	25	23.1	92	80-121
74-97-5	Bromochloromethane	25	25.2	101	76-123
75-27-4	Bromodichloromethane	25	27.3	109	79-123
75-25-2	Bromoform	25	20.5	82	66-123
78-93-3	2-Butanone (MEK)	125	123	98	56-143
104-51-8	n-Butylbenzene	25	24.8	99	79-126
135-98-8	sec-Butylbenzene	25	27.8	111	83-133
98-06-6	tert-Butylbenzene	25	26.0	104	80-133
75-15-0	Carbon Disulfide	25	25.6	102	66-148
56-23-5	Carbon Tetrachloride	25	25.8	103	76-136
108-90-7	Chlorobenzene	25	26.6	106	82-124
75-00-3	Chloroethane	25	23.1	92	62-144
67-66-3	Chloroform	25	25.9	104	80-124
95-49-8	o-Chlorotoluene	25	27.6	110	81-127
106-43-4	p-Chlorotoluene	25	27.8	111	83-130
124-48-1	Dibromochloromethane	25	22.9	92	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	23.2	93	64-123
106-93-4	1,2-Dibromoethane	25	23.4	94	75-120
75-71-8	Dichlorodifluoromethane	25	22.8	91	42-167
95-50-1	1,2-Dichlorobenzene	25	25.4	102	82-124
541-73-1	1,3-Dichlorobenzene	25	26.0	104	84-125
106-46-7	1,4-Dichlorobenzene	25	25.8	103	78-120
75-34-3	1,1-Dichloroethane	25	27.2	109	81-122
107-06-2	1,2-Dichloroethane	25	26.4	106	75-125
75-35-4	1,1-Dichloroethylene	25	26.8	107	78-137
156-59-2	cis-1,2-Dichloroethylene	25	25.6	102	78-120
156-60-5	trans-1,2-Dichloroethylene	25	28.4	114	76-127
78-87-5	1,2-Dichloropropane	25	26.9	108	76-124
142-28-9	1,3-Dichloropropane	25	23.8	95	80-118
594-20-7	2,2-Dichloropropane	25	26.2	105	74-139
563-58-6	1,1-Dichloropropene	25	26.2	105	79-131
10061-01-5	cis-1,3-Dichloropropene	25	23.0	92	75-118
10061-02-6	trans-1,3-Dichloropropene	25	26.1	104	80-120
100-41-4	Ethylbenzene	25	27.3	109	81-121

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4453-BS	C0111585.D	1	10/29/15	EP	n/a	n/a	VC4453

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-1, MC42231-2, MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-10, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
87-68-3	Hexachlorobutadiene	25	20.6	82	75-142
591-78-6	2-Hexanone	125	127	102	61-129
98-82-8	Isopropylbenzene	25	25.9	104	83-132
99-87-6	p-Isopropyltoluene	25	26.1	104	79-130
74-83-9	Methyl Bromide	25	26.3	105	59-143
74-87-3	Methyl Chloride	25	27.2	109	50-159
74-88-4	Methyl Iodide	25	24.1	96	73-123
74-95-3	Methylene Bromide	25	27.1	108	78-119
75-09-2	Methylene Chloride	25	25.4	102	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	121	97	66-122
1634-04-4	Methyl Tert Butyl Ether	25	27.7	111	72-117
91-20-3	Naphthalene	25	26.4	106	63-132
103-65-1	n-Propylbenzene	25	30.1	120	82-133
100-42-5	Styrene	25	24.4	98	78-119
630-20-6	1,1,1,2-Tetrachloroethane	25	26.6	106	77-122
79-34-5	1,1,2,2-Tetrachloroethane	25	26.1	104	72-120
127-18-4	Tetrachloroethylene	25	22.2	89	76-135
108-88-3	Toluene	25	25.9	104	80-120
87-61-6	1,2,3-Trichlorobenzene	25	22.4	90	68-131
120-82-1	1,2,4-Trichlorobenzene	25	21.9	88	73-129
71-55-6	1,1,1-Trichloroethane	25	25.4	102	75-130
79-00-5	1,1,2-Trichloroethane	25	27.5	110	76-119
79-01-6	Trichloroethylene	25	26.6	106	81-126
75-69-4	Trichlorofluoromethane	25	25.6	102	71-156
96-18-4	1,2,3-Trichloropropane	25	26.4	106	77-120
95-63-6	1,2,4-Trimethylbenzene	25	27.7	111	79-120
108-67-8	1,3,5-Trimethylbenzene	25	27.3	109	79-120
108-05-4	Vinyl Acetate	125	143	114	43-154
75-01-4	Vinyl Chloride	25	26.5	106	69-159
	m,p-Xylene	50	51.0	102	79-126
95-47-6	o-Xylene	25	25.2	101	80-127
1330-20-7	Xylene (total)	75	76.3	102	80-126

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4453-BS	C0111585.D	1	10/29/15	EP	n/a	n/a	VC4453

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-1, MC42231-2, MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-10, MC42231-11, MC42231-12, MC42231-13

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	96%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4454-BS	C0111623.D	1	10/30/15	EP	n/a	n/a	VC4454

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	27.1	108	81-122
108-86-1	Bromobenzene	25	24.7	99	80-121
74-97-5	Bromochloromethane	25	25.5	102	76-123
75-27-4	Bromodichloromethane	25	25.0	100	79-123
75-25-2	Bromoform	25	22.5	90	66-123
78-93-3	2-Butanone (MEK)	125	127	102	56-143
104-51-8	n-Butylbenzene	25	26.0	104	79-126
135-98-8	sec-Butylbenzene	25	26.1	104	83-133
98-06-6	tert-Butylbenzene	25	26.9	108	80-133
75-15-0	Carbon Disulfide	25	24.9	100	66-148
56-23-5	Carbon Tetrachloride	25	25.9	104	76-136
108-90-7	Chlorobenzene	25	26.0	104	82-124
75-00-3	Chloroethane	25	23.7	95	62-144
67-66-3	Chloroform	25	25.8	103	80-124
95-49-8	o-Chlorotoluene	25	26.1	104	81-127
106-43-4	p-Chlorotoluene	25	25.6	102	83-130
124-48-1	Dibromochloromethane	25	23.8	95	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	22.8	91	64-123
106-93-4	1,2-Dibromoethane	25	24.3	97	75-120
75-71-8	Dichlorodifluoromethane	25	24.7	99	42-167
95-50-1	1,2-Dichlorobenzene	25	26.3	105	82-124
541-73-1	1,3-Dichlorobenzene	25	27.0	108	84-125
106-46-7	1,4-Dichlorobenzene	25	26.5	106	78-120
75-34-3	1,1-Dichloroethane	25	25.4	102	81-122
107-06-2	1,2-Dichloroethane	25	24.6	98	75-125
75-35-4	1,1-Dichloroethylene	25	25.5	102	78-137
156-59-2	cis-1,2-Dichloroethylene	25	25.1	100	78-120
156-60-5	trans-1,2-Dichloroethylene	25	26.8	107	76-127
78-87-5	1,2-Dichloropropane	25	25.2	101	76-124
142-28-9	1,3-Dichloropropane	25	24.7	99	80-118
594-20-7	2,2-Dichloropropane	25	25.8	103	74-139
563-58-6	1,1-Dichloropropene	25	26.3	105	79-131
10061-01-5	cis-1,3-Dichloropropene	25	24.6	98	75-118
10061-02-6	trans-1,3-Dichloropropene	25	26.3	105	80-120
100-41-4	Ethylbenzene	25	25.0	100	81-121
87-68-3	Hexachlorobutadiene	25	22.1	88	75-142

* = Outside of Control Limits.

10.2.2
10

Blank Spike Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4454-BS	C0111623.D	1	10/30/15	EP	n/a	n/a	VC4454

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
591-78-6	2-Hexanone	125	124	99	61-129
98-82-8	Isopropylbenzene	25	26.1	104	83-132
99-87-6	p-Isopropyltoluene	25	25.6	102	79-130
74-83-9	Methyl Bromide	25	23.8	95	59-143
74-87-3	Methyl Chloride	25	24.4	98	50-159
74-88-4	Methyl Iodide	25	24.4	98	73-123
74-95-3	Methylene Bromide	25	24.7	99	78-119
75-09-2	Methylene Chloride	25	24.8	99	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	126	101	66-122
1634-04-4	Methyl Tert Butyl Ether	25	27.4	110	72-117
91-20-3	Naphthalene	25	26.2	105	63-132
103-65-1	n-Propylbenzene	25	26.3	105	82-133
100-42-5	Styrene	25	25.7	103	78-119
630-20-6	1,1,1,2-Tetrachloroethane	25	24.9	100	77-122
79-34-5	1,1,2,2-Tetrachloroethane	25	26.6	106	72-120
127-18-4	Tetrachloroethylene	25	24.4	98	76-135
108-88-3	Toluene	25	27.5	110	80-120
87-61-6	1,2,3-Trichlorobenzene	25	22.3	89	68-131
120-82-1	1,2,4-Trichlorobenzene	25	22.9	92	73-129
71-55-6	1,1,1-Trichloroethane	25	25.6	102	75-130
79-00-5	1,1,2-Trichloroethane	25	26.5	106	76-119
79-01-6	Trichloroethylene	25	25.9	104	81-126
75-69-4	Trichlorofluoromethane	25	24.4	98	71-156
96-18-4	1,2,3-Trichloropropane	25	26.5	106	77-120
95-63-6	1,2,4-Trimethylbenzene	25	25.3	101	79-120
108-67-8	1,3,5-Trimethylbenzene	25	25.1	100	79-120
108-05-4	Vinyl Acetate	125	123	98	43-154
75-01-4	Vinyl Chloride	25	24.9	100	69-159
	m,p-Xylene	50	50.1	100	79-126
95-47-6	o-Xylene	25	26.0	104	80-127
1330-20-7	Xylene (total)	75	76.1	101	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	83-118%

* = Outside of Control Limits.

10.2.2
10

Blank Spike Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4454-BS	C0111623.D	1	10/30/15	EP	n/a	n/a	VC4454

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-11, MC42231-12, MC42231-13

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	91%	79-125%
2037-26-5	Toluene-D8	101%	85-112%
460-00-4	4-Bromofluorobenzene	103%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4456-BS	C0111656.D	1	10/31/15	EP	n/a	n/a	VC4456

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-8, MC42231-9, MC42231-10, MC42231-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	139	111	50-147
127-18-4	Tetrachloroethylene	25	24.4	98	76-135

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	79-125%
2037-26-5	Toluene-D8	96%	85-112%
460-00-4	4-Bromofluorobenzene	91%	83-118%

10.2.3
10

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA28607-20MS	C0111606.D	25	10/30/15	EP	n/a	n/a	VC4453
FA28607-20MSD	C0111607.D	25	10/30/15	EP	n/a	n/a	VC4453
FA28607-20	C0111603.D	25	10/30/15	EP	n/a	n/a	VC4453

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-1, MC42231-2, MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-10, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	FA28607-20 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		3130	3450	110	3130	3360	108	3	50-147/21
71-43-2	Benzene	ND		625	673	108	625	656	105	3	81-122/14
108-86-1	Bromobenzene	ND		625	553	88	625	558	89	1	80-121/14
74-97-5	Bromochloromethane	ND		625	651	104	625	642	103	1	76-123/14
75-27-4	Bromodichloromethane	ND		625	694	111	625	664	106	4	79-123/19
75-25-2	Bromoform	ND		625	464	74	625	466	75	0	66-123/21
78-93-3	2-Butanone (MEK)	ND		3130	3290	105	3130	3260	104	1	56-143/18
104-51-8	n-Butylbenzene	ND		625	556	89	625	539	86	3	79-126/16
135-98-8	sec-Butylbenzene	ND		625	649	104	625	628	100	3	83-133/16
98-06-6	tert-Butylbenzene	ND		625	609	97	625	599	96	2	80-133/16
75-15-0	Carbon Disulfide	ND		625	640	102	625	626	100	2	66-148/23
56-23-5	Carbon Tetrachloride	ND		625	675	108	625	631	101	7	76-136/23
108-90-7	Chlorobenzene	ND		625	652	104	625	635	102	3	82-124/14
75-00-3	Chloroethane	ND		625	655	105	625	594	95	10	62-144/20
67-66-3	Chloroform	ND		625	685	110	625	662	106	3	80-124/15
95-49-8	o-Chlorotoluene	ND		625	639	102	625	637	102	0	81-127/15
106-43-4	p-Chlorotoluene	ND		625	648	104	625	649	104	0	83-130/15
124-48-1	Dibromochloromethane	ND		625	508	81	625	510	82	0	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND		625	571	91	625	568	91	1	64-123/18
106-93-4	1,2-Dibromoethane	ND		625	506	81	625	527	84	4	75-120/13
75-71-8	Dichlorodifluoromethane	ND		625	480	77	625	492	79	2	42-167/19
95-50-1	1,2-Dichlorobenzene	ND		625	592	95	625	598	96	1	82-124/14
541-73-1	1,3-Dichlorobenzene	ND		625	594	95	625	601	96	1	84-125/14
106-46-7	1,4-Dichlorobenzene	ND		625	629	101	625	623	100	1	78-120/15
75-34-3	1,1-Dichloroethane	ND		625	701	112	625	668	107	5	81-122/15
107-06-2	1,2-Dichloroethane	ND		625	715	114	625	684	109	4	75-125/14
75-35-4	1,1-Dichloroethylene	ND		625	692	111	625	665	106	4	78-137/18
156-59-2	cis-1,2-Dichloroethylene	23.7	J	625	647	100	625	654	101	1	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		625	671	107	625	663	106	1	76-127/17
78-87-5	1,2-Dichloropropane	ND		625	672	108	625	667	107	1	76-124/14
142-28-9	1,3-Dichloropropane	ND		625	548	88	625	565	90	3	80-118/13
594-20-7	2,2-Dichloropropane	ND		625	496	79	625	479	77	3	74-139/17
563-58-6	1,1-Dichloropropene	ND		625	615	98	625	610	98	1	79-131/16
10061-01-5	cis-1,3-Dichloropropene	ND		625	562	90	625	548	88	3	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND		625	529	85	625	530	85	0	80-120/22
100-41-4	Ethylbenzene	ND		625	665	106	625	645	103	3	81-121/14

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA28607-20MS	C0111606.D	25	10/30/15	EP	n/a	n/a	VC4453
FA28607-20MSD	C0111607.D	25	10/30/15	EP	n/a	n/a	VC4453
FA28607-20	C0111603.D	25	10/30/15	EP	n/a	n/a	VC4453

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-1, MC42231-2, MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-10, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	FA28607-20 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
87-68-3	Hexachlorobutadiene	ND		625	454	73* [a]	625	433	69* [a]	5	75-142/19
591-78-6	2-Hexanone	ND		3130	3160	101	3130	3240	104	3	61-129/18
98-82-8	Isopropylbenzene	ND		625	581	93	625	564	90	3	83-132/15
99-87-6	p-Isopropyltoluene	ND		625	600	96	625	593	95	1	79-130/16
74-83-9	Methyl Bromide	ND		625	681	109	625	653	104	4	59-143/19
74-87-3	Methyl Chloride	ND		625	589	94	625	578	92	2	50-159/19
74-88-4	Methyl Iodide	ND		625	593	95	625	597	96	1	73-123/16
74-95-3	Methylene Bromide	ND		625	692	111	625	676	108	2	78-119/14
75-09-2	Methylene Chloride	ND		625	692	111	625	655	105	5	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		3130	3200	102	3130	3240	104	1	66-122/16
1634-04-4	Methyl Tert Butyl Ether	ND		625	633	101	625	670	107	6	72-117/14
91-20-3	Naphthalene	ND		625	530	85	625	536	86	1	63-132/25
103-65-1	n-Propylbenzene	ND		625	684	109	625	680	109	1	82-133/15
100-42-5	Styrene	ND		625	568	91	625	558	89	2	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND		625	639	102	625	630	101	1	77-122/19
79-34-5	1,1,2,2-Tetrachloroethane	ND		625	670	107	625	680	109	1	72-120/14
127-18-4	Tetrachloroethylene	1540		625	2180	102	625	2070	85	5	76-135/16
108-88-3	Toluene	ND		625	615	98	625	598	96	3	80-120/14
87-61-6	1,2,3-Trichlorobenzene	ND		625	529	85	625	505	81	5	68-131/25
120-82-1	1,2,4-Trichlorobenzene	ND		625	470	75	625	456	73	3	73-129/20
71-55-6	1,1,1-Trichloroethane	ND		625	697	112	625	659	105	6	75-130/16
79-00-5	1,1,2-Trichloroethane	ND		625	677	108	625	672	108	1	76-119/14
79-01-6	Trichloroethylene	13.4	J	625	692	109	625	661	104	5	81-126/15
75-69-4	Trichlorofluoromethane	ND		625	694	111	625	668	107	4	71-156/21
96-18-4	1,2,3-Trichloropropane	ND		625	657	105	625	680	109	3	77-120/16
95-63-6	1,2,4-Trimethylbenzene	ND		625	663	106	625	643	103	3	79-120/18
108-67-8	1,3,5-Trimethylbenzene	ND		625	666	107	625	659	105	1	79-120/19
108-05-4	Vinyl Acetate	ND		3130	3550	114	3130	3490	112	2	43-154/14
75-01-4	Vinyl Chloride	ND		625	607	97	625	618	99	2	69-159/18
	m,p-Xylene	ND		1250	1220	98	1250	1180	94	3	79-126/15
95-47-6	o-Xylene	ND		625	533	85	625	542	87	2	80-127/14
1330-20-7	Xylene (total)	ND		1880	1750	93	1880	1730	92	1	80-126/15

* = Outside of Control Limits.

10.3.1
10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA28607-20MS	C0111606.D	25	10/30/15	EP	n/a	n/a	VC4453
FA28607-20MSD	C0111607.D	25	10/30/15	EP	n/a	n/a	VC4453
FA28607-20	C0111603.D	25	10/30/15	EP	n/a	n/a	VC4453

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-1, MC42231-2, MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-10, MC42231-11, MC42231-12, MC42231-13

CAS No.	Surrogate Recoveries	MS	MSD	FA28607-20	Limits
1868-53-7	Dibromofluoromethane	103%	100%	110%	83-118%
17060-07-0	1,2-Dichloroethane-D4	108%	105%	117%	79-125%
2037-26-5	Toluene-D8	93%	94%	123%* [b]	85-112%
460-00-4	4-Bromofluorobenzene	85%	89%	93%	83-118%

(a) Outside control limits.
(b) Outside control limits due to matrix interference.

10.3.1
10

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42231-10MS	C0111636.D	5	10/30/15	EP	n/a	n/a	VC4454
MC42231-10MSD	C0111637.D	5	10/30/15	EP	n/a	n/a	VC4454
MC42231-10 [a]	C0111632.D	5	10/30/15	EP	n/a	n/a	VC4454

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	MC42231-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	5.0 U		125	132	106	125	133	106	1	81-122/14
108-86-1	Bromobenzene	5.0 U		125	125	100	125	121	97	3	80-121/14
74-97-5	Bromochloromethane	5.0 U		125	118	94	125	133	106	12	76-123/14
75-27-4	Bromodichloromethane	5.0 U		125	124	99	125	123	98	1	79-123/19
75-25-2	Bromoform	5.0 U		125	89.2	71	125	93.0	74	4	66-123/21
78-93-3	2-Butanone (MEK)	25 U		625	658	105	625	700	112	6	56-143/18
104-51-8	n-Butylbenzene	5.0 U		125	119	95	125	116	93	3	79-126/16
135-98-8	sec-Butylbenzene	5.0 U		125	122	98	125	120	96	2	83-133/16
98-06-6	tert-Butylbenzene	5.0 U		125	129	103	125	128	102	1	80-133/16
75-15-0	Carbon Disulfide	10 U		125	125	100	125	121	97	3	66-148/23
56-23-5	Carbon Tetrachloride	5.0 U		125	135	108	125	145	116	7	76-136/23
108-90-7	Chlorobenzene	5.0 U		125	128	102	125	125	100	2	82-124/14
75-00-3	Chloroethane	10 U		125	124	99	125	117	94	6	62-144/20
67-66-3	Chloroform	5.0 U		125	125	100	125	127	102	2	80-124/15
95-49-8	o-Chlorotoluene	5.0 U		125	127	102	125	124	99	2	81-127/15
106-43-4	p-Chlorotoluene	5.0 U		125	126	101	125	124	99	2	83-130/15
124-48-1	Dibromochloromethane	5.0 U		125	103	82	125	105	84	2	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	10 U		125	106	85	125	116	93	9	64-123/18
106-93-4	1,2-Dibromoethane	10 U		125	108	86	125	114	91	5	75-120/13
75-71-8	Dichlorodifluoromethane	10 U		125	110	88	125	111	89	1	42-167/19
95-50-1	1,2-Dichlorobenzene	5.0 U		125	123	98	125	124	99	1	82-124/14
541-73-1	1,3-Dichlorobenzene	5.0 U		125	126	101	125	125	100	1	84-125/14
106-46-7	1,4-Dichlorobenzene	5.0 U		125	130	104	125	127	102	2	78-120/15
75-34-3	1,1-Dichloroethane	5.0 U		125	136	109	125	128	102	6	81-122/15
107-06-2	1,2-Dichloroethane	5.0 U		125	135	108	125	128	102	5	75-125/14
75-35-4	1,1-Dichloroethylene	5.0 U		125	138	110	125	129	103	7	78-137/18
156-59-2	cis-1,2-Dichloroethylene	5.0 U		125	131	105	125	126	101	4	78-120/15
156-60-5	trans-1,2-Dichloroethylene	5.0 U		125	135	108	125	127	102	6	76-127/17
78-87-5	1,2-Dichloropropane	5.0 U		125	124	99	125	123	98	1	76-124/14
142-28-9	1,3-Dichloropropane	5.0 U		125	120	96	125	123	98	2	80-118/13
594-20-7	2,2-Dichloropropane	5.0 U		125	124	99	125	118	94	5	74-139/17
563-58-6	1,1-Dichloropropene	5.0 U		125	125	100	125	125	100	0	79-131/16
10061-01-5	cis-1,3-Dichloropropene	5.0 U		125	103	82	125	106	85	3	75-118/23
10061-02-6	trans-1,3-Dichloropropene	5.0 U		125	116	93	125	117	94	1	80-120/22
100-41-4	Ethylbenzene	5.0 U		125	123	98	125	119	95	3	81-121/14
87-68-3	Hexachlorobutadiene	10 U		125	101	81	125	104	83	3	75-142/19

* = Outside of Control Limits.

10.3.2

10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42231-10MS	C0111636.D	5	10/30/15	EP	n/a	n/a	VC4454
MC42231-10MSD	C0111637.D	5	10/30/15	EP	n/a	n/a	VC4454
MC42231-10 [a]	C0111632.D	5	10/30/15	EP	n/a	n/a	VC4454

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-11, MC42231-12, MC42231-13

CAS No.	Compound	MC42231-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
591-78-6	2-Hexanone	50 U		625	643	103	625	674	108	5	61-129/18
98-82-8	Isopropylbenzene	5.0 U		125	114	91	125	116	93	2	83-132/15
99-87-6	p-Isopropyltoluene	5.0 U		125	118	94	125	118	94	0	79-130/16
74-83-9	Methyl Bromide	10 U		125	136	109	125	132	106	3	59-143/19
74-87-3	Methyl Chloride	10 U		125	129	103	125	125	100	3	50-159/19
74-88-4	Methyl Iodide	5.0 U		125	128	102	125	121	97	6	73-123/16
74-95-3	Methylene Bromide	10 U		125	119	95	125	123	98	3	78-119/14
75-09-2	Methylene Chloride	25 U		125	138	110	125	131	105	5	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	25 U		625	673	108	625	712	114	6	66-122/16
1634-04-4	Methyl Tert Butyl Ether	5.0 U		125	130	104	125	129	103	1	72-117/14
91-20-3	Naphthalene	25 U		125	106	85	125	119	95	12	63-132/25
103-65-1	n-Propylbenzene	5.0 U		125	127	102	125	123	98	3	82-133/15
100-42-5	Styrene	5.0 U		125	121	97	125	120	96	1	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	5.0 U		125	117	94	125	119	95	2	77-122/19
79-34-5	1,1,2,2-Tetrachloroethane	5.0 U		125	136	109	125	141	113	4	72-120/14
127-18-4	Tetrachloroethylene	5.4		125	117	89	125	111	84	5	76-135/16
108-88-3	Toluene	5.0 U		125	132	106	125	129	103	2	80-120/14
87-61-6	1,2,3-Trichlorobenzene	5.0 U		125	102	82	125	112	90	9	68-131/25
120-82-1	1,2,4-Trichlorobenzene	5.0 U		125	97.3	78	125	104	83	7	73-129/20
71-55-6	1,1,1-Trichloroethane	5.0 U		125	137	110	125	132	106	4	75-130/16
79-00-5	1,1,2-Trichloroethane	5.0 U		125	135	108	125	134	107	1	76-119/14
79-01-6	Trichloroethylene	5.0 U		125	136	109	125	129	103	5	81-126/15
75-69-4	Trichlorofluoromethane	10 U		125	139	111	125	133	106	4	71-156/21
96-18-4	1,2,3-Trichloropropane	10 U		125	132	106	125	134	107	2	77-120/16
95-63-6	1,2,4-Trimethylbenzene	10 U		125	124	99	125	123	98	1	79-120/18
108-67-8	1,3,5-Trimethylbenzene	10 U		125	127	102	125	124	99	2	79-120/19
108-05-4	Vinyl Acetate	50 U		625	638	102	625	625	100	2	43-154/14
75-01-4	Vinyl Chloride	5.0 U		125	125	100	125	124	99	1	69-159/18
	m,p-Xylene	10 U		250	245	98	250	240	96	2	79-126/15
95-47-6	o-Xylene	5.0 U		125	113	90	125	117	94	3	80-127/14
1330-20-7	Xylene (total)	15 U		375	358	95	375	357	95	0	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	MC42231-10	Limits
1868-53-7	Dibromofluoromethane	99%	100%	111%	83-118%

* = Outside of Control Limits.

10.3.2
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Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42231-10MS	C0111636.D	5	10/30/15	EP	n/a	n/a	VC4454
MC42231-10MSD	C0111637.D	5	10/30/15	EP	n/a	n/a	VC4454
MC42231-10 [a]	C0111632.D	5	10/30/15	EP	n/a	n/a	VC4454

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-3, MC42231-4, MC42231-5, MC42231-6, MC42231-7, MC42231-8, MC42231-9, MC42231-11, MC42231-12, MC42231-13

CAS No.	Surrogate Recoveries	MS	MSD	MC42231-10	Limits
17060-07-0	1,2-Dichloroethane-D4	99%	95%	117%	79-125%
2037-26-5	Toluene-D8	96%	97%	104%	85-112%
460-00-4	4-Bromofluorobenzene	98%	98%	104%	83-118%

(a) Confirmation run.

10.3.2

10

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D76470-3MS	C0111675.D	20	10/31/15	EP	n/a	n/a	VC4456
D76470-3MSD	C0111676.D	20	10/31/15	EP	n/a	n/a	VC4456
D76470-3 [a]	C0111671.D	20	10/31/15	EP	n/a	n/a	VC4456

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42231-8, MC42231-9, MC42231-10, MC42231-12

CAS No.	Compound	D76470-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		2500	2830	113	2500	3070	123	8	50-147/21
127-18-4	Tetrachloroethylene	1190		500	1450	52* [b]	500	1490	60* [b]	3	76-135/16

CAS No.	Surrogate Recoveries	MS	MSD	D76470-3	Limits
1868-53-7	Dibromofluoromethane	115%	107%	145%* [c]	83-118%
17060-07-0	1,2-Dichloroethane-D4	112%	110%	129%* [c]	79-125%
2037-26-5	Toluene-D8	94%	93%	101%	85-112%
460-00-4	4-Bromofluorobenzene	86%	94%	86%	83-118%

(a) Confirmation run.
(b) Outside control limits due to high level in sample relative to spike amount.
(c) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
MC42231-1	C0111587.D	107	110	110	98
MC42231-2	C0111588.D	107	111	111	101
MC42231-3	C0111625.D	107	107	101	102
MC42231-3	C0111589.D	108	113	118* [a]	96
MC42231-4	C0111626.D	107	108	100	100
MC42231-4	C0111590.D	111	114	118* [a]	95
MC42231-5	C0111627.D	107	112	101	99
MC42231-5	C0111591.D	112	115	116* [a]	96
MC42231-6	C0111628.D	111	113	103	101
MC42231-6	C0111592.D	108	116	115* [a]	99
MC42231-7	C0111629.D	110	113	102	102
MC42231-7	C0111593.D	111	117	116* [a]	94
MC42231-8	C0111630.D	109	114	103	102
MC42231-8	C0111659.D	122* [a]	118	100	96
MC42231-8	C0111594.D	112	117	116* [a]	92
MC42231-9	C0111631.D	108	116	102	97
MC42231-9	C0111660.D	125* [a]	118	102	92
MC42231-9	C0111595.D	110	117	133* [a]	94
MC42231-10	C0111632.D	111	117	104	104
MC42231-10	C0111658.D	121* [a]	115	100	96
MC42231-10	C0111596.D	113	118	112	95
MC42231-11	C0111633.D	114	118	105	101
MC42231-11	C0111597.D	107	117	120* [a]	99
MC42231-12	C0111634.D	111	117	102	101
MC42231-12	C0111661.D	120* [a]	120	101	100
MC42231-12	C0111598.D	108	116	158* [a]	96
MC42231-13	C0111635.D	112	106	104	98
MC42231-13	C0111599.D	113	118	116* [a]	94
D76470-3MS	C0111675.D	115	112	94	86
D76470-3MSD	C0111676.D	107	110	93	94
FA28607-20MS	C0111606.D	103	108	93	85
FA28607-20MSD	C0111607.D	100	105	94	89
MC42231-10MS	C0111636.D	99	99	96	98
MC42231-10MSD	C0111637.D	100	95	97	98
VC4453-BS	C0111585.D	97	98	99	96
VC4453-MB	C0111586.D	106	108	111	97
VC4454-BS	C0111623.D	96	91	101	103
VC4454-MB	C0111624.D	106	104	100	103
VC4456-BS	C0111656.D	108	103	96	91
VC4456-MB	C0111657.D	115	115	100	102

Volatile Surrogate Recovery Summary

Job Number: MC42231
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Surrogate Compounds	Recovery Limits

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

(a) Outside control limits due to matrix interference.

New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West, Building One, Marlborough, MA 01752
TEL. 508-481-6200
www.accutest.com

FED-EX Tracking # 6484 9125 2146
Bottle Order Control #
Accutest Quote #
Accutest Job # MC42231

Client / Reporting Information	Project Information	
Company Name: Accutest Laboratories	Project Name: Fort Devens, AOC50, Devens, MA	
Street Address: 495 Technology Center West, Bldg One	Street	Billing Information (if different from Report to)
City: Marlborough, State: MA Zip: (	City State	Company Name
Project Contact: frankd E-mail: frankd@accutest.com	Project #	Street Address
Phone #: 508-481-6200 Fax #	Client Purchase Order #	City State Zip
Sampler(s) Name(s): KGA Phone	Project Manager	Attention:

Requested Analysis (see TEST CODE sheet): SO4 by 300

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	SO4 by 300	LAB USE ONLY
6	G6M-02-13X		10/16/15	10:41:00 AM	KGA	AQ	1					x				X	MA
10	G6M-02-01X		10/16/15	10:50:00 AM	KGA	AQ	1					x				X	
13	G6M-04-04X_FAL15		10/16/15	10:55:00 AM	KGA	AQ	1					x				X	

Turnaround Time (Business days)
- [ ] Std. 10 Business Days
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [x] other Due 10/30/2015

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [x] Other COMMBN

Commercial "A" = Results Only

Comments / Special Instructions
Ship to ALNJ -- SO4 by 300 "Limited Volume"

INITIAL ASESSMENT KJK IB
LABEL VERIFICATION JK

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	10/19/15	1 FedEx	2 Fed Ex	10/20/15 9:15	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # ☐ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 4.5°C IR

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MC42231: Chain of Custody
Page 1 of 2
Accutest New Jersey

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42231 **Client:** **Project:**

Date / Time Received: 10/20/2015 9:15:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (4.5);

Cooler Temps (Corrected) °C: Cooler 1: (4.7);

Cooler Security

	Y	N
1. Custody Seals Present:	✔	☐
2. Custody Seals Intact:	✔	☐
3. COC Present:	✔	☐
4. Smpl Dates/Time OK	✔	☐

Cooler Temperature

	Y	N
1. Temp criteria achieved:	✔	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation

	Y	N	N/A
1. Trip Blank present / cooler:	☐	✔	☐
2. Trip Blank listed on COC:	☐	✔	☐
3. Samples preserved properly:	✔	☐	
4. VOCs headspace free:	☐	☐	✔

Sample Integrity - Documentation

	Y	N
1. Sample labels present on bottles:	✔	☐
2. Container labeling complete:	✔	☐
3. Sample container label / COC agree:	✔	☐

Sample Integrity - Condition

	Y	N
1. Sample recvd within HT:	✔	☐
2. All containers accounted for:	✔	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions

	Y	N	N/A
1. Analysis requested is clear:	✔	☐	
2. Bottles received for unspecified tests	☐	✔	
3. Sufficient volume recvd for analysis:	✔	☐	
4. Compositing instructions clear:	☐	☐	✔
5. Filtering instructions clear:	☐	☐	✔

Comments

11.1

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MC42231: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC42231
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/16/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC42231

New England
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LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42231
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Sulfate	GP93114/GN34975	10	0.70	mg/l	80	82.9	103.6	90-110%

Associated Samples:
Batch GP93114: MC42231-6, MC42231-10, MC42231-13
(*) Outside of QC limits

12.1
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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42231
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Sulfate	GP93114/GN34975	JC6498-10	mg/l	175	174	0.6	0-20%

Associated Samples:
Batch GP93114: MC42231-6, MC42231-10, MC42231-13
(*) Outside of QC limits

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42231
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Sulfate	GP93114/GN34975	JC6498-10	mg/l	175	80	255	100.0	80-120%

Associated Samples:
Batch GP93114: MC42231-6, MC42231-10, MC42231-13
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

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New England
ACCUTEST
LABORATORIES

11/06/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

VOC/Metals

Accutest Job Number: MC42269

Sampling Date: 10/19/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
lekes@hsenv.com

ATTN: Laurie Ekes

Total number of pages in report: **110**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

Sections:

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Accutest Laboratories

Sample Summary

H&S Environmental

Job No: MC42269

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC42269-1	10/19/15	00:00	KGA	10/19/15	AQ	Trip Blank Water	TRIP BLANK
MC42269-2	10/19/15	13:58	KGA	10/19/15	AQ	Ground Water	XSA-12-98X
MC42269-2F	10/19/15	13:58	KGA	10/19/15	AQ	Groundwater Filtered	XSA-12-98X
MC42269-3	10/19/15	14:30	KGA	10/19/15	AQ	Ground Water	G6M-02-06X
MC42269-3F	10/19/15	14:30	KGA	10/19/15	AQ	Groundwater Filtered	G6M-02-06X
MC42269-4	10/19/15	12:17	KGA	10/19/15	AQ	Ground Water	G6M-02-07X
MC42269-4F	10/19/15	12:17	KGA	10/19/15	AQ	Groundwater Filtered	G6M-02-07X
MC42269-5	10/19/15	13:15	KGA	10/19/15	AQ	Ground Water	XSA-12-97X
MC42269-5F	10/19/15	13:15	KGA	10/19/15	AQ	Groundwater Filtered	XSA-12-97X
MC42269-6	10/19/15	15:30	KGA	10/19/15	AQ	Ground Water	XSA-12-95X
MC42269-6F	10/19/15	15:30	KGA	10/19/15	AQ	Groundwater Filtered	XSA-12-95X
MC42269-7	10/19/15	12:05	KGA	10/19/15	AQ	Ground Water	G6M-04-06X
MC42269-7F	10/19/15	12:05	KGA	10/19/15	AQ	Groundwater Filtered	G6M-04-06X

Sample Summary
(continued)

H&S Environmental

Job No: MC42269

Fort Devens, AOC50, Devens, MA
Project No: VOC/Metals

Sample Number	Collected Date	Collected Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
MC42269-8	10/19/15	11:35	KGA	10/19/15	AQ	Ground Water	G6M-04-07X
MC42269-8F	10/19/15	11:35	KGA	10/19/15	AQ	Groundwater Filtered	G6M-04-07X
MC42269-9	10/19/15	16:00	KGA	10/19/15	AQ	Equipment Blank	G6M-RB-2

ACCUTEST LABORATORIES

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	H&S Environmental	**Job No**	MC42269
Site:	Fort Devens, AOC50, Devens, MA	**Report Date**	11/5/2015 9:23:31 AM

8 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 10/19/2015 and were received at Accutest on 10/19/2015 properly preserved, at 1.8 Deg. C and intact. These Samples received an Accutest job number of MC42269. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** F:VC4458

- Analysis performed at Accutest Laboratories, Orlando FL.

Matrix: AQ **Batch ID:** F:VC4459

- Analysis performed at Accutest Laboratories, Orlando FL.

Volatiles by GC By Method VRSK 175

Matrix: AQ **Batch ID:** GBA1548

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42178-7DUP were used as the QC samples indicated.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25342

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11FMS, MC42202-11FMSD, MC42202-11FSDL were used as the QC samples for metals.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** N:GP93136

- Sulfate: Analysis performed at Accutest Laboratories, Dayton, NJ.

Wet Chemistry By Method EPA 353.2

Matrix: AQ **Batch ID:** GP19726

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11DUP, MC42202-11MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ **Batch ID:** GP19744

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42231-6DUP, MC42231-6MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate + Nitrite are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity. Refer to spike blank.

Matrix: AQ **Batch ID:** R37510

- MC42269-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R37559

- MC42269-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Wet Chemistry By Method SM 21 4500 NO2 B

Matrix: AQ **Batch ID:** GP19712

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42271-1DUP, MC42271-1MS were used as the QC samples for Nitrogen, Nitrite.

Wet Chemistry By Method SM21 2320B

Matrix: AQ **Batch ID:** GN52117

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42202-11DUP, MC42202-11MS were used as the QC samples for Alkalinity, Total as CaCO3.

Matrix: AQ **Batch ID:** GN52186

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42342-13DUP, MC42342-13MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM21 4500 S F

Matrix: AQ **Batch ID:** GN52112

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42263-3DUP, MC42263-3MS were used as the QC samples for Sulfide.

Wet Chemistry By Method SW846 9060

Matrix: AQ	**Batch ID:** GP19742

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42426-2MS, MC42426-2MSD were used as the QC samples for Total Organic Carbon.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC42269).

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: Accutest Labs of New England, Inc. **Job No** MC42269

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 11/2/2015 11:41:11 A

On 10/21/2015, 2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a maximum corrected temperature of 3.6 C. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of MC42269 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP93136

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC6576-1DUP, JC6576-1MS were used as the QC samples for Sulfate.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Accutest Labs of New England, Inc. **Job No:** MC42269

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 11/4/2015 4:19:54 PM

8 Samples and 1 Trip Blank were collected on 10/19/2015 and were received at Accutest SE on 10/30/2015 properly preserved, at 2.6 Deg. C and intact. These Samples received an Accutest job number of MC42269. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** VC4458

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) D76470-3MS, D76470-3MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** VC4459

All method blanks for this batch meet method specific criteria.

Sample(s) D76470-1MS, D76470-1MSD were used as the QC samples indicated.

The following samples were run outside of holding time for method SW846 8260B: MC42269-6, MC42269-7. Samples re-analyzed beyond hold time; reported results are considered minimum values.

Sample(s) MC42269-6 has surrogates outside control limits. Probable cause is due to matrix interference.

MC42269-6 for Dibromofluoromethane: Outside control limits due to matrix interference.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

_______________________________________ Date: November 4, 2015

Lovelie Metzgar, QA Officer (signature on file)

Summary of Hits

Job Number: MC42269
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42269-1	**TRIP BLANK**					
No hits reported in this sample.						
MC42269-2	**XSA-12-98X**					
2-Butanone (MEK) [a]		3.9 J	5.0	3.5	ug/l	SW846 8260B
cis-1,2-Dichloroethylene [a]		1.2	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [a]		6.3	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [a]		0.66 J	1.0	0.50	ug/l	SW846 8260B
MC42269-2F	**XSA-12-98X**					
Iron		174	100	50	ug/l	SW846 6010C
MC42269-3	**G6M-02-06X**					
No hits reported in this sample.						
MC42269-3F	**G6M-02-06X**					
No hits reported in this sample.						
MC42269-4	**G6M-02-07X**					
cis-1,2-Dichloroethylene [a]		0.70 J	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [a]		4.5	1.0	0.50	ug/l	SW846 8260B
MC42269-4F	**G6M-02-07X**					
No hits reported in this sample.						
MC42269-5	**XSA-12-97X**					
Tetrachloroethylene [a]		7.4	1.0	0.50	ug/l	SW846 8260B
MC42269-5F	**XSA-12-97X**					
Iron		771	100	50	ug/l	SW846 6010C
Manganese		15.2	15	7.5	ug/l	SW846 6010C
MC42269-6	**XSA-12-95X**					
Chloroethane [a]		6.0	2.0	1.0	ug/l	SW846 8260B
1,1-Dichloroethylene [a]		0.57 J	1.0	0.50	ug/l	SW846 8260B

Summary of Hits

Job Number: MC42269
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

Lab Sample ID Client Sample ID Analyte	Result/ Qual	LOQ	LOD	Units	Method
cis-1,2-Dichloroethylene [b]	111 Q	2.0	1.0	ug/l	SW846 8260B
trans-1,2-Dichloroethylene [a]	6.7	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [a]	26.8	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [a]	19.9	1.0	0.50	ug/l	SW846 8260B
Vinyl Chloride [a]	7.2	1.0	0.50	ug/l	SW846 8260B
MC42269-6F XSA-12-95X					
Iron	4770	100	50	ug/l	SW846 6010C
Manganese	10600	150	75	ug/l	SW846 6010C
MC42269-7 G6M-04-06X					
cis-1,2-Dichloroethylene [b]	0.67 J	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [a]	1.7	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [a]	0.70 J	1.0	0.50	ug/l	SW846 8260B
Alkalinity, Total as CaCO3	59.7	5.0	3.9	mg/l	SM21 2320B
Sulfate [c]	13.0	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	1.0	1.0	0.81	mg/l	SW846 9060
MC42269-7F G6M-04-06X					
Manganese	74.1	15	7.5	ug/l	SW846 6010C
MC42269-8 G6M-04-07X					
cis-1,2-Dichloroethylene [a]	60.1	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [a]	58.8	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [a]	11.9	1.0	0.50	ug/l	SW846 8260B
Vinyl Chloride [a]	1.0	1.0	0.50	ug/l	SW846 8260B
Methane	3120	100	50	ug/l	VRSK 175
Alkalinity, Total as CaCO3	143	5.0	3.9	mg/l	SM21 2320B
Sulfate [c]	11.0	10	0.50	mg/l	EPA 300/SW846 9056A
Total Organic Carbon	0.98 J	1.0	0.81	mg/l	SW846 9060
MC42269-8F G6M-04-07X					
Arsenic	14.1	4.0	2.0	ug/l	SW846 6010C
Iron	564	100	50	ug/l	SW846 6010C
Manganese	4590	150	75	ug/l	SW846 6010C
MC42269-9 G6M-RB-2					

No hits reported in this sample.

Summary of Hits

Job Number: MC42269
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Sample re-analyzed beyond hold time; reported results are considered minimum values. Analysis performed at Accutest Laboratories, Orlando FL.
(c) Analysis performed at Accutest Laboratories, Dayton, NJ.

New England
ACCUTEST
LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42269-1	**Date Sampled:**	10/19/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111697.D	1	11/02/15	AFL	n/a	n/a	F:VC4458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: MC42269-1 **Date Sampled:** 10/19/15
Matrix: AQ - Trip Blank Water **Date Received:** 10/19/15
Method: SW846 8260B **Percent Solids:** n/a
Project: Fort Devens, AOC50, Devens, MA

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.1

4

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42269-1	**Date Sampled:**	10/19/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	XSA-12-98X		
Lab Sample ID:	MC42269-2	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111698.D	1	11/02/15	AFL	n/a	n/a	F:VC4458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.9	5.0	3.5	ug/l	J
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	1.2	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	XSA-12-98X			
Lab Sample ID:	MC42269-2		**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water		**Date Received:**	10/19/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	6.3	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.66	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		83-118%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	XSA-12-98X		
Lab Sample ID:	MC42269-2	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	XSA-12-98X			
Lab Sample ID:	MC42269-2F		**Date Sampled:**	10/19/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	10/19/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed By		Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	174	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	7.5 U	15	7.5	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-06X		
Lab Sample ID:	MC42269-3	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111699.D	1	11/02/15	AFL	n/a	n/a	F:VC4458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-06X		
Lab Sample ID:	MC42269-3	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-06X			
Lab Sample ID:	MC42269-3		**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water		**Date Received:**	10/19/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	91%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-02-06X		
Lab Sample ID:	MC42269-3F	**Date Sampled:**	10/19/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	7.5 U	15	7.5	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-02-07X		
Lab Sample ID:	MC42269-4	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111700.D	1	11/02/15	AFL	n/a	n/a	F:VC4458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.70	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-07X		
Lab Sample ID:	MC42269-4	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	4.5	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		83-118%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-07X		
Lab Sample ID:	MC42269-4	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-02-07X			
Lab Sample ID:	MC42269-4F		**Date Sampled:**	10/19/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	10/19/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	7.5 U	15	7.5	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	XSA-12-97X		
Lab Sample ID:	MC42269-5	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111701.D	1	11/02/15	AFL	n/a	n/a	F:VC4458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	XSA-12-97X				
Lab Sample ID:	MC42269-5			**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water			**Date Received:**	10/19/15
Method:	SW846 8260B			**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	7.4	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	XSA-12-97X		
Lab Sample ID:	MC42269-5	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	93%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	XSA-12-97X			
Lab Sample ID:	MC42269-5F		**Date Sampled:**	10/19/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	10/19/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	771	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	15.2	15	7.5	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	XSA-12-95X		
Lab Sample ID:	MC42269-6	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111702.D	1	11/02/15	AFL	n/a	n/a	F:VC4458
Run #2 [b]	C0111726.D	2	11/03/15	AFL	n/a	n/a	F:VC4459

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	6.0	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.57	1.0	0.50	ug/l	J
156-59-2	cis-1,2-Dichloroethylene	111 [c]	2.0	1.0	ug/l	Q
156-60-5	trans-1,2-Dichloroethylene	6.7	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected　LOD = Limit of Detection　J = Indicates an estimated value
LOQ = Limit of Quantitation　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	XSA-12-95X		
Lab Sample ID:	MC42269-6	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	26.8	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	19.9	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	7.2	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	124% [d]	83-118%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	XSA-12-95X		
Lab Sample ID:	MC42269-6	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	110%	112%	79-125%
2037-26-5	Toluene-D8	100%	100%	85-112%
460-00-4	4-Bromofluorobenzene	98%	93%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Sample re-analyzed beyond hold time; reported results are considered minimum values. Analysis performed at Accutest Laboratories, Orlando FL.
(c) Result is from Run# 2
(d) Outside control limits due to matrix interference.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	XSA-12-95X		
Lab Sample ID:	MC42269-6F	**Date Sampled:**	10/19/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	4770	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Manganese	10600	150	75	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-06X		
Lab Sample ID:	MC42269-7	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111703.D	1	11/02/15	AFL	n/a	n/a	F:VC4458
Run #2 [b]	C0111727.D	1	11/03/15	AFL	n/a	n/a	F:VC4459

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.67 [c]	1.0	0.50	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-06X		
Lab Sample ID:	MC42269-7	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	1.7	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.70	1.0	0.50	ug/l	J
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	118%	117%	83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-06X		
Lab Sample ID:	MC42269-7	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	110%	112%	79-125%
2037-26-5	Toluene-D8	100%	99%	85-112%
460-00-4	4-Bromofluorobenzene	93%	101%	83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Sample re-analyzed beyond hold time; reported results are considered minimum values. Analysis performed at Accutest Laboratories, Orlando FL.
(c) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-06X		
Lab Sample ID:	MC42269-7	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22783.D	1	10/21/15	AF	n/a	n/a	GBA1548
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	5.0 U	10	5.0	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

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LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-06X		
Lab Sample ID:	MC42269-7	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	59.7	5.0	3.9	mg/l	1	10/23/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	10/24/15 09:42	MC	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	10/24/15 09:42	MC	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/21/15 09:00	MC	SM 21 4500 NO2 B
Sulfate [b]	13.0	10	0.50	mg/l	1	10/26/15 18:43	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/23/15	BF	SM21 4500 S F
Total Organic Carbon	1.0	1.0	0.81	mg/l	1	10/27/15 23:53	MC	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-06X		
Lab Sample ID:	MC42269-7F	**Date Sampled:**	10/19/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	50 U	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	74.1	15	7.5	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18595
(2) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-07X		
Lab Sample ID:	MC42269-8	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111704.D	1	11/02/15	AFL	n/a	n/a	F:VC4458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	60.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-07X		
Lab Sample ID:	MC42269-8	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	58.8	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	11.9	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	1.0	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-07X		
Lab Sample ID:	MC42269-8	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	111%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	102%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-07X		
Lab Sample ID:	MC42269-8	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
Method:	VRSK 175	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BA22784.D	1	10/21/15	AF	n/a	n/a	GBA1548
Run #2	BA22785.D	1	10/21/15	AF	n/a	n/a	GBA1548

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	37.0 ml	5.0 ml	200 ul	23 Deg. C
Run #2	37.0 ml	5.0 ml	20.0 ul	23 Deg. C

CAS No.	Compound	Result	LOQ	LOD	Units	Q
74-82-8	Methane	3120 [a]	100	50	ug/l	
74-84-0	Ethane	5.0 U	10	5.0	ug/l	
74-85-1	Ethene	5.0 U	10	5.0	ug/l	

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-07X		
Lab Sample ID:	MC42269-8	**Date Sampled:**	10/19/15
Matrix:	AQ - Ground Water	**Date Received:**	10/19/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

General Chemistry

Analyte	Result	LOQ	LOD	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	143	5.0	3.9	mg/l	1	10/31/15	MC	SM21 2320B
Nitrogen, Nitrate [a]	0.057 U	0.11	0.057	mg/l	1	10/28/15 15:53	CF	EPA 353.2
Nitrogen, Nitrate + Nitrite	0.054 U	0.10	0.054	mg/l	1	10/28/15 15:53	CF	EPA 353.2
Nitrogen, Nitrite	0.0033 U	0.010	0.0033	mg/l	1	10/21/15 09:01	MC	SM 21 4500 NO2 B
Sulfate [b]	11.0	10	0.50	mg/l	1	10/26/15 19:06	ANJ	EPA 300/SW846 9056A
Sulfide	1.0 U	2.0	1.0	mg/l	1	10/23/15	BF	SM21 4500 S F
Total Organic Carbon	0.98 J	1.0	0.81	mg/l	1	10/28/15 00:10	MC	SW846 9060

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at Accutest Laboratories, Dayton, NJ.

LOQ = Limit of Quantitation
LOD = Limit of Detection
U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-04-07X			
Lab Sample ID:	MC42269-8F		**Date Sampled:**	10/19/15
Matrix:	AQ - Groundwater Filtered		**Date Received:**	10/19/15
			Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA			

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	14.1	4.0	2.0	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	564	100	50	ug/l	1	10/22/15	10/23/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Manganese	4590	150	75	ug/l	10	10/22/15	10/26/15	EAL	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18595
(2) Instrument QC Batch: MA18606
(3) Prep QC Batch: MP25342

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	G6M-RB-2		
Lab Sample ID:	MC42269-9	**Date Sampled:**	10/19/15
Matrix:	AQ - Equipment Blank	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	C0111705.D	1	11/02/15	AFL	n/a	n/a	F:VC4458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-RB-2			
Lab Sample ID:	MC42269-9		**Date Sampled:**	10/19/15
Matrix:	AQ - Equipment Blank		**Date Received:**	10/19/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-RB-2		
Lab Sample ID:	MC42269-9	**Date Sampled:**	10/19/15
Matrix:	AQ - Equipment Blank	**Date Received:**	10/19/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	112%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

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5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West
Building One, Marlbourough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #: MC42 269
Accutest Control #:

Client Information	Facility Information
Name: H&S Environmental	Project Name: Devens
Address: 160 East Main Street, Suite 2F	Location: AOC50 VOC/Metals
City: Westborough	Project No.:
State: MA Zip: 01581	
Send Report to: Laurie Ekes (iekes@hsenv.com)	
Phone #: (508)367-7190	FAX #:

	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: Voc	NaOH	HNO3	H2So4	None	VOCs (3/40ml VOA vials/HCl)	Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3 (Fld Filt)	Dissolved Gases (3-40ml VOA/HCl) RSK175	Alkalinity, Sulfate (1-500 ml P) 250	Nitrate/nitrite (1-250ml P/H2SO4) E353.2	Sulfide (1-250mlP/Znacetate/NaOH)	TOC (3-40ml VOA/HCl)
1	Trip Blank	10/19/15	-	ILG	~~DI~~	3	3					X						
2	XSA-12-98X	10/19/15	1358	[illegible]	WG	4	3		1			X	X					
3	66M-02-06X	10/19/15	1430		WG	4	3		1			X	X					
4	66M-02-07X	10/19/15	1217		WG	4	3		1			X	X					
5	XSA-12-97X	10/19/15	1315		WG	4	3		1			X	X					
6	XSA-12-95X	10/19/15	1530		WG	4	3		1			X	X					
7	66M-04-06X	10/19/15	1205		WG	11	7	1	1	1	1	X	X	X	X	X	X	X
8	66M-04-07X	10/19/15	1135		WG	11	7	1	1	1	1	X	X	X	X	X	X	X
9	66M-RB-2	10/19/15	1600		DI	3	3					X						

Turnaround Information

- [X] 10 Day STD
- [ ] 5 Day STD (By Contract only)
- [ ] 5 Day Rush
- [ ] 3 Day Rush
- [ ] 2 Day Rush
- [ ] 1 Day Rush

Approved By:

Data Deliverable Information

- [ ] Comm A
- [ ] Comm B
- [ ] Full T1
- [ ] Other
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP CAT A
- [ ] NYASP CATB

EDD Format:

Comments / Remarks

5F
12C
5 H3

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/19/15 1711	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved ☐	On Ice: ☑ 1.8°C

MC42269: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42269 **Client:** H&S ENVIRONMENTAL **Project:** DEVENS

Date / Time Received: 10/19/2015 5:11:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.8/1.8);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	☐
2. Trip Blank listed on COC:	☑	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

MC42269: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC42269
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25342	SW846 6010C						
MP25342-B1	7440-38-2	Arsenic	BSP	REC	102.8	%	87-113
MP25342-B1	7439-89-6	Iron	BSP	REC	102	%	87-115
MP25342-B1	7439-96-5	Manganese	BSP	REC	105	%	90-114
MP25342-S1*	7440-38-2	Arsenic	MS	REC	102	%	87-113
MP25342-S1*	7439-89-6	Iron	MS	REC	102	%	87-115
MP25342-S1*	7439-96-5	Manganese	MS	REC	104.9	%	90-114
MP25342-S2*	7440-38-2	Arsenic	MSD	REC	102.6	%	87-113
MP25342-S2*	7440-38-2	Arsenic	MSD	RPD	.6	%	20
MP25342-S2*	7439-89-6	Iron	MSD	REC	101	%	87-115
MP25342-S2*	7439-89-6	Iron	MSD	RPD	1	%	20
MP25342-S2*	7439-96-5	Manganese	MSD	REC	105.3	%	90-114
MP25342-S2*	7439-96-5	Manganese	MSD	RPD	.3	%	20

* Sample used for QC is not from job MC42269

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GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: MC42269
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1548-MB	BA22764.D	1	10/21/15	AF	n/a	n/a	GBA1548

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42269-7, MC42269-8

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	10	4.1	ug/l	
74-84-0	Ethane	ND	10	3.1	ug/l	
74-85-1	Ethene	ND	10	1.8	ug/l	

Blank Spike Summary

Job Number: MC42269
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GBA1548-BSP	BA22766.D	1	10/21/15	AF	n/a	n/a	GBA1548

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42269-7, MC42269-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	88.7	88.8	100	50-150
74-84-0	Ethane	166	167	101	50-150
74-85-1	Ethene	155	185	119	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC42269
Account: HSMAW H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42178-7DUP	BA22769.D	1	10/21/15	AF	n/a	n/a	GBA1548
MC42178-7	BA22767.D	1	10/21/15	AF	n/a	n/a	GBA1548
MC42178-7	BA22768.D	1	10/21/15	AF	n/a	n/a	GBA1548

The QC reported here applies to the following samples: **Method:** VRSK 175

MC42269-7, MC42269-8

CAS No.	Compound	MC42178-7 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	8190 [a]		8570	E	5	30
74-84-0	Ethane	10 U		ND		nc	30
74-85-1	Ethene	10 U		ND		nc	30

(a) Result is from Run #2.

* = Outside of Control Limits.

New England ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	15	28		
Antimony	6.0	.76	2		
Arsenic	4.0	1.3	1.7	-0.40	<4.0
Barium	50	.24	1		
Beryllium	4.0	.18	.25		
Bismuth	50	.9	2.1		
Boron	100	.43	1.1		
Cadmium	4.0	.14	.43		
Calcium	5000	5.3	15		
Chromium	10	.37	.48		
Cobalt	50	.14	.28		
Copper	25	.48	2.4		
Gold	50	.95	1.5		
Iron	100	3.2	17	3.6	<100
Lead	5.0	.56	1.7		
Lithium	500	2	2.5		
Magnesium	5000	22	54		
Manganese	15	.04	1.4	0.20	<15
Molybdenum	100	2	3.6		
Nickel	40	.19	.5		
Palladium	50	1.2	2.6		
Platinum	50	3.8	5.4		
Potassium	5000	40	49		
Selenium	10	1	2		
Silicon	100	13	30		
Silver	5.0	.6	1		
Sodium	5000	10	77		
Sulfur	50	1.6	4.6		
Strontium	10	.15	.22		
Thallium	5.0	.47	1.7		
Tin	100	.26	.81		
Titanium	50	.38	.51		
Tungsten	100	3.1	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.36	.51		
Zinc	20	.096	1		
Zirconium	50	.29	1.2		

Associated samples MP25342: MC42269-2F, MC42269-3F, MC42269-4F, MC42269-5F, MC42269-6F, MC42269-7F, MC42269-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	0.0	510	500	102.0	75-125
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Gold					
Iron	0.0	10200	10000	102.0	75-125
Lead					
Lithium					
Magnesium					
Manganese	57.3	582	500	104.9	75-125
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Sulfur					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium					
Zinc					
Zirconium					

Associated samples MP25342: MC42269-2F, MC42269-3F, MC42269-4F, MC42269-5F, MC42269-6F, MC42269-7F, MC42269-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

7.1.2
7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	0.0	513	500	102.6	0.6	20
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron	0.0	10100	10000	101.0	1.0	20
Lead						
Lithium						
Magnesium						
Manganese	57.3	584	500	105.3	0.3	20
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium					
Zinc					
Zirconium					

Associated samples MP25342: MC42269-2F, MC42269-3F, MC42269-4F, MC42269-5F, MC42269-6F, MC42269-7F, MC42269-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	514	500	102.8	80-120
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	10200	10000	102.0	80-120
Lead				
Lithium				
Magnesium				
Manganese	525	500	105.0	80-120
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25342: MC42269-2F, MC42269-3F, MC42269-4F, MC42269-5F, MC42269-6F, MC42269-7F, MC42269-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	0.00	0.00	NC	0-10
Lead				
Lithium				
Magnesium				
Manganese	57.3	59.3	3.5	0-10
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25342
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/22/15

Metal	MC42202-11F Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25342: MC42269-2F, MC42269-3F, MC42269-4F, MC42269-5F, MC42269-6F, MC42269-7F, MC42269-8F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

New England
ACCUTEST
LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN52117	5.0	0.0	mg/l	250	255	102.0	80-120%
Alkalinity, Total as CaCO3	GN52186	5.0	0.0	mg/l	250	255	102.0	80-120%
Nitrogen, Nitrate + Nitrite	GP19726/GN52120	0.10	0.0	mg/l	2	2.12	106.0	90-110%
Nitrogen, Nitrate + Nitrite	GP19744/GN52164	0.10	0.047	mg/l	2	2.06	103.0	90-110%
Nitrogen, Nitrite	GP19712/GN52086	0.010	0.0	mg/l	0.02	0.021	105.0	80-120%
Sulfide	GN52112	2.0	0.0	mg/l	13.4	13.0	97.0	80-120%
Total Organic Carbon	GP19742/GN52178	1.0	0.0	mg/l	10	10.2	102.0	80-120%

Associated Samples:
Batch GN52112: MC42269-7, MC42269-8
Batch GN52117: MC42269-7
Batch GN52186: MC42269-8
Batch GP19712: MC42269-7, MC42269-8
Batch GP19726: MC42269-7
Batch GP19742: MC42269-7, MC42269-8
Batch GP19744: MC42269-8
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN52117	MC42202-11	mg/l	27.8	27.8	0.0	0-20%
Alkalinity, Total as CaCO3	GN52186	MC42342-13	mg/l	4.1	4.1	0.0	0-20%
Nitrogen, Nitrate + Nitrite	GP19726/GN52120	MC42202-11	mg/l	0.11	0.10	9.5	0-20%
Nitrogen, Nitrate + Nitrite	GP19744/GN52164	MC42231-6	mg/l	0.018 U	0.036	13.0	0-20%
Nitrogen, Nitrite	GP19712/GN52086	MC42271-1	mg/l	0.0	0.0	0.0	0-20%
Sulfide	GN52112	MC42263-3	mg/l	0.0	0.0	0.0	0-20%

Associated Samples:
Batch GN52112: MC42269-7, MC42269-8
Batch GN52117: MC42269-7
Batch GN52186: MC42269-8
Batch GP19712: MC42269-7, MC42269-8
Batch GP19726: MC42269-7
Batch GP19744: MC42269-8
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN52117	MC42202-11	mg/l	27.8	250	300	108.9	75-125%
Alkalinity, Total as CaCO3	GN52186	MC42342-13	mg/l	4.1	250	261	102.8	75-125%
Nitrogen, Nitrate + Nitrite	GP19726/GN52120	MC42202-11	mg/l	0.11	2	2.2	104.5	90-110%
Nitrogen, Nitrate + Nitrite	GP19744/GN52164	MC42231-6	mg/l	0.018 U	2	1.8	88.0N(a)	90-110%
Nitrogen, Nitrite	GP19712/GN52086	MC42271-1	mg/l	0.0	0.02	0.022	110.0	75-125%
Sulfide	GN52112	MC42263-3	mg/l	0.0	13.4	13.0	97.0	75-125%
Total Organic Carbon	GP19742/GN52178	MC42426-2	mg/l	0.0	10	9.9	99.0	75-125%

Associated Samples:
Batch GN52112: MC42269-7, MC42269-8
Batch GN52117: MC42269-7
Batch GN52186: MC42269-8
Batch GP19712: MC42269-7, MC42269-8
Batch GP19726: MC42269-7
Batch GP19742: MC42269-7, MC42269-8
Batch GP19744: MC42269-8
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.Refer to spike blank.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42269
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP19742/GN52178	MC42426-2	mg/l	0.0	10	9.8	1.0	20%

Associated Samples:
Batch GP19742: MC42269-7, MC42269-8
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Page 1 of 1 SH3

495 Technology Center West, Building One, Marlborough, MA 01752
TEL. 508-481-6200
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # MC42269

Client / Reporting Information

- Company Name: Accutest Laboratories
- Street Address: 495 Technology Center West, Bldg One
- City: Marlborough, State: MA
- Project Contact: frankd, E-mail: frankd@accutest.com
- Phone #: 508-481-6200, Fax #:
- Sampler(s) Name(s): KGA, Phone:

Project Information

- Project Name: Fort Devens, AOC50, Devens, MA
- Street:
- City: State:
- Project #:
- Client Purchase Order #:
- Project Manager:

Billing Information (if different from Report to)
- Company Name:
- Street Address:
- City: State: Zip:
- Attention:

Requested Analysis (see TEST CODE sheet): V8260STD, VMS+MTBE

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V8260STD, VMS+MTBE	LAB USE ONLY
1	TRIP BLANK		10/19/15	12:00:00 AM	KGA	AQ	2	x								X	
2	XSA-12-98X		10/19/15	1:58:00 PM	KGA	AQ	2	x								X	
3	G6M-02-06X		10/19/15	2:30:00 PM	KGA	AQ	2	x								X	
4	G6M-02-07X		10/19/15	12:17:00 PM	KGA	AQ	2	x								X	
5	XSA-12-97X		10/19/15	1:15:00 PM	KGA	AQ	2	x								X	
6	XSA-12-95X		10/19/15	3:30:00 PM	KGA	AQ	2	x								X	
7	G6M-04-06X		10/19/15	12:05:00 PM	KGA	AQ	2	x								X	
8	G6M-04-07X		10/19/15	11:35:00 AM	KGA	AQ	2	x								X	
9	G6M-RB-2		10/19/15	4:00:00 PM	KGA	AQ	2	x								X	

Turnaround Time (Business days)

- ☐ Std. 10 Business Days
- ☐ 4 Day RUSH
- ☐ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY
- ☒ other Due: 11/2/2015

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ NJ Reduced
- ☐ NJ Full
- ☐ FULL CLP
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format
- ☒ Other COMMBN

Commercial "A" = Results Only

Comments / Special Instructions

Ship to ALSE – DOD *Watch Hold Time*

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/29/15	1 Fed Ex	2 FED Ex	10-30-15 10:30	2 [signature]
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☐ Cooler Temp. 2.6

MC42269: Chain of Custody
Page 1 of 3
Accutest Laboratories Southeast, Inc.

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: MC 42269 CLIENT: ALNE PROJECT: FORT DEVENS, AOC 50

DATE/TIME RECEIVED: 10-30-15 10:30 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 6484 9125 3500

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [x] TRIP BLANK NOT PROVIDED
- [x] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM______ 5-GRAM______

NUMBER OF 5035 FIELD KITS ? ______

NUMBER OF LAB FILTERED METALS ? ______

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.4
- [ ] OBSERVED TEMPS: 3.0
- [ ] CORRECTED TEMPS: 2.6

SAMPLE INFORMATION

- [x] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#______

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

pH PAPER LOT#s WIDI HC131225 NARROW RANGE AO36133 OTHER (specify) 405-230010

SUMMARY OF COMMENTS: ONLY RECEIVED (2) VIALS PER SAMPLE.

TECHNICIAN SIGNATURE/DATE [signature] 10-30-15 REVIEWER SIGNATURE/DATE [signature] 10/30/15

NF 10/14 YELLOWSHEET110514.xls

MC42269: Chain of Custody
Page 2 of 3

9.1
9

Do Not Lift Using This Tag

ORIGIN ID:BBFA (508) 481-6200
SAMPLE MANAGEMENT
ACCUTEST LABORATORIES
50 D'ANGELO DR.
495 TECH CENTER W., BUILDING 1
MARLBOROUGH, MA 01752
UNITED STATES US

SHIP DATE: 29OCT15
ACTWGT: 20.0 LB MAN
CAD: 0990801/CAFE2807

BILL SENDER

TO RICK WATKINS
ACCUTEST SOUTHEAST
4405 VINELAND RD
SUITE C-15
ORLANDO FL 328115803
(407) 425-6700
INV:
PO:
REF:
DEPT:

FedEx Express

E

J141214073001uv

521C2/9797/6F03

2 of 2
MPS# 6484 9125 3500
0263
Mstr# 6484 9125 3495
0201

FRI - 30 OCT 10:30A
PRIORITY OVERNIGHT

EA TIXA

32811
FL-US MCO

Part # 156148-434 RIT2 07/14

R 0
FZ 0

2.6
3500
10:30

QC Evaluation: DOD QSM5 Limits

Job Number: MC42269
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC4458	SW846 8260B						
VC4458-BS	67-64-1	Acetone	BSP	REC	111	%	39-160
VC4458-BS	71-43-2	Benzene	BSP	REC	113	%	79-120
VC4458-BS	108-86-1	Bromobenzene	BSP	REC	108	%	80-120
VC4458-BS	74-97-5	Bromochloromethane	BSP	REC	107	%	78-123
VC4458-BS	75-27-4	Bromodichloromethane	BSP	REC	101	%	79-125
VC4458-BS	75-25-2	Bromoform	BSP	REC	97	%	66-130
VC4458-BS	78-93-3	2-Butanone (MEK)	BSP	REC	100	%	56-143
VC4458-BS	104-51-8	n-Butylbenzene	BSP	REC	110	%	75-128
VC4458-BS	135-98-8	sec-Butylbenzene	BSP	REC	102	%	77-126
VC4458-BS	98-06-6	tert-Butylbenzene	BSP	REC	99	%	78-124
VC4458-BS	75-15-0	Carbon Disulfide	BSP	REC	104	%	64-133
VC4458-BS	56-23-5	Carbon Tetrachloride	BSP	REC	110	%	72-136
VC4458-BS	108-90-7	Chlorobenzene	BSP	REC	109	%	82-118
VC4458-BS	75-00-3	Chloroethane	BSP	REC	97	%	60-138
VC4458-BS	67-66-3	Chloroform	BSP	REC	110	%	79-124
VC4458-BS	95-49-8	o-Chlorotoluene	BSP	REC	101	%	79-122
VC4458-BS	106-43-4	p-Chlorotoluene	BSP	REC	99	%	78-122
VC4458-BS	124-48-1	Dibromochloromethane	BSP	REC	99	%	74-126
VC4458-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	98	%	62-128
VC4458-BS	106-93-4	1,2-Dibromoethane	BSP	REC	97	%	77-121
VC4458-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	91	%	32-152
VC4458-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	102	%	80-119
VC4458-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	103	%	80-119
VC4458-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	102	%	79-118
VC4458-BS	75-34-3	1,1-Dichloroethane	BSP	REC	110	%	77-125
VC4458-BS	107-06-2	1,2-Dichloroethane	BSP	REC	106	%	73-128
VC4458-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	109	%	71-131
VC4458-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	108	%	78-123
VC4458-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	114	%	75-124
VC4458-BS	78-87-5	1,2-Dichloropropane	BSP	REC	97	%	78-122
VC4458-BS	142-28-9	1,3-Dichloropropane	BSP	REC	96	%	80-119
VC4458-BS	594-20-7	2,2-Dichloropropane	BSP	REC	114	%	60-139
VC4458-BS	563-58-6	1,1-Dichloropropene	BSP	REC	107	%	79-125
VC4458-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	94	%	75-124
VC4458-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	99	%	73-127
VC4458-BS	100-41-4	Ethylbenzene	BSP	REC	113	%	79-121
VC4458-BS	87-68-3	Hexachlorobutadiene	BSP	REC	103	%	66-134
VC4458-BS	591-78-6	2-Hexanone	BSP	REC	94	%	57-139
VC4458-BS	98-82-8	Isopropylbenzene	BSP	REC	102	%	72-131
VC4458-BS	99-87-6	p-Isopropyltoluene	BSP	REC	99	%	77-127
VC4458-BS	74-83-9	Methyl Bromide	BSP	REC	98	%	53-141
VC4458-BS	74-87-3	Methyl Chloride	BSP	REC	93	%	50-139

* Sample used for QC is not from job MC42269

QC Evaluation: DOD QSM5 Limits

Job Number: MC42269
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VC4458-BS	74-88-4	Methyl Iodide	BSP	REC	104	%	69-131
VC4458-BS	74-95-3	Methylene Bromide	BSP	REC	99	%	79-123
VC4458-BS	75-09-2	Methylene Chloride	BSP	REC	104	%	74-124
VC4458-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	93	%	67-130
VC4458-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	114	%	71-124
VC4458-BS	91-20-3	Naphthalene	BSP	REC	108	%	61-128
VC4458-BS	103-65-1	n-Propylbenzene	BSP	REC	102	%	76-126
VC4458-BS	100-42-5	Styrene	BSP	REC	99	%	78-123
VC4458-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	107	%	78-124
VC4458-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	101	%	71-121
VC4458-BS	127-18-4	Tetrachloroethylene	BSP	REC	108	%	74-129
VC4458-BS	108-88-3	Toluene	BSP	REC	110	%	80-121
VC4458-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	102	%	69-129
VC4458-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	109	%	69-130
VC4458-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	107	%	74-131
VC4458-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	102	%	80-119
VC4458-BS	79-01-6	Trichloroethylene	BSP	REC	110	%	79-123
VC4458-BS	75-69-4	Trichlorofluoromethane	BSP	REC	97	%	65-141
VC4458-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	106	%	73-122
VC4458-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	100	%	76-124
VC4458-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	100	%	75-124
VC4458-BS	108-05-4	Vinyl Acetate	BSP	REC	96	%	54-146
VC4458-BS	75-01-4	Vinyl Chloride	BSP	REC	95	%	58-137
VC4458-BS		m,p-Xylene	BSP	REC	101	%	80-121
VC4458-BS	95-47-6	o-Xylene	BSP	REC	100	%	78-122
VC4458-BS	1330-20-7	Xylene (total)	BSP	REC	101	%	79-121
VC4458-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	100	%	80-119
VC4458-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	95	%	81-118
VC4458-BS	2037-26-5	Toluene-D8	BSP	SURR	98	%	89-112
VC4458-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	98	%	85-114
D76470-3MS*	67-64-1	Acetone	MS	REC	119	%	39-160
D76470-3MS*	71-43-2	Benzene	MS	REC	104	%	79-120
D76470-3MS*	108-86-1	Bromobenzene	MS	REC	111	%	80-120
D76470-3MS*	74-97-5	Bromochloromethane	MS	REC	107	%	78-123
D76470-3MS*	75-27-4	Bromodichloromethane	MS	REC	103	%	79-125
D76470-3MS*	75-25-2	Bromoform	MS	REC	89	%	66-130
D76470-3MS*	78-93-3	2-Butanone (MEK)	MS	REC	112	%	56-143
D76470-3MS*	104-51-8	n-Butylbenzene	MS	REC	98	%	75-128
D76470-3MS*	135-98-8	sec-Butylbenzene	MS	REC	94	%	77-126
D76470-3MS*	98-06-6	tert-Butylbenzene	MS	REC	94	%	78-124
D76470-3MS*	75-15-0	Carbon Disulfide	MS	REC	97	%	64-133
D76470-3MS*	56-23-5	Carbon Tetrachloride	MS	REC	110	%	72-136
D76470-3MS*	108-90-7	Chlorobenzene	MS	REC	104	%	82-118
D76470-3MS*	75-00-3	Chloroethane	MS	REC	95	%	60-138
D76470-3MS*	67-66-3	Chloroform	MS	REC	108	%	79-124

* Sample used for QC is not from job MC42269

QC Evaluation: DOD QSM5 Limits

Job Number: MC42269
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
D76470-3MS*	95-49-8	o-Chlorotoluene	MS	REC	95	%	79-122
D76470-3MS*	106-43-4	p-Chlorotoluene	MS	REC	95	%	78-122
D76470-3MS*	124-48-1	Dibromochloromethane	MS	REC	93	%	74-126
D76470-3MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	92	%	62-128
D76470-3MS*	106-93-4	1,2-Dibromoethane	MS	REC	94	%	77-121
D76470-3MS*	75-71-8	Dichlorodifluoromethane	MS	REC	63	%	32-152
D76470-3MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	96	%	80-119
D76470-3MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	95	%	80-119
D76470-3MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	97	%	79-118
D76470-3MS*	75-34-3	1,1-Dichloroethane	MS	REC	105	%	77-125
D76470-3MS*	107-06-2	1,2-Dichloroethane	MS	REC	111	%	73-128
D76470-3MS*	75-35-4	1,1-Dichloroethylene	MS	REC	102	%	71-131
D76470-3MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	100	%	78-123
D76470-3MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	102	%	75-124
D76470-3MS*	78-87-5	1,2-Dichloropropane	MS	REC	94	%	78-122
D76470-3MS*	142-28-9	1,3-Dichloropropane	MS	REC	99	%	80-119
D76470-3MS*	594-20-7	2,2-Dichloropropane	MS	REC	94	%	60-139
D76470-3MS*	563-58-6	1,1-Dichloropropene	MS	REC	96	%	79-125
D76470-3MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	94	%	75-124
D76470-3MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	90	%	73-127
D76470-3MS*	100-41-4	Ethylbenzene	MS	REC	106	%	79-121
D76470-3MS*	87-68-3	Hexachlorobutadiene	MS	REC	87	%	66-134
D76470-3MS*	591-78-6	2-Hexanone	MS	REC	100	%	57-139
D76470-3MS*	98-82-8	Isopropylbenzene	MS	REC	84	%	72-131
D76470-3MS*	99-87-6	p-Isopropyltoluene	MS	REC	90	%	77-127
D76470-3MS*	74-83-9	Methyl Bromide	MS	REC	92	%	53-141
D76470-3MS*	74-87-3	Methyl Chloride	MS	REC	82	%	50-139
D76470-3MS*	74-88-4	Methyl Iodide	MS	REC	99	%	69-131
D76470-3MS*	74-95-3	Methylene Bromide	MS	REC	99	%	79-123
D76470-3MS*	75-09-2	Methylene Chloride	MS	REC	101	%	74-124
D76470-3MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	89	%	67-130
D76470-3MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	101	%	71-124
D76470-3MS*	91-20-3	Naphthalene	MS	REC	88	%	61-128
D76470-3MS*	103-65-1	n-Propylbenzene	MS	REC	97	%	76-126
D76470-3MS*	100-42-5	Styrene	MS	REC	89	%	78-123
D76470-3MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	97	%	78-124
D76470-3MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	110	%	71-121
D76470-3MS*	127-18-4	Tetrachloroethylene	MS	REC	76	%	74-129
D76470-3MS*	108-88-3	Toluene	MS	REC	104	%	80-121
D76470-3MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	92	%	69-129
D76470-3MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	93	%	69-130
D76470-3MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	109	%	74-131
D76470-3MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	109	%	80-119
D76470-3MS*	79-01-6	Trichloroethylene	MS	REC	109	%	79-123
D76470-3MS*	75-69-4	Trichlorofluoromethane	MS	REC	99	%	65-141

* Sample used for QC is not from job MC42269

QC Evaluation: DOD QSM5 Limits

Job Number: MC42269
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
D76470-3MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	110	%	73-122
D76470-3MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	96	%	76-124
D76470-3MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	98	%	75-124
D76470-3MS*	108-05-4	Vinyl Acetate	MS	REC	103	%	54-146
D76470-3MS*	75-01-4	Vinyl Chloride	MS	REC	82	%	58-137
D76470-3MS*		m,p-Xylene	MS	REC	92	%	80-121
D76470-3MS*	95-47-6	o-Xylene	MS	REC	83	%	78-122
D76470-3MS*	1330-20-7	Xylene (total)	MS	REC	89	%	79-121
D76470-3MS*	1868-53-7	Dibromofluoromethane	MS	SURR	103	%	80-119
D76470-3MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	105	%	81-118
D76470-3MS*	2037-26-5	Toluene-D8	MS	SURR	95	%	89-112
D76470-3MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	99	%	85-114
D76470-3MSD*	67-64-1	Acetone	MSD	REC	118	%	39-160
D76470-3MSD*	67-64-1	Acetone	MSD	RPD	1	%	20
D76470-3MSD*	71-43-2	Benzene	MSD	REC	107	%	79-120
D76470-3MSD*	71-43-2	Benzene	MSD	RPD	3	%	20
D76470-3MSD*	108-86-1	Bromobenzene	MSD	REC	111	%	80-120
D76470-3MSD*	108-86-1	Bromobenzene	MSD	RPD	0	%	20
D76470-3MSD*	74-97-5	Bromochloromethane	MSD	REC	104	%	78-123
D76470-3MSD*	74-97-5	Bromochloromethane	MSD	RPD	2	%	20
D76470-3MSD*	75-27-4	Bromodichloromethane	MSD	REC	100	%	79-125
D76470-3MSD*	75-27-4	Bromodichloromethane	MSD	RPD	3	%	20
D76470-3MSD*	75-25-2	Bromoform	MSD	REC	88	%	66-130
D76470-3MSD*	75-25-2	Bromoform	MSD	RPD	0	%	20
D76470-3MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	102	%	56-143
D76470-3MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	9	%	20
D76470-3MSD*	104-51-8	n-Butylbenzene	MSD	REC	98	%	75-128
D76470-3MSD*	104-51-8	n-Butylbenzene	MSD	RPD	0	%	20
D76470-3MSD*	135-98-8	sec-Butylbenzene	MSD	REC	93	%	77-126
D76470-3MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	0	%	20
D76470-3MSD*	98-06-6	tert-Butylbenzene	MSD	REC	94	%	78-124
D76470-3MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	0	%	20
D76470-3MSD*	75-15-0	Carbon Disulfide	MSD	REC	97	%	64-133
D76470-3MSD*	75-15-0	Carbon Disulfide	MSD	RPD	1	%	20
D76470-3MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	108	%	72-136
D76470-3MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	2	%	20
D76470-3MSD*	108-90-7	Chlorobenzene	MSD	REC	105	%	82-118
D76470-3MSD*	108-90-7	Chlorobenzene	MSD	RPD	1	%	20
D76470-3MSD*	75-00-3	Chloroethane	MSD	REC	91	%	60-138
D76470-3MSD*	75-00-3	Chloroethane	MSD	RPD	3	%	20
D76470-3MSD*	67-66-3	Chloroform	MSD	REC	105	%	79-124
D76470-3MSD*	67-66-3	Chloroform	MSD	RPD	3	%	20
D76470-3MSD*	95-49-8	o-Chlorotoluene	MSD	REC	96	%	79-122
D76470-3MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	1	%	20
D76470-3MSD*	106-43-4	p-Chlorotoluene	MSD	REC	96	%	78-122

* Sample used for QC is not from job MC42269

QC Evaluation: DOD QSM5 Limits

Job Number: MC42269
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
D76470-3MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	0	%	20
D76470-3MSD*	124-48-1	Dibromochloromethane	MSD	REC	92	%	74-126
D76470-3MSD*	124-48-1	Dibromochloromethane	MSD	RPD	1	%	20
D76470-3MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	92	%	62-128
D76470-3MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	0	%	20
D76470-3MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	95	%	77-121
D76470-3MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	1	%	20
D76470-3MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	61	%	32-152
D76470-3MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	3	%	20
D76470-3MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	94	%	80-119
D76470-3MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	1	%	20
D76470-3MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	94	%	80-119
D76470-3MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	1	%	20
D76470-3MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	93	%	79-118
D76470-3MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	4	%	20
D76470-3MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	104	%	77-125
D76470-3MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	1	%	20
D76470-3MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	108	%	73-128
D76470-3MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	2	%	20
D76470-3MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	104	%	71-131
D76470-3MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	2	%	20
D76470-3MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	104	%	78-123
D76470-3MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	4	%	20
D76470-3MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	102	%	75-124
D76470-3MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	0	%	20
D76470-3MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	96	%	78-122
D76470-3MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	1	%	20
D76470-3MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	101	%	80-119
D76470-3MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	2	%	20
D76470-3MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	91	%	60-139
D76470-3MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	4	%	20
D76470-3MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	93	%	79-125
D76470-3MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	3	%	20
D76470-3MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	95	%	75-124
D76470-3MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	1	%	20
D76470-3MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	91	%	73-127
D76470-3MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	1	%	20
D76470-3MSD*	100-41-4	Ethylbenzene	MSD	REC	107	%	79-121
D76470-3MSD*	100-41-4	Ethylbenzene	MSD	RPD	1	%	20
D76470-3MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	90	%	66-134
D76470-3MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	3	%	20
D76470-3MSD*	591-78-6	2-Hexanone	MSD	REC	99	%	57-139
D76470-3MSD*	591-78-6	2-Hexanone	MSD	RPD	1	%	20
D76470-3MSD*	98-82-8	Isopropylbenzene	MSD	REC	87	%	72-131
D76470-3MSD*	98-82-8	Isopropylbenzene	MSD	RPD	4	%	20

* Sample used for QC is not from job MC42269

QC Evaluation: DOD QSM5 Limits

Job Number: MC42269
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
D76470-3MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	90	%	77-127
D76470-3MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	0	%	20
D76470-3MSD*	74-83-9	Methyl Bromide	MSD	REC	88	%	53-141
D76470-3MSD*	74-83-9	Methyl Bromide	MSD	RPD	5	%	20
D76470-3MSD*	74-87-3	Methyl Chloride	MSD	REC	81	%	50-139
D76470-3MSD*	74-87-3	Methyl Chloride	MSD	RPD	1	%	20
D76470-3MSD*	74-88-4	Methyl Iodide	MSD	REC	100	%	69-131
D76470-3MSD*	74-88-4	Methyl Iodide	MSD	RPD	1	%	20
D76470-3MSD*	74-95-3	Methylene Bromide	MSD	REC	98	%	79-123
D76470-3MSD*	74-95-3	Methylene Bromide	MSD	RPD	1	%	20
D76470-3MSD*	75-09-2	Methylene Chloride	MSD	REC	100	%	74-124
D76470-3MSD*	75-09-2	Methylene Chloride	MSD	RPD	1	%	20
D76470-3MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	89	%	67-130
D76470-3MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	0	%	20
D76470-3MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	104	%	71-124
D76470-3MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	4	%	20
D76470-3MSD*	91-20-3	Naphthalene	MSD	REC	89	%	61-128
D76470-3MSD*	91-20-3	Naphthalene	MSD	RPD	0	%	20
D76470-3MSD*	103-65-1	n-Propylbenzene	MSD	REC	96	%	76-126
D76470-3MSD*	103-65-1	n-Propylbenzene	MSD	RPD	1	%	20
D76470-3MSD*	100-42-5	Styrene	MSD	REC	91	%	78-123
D76470-3MSD*	100-42-5	Styrene	MSD	RPD	2	%	20
D76470-3MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	97	%	78-124
D76470-3MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	0	%	20
D76470-3MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	107	%	71-121
D76470-3MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	3	%	20
D76470-3MSD*	127-18-4	Tetrachloroethylene	MSD	REC	82	%	74-129
D76470-3MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	2	%	20
D76470-3MSD*	108-88-3	Toluene	MSD	REC	105	%	80-121
D76470-3MSD*	108-88-3	Toluene	MSD	RPD	2	%	20
D76470-3MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	91	%	69-129
D76470-3MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	1	%	20
D76470-3MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	94	%	69-130
D76470-3MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	2	%	20
D76470-3MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	107	%	74-131
D76470-3MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	2	%	20
D76470-3MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	108	%	80-119
D76470-3MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	1	%	20
D76470-3MSD*	79-01-6	Trichloroethylene	MSD	REC	108	%	79-123
D76470-3MSD*	79-01-6	Trichloroethylene	MSD	RPD	1	%	20
D76470-3MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	94	%	65-141
D76470-3MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	5	%	20
D76470-3MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	107	%	73-122
D76470-3MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	3	%	20
D76470-3MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	95	%	76-124

* Sample used for QC is not from job MC42269

QC Evaluation: DOD QSM5 Limits

Job Number: MC42269
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
D76470-3MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	2	%	20
D76470-3MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	96	%	75-124
D76470-3MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	1	%	20
D76470-3MSD*	108-05-4	Vinyl Acetate	MSD	REC	102	%	54-146
D76470-3MSD*	108-05-4	Vinyl Acetate	MSD	RPD	0	%	20
D76470-3MSD*	75-01-4	Vinyl Chloride	MSD	REC	84	%	58-137
D76470-3MSD*	75-01-4	Vinyl Chloride	MSD	RPD	2	%	20
D76470-3MSD*		m,p-Xylene	MSD	REC	94	%	80-121
D76470-3MSD*		m,p-Xylene	MSD	RPD	2	%	20
D76470-3MSD*	95-47-6	o-Xylene	MSD	REC	85	%	78-122
D76470-3MSD*	95-47-6	o-Xylene	MSD	RPD	3	%	20
D76470-3MSD*	1330-20-7	Xylene (total)	MSD	REC	91	%	79-121
D76470-3MSD*	1330-20-7	Xylene (total)	MSD	RPD	2	%	20
D76470-3MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	102	%	80-119
D76470-3MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	101	%	81-118
D76470-3MSD*	2037-26-5	Toluene-D8	MSD	SURR	97	%	89-112
D76470-3MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	100	%	85-114
VC4458-MB	1868-53-7	Dibromofluoromethane	MB	SURR	118	%	80-119
VC4458-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	106	%	81-118
VC4458-MB	2037-26-5	Toluene-D8	MB	SURR	99	%	89-112
VC4458-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	95	%	85-114
MC42269-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	110	%	80-119
MC42269-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	106	%	81-118
MC42269-1	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
MC42269-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
MC42269-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	113	%	80-119
MC42269-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	107	%	81-118
MC42269-2	2037-26-5	Toluene-D8	SAMP	SURR	98	%	89-112
MC42269-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	97	%	85-114
MC42269-3	1868-53-7	Dibromofluoromethane	SAMP	SURR	115	%	80-119
MC42269-3	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	107	%	81-118
MC42269-3	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
MC42269-3	460-00-4	4-Bromofluorobenzene	SAMP	SURR	91	%	85-114
MC42269-4	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC42269-4	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	109	%	81-118
MC42269-4	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42269-4	460-00-4	4-Bromofluorobenzene	SAMP	SURR	100	%	85-114
MC42269-5	1868-53-7	Dibromofluoromethane	SAMP	SURR	115	%	80-119
MC42269-5	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	109	%	81-118
MC42269-5	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42269-5	460-00-4	4-Bromofluorobenzene	SAMP	SURR	93	%	85-114
MC42269-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	107	%	80-119
MC42269-6	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	110	%	81-118
MC42269-6	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42269-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	98	%	85-114

* Sample used for QC is not from job MC42269

QC Evaluation: DOD QSM5 Limits

Job Number: MC42269
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42269-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	118	%	80-119
MC42269-7	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	110	%	81-118
MC42269-7	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42269-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	93	%	85-114
MC42269-8	1868-53-7	Dibromofluoromethane	SAMP	SURR	109	%	80-119
MC42269-8	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	111	%	81-118
MC42269-8	2037-26-5	Toluene-D8	SAMP	SURR	101	%	89-112
MC42269-8	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114
MC42269-9	1868-53-7	Dibromofluoromethane	SAMP	SURR	113	%	80-119
MC42269-9	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	112	%	81-118
MC42269-9	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42269-9	460-00-4	4-Bromofluorobenzene	SAMP	SURR	99	%	85-114
VC4459	SW846 8260B						
VC4459-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	99	%	78-123
VC4459-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	103	%	80-119
VC4459-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	102	%	81-118
VC4459-BS	2037-26-5	Toluene-D8	BSP	SURR	98	%	89-112
VC4459-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	100	%	85-114
D76470-1MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	116	%	78-123
D76470-1MS*	1868-53-7	Dibromofluoromethane	MS	SURR	109	%	80-119
D76470-1MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	107	%	81-118
D76470-1MS*	2037-26-5	Toluene-D8	MS	SURR	94	%	89-112
D76470-1MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	91	%	85-114
D76470-1MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	110	%	78-123
D76470-1MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	6	%	20
D76470-1MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	103	%	80-119
D76470-1MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	104	%	81-118
D76470-1MSD*	2037-26-5	Toluene-D8	MSD	SURR	96	%	89-112
D76470-1MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	97	%	85-114
VC4459-MB	1868-53-7	Dibromofluoromethane	MB	SURR	117	%	80-119
VC4459-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	108	%	81-118
VC4459-MB	2037-26-5	Toluene-D8	MB	SURR	99	%	89-112
VC4459-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	98	%	85-114
MC42269-6	1868-53-7	Dibromofluoromethane	SAMP	SURR	124 [a]	%	80-119
MC42269-6	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	112	%	81-118
MC42269-6	2037-26-5	Toluene-D8	SAMP	SURR	100	%	89-112
MC42269-6	460-00-4	4-Bromofluorobenzene	SAMP	SURR	93	%	85-114
MC42269-7	1868-53-7	Dibromofluoromethane	SAMP	SURR	117	%	80-119
MC42269-7	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	112	%	81-118
MC42269-7	2037-26-5	Toluene-D8	SAMP	SURR	99	%	89-112
MC42269-7	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114

(a) Outside control limits due to matrix interference.

* Sample used for QC is not from job MC42269

New England
ACCUTEST
LABORATORIES

GC/MS Volatiles

QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4458-MB	C0111696.D	1	11/02/15	EP	n/a	n/a	VC4458

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-1, MC42269-2, MC42269-3, MC42269-4, MC42269-5, MC42269-6, MC42269-7, MC42269-8, MC42269-9

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.27	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.34	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.32	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.2	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.22	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.20	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.20	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.29	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.28	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.20	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.61	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.42	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.22	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.27	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.21	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.27	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.21	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4458-MB	C0111696.D	1	11/02/15	EP	n/a	n/a	VC4458

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-1, MC42269-2, MC42269-3, MC42269-4, MC42269-5, MC42269-6, MC42269-7, MC42269-8, MC42269-9

CAS No.	Compound	Result	RL	MDL	Units	Q
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl Iodide	ND	1.0	0.24	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.30	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.20	ug/l	
100-42-5	Styrene	ND	1.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.22	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.33	ug/l	
108-88-3	Toluene	ND	1.0	0.40	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.26	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.31	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.22	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.66	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.25	ug/l	
	m,p-Xylene	ND	2.0	0.31	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.51	ug/l	

Method Blank Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4458-MB	C0111696.D	1	11/02/15	EP	n/a	n/a	VC4458

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-1, MC42269-2, MC42269-3, MC42269-4, MC42269-5, MC42269-6, MC42269-7, MC42269-8, MC42269-9

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	118%	83-118%
17060-07-0	1,2-Dichloroethane-D4	106%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	95%	83-118%

Method Blank Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4459-MB	C0111725.D	1	11/03/15	EP	n/a	n/a	VC4459

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-6, MC42269-7

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	117%	83-118%
17060-07-0	1,2-Dichloroethane-D4	108%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

Blank Spike Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4458-BS	C0111695.D	1	11/02/15	EP	n/a	n/a	VC4458

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-1, MC42269-2, MC42269-3, MC42269-4, MC42269-5, MC42269-6, MC42269-7, MC42269-8, MC42269-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	139	111	50-147
71-43-2	Benzene	25	28.3	113	81-122
108-86-1	Bromobenzene	25	27.0	108	80-121
74-97-5	Bromochloromethane	25	26.7	107	76-123
75-27-4	Bromodichloromethane	25	25.2	101	79-123
75-25-2	Bromoform	25	24.3	97	66-123
78-93-3	2-Butanone (MEK)	125	125	100	56-143
104-51-8	n-Butylbenzene	25	27.4	110	79-126
135-98-8	sec-Butylbenzene	25	25.4	102	83-133
98-06-6	tert-Butylbenzene	25	24.8	99	80-133
75-15-0	Carbon Disulfide	25	26.1	104	66-148
56-23-5	Carbon Tetrachloride	25	27.4	110	76-136
108-90-7	Chlorobenzene	25	27.3	109	82-124
75-00-3	Chloroethane	25	24.3	97	62-144
67-66-3	Chloroform	25	27.4	110	80-124
95-49-8	o-Chlorotoluene	25	25.3	101	81-127
106-43-4	p-Chlorotoluene	25	24.7	99	83-130
124-48-1	Dibromochloromethane	25	24.7	99	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	24.4	98	64-123
106-93-4	1,2-Dibromoethane	25	24.3	97	75-120
75-71-8	Dichlorodifluoromethane	25	22.8	91	42-167
95-50-1	1,2-Dichlorobenzene	25	25.6	102	82-124
541-73-1	1,3-Dichlorobenzene	25	25.8	103	84-125
106-46-7	1,4-Dichlorobenzene	25	25.4	102	78-120
75-34-3	1,1-Dichloroethane	25	27.5	110	81-122
107-06-2	1,2-Dichloroethane	25	26.5	106	75-125
75-35-4	1,1-Dichloroethylene	25	27.2	109	78-137
156-59-2	cis-1,2-Dichloroethylene	25	27.0	108	78-120
156-60-5	trans-1,2-Dichloroethylene	25	28.6	114	76-127
78-87-5	1,2-Dichloropropane	25	24.2	97	76-124
142-28-9	1,3-Dichloropropane	25	24.1	96	80-118
594-20-7	2,2-Dichloropropane	25	28.5	114	74-139
563-58-6	1,1-Dichloropropene	25	26.7	107	79-131
10061-01-5	cis-1,3-Dichloropropene	25	23.6	94	75-118
10061-02-6	trans-1,3-Dichloropropene	25	24.7	99	80-120
100-41-4	Ethylbenzene	25	28.3	113	81-121

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4458-BS	C0111695.D	1	11/02/15	EP	n/a	n/a	VC4458

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-1, MC42269-2, MC42269-3, MC42269-4, MC42269-5, MC42269-6, MC42269-7, MC42269-8, MC42269-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
87-68-3	Hexachlorobutadiene	25	25.8	103	75-142
591-78-6	2-Hexanone	125	117	94	61-129
98-82-8	Isopropylbenzene	25	25.6	102	83-132
99-87-6	p-Isopropyltoluene	25	24.7	99	79-130
74-83-9	Methyl Bromide	25	24.6	98	59-143
74-87-3	Methyl Chloride	25	23.2	93	50-159
74-88-4	Methyl Iodide	25	26.1	104	73-123
74-95-3	Methylene Bromide	25	24.8	99	78-119
75-09-2	Methylene Chloride	25	26.0	104	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	116	93	66-122
1634-04-4	Methyl Tert Butyl Ether	25	28.6	114	72-117
91-20-3	Naphthalene	25	27.1	108	63-132
103-65-1	n-Propylbenzene	25	25.5	102	82-133
100-42-5	Styrene	25	24.8	99	78-119
630-20-6	1,1,1,2-Tetrachloroethane	25	26.8	107	77-122
79-34-5	1,1,2,2-Tetrachloroethane	25	25.3	101	72-120
127-18-4	Tetrachloroethylene	25	27.1	108	76-135
108-88-3	Toluene	25	27.6	110	80-120
87-61-6	1,2,3-Trichlorobenzene	25	25.5	102	68-131
120-82-1	1,2,4-Trichlorobenzene	25	27.3	109	73-129
71-55-6	1,1,1-Trichloroethane	25	26.7	107	75-130
79-00-5	1,1,2-Trichloroethane	25	25.5	102	76-119
79-01-6	Trichloroethylene	25	27.5	110	81-126
75-69-4	Trichlorofluoromethane	25	24.3	97	71-156
96-18-4	1,2,3-Trichloropropane	25	26.4	106	77-120
95-63-6	1,2,4-Trimethylbenzene	25	25.1	100	79-120
108-67-8	1,3,5-Trimethylbenzene	25	24.9	100	79-120
108-05-4	Vinyl Acetate	125	120	96	43-154
75-01-4	Vinyl Chloride	25	23.7	95	69-159
	m,p-Xylene	50	50.4	101	79-126
95-47-6	o-Xylene	25	25.1	100	80-127
1330-20-7	Xylene (total)	75	75.6	101	80-126

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4458-BS	C0111695.D	1	11/02/15	EP	n/a	n/a	VC4458

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-1, MC42269-2, MC42269-3, MC42269-4, MC42269-5, MC42269-6, MC42269-7, MC42269-8, MC42269-9

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	95%	79-125%
2037-26-5	Toluene-D8	98%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

10.2.1

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(*) = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC4459-BS	C0111724.D	1	11/03/15	EP	n/a	n/a	VC4459

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-6, MC42269-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	24.8	99	78-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	79-125%
2037-26-5	Toluene-D8	98%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

10.2.2
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* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D76470-3MS	C0111717.D	20	11/03/15	EP	n/a	n/a	VC4458
D76470-3MSD	C0111718.D	20	11/03/15	EP	n/a	n/a	VC4458
D76470-3	C0111716.D	20	11/02/15	EP	n/a	n/a	VC4458

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-1, MC42269-2, MC42269-3, MC42269-4, MC42269-5, MC42269-6, MC42269-7, MC42269-8, MC42269-9

CAS No.	Compound	D76470-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		2500	2980	119	2500	2960	118	1	50-147/21
71-43-2	Benzene	ND		500	518	104	500	534	107	3	81-122/14
108-86-1	Bromobenzene	ND		500	557	111	500	555	111	0	80-121/14
74-97-5	Bromochloromethane	ND		500	535	107	500	522	104	2	76-123/14
75-27-4	Bromodichloromethane	ND		500	516	103	500	499	100	3	79-123/19
75-25-2	Bromoform	ND		500	443	89	500	442	88	0	66-123/21
78-93-3	2-Butanone (MEK)	ND		2500	2790	112	2500	2540	102	9	56-143/18
104-51-8	n-Butylbenzene	ND		500	492	98	500	490	98	0	79-126/16
135-98-8	sec-Butylbenzene	ND		500	468	94	500	466	93	0	83-133/16
98-06-6	tert-Butylbenzene	ND		500	468	94	500	470	94	0	80-133/16
75-15-0	Carbon Disulfide	ND		500	483	97	500	486	97	1	66-148/23
56-23-5	Carbon Tetrachloride	ND		500	552	110	500	541	108	2	76-136/23
108-90-7	Chlorobenzene	ND		500	519	104	500	523	105	1	82-124/14
75-00-3	Chloroethane	ND		500	473	95	500	457	91	3	62-144/20
67-66-3	Chloroform	ND		500	539	108	500	523	105	3	80-124/15
95-49-8	o-Chlorotoluene	ND		500	476	95	500	480	96	1	81-127/15
106-43-4	p-Chlorotoluene	ND		500	476	95	500	478	96	0	83-130/15
124-48-1	Dibromochloromethane	ND		500	463	93	500	459	92	1	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND		500	460	92	500	461	92	0	64-123/18
106-93-4	1,2-Dibromoethane	ND		500	468	94	500	474	95	1	75-120/13
75-71-8	Dichlorodifluoromethane	ND		500	317	63	500	307	61	3	42-167/19
95-50-1	1,2-Dichlorobenzene	ND		500	478	96	500	471	94	1	82-124/14
541-73-1	1,3-Dichlorobenzene	ND		500	477	95	500	471	94	1	84-125/14
106-46-7	1,4-Dichlorobenzene	ND		500	487	97	500	467	93	4	78-120/15
75-34-3	1,1-Dichloroethane	ND		500	527	105	500	521	104	1	81-122/15
107-06-2	1,2-Dichloroethane	ND		500	555	111	500	542	108	2	75-125/14
75-35-4	1,1-Dichloroethylene	ND		500	508	102	500	519	104	2	78-137/18
156-59-2	cis-1,2-Dichloroethylene	ND		500	502	100	500	520	104	4	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		500	509	102	500	511	102	0	76-127/17
78-87-5	1,2-Dichloropropane	ND		500	472	94	500	479	96	1	76-124/14
142-28-9	1,3-Dichloropropane	ND		500	494	99	500	504	101	2	80-118/13
594-20-7	2,2-Dichloropropane	ND		500	471	94	500	454	91	4	74-139/17
563-58-6	1,1-Dichloropropene	ND		500	479	96	500	463	93	3	79-131/16
10061-01-5	cis-1,3-Dichloropropene	ND		500	469	94	500	473	95	1	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND		500	449	90	500	453	91	1	80-120/22
100-41-4	Ethylbenzene	ND		500	529	106	500	536	107	1	81-121/14

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D76470-3MS	C0111717.D	20	11/03/15	EP	n/a	n/a	VC4458
D76470-3MSD	C0111718.D	20	11/03/15	EP	n/a	n/a	VC4458
D76470-3	C0111716.D	20	11/02/15	EP	n/a	n/a	VC4458

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-1, MC42269-2, MC42269-3, MC42269-4, MC42269-5, MC42269-6, MC42269-7, MC42269-8, MC42269-9

CAS No.	Compound	D76470-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
87-68-3	Hexachlorobutadiene	ND		500	437	87	500	450	90	3	75-142/19
591-78-6	2-Hexanone	ND		2500	2490	100	2500	2470	99	1	61-129/18
98-82-8	Isopropylbenzene	ND		500	420	84	500	435	87	4	83-132/15
99-87-6	p-Isopropyltoluene	ND		500	452	90	500	450	90	0	79-130/16
74-83-9	Methyl Bromide	ND		500	460	92	500	439	88	5	59-143/19
74-87-3	Methyl Chloride	ND		500	410	82	500	404	81	1	50-159/19
74-88-4	Methyl Iodide	ND		500	495	99	500	502	100	1	73-123/16
74-95-3	Methylene Bromide	ND		500	497	99	500	490	98	1	78-119/14
75-09-2	Methylene Chloride	ND		500	505	101	500	498	100	1	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		2500	2230	89	2500	2230	89	0	66-122/16
1634-04-4	Methyl Tert Butyl Ether	ND		500	504	101	500	522	104	4	72-117/14
91-20-3	Naphthalene	ND		500	442	88	500	444	89	0	63-132/25
103-65-1	n-Propylbenzene	ND		500	484	97	500	481	96	1	82-133/15
100-42-5	Styrene	ND		500	445	89	500	454	91	2	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND		500	484	97	500	485	97	0	77-122/19
79-34-5	1,1,2,2-Tetrachloroethane	ND		500	552	110	500	536	107	3	72-120/14
127-18-4	Tetrachloroethylene	1240		500	1620	76	500	1650	82	2	76-135/16
108-88-3	Toluene	ND		500	518	104	500	526	105	2	80-120/14
87-61-6	1,2,3-Trichlorobenzene	ND		500	459	92	500	456	91	1	68-131/25
120-82-1	1,2,4-Trichlorobenzene	ND		500	463	93	500	470	94	2	73-129/20
71-55-6	1,1,1-Trichloroethane	ND		500	545	109	500	536	107	2	75-130/16
79-00-5	1,1,2-Trichloroethane	ND		500	543	109	500	538	108	1	76-119/14
79-01-6	Trichloroethylene	ND		500	547	109	500	540	108	1	81-126/15
75-69-4	Trichlorofluoromethane	ND		500	495	99	500	472	94	5	71-156/21
96-18-4	1,2,3-Trichloropropane	ND		500	551	110	500	536	107	3	77-120/16
95-63-6	1,2,4-Trimethylbenzene	ND		500	481	96	500	473	95	2	79-120/18
108-67-8	1,3,5-Trimethylbenzene	ND		500	488	98	500	482	96	1	79-120/19
108-05-4	Vinyl Acetate	ND		2500	2570	103	2500	2560	102	0	43-154/14
75-01-4	Vinyl Chloride	ND		500	410	82	500	418	84	2	69-159/18
	m,p-Xylene	ND		1000	919	92	1000	935	94	2	79-126/15
95-47-6	o-Xylene	ND		500	413	83	500	427	85	3	80-127/14
1330-20-7	Xylene (total)	ND		1500	1330	89	1500	1360	91	2	80-126/15

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D76470-3MS	C0111717.D	20	11/03/15	EP	n/a	n/a	VC4458
D76470-3MSD	C0111718.D	20	11/03/15	EP	n/a	n/a	VC4458
D76470-3	C0111716.D	20	11/02/15	EP	n/a	n/a	VC4458

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-1, MC42269-2, MC42269-3, MC42269-4, MC42269-5, MC42269-6, MC42269-7, MC42269-8, MC42269-9

CAS No.	Surrogate Recoveries	MS	MSD	D76470-3	Limits
1868-53-7	Dibromofluoromethane	103%	102%	120%* [a]	83-118%
17060-07-0	1,2-Dichloroethane-D4	105%	101%	117%	79-125%
2037-26-5	Toluene-D8	95%	97%	100%	85-112%
460-00-4	4-Bromofluorobenzene	99%	100%	97%	83-118%

(a) Outside control limits due to matrix interference.

10.3.1
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* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D76470-1MS	C0111740.D	1	11/03/15	EP	n/a	n/a	VC4459
D76470-1MSD	C0111741.D	1	11/03/15	EP	n/a	n/a	VC4459
D76470-1 [a]	C0111736.D	1	11/03/15	EP	n/a	n/a	VC4459

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42269-6, MC42269-7

CAS No.	Compound	D76470-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	ND		25	29.0	116	25	27.4	110	6	78-120/15

CAS No.	Surrogate Recoveries	MS	MSD	D76470-1	Limits
1868-53-7	Dibromofluoromethane	109%	103%	123%* [b]	83-118%
17060-07-0	1,2-Dichloroethane-D4	107%	104%	120%	79-125%
2037-26-5	Toluene-D8	94%	96%	100%	85-112%
460-00-4	4-Bromofluorobenzene	91%	97%	98%	83-118%

(a) Confirmation run for surrogate recoveries.
(b) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC42269
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
MC42269-1	C0111697.D	110	106	99	99
MC42269-2	C0111698.D	113	107	98	97
MC42269-3	C0111699.D	115	107	99	91
MC42269-4	C0111700.D	109	109	100	100
MC42269-5	C0111701.D	115	109	100	93
MC42269-6	C0111726.D	124* [a]	112	100	93
MC42269-6	C0111702.D	107	110	100	98
MC42269-7	C0111727.D	117	112	99	101
MC42269-7	C0111703.D	118	110	100	93
MC42269-8	C0111704.D	109	111	101	102
MC42269-9	C0111705.D	113	112	100	99
D76470-1MS	C0111740.D	109	107	94	91
D76470-1MSD	C0111741.D	103	104	96	97
D76470-3MS	C0111717.D	103	105	95	99
D76470-3MSD	C0111718.D	102	101	97	100
VC4458-BS	C0111695.D	100	95	98	98
VC4458-MB	C0111696.D	118	106	99	95
VC4459-BS	C0111724.D	103	102	98	100
VC4459-MB	C0111725.D	117	108	99	98

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

(a) Outside control limits due to matrix interference.

10.4.1
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New England
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Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West, Building One, Marlborough, MA 01752
TEL. 508-481-6200
www.accutest.com

Page 1 of 1

FED-EX Tracking # 6484 9125 2271
Bottle Order Control #
Accutest Quote #
Accutest Job # MC42269

Client / Reporting Information	
Company Name:	Accutest Laboratories
Street Address	495 Technology Center West, Bldg One
City / State / Zip	Marlborough, MA (
Project Contact / E-mail	frankd / frankd@accutest.com
Phone # / Fax #	508-481-6200
Sampler(s) Name(s) / Phone	KGA

Project Information	
Project Name:	Fort Devens, AOC50, Devens, MA
Street	
City / State	
Project #	
Client Purchase Order #	
Project Manager	

Billing Information (if different from Report to)	
Company Name	
Street Address	
City / State / Zip	
Attention:	

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank, EB-Equipment Blank, RB- Rinse Blank, TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	SO4 by 300	LAB USE ONLY
7	G6M-04-06X		10/19/15	12:05:00 PM	KGA	AQ	1					x				X	
8	G6M-04-07X		10/19/15	11:35:00 AM	KGA	AQ	1					x				X	MA

Turnaround Time (Business days)

- ☐ Std. 10 Business Days
- ☐ 4 Day RUSH
- ☐ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY
- ☒ other Due 11/2/2015

Approved By (Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ NJ Reduced
- ☐ NJ Full
- ☐ FULL CLP
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format
- ☒ Other COMMBN

Commercial "A" = Results Only

Comments / Special Instructions

Ship to ALNJ – SO4 by 300 *Limited Volume*

INITIAL ASESSMENT Am 2A

LABEL VERIFICATION NL

Sample Custody must be documented below each time samples change possession, including courier delivery. 1006

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	10/20/15	1 FedEx	2 FEDEX	10-21-15	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ / On Ice ☐ / Cooler Temp. 3.4°C IR

11.1

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MC42269: Chain of Custody
Page 1 of 2
Accutest New Jersey

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42269 **Client:** **Project:**

Date / Time Received: 10/21/2015 10:00:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (3.6);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☑	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

11.1 11

MC42269: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC42269
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/19/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No Exceptions found.

* Sample used for QC is not from job MC42269

New England ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42269
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP93136/GN35032	2.0	0.072	mg/l	80	82.1	102.6	90-110%
Sulfate	GP93136/GN35032	10	0.57	mg/l	80	80.9	101.1	90-110%

Associated Samples:
Batch GP93136: MC42269-7, MC42269-8
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42269
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP93136/GN35032	JC6576-1	mg/l	70.0	80.5	1.5	0-20%
Sulfate	GP93136/GN35113	JC6576-1	mg/l	1110	1120	5.2	0-20%

Associated Samples:
Batch GP93136: MC42269-7, MC42269-8
(*) Outside of QC limits

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MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: MC42269
Account: ALNE - Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP93136/GN35032	JC6576-1	mg/l	70.0	80	159	111.3	80-120%
Sulfate	GP93136/GN35253	JC6576-1	mg/l	1110	800	1980	108.8	80-120%

Associated Samples:
Batch GP93136: MC42269-7, MC42269-8
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

12.3

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New England
ACCUTEST
LABORATORIES

11/06/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

Accutest Job Number: MC42415

Sampling Date: 10/23/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
lekes@hsenv.com

ATTN: Laurie Ekes

Total number of pages in report: **51**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8

Table of Contents

Sample Summary

H&S Environmental

Fort Devens, AOC50, Devens, MA

Job No: MC42415

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC42415-1	10/23/15	00:00	10/23/15	AQ	Trip Blank Water	TRIP BLANK
MC42415-2	10/23/15	13:40	10/23/15	AQ	Ground Water	XSA-12-96X_FA115
MC42415-2F	10/23/15	13:40	10/23/15	AQ	Groundwater Filtered	XSA-12-96X_FA115

ACCUTEST
LABORATORIES

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC42415

Site: Fort Devens, AOC50, Devens, MA **Report Date** 11/6/2015 4:51:41 PM

1 Sample(s), 1 Trip Blank(s) were collected on 10/23/2015 and were received at Accutest on 10/23/2015 properly preserved, at 4.8 Deg. C and intact. These Samples received an Accutest job number of MC42415. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** F:VB4414

- Analysis performed at Accutest Laboratories, Orlando FL.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25399

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42541-1FMS, MC42541-1FMSD, MC42541-1FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP25399-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC42415).

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Accutest Labs of New England, Inc. **Job No:** MC42415

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 11/6/2015 2:09:39 PM

1 Sample and 1 Trip Blank were collected on 10/23/2015 and were received at Accutest SE on 10/30/2015 properly preserved, at 3.2 Deg. C and intact. These Samples received an Accutest job number of MC42415. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** VB4414

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA28705-1MS, FA28705-1MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for Chloroethane are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Matrix Spike Duplicate Recovery(s) for 1,1-Dichloroethane, 1,3-Dichloropropane, 4-Methyl-2-pentanone (MIBK), Chloroethane, Methyl Tert Butyl Ether, trans-1,2-Dichloroethylene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

RPD(s) for MSD for 1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, 1,1-Dichloroethane, 1,1-Dichloroethylene, 1,2-Dichloroethane, 1,2-Dichloropropane, 1,3-Dichlorobenzene, Benzene, Bromobenzene, Bromochloromethane, Isopropylbenzene, Methyl Iodide, Methyl Tert Butyl Ether, Methylene Bromide, Methylene Chloride, n-Propylbenzene, trans-1,2-Dichloroethylene, Vinyl Acetate are outside control limits for sample FA28705-1MSD. Probable cause is due to sample non-homogeneity.

MC42415-1 for Chloroethane: Associated CCV outside control limits.

MC42415-2 for Chloroethane: Associated CCV outside control limits.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

______________________________________ Date: November 6, 2015

Lovelie Metzgar, QA Officer (signature on file)

Summary of Hits

Job Number: MC42415
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/23/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42415-1	**TRIP BLANK**					
No hits reported in this sample.						
MC42415-2	**XSA-12-96X_FA115**					
Chloroethane [a]		6.7	2.0	1.0	ug/l	SW846 8260B
cis-1,2-Dichloroethylene [b]		20.1	1.0	0.50	ug/l	SW846 8260B
trans-1,2-Dichloroethylene [b]		3.4	1.0	0.50	ug/l	SW846 8260B
Tetrachloroethylene [b]		30.0	1.0	0.50	ug/l	SW846 8260B
Toluene [b]		1.9	1.0	0.50	ug/l	SW846 8260B
Trichloroethylene [b]		14.3	1.0	0.50	ug/l	SW846 8260B
Vinyl Chloride [b]		10.2	1.0	0.50	ug/l	SW846 8260B
m,p-Xylene [b]		1.2 J	2.0	1.0	ug/l	SW846 8260B
Xylene (total) [b]		1.7 J	3.0	1.0	ug/l	SW846 8260B
MC42415-2F	**XSA-12-96X_FA115**					
Iron		2190	100	50	ug/l	SW846 6010C
Manganese		7340	75	38	ug/l	SW846 6010C

(a) Analysis performed at Accutest Laboratories, Orlando FL. Associated CCV outside control limits.
(b) Analysis performed at Accutest Laboratories, Orlando FL.

New England
ACCUTEST
LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42415-1	**Date Sampled:**	10/23/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/23/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	B109343.D	1	11/05/15	AFL	n/a	n/a	F:VB4414
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane [b]	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42415-1	**Date Sampled:**	10/23/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/23/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42415-1	**Date Sampled:**	10/23/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/23/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Associated CCV outside control limits.

U = Not detected　LOD = Limit of Detection　J = Indicates an estimated value
LOQ = Limit of Quantitation　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	XSA-12-96X_FA115		
Lab Sample ID:	MC42415-2	**Date Sampled:**	10/23/15
Matrix:	AQ - Ground Water	**Date Received:**	10/23/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	B109344.D	1	11/05/15	AFL	n/a	n/a	F:VB4414
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane [b]	6.7	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	20.1	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	3.4	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: XSA-12-96X_FA115
Lab Sample ID: MC42415-2
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: Fort Devens, AOC50, Devens, MA
Date Sampled: 10/23/15
Date Received: 10/23/15
Percent Solids: n/a

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	30.0	1.0	0.50	ug/l	
108-88-3	Toluene	1.9	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	14.3	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	10.2	1.0	0.50	ug/l	
	m,p-Xylene	1.2	2.0	1.0	ug/l	J
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.7	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%

U = Not detected　LOD = Limit of Detection　J = Indicates an estimated value
LOQ = Limit of Quantitation　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	XSA-12-96X_FA115		
Lab Sample ID:	MC42415-2	**Date Sampled:**	10/23/15
Matrix:	AQ - Ground Water	**Date Received:**	10/23/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	105%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Associated CCV outside control limits.

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	XSA-12-96X_FA115		
Lab Sample ID:	MC42415-2F	**Date Sampled:**	10/23/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/23/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	2.0 U	4.0	2.0	ug/l	1	10/30/15	11/02/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Iron	2190	100	50	ug/l	1	10/30/15	11/02/15	EAL	SW846 6010C [1]	SW846 3010A [3]
Manganese	7340	75	38	ug/l	5	10/30/15	11/04/15	EC	SW846 6010C [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA18628
(2) Instrument QC Batch: MA18633
(3) Prep QC Batch: MP25399

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

New England
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5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

CHAIN OF CUSTODY

ACCUTEST LABORATORIES

495 Technology Center West
Building One, Marlbourough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #:
Accutest Control #: MC42415

Client Information

Name: H&S Environmental
Address: 160 East Main Street, Suite 2F
City: Westborough
State: MA Zip: 01581
Send Report to: Laurie Ekes (lekes@hsenv.com)
Phone #: (508)367-7190

Facility Information

Project Name: Devens
Location: AOC50 VOC/Metals
Project No.:
FAX #:

Analytical Information

	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation voc	NaOH	HNO3	H2So4	None	VOCs (3-40ml VOA vials/HCl)	Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P HNO3 (Field Filter)	TOC (3-40ml VOA/HCl)								
					~~WG~~	~~7~~	~~6~~		~~1~~													
					~~WG~~	~~7~~	~~6~~		~~1~~	MA												
					~~WG~~	~~7~~	~~6~~		~~1~~													
					~~WG~~	~~7~~	~~6~~		~~1~~													
-1	Trip Blank	10/23/15	—		DI	3 ~~4~~	3		~~1~~ MA			X	~~X~~ MA									
-2F	XSA-12-96X-F1115	10/23/15	1340		WG	4	3		1			X	X									

Turnaround Information

- [X] 10 Day STD
- [ ] 5 Day STD (By Contract only)
- [ ] 5 Day Rush
- [ ] 3 Day Rush
- [ ] 2 Day Rush
- [ ] 1 Day Rush

Approved By:

Data Deliverable Information

- [ ] Comm A
- [ ] Comm B
- [ ] Full T1
- [ ] Other
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP CAT A
- [ ] NYASP CATB

EDD Format:

Comments / Remarks

IFZ 6A

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/23/15 1605	1 [signature]	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved ☐	On Ice: ☒ 3.1°C

MC42415: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42415 **Client:** H&S **Project:** DEVENS

Date / Time Received: 10/23/2015 4:05:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3.1/4.8);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	IRGUN1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	☐
2. Trip Blank listed on COC:	☑	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

MC42415: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC42415
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25399	SW846 6010C						
MP25399-B1	7440-38-2	Arsenic	BSP	REC	95.2	%	87-113
MP25399-B1	7439-89-6	Iron	BSP	REC	96	%	87-115
MP25399-B1	7439-96-5	Manganese	BSP	REC	97.2	%	90-114
MP25399-S1*	7440-38-2	Arsenic	MS	REC	95.8	%	87-113
MP25399-S1*	7439-89-6	Iron	MS	REC	92	%	87-115
MP25399-S1*	7439-96-5	Manganese	MS	REC	94.8	%	90-114
MP25399-S2*	7440-38-2	Arsenic	MSD	REC	95.4	%	87-113
MP25399-S2*	7440-38-2	Arsenic	MSD	RPD	.4	%	20
MP25399-S2*	7439-89-6	Iron	MSD	REC	96	%	87-115
MP25399-S2*	7439-89-6	Iron	MSD	RPD	2.4	%	20
MP25399-S2*	7439-96-5	Manganese	MSD	REC	94.2	%	90-114
MP25399-S2*	7439-96-5	Manganese	MSD	RPD	.3	%	20

* Sample used for QC is not from job MC42415

New England ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42415
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25399
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/30/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	8.3	28		
Antimony	6.0	1.2	2		
Arsenic	4.0	1.3	1.7	-0.20	<4.0
Barium	50	.21	1		
Beryllium	4.0	.1	.25		
Bismuth	50	.89	2.1		
Boron	100	1	1.1		
Cadmium	4.0	.26	.43		
Calcium	5000	4.9	15		
Chromium	10	.29	.48		
Cobalt	50	.24	.28		
Copper	25	.58	2.4		
Gold	50	.91	1.5		
Iron	100	13	17	11.5	<100
Lead	5.0	1	1.7		
Lithium	500	.8	2.5		
Magnesium	5000	23	54		
Manganese	15	.11	1.4	0.60	<15
Molybdenum	100	.21	3.6		
Nickel	40	.24	.5		
Palladium	50	1.2	2.6		
Platinum	50	5.3	5.4		
Potassium	5000	30	49		
Selenium	10	2.3	2		
Silicon	100	1.1	30		
Silver	5.0	.43	1		
Sodium	5000	8	77		
Sulfur	50	1.7	4.6		
Strontium	10	.15	.22		
Thallium	5.0	1.2	1.7		
Tin	100	.69	.81		
Titanium	50	.46	.51		
Tungsten	100	2.8	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42415
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25399
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/30/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.29	.51		
Zinc	20	.3	1		
Zirconium	50	.19	1.2		

Associated samples MP25399: MC42415-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42415
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25399
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/30/15

Metal	MC42541-1F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	17.0	496	500	95.8	75-125
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Gold					
Iron	7300	16500	10000	92.0	75-125
Lead					
Lithium					
Magnesium					
Manganese	443	917	500	94.8	75-125
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Sulfur					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42415
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25399
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/30/15

Metal	MC42541-1F Original MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25399: MC42415-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42415
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25399
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/30/15

Metal	MC42541-1F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	17.0	494	500	95.4	0.4	20
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron	7300	16900	10000	96.0	2.4	20
Lead						
Lithium						
Magnesium						
Manganese	443	914	500	94.2	0.3	20
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42415
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25399
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/30/15

Metal	MC42541-1F Original MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium					
Zinc					
Zirconium					

Associated samples MP25399: MC42415-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42415
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25399
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/30/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	476	500	95.2	80-120
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	9600	10000	96.0	80-120
Lead				
Lithium				
Magnesium				
Manganese	486	500	97.2	80-120
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42415
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25399
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/30/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25399: MC42415-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42415
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25399
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/30/15

Metal	MC42541-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	17.0	14.3	15.9 (a)	0-10
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	7300	7650	4.8	0-10
Lead				
Lithium				
Magnesium				
Manganese	443	457	3.2	0-10
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42415
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25399
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/30/15

Metal	MC42541-1F Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25399: MC42415-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

New England
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Page 1 of 1 IF2

495 Technology Center West, Building One, Marlborough, MA 01752
TEL. 508-481-6200
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # MC42415

Client / Reporting Information	Project Information
Company Name: Accutest Laboratories	Project Name: Fort Devens, AOC50, Devens, MA
Street Address: 495 Technology Center West, Bldg One	Street
City: Marlborough, State: MA, Zip: (	City, State; Billing Information (if different from Report to) Company Name
Project Contact: frankd, E-mail: frankd@accutest.com	Project #; Street Address
Phone #: 508-481-6200, Fax #	Client Purchase Order #; City, State, Zip
Sampler(s) Name(s), Phone	Project Manager; Attention:

Requested Analysis (see TEST CODE sheet): V8260STD ,VMS+MTBE ,

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V8260STD ,VMS+MTBE ,	LAB USE ONLY
1	TRIP BLANK		10/23/15	12:00:00 AM		AQ	2	x								X	
2	XSA-12-96X_FA115		10/23/15	1:40:00 PM		AQ	2	x								X	

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Turnaround Time (Business days)

- ☐ Std. 10 Business Days
- ☐ 4 Day RUSH
- ☐ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY
- ☒ other Due 11/6/2015

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ NJ Reduced
- ☐ NJ Full
- ☐ FULL CLP
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format
- ☒ Other COMMBN

Commercial "A" = Results Only

Comments / Special Instructions

Ship to ALSE - DOD *Watch Hold Time*

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	10/29/15	1 Fed Ex	2 FED Ex	10-30-15 10:30	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☐ Cooler Temp. 3.2

MC42415: Chain of Custody
Page 1 of 3
Accutest Laboratories Southeast, Inc.

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: MC42415 CLIENT: ALNE PROJECT: Fort Devens, AOC 50

DATE/TIME RECEIVED: 10-30-15 10:30 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 6484 9125 3500

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [x] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [x] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM____ 5-GRAM____

NUMBER OF 5035 FIELD KITS ? ____

NUMBER OF LAB FILTERED METALS ? ____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.4
- [ ] OBSERVED TEMPS: 3.6
- [ ] CORRECTED TEMPS: 3.2

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#____

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

pH PAPER LOT#s WIDI HC131225 NARROW RANGE AO36133 OTHER (specify) 405-230010

SUMMARY OF COMMENTS: ~~Sample #11 - only Received (1) vial~~ MLL All Other Samples Received (2) Vials Each.

TECHNICIAN SIGNATURE/DATE Michael Llore 11-02-15 REVIEWER SIGNATURE/DATE ____

NF 10/14 YELLOWSHEET110514.xls

7.1

7

MC42415: Chain of Custody

Page 2 of 3

Do Not Lift Using This Tag

ORIGIN ID:BBFA (508) 481-6200
SAMPLE MANAGEMENT
ACCUTEST LABORATORIES
50 D'ANGELO DR.
495 TECH CENTER W., BUILDING 1
MARLBOROUGH, MA 01752
UNITED STATES US

SHIP DATE: 29OCT15
ACTWGT: 20.0 LB MAN
CAD: 0990801/CAFE2807

BILL SENDER

TO RICK WATKINS
ACCUTEST SOUTHEAST
4405 VINELAND RD
SUITE C-15
ORLANDO FL 328115803
(407) 425-6700 REF:
INV:
PO: DEPT:

521C2/9787/6F03

FedEx
Express

E

J141214073001uv

2 of 2
MPS# 6484 9125 3500
0263
Mstr# 6484 9125 3495
0201

FRI - 30 OCT 10:30A
PRIORITY OVERNIGHT

EA TIXA

32811
FL-US MCO

2.6

Part # 156148-434 RIT2 07/14

RT 0
FZ 0

3500
10.30

MC42415: Chain of Custody
Page 3 of 3

7 7.1

QC Evaluation: DOD QSM5 Limits

Job Number: MC42415
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VB4414	SW846 8260B						
VB4414-BS	67-64-1	Acetone	BSP	REC	110	%	39-160
VB4414-BS	71-43-2	Benzene	BSP	REC	101	%	79-120
VB4414-BS	108-86-1	Bromobenzene	BSP	REC	91	%	80-120
VB4414-BS	74-97-5	Bromochloromethane	BSP	REC	91	%	78-123
VB4414-BS	75-27-4	Bromodichloromethane	BSP	REC	101	%	79-125
VB4414-BS	75-25-2	Bromoform	BSP	REC	95	%	66-130
VB4414-BS	78-93-3	2-Butanone (MEK)	BSP	REC	90	%	56-143
VB4414-BS	104-51-8	n-Butylbenzene	BSP	REC	103	%	75-128
VB4414-BS	135-98-8	sec-Butylbenzene	BSP	REC	104	%	77-126
VB4414-BS	98-06-6	tert-Butylbenzene	BSP	REC	100	%	78-124
VB4414-BS	75-15-0	Carbon Disulfide	BSP	REC	98	%	64-133
VB4414-BS	56-23-5	Carbon Tetrachloride	BSP	REC	109	%	72-136
VB4414-BS	108-90-7	Chlorobenzene	BSP	REC	94	%	82-118
VB4414-BS	75-00-3	Chloroethane	BSP	REC	132	%	60-138
VB4414-BS	67-66-3	Chloroform	BSP	REC	100	%	79-124
VB4414-BS	95-49-8	o-Chlorotoluene	BSP	REC	98	%	79-122
VB4414-BS	106-43-4	p-Chlorotoluene	BSP	REC	97	%	78-122
VB4414-BS	124-48-1	Dibromochloromethane	BSP	REC	96	%	74-126
VB4414-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	84	%	62-128
VB4414-BS	106-93-4	1,2-Dibromoethane	BSP	REC	88	%	77-121
VB4414-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	110	%	32-152
VB4414-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	92	%	80-119
VB4414-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	97	%	80-119
VB4414-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	96	%	79-118
VB4414-BS	75-34-3	1,1-Dichloroethane	BSP	REC	106	%	77-125
VB4414-BS	107-06-2	1,2-Dichloroethane	BSP	REC	102	%	73-128
VB4414-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	109	%	71-131
VB4414-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	95	%	78-123
VB4414-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	113	%	75-124
VB4414-BS	78-87-5	1,2-Dichloropropane	BSP	REC	97	%	78-122
VB4414-BS	142-28-9	1,3-Dichloropropane	BSP	REC	97	%	80-119
VB4414-BS	594-20-7	2,2-Dichloropropane	BSP	REC	114	%	60-139
VB4414-BS	563-58-6	1,1-Dichloropropene	BSP	REC	106	%	79-125
VB4414-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	100	%	75-124
VB4414-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	104	%	73-127
VB4414-BS	100-41-4	Ethylbenzene	BSP	REC	100	%	79-121
VB4414-BS	87-68-3	Hexachlorobutadiene	BSP	REC	102	%	66-134
VB4414-BS	591-78-6	2-Hexanone	BSP	REC	82	%	57-139
VB4414-BS	98-82-8	Isopropylbenzene	BSP	REC	103	%	72-131
VB4414-BS	99-87-6	p-Isopropyltoluene	BSP	REC	100	%	77-127
VB4414-BS	74-83-9	Methyl Bromide	BSP	REC	105	%	53-141
VB4414-BS	74-87-3	Methyl Chloride	BSP	REC	116	%	50-139

* Sample used for QC is not from job MC42415

QC Evaluation: DOD QSM5 Limits

Job Number: MC42415
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VB4414-BS	74-88-4	Methyl Iodide	BSP	REC	93	%	69-131
VB4414-BS	74-95-3	Methylene Bromide	BSP	REC	96	%	79-123
VB4414-BS	75-09-2	Methylene Chloride	BSP	REC	110	%	74-124
VB4414-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	82	%	67-130
VB4414-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	99	%	71-124
VB4414-BS	91-20-3	Naphthalene	BSP	REC	97	%	61-128
VB4414-BS	103-65-1	n-Propylbenzene	BSP	REC	106	%	76-126
VB4414-BS	100-42-5	Styrene	BSP	REC	96	%	78-123
VB4414-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	96	%	78-124
VB4414-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	85	%	71-121
VB4414-BS	127-18-4	Tetrachloroethylene	BSP	REC	98	%	74-129
VB4414-BS	108-88-3	Toluene	BSP	REC	93	%	80-121
VB4414-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	93	%	69-129
VB4414-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	92	%	69-130
VB4414-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	100	%	74-131
VB4414-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	88	%	80-119
VB4414-BS	79-01-6	Trichloroethylene	BSP	REC	101	%	79-123
VB4414-BS	75-69-4	Trichlorofluoromethane	BSP	REC	108	%	65-141
VB4414-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	85	%	73-122
VB4414-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	100	%	76-124
VB4414-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	97	%	75-124
VB4414-BS	108-05-4	Vinyl Acetate	BSP	REC	94	%	54-146
VB4414-BS	75-01-4	Vinyl Chloride	BSP	REC	108	%	58-137
VB4414-BS		m,p-Xylene	BSP	REC	101	%	80-121
VB4414-BS	95-47-6	o-Xylene	BSP	REC	99	%	78-122
VB4414-BS	1330-20-7	Xylene (total)	BSP	REC	100	%	79-121
VB4414-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	102	%	80-119
VB4414-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	103	%	81-118
VB4414-BS	2037-26-5	Toluene-D8	BSP	SURR	96	%	89-112
VB4414-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	98	%	85-114
FA28705-1MS*	67-64-1	Acetone	MS	REC	114	%	39-160
FA28705-1MS*	71-43-2	Benzene	MS	REC	103	%	79-120
FA28705-1MS*	108-86-1	Bromobenzene	MS	REC	90	%	80-120
FA28705-1MS*	74-97-5	Bromochloromethane	MS	REC	92	%	78-123
FA28705-1MS*	75-27-4	Bromodichloromethane	MS	REC	99	%	79-125
FA28705-1MS*	75-25-2	Bromoform	MS	REC	91	%	66-130
FA28705-1MS*	78-93-3	2-Butanone (MEK)	MS	REC	102	%	56-143
FA28705-1MS*	104-51-8	n-Butylbenzene	MS	REC	100	%	75-128
FA28705-1MS*	135-98-8	sec-Butylbenzene	MS	REC	103	%	77-126
FA28705-1MS*	98-06-6	tert-Butylbenzene	MS	REC	102	%	78-124
FA28705-1MS*	75-15-0	Carbon Disulfide	MS	REC	74	%	64-133
FA28705-1MS*	56-23-5	Carbon Tetrachloride	MS	REC	106	%	72-136
FA28705-1MS*	108-90-7	Chlorobenzene	MS	REC	97	%	82-118
FA28705-1MS*	75-00-3	Chloroethane	MS	REC	151	%	60-138
FA28705-1MS*	67-66-3	Chloroform	MS	REC	102	%	79-124

* Sample used for QC is not from job MC42415

QC Evaluation: DOD QSM5 Limits

Job Number: MC42415
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA28705-1MS*	95-49-8	o-Chlorotoluene	MS	REC	102	%	79-122
FA28705-1MS*	106-43-4	p-Chlorotoluene	MS	REC	98	%	78-122
FA28705-1MS*	124-48-1	Dibromochloromethane	MS	REC	94	%	74-126
FA28705-1MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	100	%	62-128
FA28705-1MS*	106-93-4	1,2-Dibromoethane	MS	REC	94	%	77-121
FA28705-1MS*	75-71-8	Dichlorodifluoromethane	MS	REC	118	%	32-152
FA28705-1MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	96	%	80-119
FA28705-1MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	98	%	80-119
FA28705-1MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	97	%	79-118
FA28705-1MS*	75-34-3	1,1-Dichloroethane	MS	REC	107	%	77-125
FA28705-1MS*	107-06-2	1,2-Dichloroethane	MS	REC	104	%	73-128
FA28705-1MS*	75-35-4	1,1-Dichloroethylene	MS	REC	107	%	71-131
FA28705-1MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	95	%	78-123
FA28705-1MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	108	%	75-124
FA28705-1MS*	78-87-5	1,2-Dichloropropane	MS	REC	96	%	78-122
FA28705-1MS*	142-28-9	1,3-Dichloropropane	MS	REC	106	%	80-119
FA28705-1MS*	594-20-7	2,2-Dichloropropane	MS	REC	107	%	60-139
FA28705-1MS*	563-58-6	1,1-Dichloropropene	MS	REC	106	%	79-125
FA28705-1MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	87	%	75-124
FA28705-1MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	101	%	73-127
FA28705-1MS*	100-41-4	Ethylbenzene	MS	REC	105	%	79-121
FA28705-1MS*	87-68-3	Hexachlorobutadiene	MS	REC	92	%	66-134
FA28705-1MS*	591-78-6	2-Hexanone	MS	REC	110	%	57-139
FA28705-1MS*	98-82-8	Isopropylbenzene	MS	REC	98	%	72-131
FA28705-1MS*	99-87-6	p-Isopropyltoluene	MS	REC	99	%	77-127
FA28705-1MS*	74-83-9	Methyl Bromide	MS	REC	120	%	53-141
FA28705-1MS*	74-87-3	Methyl Chloride	MS	REC	129	%	50-139
FA28705-1MS*	74-88-4	Methyl Iodide	MS	REC	86	%	69-131
FA28705-1MS*	74-95-3	Methylene Bromide	MS	REC	101	%	79-123
FA28705-1MS*	75-09-2	Methylene Chloride	MS	REC	108	%	74-124
FA28705-1MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	109	%	67-130
FA28705-1MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	97	%	71-124
FA28705-1MS*	91-20-3	Naphthalene	MS	REC	108	%	61-128
FA28705-1MS*	103-65-1	n-Propylbenzene	MS	REC	106	%	76-126
FA28705-1MS*	100-42-5	Styrene	MS	REC	99	%	78-123
FA28705-1MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	102	%	78-124
FA28705-1MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	96	%	71-121
FA28705-1MS*	127-18-4	Tetrachloroethylene	MS	REC	96	%	74-129
FA28705-1MS*	108-88-3	Toluene	MS	REC	101	%	80-121
FA28705-1MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	93	%	69-129
FA28705-1MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	89	%	69-130
FA28705-1MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	98	%	74-131
FA28705-1MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	95	%	80-119
FA28705-1MS*	79-01-6	Trichloroethylene	MS	REC	99	%	79-123
FA28705-1MS*	75-69-4	Trichlorofluoromethane	MS	REC	128	%	65-141

* Sample used for QC is not from job MC42415

QC Evaluation: DOD QSM5 Limits

Job Number: MC42415
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA28705-1MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	96	%	73-122
FA28705-1MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	102	%	76-124
FA28705-1MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	100	%	75-124
FA28705-1MS*	108-05-4	Vinyl Acetate	MS	REC	103	%	54-146
FA28705-1MS*	75-01-4	Vinyl Chloride	MS	REC	117	%	58-137
FA28705-1MS*		m,p-Xylene	MS	REC	108	%	80-121
FA28705-1MS*	95-47-6	o-Xylene	MS	REC	105	%	78-122
FA28705-1MS*	1330-20-7	Xylene (total)	MS	REC	107	%	79-121
FA28705-1MS*	1868-53-7	Dibromofluoromethane	MS	SURR	101	%	80-119
FA28705-1MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	103	%	81-118
FA28705-1MS*	2037-26-5	Toluene-D8	MS	SURR	101	%	89-112
FA28705-1MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	99	%	85-114
FA28705-1MSD*	67-64-1	Acetone	MSD	REC	133	%	39-160
FA28705-1MSD*	67-64-1	Acetone	MSD	RPD	15	%	20
FA28705-1MSD*	71-43-2	Benzene	MSD	REC	121	%	79-120
FA28705-1MSD*	71-43-2	Benzene	MSD	RPD	16	%	20
FA28705-1MSD*	108-86-1	Bromobenzene	MSD	REC	106	%	80-120
FA28705-1MSD*	108-86-1	Bromobenzene	MSD	RPD	17	%	20
FA28705-1MSD*	74-97-5	Bromochloromethane	MSD	REC	107	%	78-123
FA28705-1MSD*	74-97-5	Bromochloromethane	MSD	RPD	15	%	20
FA28705-1MSD*	75-27-4	Bromodichloromethane	MSD	REC	107	%	79-125
FA28705-1MSD*	75-27-4	Bromodichloromethane	MSD	RPD	8	%	20
FA28705-1MSD*	75-25-2	Bromoform	MSD	REC	88	%	66-130
FA28705-1MSD*	75-25-2	Bromoform	MSD	RPD	4	%	20
FA28705-1MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	119	%	56-143
FA28705-1MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	16	%	20
FA28705-1MSD*	104-51-8	n-Butylbenzene	MSD	REC	116	%	75-128
FA28705-1MSD*	104-51-8	n-Butylbenzene	MSD	RPD	15	%	20
FA28705-1MSD*	135-98-8	sec-Butylbenzene	MSD	REC	119	%	77-126
FA28705-1MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	14	%	20
FA28705-1MSD*	98-06-6	tert-Butylbenzene	MSD	REC	115	%	78-124
FA28705-1MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	12	%	20
FA28705-1MSD*	75-15-0	Carbon Disulfide	MSD	REC	84	%	64-133
FA28705-1MSD*	75-15-0	Carbon Disulfide	MSD	RPD	12	%	20
FA28705-1MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	117	%	72-136
FA28705-1MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	10	%	20
FA28705-1MSD*	108-90-7	Chlorobenzene	MSD	REC	109	%	82-118
FA28705-1MSD*	108-90-7	Chlorobenzene	MSD	RPD	12	%	20
FA28705-1MSD*	75-00-3	Chloroethane	MSD	REC	166	%	60-138
FA28705-1MSD*	75-00-3	Chloroethane	MSD	RPD	10	%	20
FA28705-1MSD*	67-66-3	Chloroform	MSD	REC	120	%	79-124
FA28705-1MSD*	67-66-3	Chloroform	MSD	RPD	15	%	20
FA28705-1MSD*	95-49-8	o-Chlorotoluene	MSD	REC	118	%	79-122
FA28705-1MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	15	%	20
FA28705-1MSD*	106-43-4	p-Chlorotoluene	MSD	REC	112	%	78-122

* Sample used for QC is not from job MC42415

QC Evaluation: DOD QSM5 Limits

Job Number: MC42415
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA28705-1MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	14	%	20
FA28705-1MSD*	124-48-1	Dibromochloromethane	MSD	REC	95	%	74-126
FA28705-1MSD*	124-48-1	Dibromochloromethane	MSD	RPD	1	%	20
FA28705-1MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	106	%	62-128
FA28705-1MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	6	%	20
FA28705-1MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	107	%	77-121
FA28705-1MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	13	%	20
FA28705-1MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	139	%	32-152
FA28705-1MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	17	%	20
FA28705-1MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	110	%	80-119
FA28705-1MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	14	%	20
FA28705-1MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	113	%	80-119
FA28705-1MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	15	%	20
FA28705-1MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	112	%	79-118
FA28705-1MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	15	%	20
FA28705-1MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	126	%	77-125
FA28705-1MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	16	%	20
FA28705-1MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	125	%	73-128
FA28705-1MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	18	%	20
FA28705-1MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	131	%	71-131
FA28705-1MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	21	%	20
FA28705-1MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	109	%	78-123
FA28705-1MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	14	%	20
FA28705-1MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	129	%	75-124
FA28705-1MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	18	%	20
FA28705-1MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	114	%	78-122
FA28705-1MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	17	%	20
FA28705-1MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	120	%	80-119
FA28705-1MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	12	%	20
FA28705-1MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	127	%	60-139
FA28705-1MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	17	%	20
FA28705-1MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	122	%	79-125
FA28705-1MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	14	%	20
FA28705-1MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	99	%	75-124
FA28705-1MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	12	%	20
FA28705-1MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	106	%	73-127
FA28705-1MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	5	%	20
FA28705-1MSD*	100-41-4	Ethylbenzene	MSD	REC	117	%	79-121
FA28705-1MSD*	100-41-4	Ethylbenzene	MSD	RPD	11	%	20
FA28705-1MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	106	%	66-134
FA28705-1MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	15	%	20
FA28705-1MSD*	591-78-6	2-Hexanone	MSD	REC	122	%	57-139
FA28705-1MSD*	591-78-6	2-Hexanone	MSD	RPD	11	%	20
FA28705-1MSD*	98-82-8	Isopropylbenzene	MSD	REC	116	%	72-131
FA28705-1MSD*	98-82-8	Isopropylbenzene	MSD	RPD	17	%	20

* Sample used for QC is not from job MC42415

QC Evaluation: DOD QSM5 Limits

Job Number: MC42415
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA28705-1MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	114	%	77-127
FA28705-1MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	14	%	20
FA28705-1MSD*	74-83-9	Methyl Bromide	MSD	REC	135	%	53-141
FA28705-1MSD*	74-83-9	Methyl Bromide	MSD	RPD	11	%	20
FA28705-1MSD*	74-87-3	Methyl Chloride	MSD	REC	145	%	50-139
FA28705-1MSD*	74-87-3	Methyl Chloride	MSD	RPD	12	%	20
FA28705-1MSD*	74-88-4	Methyl Iodide	MSD	REC	103	%	69-131
FA28705-1MSD*	74-88-4	Methyl Iodide	MSD	RPD	18	%	20
FA28705-1MSD*	74-95-3	Methylene Bromide	MSD	REC	118	%	79-123
FA28705-1MSD*	74-95-3	Methylene Bromide	MSD	RPD	15	%	20
FA28705-1MSD*	75-09-2	Methylene Chloride	MSD	REC	128	%	74-124
FA28705-1MSD*	75-09-2	Methylene Chloride	MSD	RPD	17	%	20
FA28705-1MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	127	%	67-130
FA28705-1MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	16	%	20
FA28705-1MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	124	%	71-124
FA28705-1MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	24	%	20
FA28705-1MSD*	91-20-3	Naphthalene	MSD	REC	126	%	61-128
FA28705-1MSD*	91-20-3	Naphthalene	MSD	RPD	15	%	20
FA28705-1MSD*	103-65-1	n-Propylbenzene	MSD	REC	124	%	76-126
FA28705-1MSD*	103-65-1	n-Propylbenzene	MSD	RPD	16	%	20
FA28705-1MSD*	100-42-5	Styrene	MSD	REC	108	%	78-123
FA28705-1MSD*	100-42-5	Styrene	MSD	RPD	8	%	20
FA28705-1MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	104	%	78-124
FA28705-1MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	3	%	20
FA28705-1MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	114	%	71-121
FA28705-1MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	17	%	20
FA28705-1MSD*	127-18-4	Tetrachloroethylene	MSD	REC	108	%	74-129
FA28705-1MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	11	%	20
FA28705-1MSD*	108-88-3	Toluene	MSD	REC	112	%	80-121
FA28705-1MSD*	108-88-3	Toluene	MSD	RPD	11	%	20
FA28705-1MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	107	%	69-129
FA28705-1MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	14	%	20
FA28705-1MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	104	%	69-130
FA28705-1MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	15	%	20
FA28705-1MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	118	%	74-131
FA28705-1MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	18	%	20
FA28705-1MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	108	%	80-119
FA28705-1MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	13	%	20
FA28705-1MSD*	79-01-6	Trichloroethylene	MSD	REC	113	%	79-123
FA28705-1MSD*	79-01-6	Trichloroethylene	MSD	RPD	14	%	20
FA28705-1MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	139	%	65-141
FA28705-1MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	8	%	20
FA28705-1MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	113	%	73-122
FA28705-1MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	16	%	20
FA28705-1MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	117	%	76-124

* Sample used for QC is not from job MC42415

QC Evaluation: DOD QSM5 Limits

Job Number: MC42415
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/23/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
FA28705-1MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	14	%	20
FA28705-1MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	117	%	75-124
FA28705-1MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	15	%	20
FA28705-1MSD*	108-05-4	Vinyl Acetate	MSD	REC	123	%	54-146
FA28705-1MSD*	108-05-4	Vinyl Acetate	MSD	RPD	18	%	20
FA28705-1MSD*	75-01-4	Vinyl Chloride	MSD	REC	133	%	58-137
FA28705-1MSD*	75-01-4	Vinyl Chloride	MSD	RPD	12	%	20
FA28705-1MSD*		m,p-Xylene	MSD	REC	120	%	80-121
FA28705-1MSD*		m,p-Xylene	MSD	RPD	11	%	20
FA28705-1MSD*	95-47-6	o-Xylene	MSD	REC	117	%	78-122
FA28705-1MSD*	95-47-6	o-Xylene	MSD	RPD	11	%	20
FA28705-1MSD*	1330-20-7	Xylene (total)	MSD	REC	119	%	79-121
FA28705-1MSD*	1330-20-7	Xylene (total)	MSD	RPD	11	%	20
FA28705-1MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	101	%	80-119
FA28705-1MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	103	%	81-118
FA28705-1MSD*	2037-26-5	Toluene-D8	MSD	SURR	100	%	89-112
FA28705-1MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	100	%	85-114
VB4414-MB	1868-53-7	Dibromofluoromethane	MB	SURR	99	%	80-119
VB4414-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	101	%	81-118
VB4414-MB	2037-26-5	Toluene-D8	MB	SURR	100	%	89-112
VB4414-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	105	%	85-114
MC42415-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	100	%	80-119
MC42415-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	104	%	81-118
MC42415-1	2037-26-5	Toluene-D8	SAMP	SURR	105	%	89-112
MC42415-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114
MC42415-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC42415-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	104	%	81-118
MC42415-2	2037-26-5	Toluene-D8	SAMP	SURR	97	%	89-112
MC42415-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	105	%	85-114

* Sample used for QC is not from job MC42415

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC42415
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4414-MB	B109324.D	1	11/05/15	WV	n/a	n/a	VB4414

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42415-1, MC42415-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.27	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.34	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.32	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.2	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.22	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.20	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.20	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.29	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.28	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.20	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.61	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.42	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.22	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.27	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.21	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.27	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.21	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: MC42415
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4414-MB	B109324.D	1	11/05/15	WV	n/a	n/a	VB4414

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42415-1, MC42415-2

CAS No.	Compound	Result	RL	MDL	Units	Q
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl Iodide	ND	1.0	0.24	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.30	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.20	ug/l	
100-42-5	Styrene	ND	1.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.22	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.33	ug/l	
108-88-3	Toluene	ND	1.0	0.40	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.26	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.31	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.22	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.66	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.25	ug/l	
	m,p-Xylene	ND	2.0	0.31	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.51	ug/l	

Method Blank Summary

Job Number: MC42415
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4414-MB	B109324.D	1	11/05/15	WV	n/a	n/a	VB4414

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42415-1, MC42415-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	105%	83-118%

Blank Spike Summary

Job Number: MC42415
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4414-BS	B109323.D	1	11/05/15	WV	n/a	n/a	VB4414

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42415-1, MC42415-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	137	110	50-147
71-43-2	Benzene	25	25.3	101	81-122
108-86-1	Bromobenzene	25	22.8	91	80-121
74-97-5	Bromochloromethane	25	22.7	91	76-123
75-27-4	Bromodichloromethane	25	25.3	101	79-123
75-25-2	Bromoform	25	23.8	95	66-123
78-93-3	2-Butanone (MEK)	125	113	90	56-143
104-51-8	n-Butylbenzene	25	25.8	103	79-126
135-98-8	sec-Butylbenzene	25	25.9	104	83-133
98-06-6	tert-Butylbenzene	25	25.0	100	80-133
75-15-0	Carbon Disulfide	25	24.6	98	66-148
56-23-5	Carbon Tetrachloride	25	27.2	109	76-136
108-90-7	Chlorobenzene	25	23.4	94	82-124
75-00-3	Chloroethane	25	33.0	132	62-144
67-66-3	Chloroform	25	25.1	100	80-124
95-49-8	o-Chlorotoluene	25	24.6	98	81-127
106-43-4	p-Chlorotoluene	25	24.2	97	83-130
124-48-1	Dibromochloromethane	25	23.9	96	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	21.0	84	64-123
106-93-4	1,2-Dibromoethane	25	22.0	88	75-120
75-71-8	Dichlorodifluoromethane	25	27.5	110	42-167
95-50-1	1,2-Dichlorobenzene	25	23.1	92	82-124
541-73-1	1,3-Dichlorobenzene	25	24.3	97	84-125
106-46-7	1,4-Dichlorobenzene	25	23.9	96	78-120
75-34-3	1,1-Dichloroethane	25	26.4	106	81-122
107-06-2	1,2-Dichloroethane	25	25.6	102	75-125
75-35-4	1,1-Dichloroethylene	25	27.3	109	78-137
156-59-2	cis-1,2-Dichloroethylene	25	23.7	95	78-120
156-60-5	trans-1,2-Dichloroethylene	25	28.2	113	76-127
78-87-5	1,2-Dichloropropane	25	24.2	97	76-124
142-28-9	1,3-Dichloropropane	25	24.2	97	80-118
594-20-7	2,2-Dichloropropane	25	28.6	114	74-139
563-58-6	1,1-Dichloropropene	25	26.5	106	79-131
10061-01-5	cis-1,3-Dichloropropene	25	25.0	100	75-118
10061-02-6	trans-1,3-Dichloropropene	25	25.9	104	80-120
100-41-4	Ethylbenzene	25	25.0	100	81-121

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42415
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4414-BS	B109323.D	1	11/05/15	WV	n/a	n/a	VB4414

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42415-1, MC42415-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
87-68-3	Hexachlorobutadiene	25	25.4	102	75-142
591-78-6	2-Hexanone	125	103	82	61-129
98-82-8	Isopropylbenzene	25	25.7	103	83-132
99-87-6	p-Isopropyltoluene	25	25.0	100	79-130
74-83-9	Methyl Bromide	25	26.3	105	59-143
74-87-3	Methyl Chloride	25	29.0	116	50-159
74-88-4	Methyl Iodide	25	23.2	93	73-123
74-95-3	Methylene Bromide	25	24.1	96	78-119
75-09-2	Methylene Chloride	25	27.4	110	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	103	82	66-122
1634-04-4	Methyl Tert Butyl Ether	25	24.7	99	72-117
91-20-3	Naphthalene	25	24.3	97	63-132
103-65-1	n-Propylbenzene	25	26.6	106	82-133
100-42-5	Styrene	25	24.1	96	78-119
630-20-6	1,1,1,2-Tetrachloroethane	25	24.0	96	77-122
79-34-5	1,1,2,2-Tetrachloroethane	25	21.3	85	72-120
127-18-4	Tetrachloroethylene	25	24.6	98	76-135
108-88-3	Toluene	25	23.3	93	80-120
87-61-6	1,2,3-Trichlorobenzene	25	23.2	93	68-131
120-82-1	1,2,4-Trichlorobenzene	25	23.1	92	73-129
71-55-6	1,1,1-Trichloroethane	25	25.0	100	75-130
79-00-5	1,1,2-Trichloroethane	25	22.1	88	76-119
79-01-6	Trichloroethylene	25	25.3	101	81-126
75-69-4	Trichlorofluoromethane	25	27.1	108	71-156
96-18-4	1,2,3-Trichloropropane	25	21.3	85	77-120
95-63-6	1,2,4-Trimethylbenzene	25	24.9	100	79-120
108-67-8	1,3,5-Trimethylbenzene	25	24.2	97	79-120
108-05-4	Vinyl Acetate	125	118	94	43-154
75-01-4	Vinyl Chloride	25	27.1	108	69-159
	m,p-Xylene	50	50.5	101	79-126
95-47-6	o-Xylene	25	24.7	99	80-127
1330-20-7	Xylene (total)	75	75.2	100	80-126

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42415
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4414-BS	B109323.D	1	11/05/15	WV	n/a	n/a	VB4414

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42415-1, MC42415-2

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	79-125%
2037-26-5	Toluene-D8	96%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42415
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA28705-1MS	B109346.D	1	11/05/15	WV	n/a	n/a	VB4414
FA28705-1MSD	B109347.D	1	11/05/15	WV	n/a	n/a	VB4414
FA28705-1	B109327.D	1	11/05/15	WV	n/a	n/a	VB4414

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42415-1, MC42415-2

CAS No.	Compound	FA28705-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	143	114	125	166	133	15	50-147/21
71-43-2	Benzene	ND		25	25.8	103	25	30.3	121	16*	81-122/14
108-86-1	Bromobenzene	ND		25	22.4	90	25	26.5	106	17*	80-121/14
74-97-5	Bromochloromethane	ND		25	22.9	92	25	26.7	107	15*	76-123/14
75-27-4	Bromodichloromethane	ND		25	24.7	99	25	26.7	107	8	79-123/19
75-25-2	Bromoform	ND		25	22.8	91	25	22.0	88	4	66-123/21
78-93-3	2-Butanone (MEK)	ND		125	127	102	125	149	119	16	56-143/18
104-51-8	n-Butylbenzene	ND		25	25.0	100	25	29.1	116	15	79-126/16
135-98-8	sec-Butylbenzene	ND		25	25.7	103	25	29.7	119	14	83-133/16
98-06-6	tert-Butylbenzene	ND		25	25.4	102	25	28.7	115	12	80-133/16
75-15-0	Carbon Disulfide	ND		25	18.6	74	25	21.0	84	12	66-148/23
56-23-5	Carbon Tetrachloride	ND		25	26.5	106	25	29.2	117	10	76-136/23
108-90-7	Chlorobenzene	ND		25	24.2	97	25	27.2	109	12	82-124/14
75-00-3	Chloroethane	ND		25	37.7	151*	25	41.6	166*	10	62-144/20
67-66-3	Chloroform	ND		25	25.6	102	25	29.9	120	15	80-124/15
95-49-8	o-Chlorotoluene	ND		25	25.5	102	25	29.6	118	15	81-127/15
106-43-4	p-Chlorotoluene	ND		25	24.5	98	25	28.1	112	14	83-130/15
124-48-1	Dibromochloromethane	ND		25	23.6	94	25	23.8	95	1	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	24.9	100	25	26.4	106	6	64-123/18
106-93-4	1,2-Dibromoethane	ND		25	23.6	94	25	26.8	107	13	75-120/13
75-71-8	Dichlorodifluoromethane	ND		25	29.4	118	25	34.7	139	17	42-167/19
95-50-1	1,2-Dichlorobenzene	ND		25	23.9	96	25	27.4	110	14	82-124/14
541-73-1	1,3-Dichlorobenzene	ND		25	24.4	98	25	28.3	113	15*	84-125/14
106-46-7	1,4-Dichlorobenzene	ND		25	24.2	97	25	28.0	112	15	78-120/15
75-34-3	1,1-Dichloroethane	ND		25	26.8	107	25	31.4	126*	16*	81-122/15
107-06-2	1,2-Dichloroethane	ND		25	26.1	104	25	31.2	125	18*	75-125/14
75-35-4	1,1-Dichloroethylene	ND		25	26.7	107	25	32.8	131	21*	78-137/18
156-59-2	cis-1,2-Dichloroethylene	ND		25	23.7	95	25	27.2	109	14	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		25	27.1	108	25	32.3	129*	18*	76-127/17
78-87-5	1,2-Dichloropropane	ND		25	24.0	96	25	28.4	114	17*	76-124/14
142-28-9	1,3-Dichloropropane	ND		25	26.6	106	25	30.0	120*	12	80-118/13
594-20-7	2,2-Dichloropropane	ND		25	26.8	107	25	31.7	127	17	74-139/17
563-58-6	1,1-Dichloropropene	ND		25	26.5	106	25	30.4	122	14	79-131/16
10061-01-5	cis-1,3-Dichloropropene	ND		25	21.8	87	25	24.7	99	12	75-118/23
10061-02-6	trans-1,3-Dichloropropene	ND		25	25.3	101	25	26.5	106	5	80-120/22
100-41-4	Ethylbenzene	ND		25	26.3	105	25	29.3	117	11	81-121/14

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42415
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA28705-1MS	B109346.D	1	11/05/15	WV	n/a	n/a	VB4414
FA28705-1MSD	B109347.D	1	11/05/15	WV	n/a	n/a	VB4414
FA28705-1	B109327.D	1	11/05/15	WV	n/a	n/a	VB4414

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42415-1, MC42415-2

CAS No.	Compound	FA28705-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
87-68-3	Hexachlorobutadiene	ND		25	22.9	92	25	26.6	106	15	75-142/19
591-78-6	2-Hexanone	ND		125	137	110	125	153	122	11	61-129/18
98-82-8	Isopropylbenzene	ND		25	24.5	98	25	29.1	116	17*	83-132/15
99-87-6	p-Isopropyltoluene	ND		25	24.8	99	25	28.4	114	14	79-130/16
74-83-9	Methyl Bromide	ND		25	30.1	120	25	33.7	135	11	59-143/19
74-87-3	Methyl Chloride	ND		25	32.2	129	25	36.3	145	12	50-159/19
74-88-4	Methyl Iodide	ND		25	21.4	86	25	25.7	103	18*	73-123/16
74-95-3	Methylene Bromide	ND		25	25.3	101	25	29.5	118	15*	78-119/14
75-09-2	Methylene Chloride	ND		25	27.0	108	25	32.0	128	17*	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		125	136	109	125	159	127*	16	66-122/16
1634-04-4	Methyl Tert Butyl Ether	ND		25	24.3	97	25	31.0	124*	24*	72-117/14
91-20-3	Naphthalene	ND		25	27.1	108	25	31.6	126	15	63-132/25
103-65-1	n-Propylbenzene	ND		25	26.4	106	25	31.0	124	16*	82-133/15
100-42-5	Styrene	ND		25	24.8	99	25	27.0	108	8	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	25.4	102	25	26.1	104	3	77-122/19
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	23.9	96	25	28.4	114	17*	72-120/14
127-18-4	Tetrachloroethylene	ND		25	24.1	96	25	27.0	108	11	76-135/16
108-88-3	Toluene	ND		25	25.2	101	25	28.0	112	11	80-120/14
87-61-6	1,2,3-Trichlorobenzene	ND		25	23.2	93	25	26.8	107	14	68-131/25
120-82-1	1,2,4-Trichlorobenzene	ND		25	22.2	89	25	25.9	104	15	73-129/20
71-55-6	1,1,1-Trichloroethane	ND		25	24.6	98	25	29.4	118	18*	75-130/16
79-00-5	1,1,2-Trichloroethane	ND		25	23.7	95	25	26.9	108	13	76-119/14
79-01-6	Trichloroethylene	ND		25	24.7	99	25	28.3	113	14	81-126/15
75-69-4	Trichlorofluoromethane	ND		25	32.1	128	25	34.7	139	8	71-156/21
96-18-4	1,2,3-Trichloropropane	ND		25	24.0	96	25	28.3	113	16	77-120/16
95-63-6	1,2,4-Trimethylbenzene	ND		25	25.4	102	25	29.2	117	14	79-120/18
108-67-8	1,3,5-Trimethylbenzene	ND		25	25.0	100	25	29.2	117	15	79-120/19
108-05-4	Vinyl Acetate	ND		125	129	103	125	154	123	18*	43-154/14
75-01-4	Vinyl Chloride	0.41	J	25	29.7	117	25	33.6	133	12	69-159/18
	m,p-Xylene	ND		50	53.8	108	50	60.1	120	11	79-126/15
95-47-6	o-Xylene	ND		25	26.2	105	25	29.2	117	11	80-127/14
1330-20-7	Xylene (total)	ND		75	79.9	107	75	89.3	119	11	80-126/15

* = Outside of Control Limits.

8.3.1

8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42415
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA28705-1MS	B109346.D	1	11/05/15	WV	n/a	n/a	VB4414
FA28705-1MSD	B109347.D	1	11/05/15	WV	n/a	n/a	VB4414
FA28705-1	B109327.D	1	11/05/15	WV	n/a	n/a	VB4414

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42415-1, MC42415-2

CAS No.	Surrogate Recoveries	MS	MSD	FA28705-1	Limits
1868-53-7	Dibromofluoromethane	101%	101%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	103%	103%	79-125%
2037-26-5	Toluene-D8	101%	100%	100%	85-112%
460-00-4	4-Bromofluorobenzene	99%	100%	104%	83-118%

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC42415
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
MC42415-1	B109343.D	100	104	105	101
MC42415-2	B109344.D	102	104	97	105
FA28705-1MS	B109346.D	101	103	101	99
FA28705-1MSD	B109347.D	101	103	100	100
VB4414-BS	B109323.D	102	103	96	98
VB4414-MB	B109324.D	99	101	100	105

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

New England
ACCUTEST
LABORATORIES

11/11/15

Technical Report for

H&S Environmental

Fort Devens, AOC50, Devens, MA

Accutest Job Number: MC42449

Sampling Date: 10/26/15

Report to:

H&S Environmental
160 East Main Street
Westborough, MA 01581
lekes@hsenv.com

ATTN: Laurie Ekes

Total number of pages in report: **51**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

Sections:

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Sample Summary

H&S Environmental

Fort Devens, AOC50, Devens, MA

Job No: MC42449

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC42449-1	10/26/15	11:30		10/26/15	AQ	Ground Water	G6M-04-14X_FA115
MC42449-1F	10/26/15	11:30		10/26/15	AQ	Groundwater Filtered	G6M-04-14X_FA115
MC42449-2	10/26/15	08:00		10/26/15	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: H&S Environmental **Job No** MC42449

Site: Fort Devens, AOC50, Devens, MA **Report Date** 11/10/2015 9:04:17 AM

1 Sample(s) and 1 Trip Blank(s) were collected on 10/26/2015 and were received at Accutest on 10/26/2015 properly preserved, at 1.2 Deg. C and intact. These Samples received an Accutest job number of MC42449. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** F:VB4415

- Analysis performed at Accutest Laboratories, Orlando FL.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25386

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC42505-1FMS, MC42505-1FMSD, MC42505-1FSDL were used as the QC samples for metals.
- MP25386-S1 for Manganese: Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC42449).

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Accutest Labs of New England, Inc. **Job No:** MC42449

Site: HSMAW: Fort Devens, AOC50, Devens, MA **Report Date** 11/9/2015 6:47:48 PM

1 Sample and 1 Trip Blank were collected on 10/26/2015 and were received at Accutest SE on 11/05/2015 properly preserved, at 3.4 Deg. C and intact. These Samples received an Accutest job number of MC42449. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** VB4415

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) MC42617-1MS, MC42617-1MSD were used as the QC samples indicated.

Matrix Spike Recovery(s) for 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Naphthalene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Matrix Spike Duplicate Recovery(s) for 1,2-Dibromo-3-chloropropane, 4-Methyl-2-pentanone (MIBK), Methyl Tert Butyl Ether, Naphthalene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

MC42449-1 for Carbon Disulfide: Associated ICV outside control limits.

MC42449-1 for Chloroethane: Associated CCV outside control limits.

MC42449-1 for Methyl Bromide: Associated CCV outside control limits.

MC42449-1 for Methyl Iodide: Associated ICV outside control limits.

MC42449-1 for Trichlorofluoromethane: Associated CCV outside control limits.

MC42449-2 for Carbon Disulfide: Associated ICV outside control limits.

MC42449-2 for Chloroethane: Associated CCV outside control limits.

MC42449-2 for Methyl Bromide: Associated CCV outside control limits.

MC42449-2 for Methyl Iodide: Associated ICV outside control limits.

MC42449-2 for Trichlorofluoromethane: Associated CCV outside control limits.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Date: November 9, 2015

____
Lovelie Metzgar, QA Officer (signature on file)

Summary of Hits

Job Number: MC42449
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/26/15

3

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
MC42449-1	**G6M-04-14X_FA115**					
Tetrachloroethylene [a]		1.7	1.0	0.50	ug/l	SW846 8260B
MC42449-1F	**G6M-04-14X_FA115**					
Arsenic		9.8	4.0	2.0	ug/l	SW846 6010C
Iron		71.3 J	100	50	ug/l	SW846 6010C
MC42449-2	**TRIP BLANK**					
No hits reported in this sample.						

(a) Analysis performed at Accutest Laboratories, Orlando FL.

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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	G6M-04-14X_FA115		
Lab Sample ID:	MC42449-1	**Date Sampled:**	10/26/15
Matrix:	AQ - Ground Water	**Date Received:**	10/26/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	B109373.D	1	11/06/15	AFL	n/a	n/a	F:VB4415
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide [b]	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane [c]	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected　　LOD = Limit of Detection　　J = Indicates an estimated value
LOQ = Limit of Quantitation　　B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range　　N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-14X_FA115		
Lab Sample ID:	MC42449-1	**Date Sampled:**	10/26/15
Matrix:	AQ - Ground Water	**Date Received:**	10/26/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide [c]	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide [b]	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	1.7	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane [c]	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	G6M-04-14X_FA115		
Lab Sample ID:	MC42449-1	**Date Sampled:**	10/26/15
Matrix:	AQ - Ground Water	**Date Received:**	10/26/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	102%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Associated ICV outside control limits.
(c) Associated CCV outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	G6M-04-14X_FA115		
Lab Sample ID:	MC42449-1F	**Date Sampled:**	10/26/15
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/26/15
		Percent Solids:	n/a
Project:	Fort Devens, AOC50, Devens, MA		

Dissolved Metals Analysis

Analyte	Result	LOQ	LOD	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	9.8	4.0	2.0	ug/l	1	10/29/15	11/02/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Iron	71.3 J	100	50	ug/l	1	10/29/15	11/02/15	EAL	SW846 6010C [1]	SW846 3010A [2]
Manganese	7.5 U	15	7.5	ug/l	1	10/29/15	11/02/15	EAL	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: MA18628
(2) Prep QC Batch: MP25386

LOQ = Limit of Quantitation
LOD = Limit of Detection

U = Indicates a result < LOD
J = Indicates a result > = LOD but < LOQ

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42449-2	**Date Sampled:**	10/26/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/26/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	B109374.D	1	11/06/15	AFL	n/a	n/a	F:VB4415
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	LOQ	LOD	Units	Q
67-64-1	Acetone	20 U	25	20	ug/l	
71-43-2	Benzene	0.50 U	1.0	0.50	ug/l	
108-86-1	Bromobenzene	0.50 U	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	0.50 U	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	0.50 U	1.0	0.50	ug/l	
75-25-2	Bromoform	0.50 U	1.0	0.50	ug/l	
78-93-3	2-Butanone (MEK)	3.5 U	5.0	3.5	ug/l	
104-51-8	n-Butylbenzene	0.50 U	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	0.50 U	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.50 U	1.0	0.50	ug/l	
75-15-0	Carbon Disulfide [b]	1.0 U	2.0	1.0	ug/l	
56-23-5	Carbon Tetrachloride	0.50 U	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	0.50 U	1.0	0.50	ug/l	
75-00-3	Chloroethane [c]	1.0 U	2.0	1.0	ug/l	
67-66-3	Chloroform	0.50 U	1.0	0.50	ug/l	
95-49-8	o-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	0.50 U	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	0.50 U	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	1.0 U	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	1.0 U	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	0.50 U	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	0.50 U	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50 U	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.50 U	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	0.50 U	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	0.50 U	1.0	0.50	ug/l	

U = Not detected   LOD = Limit of Detection   J = Indicates an estimated value
LOQ = Limit of Quantitation   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC42449-2	**Date Sampled:**	10/26/15
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/26/15
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA		

CAS No.	Compound	Result	LOQ	LOD	Units	Q
563-58-6	1,1-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	0.50 U	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	0.50 U	1.0	0.50	ug/l	
87-68-3	Hexachlorobutadiene	1.0 U	2.0	1.0	ug/l	
591-78-6	2-Hexanone	5.0 U	10	5.0	ug/l	
98-82-8	Isopropylbenzene	0.50 U	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	0.50 U	1.0	0.50	ug/l	
74-83-9	Methyl Bromide [c]	1.0 U	2.0	1.0	ug/l	
74-87-3	Methyl Chloride	1.0 U	2.0	1.0	ug/l	
74-88-4	Methyl Iodide [b]	0.50 U	1.0	0.50	ug/l	
74-95-3	Methylene Bromide	0.50 U	2.0	0.50	ug/l	
75-09-2	Methylene Chloride	4.0 U	5.0	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.0 U	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50 U	1.0	0.50	ug/l	
91-20-3	Naphthalene	2.0 U	5.0	2.0	ug/l	
103-65-1	n-Propylbenzene	0.50 U	1.0	0.50	ug/l	
100-42-5	Styrene	0.50 U	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	0.50 U	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.50 U	1.0	0.50	ug/l	
108-88-3	Toluene	0.50 U	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
120-82-1	1,2,4-Trichlorobenzene	0.75 U	1.0	0.75	ug/l	
71-55-6	1,1,1-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	0.50 U	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.50 U	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane [c]	1.0 U	2.0	1.0	ug/l	
96-18-4	1,2,3-Trichloropropane	1.0 U	2.0	1.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	0.50 U	2.0	0.50	ug/l	
108-05-4	Vinyl Acetate	5.0 U	10	5.0	ug/l	
75-01-4	Vinyl Chloride	0.50 U	1.0	0.50	ug/l	
	m,p-Xylene	1.0 U	2.0	1.0	ug/l	
95-47-6	o-Xylene	0.50 U	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0 U	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK			
Lab Sample ID:	MC42449-2		**Date Sampled:**	10/26/15
Matrix:	AQ - Trip Blank Water		**Date Received:**	10/26/15
Method:	SW846 8260B		**Percent Solids:**	n/a
Project:	Fort Devens, AOC50, Devens, MA			

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

(a) Analysis performed at Accutest Laboratories, Orlando FL.
(b) Associated ICV outside control limits.
(c) Associated CCV outside control limits.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West
Building One, Marlbourough, MA 01752
508-481-6200 FAX: 508-481-7753

Accutest Job #: MC42449
Accutest Control #:

Client Information	Facility Information
Name: H&S Environmental	Project Name: Devens
Address: 160 East Main Street, Suite 2F	Location: AOC50 VOC/Metals
City: Westborough	Project No.:
State: MA Zip: 01581	
Send Report to: Laurie Ekes (lekes@hsenv.com)	
Phone #: (508)367-7190	FAX #:

Analytical Information: VOCs (3/40ml VOA vials/HCl); Dissolved Metals (As, Fe, Mn) SW6010/1-250ml P-HNO3 Field Filter; Dissolved Gases (3-40ml VOA/HCl) RSK175; Alkalinity, Sulfate (1-500 ml P); Nitrate/nitrite (1-250ml P/H2SO4) E353.2; Sulfide (1-250mlP/Znacetate/NaOH); TOC (3-40ml VOA/HCl)

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	voc	NaOH	HNO3	H2So4	None	VOCs	Dissolved Metals	Dissolved Gases	Alkalinity, Sulfate	Nitrate/nitrite	Sulfide	TOC				
66M-04-14X_F115	10/26/15	1130		WG	4	3		1			X	X									-1F
Trip Blank	10/26/15	800	MA	~~WG~~ DI	3	3					X										-2
				~~WG~~ NA																	
				~~WG~~																	

Turnaround Information

- [X] 10 Day STD
- [ ] 5 Day STD (By Contract only)
- [ ] 5 Day Rush
- [ ] 3 Day Rush
- [ ] 2 Day Rush
- [ ] 1 Day Rush

Approved By:

Data Deliverable Information

- [ ] Comm A
- [ ] Comm B
- [ ] Full T1
- [ ] Other
- [ ] CT RCP
- [ ] MA MCP
- [ ] NYASP CAT A
- [ ] NYASP CATB

EDD Format:

Comments / Remarks

13E, 1H4, 6A

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	10/26/15 1630	1 [signature]	2		2
3		3	4		4
5		5	Seal #	Preserved ☐	On Ice: ☑ 1.2°-1.0° C

MC42449: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC42449 **Client:** H-S **Project:**

Date / Time Received: 10/26/2015 4:30:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #: (1/1); #1: (1.2/1.2);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	G1;	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control_Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	☐
2. Trip Blank listed on COC:	☑	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

MC42449: Chain of Custody
Page 2 of 2

QC Evaluation: DOD QSM5 Limits

Job Number: MC42449
Account: H&S Environmental
Project: Fort Devens, AOC50, Devens, MA
Collected: 10/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MP25386	SW846 6010C						
MP25386-B1	7440-38-2	Arsenic	BSP	REC	95.2	%	87-113
MP25386-B1	7439-89-6	Iron	BSP	REC	96.1	%	87-115
MP25386-B1	7439-96-5	Manganese	BSP	REC	94.4	%	90-114
MP25386-S1*	7440-38-2	Arsenic	MS	REC	94	%	87-113
MP25386-S1*	7439-89-6	Iron	MS	REC	109	%	87-115
MP25386-S1*	7439-96-5	Manganese	MS	REC	84 [a]	%	90-114
MP25386-S2*	7440-38-2	Arsenic	MSD	REC	100	%	87-113
MP25386-S2*	7440-38-2	Arsenic	MSD	RPD	1.5	%	20
MP25386-S2*	7439-89-6	Iron	MSD	REC	91	%	87-115
MP25386-S2*	7439-89-6	Iron	MSD	RPD	3.3	%	20
MP25386-S2*	7439-96-5	Manganese	MSD	REC	92	%	90-114
MP25386-S2*	7439-96-5	Manganese	MSD	RPD	2.2	%	20

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

* Sample used for QC is not from job MC42449

New England
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LABORATORIES

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Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42449
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25386
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/15

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	8.3	28		
Antimony	6.0	1.2	2		
Arsenic	4.0	1.3	1.7	0.40	<4.0
Barium	50	.21	1		
Beryllium	4.0	.1	.25		
Bismuth	50	.89	2.1		
Boron	100	1	1.1		
Cadmium	4.0	.26	.43		
Calcium	5000	4.9	15		
Chromium	10	.29	.48		
Cobalt	50	.24	.28		
Copper	25	.58	2.4		
Gold	50	.91	1.5		
Iron	100	13	17	8.2	<100
Lead	5.0	1	1.7		
Lithium	500	.8	2.5		
Magnesium	5000	23	54		
Manganese	15	.11	1.4	0.60	<15
Molybdenum	100	.21	3.6		
Nickel	40	.24	.5		
Palladium	50	1.2	2.6		
Platinum	50	5.3	5.4		
Potassium	5000	30	49		
Selenium	10	2.3	2		
Silicon	100	1.1	30		
Silver	5.0	.43	1		
Sodium	5000	8	77		
Sulfur	50	1.7	4.6		
Strontium	10	.15	.22		
Thallium	5.0	1.2	1.7		
Tin	100	.69	.81		
Titanium	50	.46	.51		
Tungsten	100	2.8	22		

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: MC42449
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25386
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/15

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.29	.51		
Zinc	20	.3	1		
Zirconium	50	.19	1.2		

Associated samples MP25386: MC42449-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42449
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25386
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/15

Metal	MC42505-1F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	1520	1990	500	94.0	75-125
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Gold					
Iron	44600	55500	10000	109.0	75-125
Lead					
Lithium					
Magnesium					
Manganese	1410	1830	500	84.0 (a)	75-125
Molybdenum					
Nickel					
Palladium					
Platinum					
Potassium					
Selenium					
Silicon					
Silver					
Sodium					
Sulfur					
Strontium					
Thallium					
Tin					
Titanium					
Tungsten					

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42449
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25386
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/15

Metal	MC42505-1F Original	MS	Spikelot MPICP7	% Rec	QC Limits
Vanadium					
Zinc					
Zirconium					

Associated samples MP25386: MC42449-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42449
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25386
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/15

Metal	MC42505-1F Original	MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	1520	2020	500	100.0	1.5	20
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Gold						
Iron	44600	53700	10000	91.0	3.3	20
Lead						
Lithium						
Magnesium						
Manganese	1410	1870	500	92.0	2.2	20
Molybdenum						
Nickel						
Palladium						
Platinum						
Potassium						
Selenium						
Silicon						
Silver						
Sodium						
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: MC42449
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25386
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/15

Metal	MC42505-1F Original MSD	Spikelot MPICP7	% Rec	MSD RPD	QC Limit
Vanadium					
Zinc					
Zirconium					

Associated samples MP25386: MC42449-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

6.1.2

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SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42449
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25386
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	476	500	95.2	80-120
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	9610	10000	96.1	80-120
Lead				
Lithium				
Magnesium				
Manganese	472	500	94.4	80-120
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC42449
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25386
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/15

Metal	BSP Result	Spikelot MPICP7	% Rec	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25386: MC42449-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42449
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25386
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/15

Metal	MC42505-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	1520	1550	1.8	0-10
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Gold				
Iron	44600	44800	0.4	0-10
Lead				
Lithium				
Magnesium				
Manganese	1410	1460	3.6	0-10
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium				
Silicon				
Silver				
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

SERIAL DILUTION RESULTS SUMMARY

Login Number: MC42449
Account: HSMAW - H&S Environmental
Project: Fort Devens, AOC50, Devens, MA

QC Batch ID: MP25386
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/29/15

Metal	MC42505-1F Original	SDL 1:5	%DIF	QC Limits
Vanadium				
Zinc				
Zirconium				

Associated samples MP25386: MC42449-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

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Misc. Forms

Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

495 Technology Center West, Building One, Marlborough, MA 01752
TEL. 508-481-6200
www.accutest.com

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # MC42449

Client / Reporting Information

Company Name:	Accutest Laboratories
Street Address	495 Technology Center West, Bldg One
City / State / Zip	Marlborough, MA (
Project Contact	frankd
E-mail	frankd@accutest.com
Phone #	508-481-6200
Fax #	
Sampler(s) Name(s)	
Phone	

Project Information

Project Name:	Fort Devens, AOC50, Devens, MA
Street	
City / State	
Project #	
Client Purchase Order #	
Project Manager	

Billing Information (if different from Report to)

Company Name	
Street Address	
City / State / Zip	
Attention:	

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V8260STD_VMS+MTBE	LAB USE ONLY
1	G6M-04-14X_FA115		10/26/15	11:30:00 AM		AQ	2	x								X	
2	TRIP BLANK		10/26/15	8:00:00 AM		AQ	2	x								X	

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 11/9/2015

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other COMMBN

Commercial "A" = Results Only

Comments / Special Instructions

Ship to ALSE

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1	Date Time: 11/4/15	Received By: 1 Fed Ex	Relinquished By: 2 FED Ex	Date Time: 11-05-15 10:00	Received By: 2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ On Ice ☐ Cooler Temp. 3.4

7.1

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MC42449: Chain of Custody
Page 1 of 3
Accutest Laboratories Southeast, Inc.

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: MC42449 CLIENT: ALNE PROJECT: FORT DEVENS, AOC 50

DATE/TIME RECEIVED: 11-05-15 10:00 {MM/DD/YY 24:00} NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 6484 9125 4605

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [x] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [x] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM___ 5-GRAM___

NUMBER OF 5035 FIELD KITS ?

NUMBER OF LAB FILTERED METALS ?

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR -0.4
- [ ] OBSERVED TEMPS: 3.8
- [ ] CORRECTED TEMPS: 3.4

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#

{APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

pH PAPER LOT#s WIDIHC131225 NARROW RANGE AO36133 OTHER (specify) 405-230010

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE [signature] 11-05-15 REVIEWER SIGNATURE/DATE [signature] 11/5/15

NF 10/14 YELLOWSHEET110514.xls

7.1

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MC42449: Chain of Custody

Page 2 of 3

ORIGIN ID:BBFA (508) 481-6200
SAMPLE MANAGEMENT
ACCUTEST LABORATORIES
50 D'ANGELO DR.
495 TECH CENTER W., BUILDING 1
MARLBOROUGH, MA 01752
UNITED STATES US

SHIP DATE: 04NOV15
ACTWGT: 7.0 LB MAN
CAD: 0990801/CAFE2807

BILL SENDER

TO RICK WATKINS
ACCUTEST SOUTHEAST
4405 VINELAND RD
SUITE C-15
ORLANDO FL 328115803
(407) 425-6700 REF:
INV:
PO: DEPT:

FedEx Express

E

THU - 05 NOV AA
STANDARD OVERNIGHT

TRK# 0201 6484 9125 4105

32811
FL-US MCO

EA TIXA

MC42449: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: MC42449
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VB4415	SW846 8260B						
VB4415-BS	67-64-1	Acetone	BSP	REC	107	%	39-160
VB4415-BS	71-43-2	Benzene	BSP	REC	104	%	79-120
VB4415-BS	108-86-1	Bromobenzene	BSP	REC	93	%	80-120
VB4415-BS	74-97-5	Bromochloromethane	BSP	REC	93	%	78-123
VB4415-BS	75-27-4	Bromodichloromethane	BSP	REC	102	%	79-125
VB4415-BS	75-25-2	Bromoform	BSP	REC	97	%	66-130
VB4415-BS	78-93-3	2-Butanone (MEK)	BSP	REC	94	%	56-143
VB4415-BS	104-51-8	n-Butylbenzene	BSP	REC	105	%	75-128
VB4415-BS	135-98-8	sec-Butylbenzene	BSP	REC	105	%	77-126
VB4415-BS	98-06-6	tert-Butylbenzene	BSP	REC	102	%	78-124
VB4415-BS	75-15-0	Carbon Disulfide	BSP	REC	100	%	64-133
VB4415-BS	56-23-5	Carbon Tetrachloride	BSP	REC	109	%	72-136
VB4415-BS	108-90-7	Chlorobenzene	BSP	REC	96	%	82-118
VB4415-BS	75-00-3	Chloroethane	BSP	REC	138	%	60-138
VB4415-BS	67-66-3	Chloroform	BSP	REC	104	%	79-124
VB4415-BS	95-49-8	o-Chlorotoluene	BSP	REC	103	%	79-122
VB4415-BS	106-43-4	p-Chlorotoluene	BSP	REC	100	%	78-122
VB4415-BS	124-48-1	Dibromochloromethane	BSP	REC	101	%	74-126
VB4415-BS	96-12-8	1,2-Dibromo-3-chloropropane	BSP	REC	88	%	62-128
VB4415-BS	106-93-4	1,2-Dibromoethane	BSP	REC	92	%	77-121
VB4415-BS	75-71-8	Dichlorodifluoromethane	BSP	REC	120	%	32-152
VB4415-BS	95-50-1	1,2-Dichlorobenzene	BSP	REC	95	%	80-119
VB4415-BS	541-73-1	1,3-Dichlorobenzene	BSP	REC	97	%	80-119
VB4415-BS	106-46-7	1,4-Dichlorobenzene	BSP	REC	98	%	79-118
VB4415-BS	75-34-3	1,1-Dichloroethane	BSP	REC	109	%	77-125
VB4415-BS	107-06-2	1,2-Dichloroethane	BSP	REC	107	%	73-128
VB4415-BS	75-35-4	1,1-Dichloroethylene	BSP	REC	110	%	71-131
VB4415-BS	156-59-2	cis-1,2-Dichloroethylene	BSP	REC	96	%	78-123
VB4415-BS	156-60-5	trans-1,2-Dichloroethylene	BSP	REC	114	%	75-124
VB4415-BS	78-87-5	1,2-Dichloropropane	BSP	REC	98	%	78-122
VB4415-BS	142-28-9	1,3-Dichloropropane	BSP	REC	103	%	80-119
VB4415-BS	594-20-7	2,2-Dichloropropane	BSP	REC	116	%	60-139
VB4415-BS	563-58-6	1,1-Dichloropropene	BSP	REC	108	%	79-125
VB4415-BS	10061-01-5	cis-1,3-Dichloropropene	BSP	REC	101	%	75-124
VB4415-BS	10061-02-6	trans-1,3-Dichloropropene	BSP	REC	109	%	73-127
VB4415-BS	100-41-4	Ethylbenzene	BSP	REC	104	%	79-121
VB4415-BS	87-68-3	Hexachlorobutadiene	BSP	REC	100	%	66-134
VB4415-BS	591-78-6	2-Hexanone	BSP	REC	88	%	57-139
VB4415-BS	98-82-8	Isopropylbenzene	BSP	REC	104	%	72-131
VB4415-BS	99-87-6	p-Isopropyltoluene	BSP	REC	103	%	77-127
VB4415-BS	74-83-9	Methyl Bromide	BSP	REC	113	%	53-141
VB4415-BS	74-87-3	Methyl Chloride	BSP	REC	123	%	50-139

* Sample used for QC is not from job MC42449

QC Evaluation: DOD QSM5 Limits

Job Number: MC42449
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
VB4415-BS	74-88-4	Methyl Iodide	BSP	REC	94	%	69-131
VB4415-BS	74-95-3	Methylene Bromide	BSP	REC	100	%	79-123
VB4415-BS	75-09-2	Methylene Chloride	BSP	REC	112	%	74-124
VB4415-BS	108-10-1	4-Methyl-2-pentanone (MIBK)	BSP	REC	91	%	67-130
VB4415-BS	1634-04-4	Methyl Tert Butyl Ether	BSP	REC	101	%	71-124
VB4415-BS	91-20-3	Naphthalene	BSP	REC	100	%	61-128
VB4415-BS	103-65-1	n-Propylbenzene	BSP	REC	109	%	76-126
VB4415-BS	100-42-5	Styrene	BSP	REC	101	%	78-123
VB4415-BS	630-20-6	1,1,1,2-Tetrachloroethane	BSP	REC	100	%	78-124
VB4415-BS	79-34-5	1,1,2,2-Tetrachloroethane	BSP	REC	90	%	71-121
VB4415-BS	127-18-4	Tetrachloroethylene	BSP	REC	100	%	74-129
VB4415-BS	108-88-3	Toluene	BSP	REC	100	%	80-121
VB4415-BS	87-61-6	1,2,3-Trichlorobenzene	BSP	REC	94	%	69-129
VB4415-BS	120-82-1	1,2,4-Trichlorobenzene	BSP	REC	93	%	69-130
VB4415-BS	71-55-6	1,1,1-Trichloroethane	BSP	REC	103	%	74-131
VB4415-BS	79-00-5	1,1,2-Trichloroethane	BSP	REC	94	%	80-119
VB4415-BS	79-01-6	Trichloroethylene	BSP	REC	102	%	79-123
VB4415-BS	75-69-4	Trichlorofluoromethane	BSP	REC	113	%	65-141
VB4415-BS	96-18-4	1,2,3-Trichloropropane	BSP	REC	89	%	73-122
VB4415-BS	95-63-6	1,2,4-Trimethylbenzene	BSP	REC	101	%	76-124
VB4415-BS	108-67-8	1,3,5-Trimethylbenzene	BSP	REC	102	%	75-124
VB4415-BS	108-05-4	Vinyl Acetate	BSP	REC	100	%	54-146
VB4415-BS	75-01-4	Vinyl Chloride	BSP	REC	114	%	58-137
VB4415-BS		m,p-Xylene	BSP	REC	105	%	80-121
VB4415-BS	95-47-6	o-Xylene	BSP	REC	105	%	78-122
VB4415-BS	1330-20-7	Xylene (total)	BSP	REC	105	%	79-121
VB4415-BS	1868-53-7	Dibromofluoromethane	BSP	SURR	101	%	80-119
VB4415-BS	17060-07-0	1,2-Dichloroethane-D4	BSP	SURR	103	%	81-118
VB4415-BS	2037-26-5	Toluene-D8	BSP	SURR	101	%	89-112
VB4415-BS	460-00-4	4-Bromofluorobenzene	BSP	SURR	98	%	85-114
MC42617-1MS*	67-64-1	Acetone	MS	REC	145	%	39-160
MC42617-1MS*	71-43-2	Benzene	MS	REC	107	%	79-120
MC42617-1MS*	108-86-1	Bromobenzene	MS	REC	92	%	80-120
MC42617-1MS*	74-97-5	Bromochloromethane	MS	REC	98	%	78-123
MC42617-1MS*	75-27-4	Bromodichloromethane	MS	REC	108	%	79-125
MC42617-1MS*	75-25-2	Bromoform	MS	REC	104	%	66-130
MC42617-1MS*	78-93-3	2-Butanone (MEK)	MS	REC	116	%	56-143
MC42617-1MS*	104-51-8	n-Butylbenzene	MS	REC	109	%	75-128
MC42617-1MS*	135-98-8	sec-Butylbenzene	MS	REC	109	%	77-126
MC42617-1MS*	98-06-6	tert-Butylbenzene	MS	REC	101	%	78-124
MC42617-1MS*	75-15-0	Carbon Disulfide	MS	REC	90	%	64-133
MC42617-1MS*	56-23-5	Carbon Tetrachloride	MS	REC	112	%	72-136
MC42617-1MS*	108-90-7	Chlorobenzene	MS	REC	96	%	82-118
MC42617-1MS*	75-00-3	Chloroethane	MS	REC	127	%	60-138
MC42617-1MS*	67-66-3	Chloroform	MS	REC	107	%	79-124

* Sample used for QC is not from job MC42449

QC Evaluation: DOD QSM5 Limits

Job Number: MC42449
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42617-1MS*	95-49-8	o-Chlorotoluene	MS	REC	104	%	79-122
MC42617-1MS*	106-43-4	p-Chlorotoluene	MS	REC	97	%	78-122
MC42617-1MS*	124-48-1	Dibromochloromethane	MS	REC	102	%	74-126
MC42617-1MS*	96-12-8	1,2-Dibromo-3-chloropropane	MS	REC	116	%	62-128
MC42617-1MS*	106-93-4	1,2-Dibromoethane	MS	REC	98	%	77-121
MC42617-1MS*	75-71-8	Dichlorodifluoromethane	MS	REC	102	%	32-152
MC42617-1MS*	95-50-1	1,2-Dichlorobenzene	MS	REC	98	%	80-119
MC42617-1MS*	541-73-1	1,3-Dichlorobenzene	MS	REC	97	%	80-119
MC42617-1MS*	106-46-7	1,4-Dichlorobenzene	MS	REC	98	%	79-118
MC42617-1MS*	75-34-3	1,1-Dichloroethane	MS	REC	110	%	77-125
MC42617-1MS*	107-06-2	1,2-Dichloroethane	MS	REC	112	%	73-128
MC42617-1MS*	75-35-4	1,1-Dichloroethylene	MS	REC	109	%	71-131
MC42617-1MS*	156-59-2	cis-1,2-Dichloroethylene	MS	REC	99	%	78-123
MC42617-1MS*	156-60-5	trans-1,2-Dichloroethylene	MS	REC	116	%	75-124
MC42617-1MS*	78-87-5	1,2-Dichloropropane	MS	REC	106	%	78-122
MC42617-1MS*	142-28-9	1,3-Dichloropropane	MS	REC	104	%	80-119
MC42617-1MS*	594-20-7	2,2-Dichloropropane	MS	REC	115	%	60-139
MC42617-1MS*	563-58-6	1,1-Dichloropropene	MS	REC	112	%	79-125
MC42617-1MS*	10061-01-5	cis-1,3-Dichloropropene	MS	REC	100	%	75-124
MC42617-1MS*	10061-02-6	trans-1,3-Dichloropropene	MS	REC	101	%	73-127
MC42617-1MS*	100-41-4	Ethylbenzene	MS	REC	104	%	79-121
MC42617-1MS*	87-68-3	Hexachlorobutadiene	MS	REC	107	%	66-134
MC42617-1MS*	591-78-6	2-Hexanone	MS	REC	132 [a]	%	57-139
MC42617-1MS*	98-82-8	Isopropylbenzene	MS	REC	104	%	72-131
MC42617-1MS*	99-87-6	p-Isopropyltoluene	MS	REC	104	%	77-127
MC42617-1MS*	74-83-9	Methyl Bromide	MS	REC	102	%	53-141
MC42617-1MS*	74-87-3	Methyl Chloride	MS	REC	115	%	50-139
MC42617-1MS*	74-88-4	Methyl Iodide	MS	REC	94	%	69-131
MC42617-1MS*	74-95-3	Methylene Bromide	MS	REC	106	%	79-123
MC42617-1MS*	75-09-2	Methylene Chloride	MS	REC	114	%	74-124
MC42617-1MS*	108-10-1	4-Methyl-2-pentanone (MIBK)	MS	REC	133 [a]	%	67-130
MC42617-1MS*	1634-04-4	Methyl Tert Butyl Ether	MS	REC	111	%	71-124
MC42617-1MS*	91-20-3	Naphthalene	MS	REC	135 [a]	%	61-128
MC42617-1MS*	103-65-1	n-Propylbenzene	MS	REC	108	%	76-126
MC42617-1MS*	100-42-5	Styrene	MS	REC	95	%	78-123
MC42617-1MS*	630-20-6	1,1,1,2-Tetrachloroethane	MS	REC	104	%	78-124
MC42617-1MS*	79-34-5	1,1,2,2-Tetrachloroethane	MS	REC	102	%	71-121
MC42617-1MS*	127-18-4	Tetrachloroethylene	MS	REC	97	%	74-129
MC42617-1MS*	108-88-3	Toluene	MS	REC	97	%	80-121
MC42617-1MS*	87-61-6	1,2,3-Trichlorobenzene	MS	REC	109	%	69-129
MC42617-1MS*	120-82-1	1,2,4-Trichlorobenzene	MS	REC	104	%	69-130
MC42617-1MS*	71-55-6	1,1,1-Trichloroethane	MS	REC	108	%	74-131
MC42617-1MS*	79-00-5	1,1,2-Trichloroethane	MS	REC	98	%	80-119
MC42617-1MS*	79-01-6	Trichloroethylene	MS	REC	106	%	79-123
MC42617-1MS*	75-69-4	Trichlorofluoromethane	MS	REC	110	%	65-141

* Sample used for QC is not from job MC42449

QC Evaluation: DOD QSM5 Limits

Job Number: MC42449
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42617-1MS*	96-18-4	1,2,3-Trichloropropane	MS	REC	106	%	73-122
MC42617-1MS*	95-63-6	1,2,4-Trimethylbenzene	MS	REC	106	%	76-124
MC42617-1MS*	108-67-8	1,3,5-Trimethylbenzene	MS	REC	102	%	75-124
MC42617-1MS*	108-05-4	Vinyl Acetate	MS	REC	104	%	54-146
MC42617-1MS*	75-01-4	Vinyl Chloride	MS	REC	103	%	58-137
MC42617-1MS*		m,p-Xylene	MS	REC	103	%	80-121
MC42617-1MS*	95-47-6	o-Xylene	MS	REC	104	%	78-122
MC42617-1MS*	1330-20-7	Xylene (total)	MS	REC	103	%	79-121
MC42617-1MS*	1868-53-7	Dibromofluoromethane	MS	SURR	104	%	80-119
MC42617-1MS*	17060-07-0	1,2-Dichloroethane-D4	MS	SURR	109	%	81-118
MC42617-1MS*	2037-26-5	Toluene-D8	MS	SURR	98	%	89-112
MC42617-1MS*	460-00-4	4-Bromofluorobenzene	MS	SURR	98	%	85-114
MC42617-1MSD*	67-64-1	Acetone	MSD	REC	142	%	39-160
MC42617-1MSD*	67-64-1	Acetone	MSD	RPD	2	%	20
MC42617-1MSD*	71-43-2	Benzene	MSD	REC	108	%	79-120
MC42617-1MSD*	71-43-2	Benzene	MSD	RPD	1	%	20
MC42617-1MSD*	108-86-1	Bromobenzene	MSD	REC	98	%	80-120
MC42617-1MSD*	108-86-1	Bromobenzene	MSD	RPD	6	%	20
MC42617-1MSD*	74-97-5	Bromochloromethane	MSD	REC	104	%	78-123
MC42617-1MSD*	74-97-5	Bromochloromethane	MSD	RPD	6	%	20
MC42617-1MSD*	75-27-4	Bromodichloromethane	MSD	REC	104	%	79-125
MC42617-1MSD*	75-27-4	Bromodichloromethane	MSD	RPD	3	%	20
MC42617-1MSD*	75-25-2	Bromoform	MSD	REC	104	%	66-130
MC42617-1MSD*	75-25-2	Bromoform	MSD	RPD	0	%	20
MC42617-1MSD*	78-93-3	2-Butanone (MEK)	MSD	REC	121	%	56-143
MC42617-1MSD*	78-93-3	2-Butanone (MEK)	MSD	RPD	4	%	20
MC42617-1MSD*	104-51-8	n-Butylbenzene	MSD	REC	110	%	75-128
MC42617-1MSD*	104-51-8	n-Butylbenzene	MSD	RPD	1	%	20
MC42617-1MSD*	135-98-8	sec-Butylbenzene	MSD	REC	109	%	77-126
MC42617-1MSD*	135-98-8	sec-Butylbenzene	MSD	RPD	0	%	20
MC42617-1MSD*	98-06-6	tert-Butylbenzene	MSD	REC	105	%	78-124
MC42617-1MSD*	98-06-6	tert-Butylbenzene	MSD	RPD	4	%	20
MC42617-1MSD*	75-15-0	Carbon Disulfide	MSD	REC	82	%	64-133
MC42617-1MSD*	75-15-0	Carbon Disulfide	MSD	RPD	9	%	20
MC42617-1MSD*	56-23-5	Carbon Tetrachloride	MSD	REC	105	%	72-136
MC42617-1MSD*	56-23-5	Carbon Tetrachloride	MSD	RPD	6	%	20
MC42617-1MSD*	108-90-7	Chlorobenzene	MSD	REC	103	%	82-118
MC42617-1MSD*	108-90-7	Chlorobenzene	MSD	RPD	6	%	20
MC42617-1MSD*	75-00-3	Chloroethane	MSD	REC	123	%	60-138
MC42617-1MSD*	75-00-3	Chloroethane	MSD	RPD	3	%	20
MC42617-1MSD*	67-66-3	Chloroform	MSD	REC	111	%	79-124
MC42617-1MSD*	67-66-3	Chloroform	MSD	RPD	3	%	20
MC42617-1MSD*	95-49-8	o-Chlorotoluene	MSD	REC	107	%	79-122
MC42617-1MSD*	95-49-8	o-Chlorotoluene	MSD	RPD	3	%	20
MC42617-1MSD*	106-43-4	p-Chlorotoluene	MSD	REC	101	%	78-122

* Sample used for QC is not from job MC42449

QC Evaluation: DOD QSM5 Limits

Job Number: MC42449
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42617-1MSD*	106-43-4	p-Chlorotoluene	MSD	RPD	4	%	20
MC42617-1MSD*	124-48-1	Dibromochloromethane	MSD	REC	100	%	74-126
MC42617-1MSD*	124-48-1	Dibromochloromethane	MSD	RPD	1	%	20
MC42617-1MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	REC	129 [a]	%	62-128
MC42617-1MSD*	96-12-8	1,2-Dibromo-3-chloropropane	MSD	RPD	11	%	20
MC42617-1MSD*	106-93-4	1,2-Dibromoethane	MSD	REC	108	%	77-121
MC42617-1MSD*	106-93-4	1,2-Dibromoethane	MSD	RPD	10	%	20
MC42617-1MSD*	75-71-8	Dichlorodifluoromethane	MSD	REC	101	%	32-152
MC42617-1MSD*	75-71-8	Dichlorodifluoromethane	MSD	RPD	1	%	20
MC42617-1MSD*	95-50-1	1,2-Dichlorobenzene	MSD	REC	106	%	80-119
MC42617-1MSD*	95-50-1	1,2-Dichlorobenzene	MSD	RPD	8	%	20
MC42617-1MSD*	541-73-1	1,3-Dichlorobenzene	MSD	REC	106	%	80-119
MC42617-1MSD*	541-73-1	1,3-Dichlorobenzene	MSD	RPD	9	%	20
MC42617-1MSD*	106-46-7	1,4-Dichlorobenzene	MSD	REC	105	%	79-118
MC42617-1MSD*	106-46-7	1,4-Dichlorobenzene	MSD	RPD	7	%	20
MC42617-1MSD*	75-34-3	1,1-Dichloroethane	MSD	REC	111	%	77-125
MC42617-1MSD*	75-34-3	1,1-Dichloroethane	MSD	RPD	1	%	20
MC42617-1MSD*	107-06-2	1,2-Dichloroethane	MSD	REC	117	%	73-128
MC42617-1MSD*	107-06-2	1,2-Dichloroethane	MSD	RPD	4	%	20
MC42617-1MSD*	75-35-4	1,1-Dichloroethylene	MSD	REC	113	%	71-131
MC42617-1MSD*	75-35-4	1,1-Dichloroethylene	MSD	RPD	4	%	20
MC42617-1MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	REC	103	%	78-123
MC42617-1MSD*	156-59-2	cis-1,2-Dichloroethylene	MSD	RPD	4	%	20
MC42617-1MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	REC	117	%	75-124
MC42617-1MSD*	156-60-5	trans-1,2-Dichloroethylene	MSD	RPD	1	%	20
MC42617-1MSD*	78-87-5	1,2-Dichloropropane	MSD	REC	108	%	78-122
MC42617-1MSD*	78-87-5	1,2-Dichloropropane	MSD	RPD	3	%	20
MC42617-1MSD*	142-28-9	1,3-Dichloropropane	MSD	REC	109	%	80-119
MC42617-1MSD*	142-28-9	1,3-Dichloropropane	MSD	RPD	5	%	20
MC42617-1MSD*	594-20-7	2,2-Dichloropropane	MSD	REC	120	%	60-139
MC42617-1MSD*	594-20-7	2,2-Dichloropropane	MSD	RPD	4	%	20
MC42617-1MSD*	563-58-6	1,1-Dichloropropene	MSD	REC	111	%	79-125
MC42617-1MSD*	563-58-6	1,1-Dichloropropene	MSD	RPD	0	%	20
MC42617-1MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	REC	95	%	75-124
MC42617-1MSD*	10061-01-5	cis-1,3-Dichloropropene	MSD	RPD	5	%	20
MC42617-1MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	REC	100	%	73-127
MC42617-1MSD*	10061-02-6	trans-1,3-Dichloropropene	MSD	RPD	1	%	20
MC42617-1MSD*	100-41-4	Ethylbenzene	MSD	REC	107	%	79-121
MC42617-1MSD*	100-41-4	Ethylbenzene	MSD	RPD	3	%	20
MC42617-1MSD*	87-68-3	Hexachlorobutadiene	MSD	REC	116	%	66-134
MC42617-1MSD*	87-68-3	Hexachlorobutadiene	MSD	RPD	8	%	20
MC42617-1MSD*	591-78-6	2-Hexanone	MSD	REC	129	%	57-139
MC42617-1MSD*	591-78-6	2-Hexanone	MSD	RPD	2	%	20
MC42617-1MSD*	98-82-8	Isopropylbenzene	MSD	REC	109	%	72-131
MC42617-1MSD*	98-82-8	Isopropylbenzene	MSD	RPD	3	%	20

* Sample used for QC is not from job MC42449

QC Evaluation: DOD QSM5 Limits

Job Number: MC42449
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42617-1MSD*	99-87-6	p-Isopropyltoluene	MSD	REC	108	%	77-127
MC42617-1MSD*	99-87-6	p-Isopropyltoluene	MSD	RPD	4	%	20
MC42617-1MSD*	74-83-9	Methyl Bromide	MSD	REC	95	%	53-141
MC42617-1MSD*	74-83-9	Methyl Bromide	MSD	RPD	8	%	20
MC42617-1MSD*	74-87-3	Methyl Chloride	MSD	REC	107	%	50-139
MC42617-1MSD*	74-87-3	Methyl Chloride	MSD	RPD	7	%	20
MC42617-1MSD*	74-88-4	Methyl Iodide	MSD	REC	100	%	69-131
MC42617-1MSD*	74-88-4	Methyl Iodide	MSD	RPD	6	%	20
MC42617-1MSD*	74-95-3	Methylene Bromide	MSD	REC	111	%	79-123
MC42617-1MSD*	74-95-3	Methylene Bromide	MSD	RPD	4	%	20
MC42617-1MSD*	75-09-2	Methylene Chloride	MSD	REC	117	%	74-124
MC42617-1MSD*	75-09-2	Methylene Chloride	MSD	RPD	3	%	20
MC42617-1MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	REC	130 [a]	%	67-130
MC42617-1MSD*	108-10-1	4-Methyl-2-pentanone (MIBK)	MSD	RPD	2	%	20
MC42617-1MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	REC	121 [a]	%	71-124
MC42617-1MSD*	1634-04-4	Methyl Tert Butyl Ether	MSD	RPD	9	%	20
MC42617-1MSD*	91-20-3	Naphthalene	MSD	REC	148 [a]	%	61-128
MC42617-1MSD*	91-20-3	Naphthalene	MSD	RPD	8	%	20
MC42617-1MSD*	103-65-1	n-Propylbenzene	MSD	REC	110	%	76-126
MC42617-1MSD*	103-65-1	n-Propylbenzene	MSD	RPD	2	%	20
MC42617-1MSD*	100-42-5	Styrene	MSD	REC	99	%	78-123
MC42617-1MSD*	100-42-5	Styrene	MSD	RPD	4	%	20
MC42617-1MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	REC	105	%	78-124
MC42617-1MSD*	630-20-6	1,1,1,2-Tetrachloroethane	MSD	RPD	2	%	20
MC42617-1MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	REC	110	%	71-121
MC42617-1MSD*	79-34-5	1,1,2,2-Tetrachloroethane	MSD	RPD	8	%	20
MC42617-1MSD*	127-18-4	Tetrachloroethylene	MSD	REC	105	%	74-129
MC42617-1MSD*	127-18-4	Tetrachloroethylene	MSD	RPD	8	%	20
MC42617-1MSD*	108-88-3	Toluene	MSD	REC	103	%	80-121
MC42617-1MSD*	108-88-3	Toluene	MSD	RPD	6	%	20
MC42617-1MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	REC	116	%	69-129
MC42617-1MSD*	87-61-6	1,2,3-Trichlorobenzene	MSD	RPD	6	%	20
MC42617-1MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	REC	113	%	69-130
MC42617-1MSD*	120-82-1	1,2,4-Trichlorobenzene	MSD	RPD	9	%	20
MC42617-1MSD*	71-55-6	1,1,1-Trichloroethane	MSD	REC	109	%	74-131
MC42617-1MSD*	71-55-6	1,1,1-Trichloroethane	MSD	RPD	1	%	20
MC42617-1MSD*	79-00-5	1,1,2-Trichloroethane	MSD	REC	99	%	80-119
MC42617-1MSD*	79-00-5	1,1,2-Trichloroethane	MSD	RPD	2	%	20
MC42617-1MSD*	79-01-6	Trichloroethylene	MSD	REC	109	%	79-123
MC42617-1MSD*	79-01-6	Trichloroethylene	MSD	RPD	3	%	20
MC42617-1MSD*	75-69-4	Trichlorofluoromethane	MSD	REC	102	%	65-141
MC42617-1MSD*	75-69-4	Trichlorofluoromethane	MSD	RPD	7	%	20
MC42617-1MSD*	96-18-4	1,2,3-Trichloropropane	MSD	REC	115	%	73-122
MC42617-1MSD*	96-18-4	1,2,3-Trichloropropane	MSD	RPD	8	%	20
MC42617-1MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	REC	102	%	76-124

* Sample used for QC is not from job MC42449

QC Evaluation: DOD QSM5 Limits

Job Number: MC42449
Account: Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA
Collected: 10/26/15

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
MC42617-1MSD*	95-63-6	1,2,4-Trimethylbenzene	MSD	RPD	2	%	20
MC42617-1MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	REC	103	%	75-124
MC42617-1MSD*	108-67-8	1,3,5-Trimethylbenzene	MSD	RPD	1	%	20
MC42617-1MSD*	108-05-4	Vinyl Acetate	MSD	REC	110	%	54-146
MC42617-1MSD*	108-05-4	Vinyl Acetate	MSD	RPD	6	%	20
MC42617-1MSD*	75-01-4	Vinyl Chloride	MSD	REC	100	%	58-137
MC42617-1MSD*	75-01-4	Vinyl Chloride	MSD	RPD	4	%	20
MC42617-1MSD*		m,p-Xylene	MSD	REC	107	%	80-121
MC42617-1MSD*		m,p-Xylene	MSD	RPD	3	%	20
MC42617-1MSD*	95-47-6	o-Xylene	MSD	REC	108	%	78-122
MC42617-1MSD*	95-47-6	o-Xylene	MSD	RPD	4	%	20
MC42617-1MSD*	1330-20-7	Xylene (total)	MSD	REC	107	%	79-121
MC42617-1MSD*	1330-20-7	Xylene (total)	MSD	RPD	3	%	20
MC42617-1MSD*	1868-53-7	Dibromofluoromethane	MSD	SURR	101	%	80-119
MC42617-1MSD*	17060-07-0	1,2-Dichloroethane-D4	MSD	SURR	102	%	81-118
MC42617-1MSD*	2037-26-5	Toluene-D8	MSD	SURR	98	%	89-112
MC42617-1MSD*	460-00-4	4-Bromofluorobenzene	MSD	SURR	97	%	85-114
VB4415-MB	1868-53-7	Dibromofluoromethane	MB	SURR	100	%	80-119
VB4415-MB	17060-07-0	1,2-Dichloroethane-D4	MB	SURR	101	%	81-118
VB4415-MB	2037-26-5	Toluene-D8	MB	SURR	101	%	89-112
VB4415-MB	460-00-4	4-Bromofluorobenzene	MB	SURR	106	%	85-114
MC42449-1	1868-53-7	Dibromofluoromethane	SAMP	SURR	99	%	80-119
MC42449-1	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	100	%	81-118
MC42449-1	2037-26-5	Toluene-D8	SAMP	SURR	97	%	89-112
MC42449-1	460-00-4	4-Bromofluorobenzene	SAMP	SURR	102	%	85-114
MC42449-2	1868-53-7	Dibromofluoromethane	SAMP	SURR	102	%	80-119
MC42449-2	17060-07-0	1,2-Dichloroethane-D4	SAMP	SURR	102	%	81-118
MC42449-2	2037-26-5	Toluene-D8	SAMP	SURR	97	%	89-112
MC42449-2	460-00-4	4-Bromofluorobenzene	SAMP	SURR	101	%	85-114

(a) Outside control limits.

7.2

7

* Sample used for QC is not from job MC42449

New England
ACCUTEST
LABORATORIES

GC/MS Volatiles

QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: MC42449
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4415-MB	B109353.D	1	11/06/15	WV	n/a	n/a	VB4415

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42449-1, MC42449-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.27	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.34	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.22	ug/l	
75-25-2	Bromoform	ND	1.0	0.32	ug/l	
78-93-3	2-Butanone (MEK)	ND	5.0	1.2	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.22	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.20	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.20	ug/l	
75-15-0	Carbon Disulfide	ND	2.0	0.29	ug/l	
56-23-5	Carbon Tetrachloride	ND	1.0	0.28	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.20	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.20	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.61	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.0	0.42	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.22	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.22	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.27	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.21	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.27	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.21	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.26	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: MC42449
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4415-MB	B109353.D	1	11/06/15	WV	n/a	n/a	VB4415

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42449-1, MC42449-2

CAS No.	Compound	Result	RL	MDL	Units	Q
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	10	2.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.20	ug/l	
74-83-9	Methyl Bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl Chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl Iodide	ND	1.0	0.24	ug/l	
74-95-3	Methylene Bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene Chloride	ND	5.0	2.0	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.30	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.20	ug/l	
100-42-5	Styrene	ND	1.0	0.28	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.22	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.33	ug/l	
108-88-3	Toluene	ND	1.0	0.40	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.26	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.31	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.22	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.66	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.20	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.25	ug/l	
	m,p-Xylene	ND	2.0	0.31	ug/l	
95-47-6	o-Xylene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.51	ug/l	

Method Blank Summary

Job Number: MC42449
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4415-MB	B109353.D	1	11/06/15	WV	n/a	n/a	VB4415

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42449-1, MC42449-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	101%	85-112%
460-00-4	4-Bromofluorobenzene	106%	83-118%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile [a]		0	ug/l	

(a) No TICs detected.

Blank Spike Summary

Job Number: MC42449
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4415-BS	B109352.D	1	11/06/15	WV	n/a	n/a	VB4415

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42449-1, MC42449-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	134	107	50-147
71-43-2	Benzene	25	26.1	104	81-122
108-86-1	Bromobenzene	25	23.3	93	80-121
74-97-5	Bromochloromethane	25	23.3	93	76-123
75-27-4	Bromodichloromethane	25	25.6	102	79-123
75-25-2	Bromoform	25	24.2	97	66-123
78-93-3	2-Butanone (MEK)	125	117	94	56-143
104-51-8	n-Butylbenzene	25	26.3	105	79-126
135-98-8	sec-Butylbenzene	25	26.2	105	83-133
98-06-6	tert-Butylbenzene	25	25.4	102	80-133
75-15-0	Carbon Disulfide	25	24.9	100	66-148
56-23-5	Carbon Tetrachloride	25	27.3	109	76-136
108-90-7	Chlorobenzene	25	24.1	96	82-124
75-00-3	Chloroethane	25	34.6	138	62-144
67-66-3	Chloroform	25	26.1	104	80-124
95-49-8	o-Chlorotoluene	25	25.7	103	81-127
106-43-4	p-Chlorotoluene	25	24.9	100	83-130
124-48-1	Dibromochloromethane	25	25.2	101	78-122
96-12-8	1,2-Dibromo-3-chloropropane	25	22.0	88	64-123
106-93-4	1,2-Dibromoethane	25	23.1	92	75-120
75-71-8	Dichlorodifluoromethane	25	30.0	120	42-167
95-50-1	1,2-Dichlorobenzene	25	23.7	95	82-124
541-73-1	1,3-Dichlorobenzene	25	24.2	97	84-125
106-46-7	1,4-Dichlorobenzene	25	24.6	98	78-120
75-34-3	1,1-Dichloroethane	25	27.2	109	81-122
107-06-2	1,2-Dichloroethane	25	26.7	107	75-125
75-35-4	1,1-Dichloroethylene	25	27.4	110	78-137
156-59-2	cis-1,2-Dichloroethylene	25	24.0	96	78-120
156-60-5	trans-1,2-Dichloroethylene	25	28.5	114	76-127
78-87-5	1,2-Dichloropropane	25	24.4	98	76-124
142-28-9	1,3-Dichloropropane	25	25.8	103	80-118
594-20-7	2,2-Dichloropropane	25	29.1	116	74-139
563-58-6	1,1-Dichloropropene	25	27.1	108	79-131
10061-01-5	cis-1,3-Dichloropropene	25	25.2	101	75-118
10061-02-6	trans-1,3-Dichloropropene	25	27.2	109	80-120
100-41-4	Ethylbenzene	25	25.9	104	81-121

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42449
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4415-BS	B109352.D	1	11/06/15	WV	n/a	n/a	VB4415

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42449-1, MC42449-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
87-68-3	Hexachlorobutadiene	25	25.0	100	75-142
591-78-6	2-Hexanone	125	110	88	61-129
98-82-8	Isopropylbenzene	25	26.1	104	83-132
99-87-6	p-Isopropyltoluene	25	25.8	103	79-130
74-83-9	Methyl Bromide	25	28.2	113	59-143
74-87-3	Methyl Chloride	25	30.8	123	50-159
74-88-4	Methyl Iodide	25	23.5	94	73-123
74-95-3	Methylene Bromide	25	25.0	100	78-119
75-09-2	Methylene Chloride	25	28.0	112	69-135
108-10-1	4-Methyl-2-pentanone (MIBK)	125	114	91	66-122
1634-04-4	Methyl Tert Butyl Ether	25	25.3	101	72-117
91-20-3	Naphthalene	25	25.0	100	63-132
103-65-1	n-Propylbenzene	25	27.3	109	82-133
100-42-5	Styrene	25	25.3	101	78-119
630-20-6	1,1,1,2-Tetrachloroethane	25	24.9	100	77-122
79-34-5	1,1,2,2-Tetrachloroethane	25	22.5	90	72-120
127-18-4	Tetrachloroethylene	25	24.9	100	76-135
108-88-3	Toluene	25	25.0	100	80-120
87-61-6	1,2,3-Trichlorobenzene	25	23.4	94	68-131
120-82-1	1,2,4-Trichlorobenzene	25	23.2	93	73-129
71-55-6	1,1,1-Trichloroethane	25	25.8	103	75-130
79-00-5	1,1,2-Trichloroethane	25	23.4	94	76-119
79-01-6	Trichloroethylene	25	25.6	102	81-126
75-69-4	Trichlorofluoromethane	25	28.3	113	71-156
96-18-4	1,2,3-Trichloropropane	25	22.2	89	77-120
95-63-6	1,2,4-Trimethylbenzene	25	25.3	101	79-120
108-67-8	1,3,5-Trimethylbenzene	25	25.5	102	79-120
108-05-4	Vinyl Acetate	125	125	100	43-154
75-01-4	Vinyl Chloride	25	28.4	114	69-159
	m,p-Xylene	50	52.7	105	79-126
95-47-6	o-Xylene	25	26.3	105	80-127
1330-20-7	Xylene (total)	75	79.0	105	80-126

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC42449
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB4415-BS	B109352.D	1	11/06/15	WV	n/a	n/a	VB4415

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42449-1, MC42449-2

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	79-125%
2037-26-5	Toluene-D8	101%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42449
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42617-1MS	B109361.D	1	11/06/15	WV	n/a	n/a	VB4415
MC42617-1MSD	B109362.D	1	11/06/15	WV	n/a	n/a	VB4415
MC42617-1	B109358.D	1	11/06/15	WV	n/a	n/a	VB4415

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42449-1, MC42449-2

CAS No.	Compound	MC42617-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	25 U		125	181	145	125	178	142	2	50-147/21
71-43-2	Benzene	4.5		25	31.3	107	25	31.5	108	1	81-122/14
108-86-1	Bromobenzene	1.0 U		25	23.0	92	25	24.5	98	6	80-121/14
74-97-5	Bromochloromethane	1.0 U		25	24.5	98	25	25.9	104	6	76-123/14
75-27-4	Bromodichloromethane	1.0 U		25	27.0	108	25	26.1	104	3	79-123/19
75-25-2	Bromoform	1.0 U		25	25.9	104	25	26.0	104	0	66-123/21
78-93-3	2-Butanone (MEK)	5.0 U		125	145	116	125	151	121	4	56-143/18
104-51-8	n-Butylbenzene	0.82	J	25	28.0	109	25	28.3	110	1	79-126/16
135-98-8	sec-Butylbenzene	3.4		25	30.7	109	25	30.6	109	0	83-133/16
98-06-6	tert-Butylbenzene	0.46	J	25	25.7	101	25	26.7	105	4	80-133/16
75-15-0	Carbon Disulfide	0.62	J	25	23.2	90	25	21.2	82	9	66-148/23
56-23-5	Carbon Tetrachloride	1.0 U		25	27.9	112	25	26.2	105	6	76-136/23
108-90-7	Chlorobenzene	1.0 U		25	24.1	96	25	25.7	103	6	82-124/14
75-00-3	Chloroethane	2.0 U		25	31.7	127	25	30.7	123	3	62-144/20
67-66-3	Chloroform	0.47	J	25	27.2	107	25	28.1	111	3	80-124/15
95-49-8	o-Chlorotoluene	1.0 U		25	26.0	104	25	26.8	107	3	81-127/15
106-43-4	p-Chlorotoluene	1.0 U		25	24.2	97	25	25.3	101	4	83-130/15
124-48-1	Dibromochloromethane	1.0 U		25	25.4	102	25	25.1	100	1	78-122/19
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U		25	28.9	116	25	32.2	129* [a]	11	64-123/18
106-93-4	1,2-Dibromoethane	2.0 U		25	24.5	98	25	27.0	108	10	75-120/13
75-71-8	Dichlorodifluoromethane	2.0 U		25	25.5	102	25	25.2	101	1	42-167/19
95-50-1	1,2-Dichlorobenzene	1.0 U		25	24.5	98	25	26.6	106	8	82-124/14
541-73-1	1,3-Dichlorobenzene	1.0 U		25	24.3	97	25	26.6	106	9	84-125/14
106-46-7	1,4-Dichlorobenzene	1.0 U		25	24.4	98	25	26.2	105	7	78-120/15
75-34-3	1,1-Dichloroethane	1.0 U		25	27.4	110	25	27.8	111	1	81-122/15
107-06-2	1,2-Dichloroethane	1.0 U		25	28.0	112	25	29.2	117	4	75-125/14
75-35-4	1,1-Dichloroethylene	1.0 U		25	27.2	109	25	28.3	113	4	78-137/18
156-59-2	cis-1,2-Dichloroethylene	1.0 U		25	24.7	99	25	25.8	103	4	78-120/15
156-60-5	trans-1,2-Dichloroethylene	1.0 U		25	29.0	116	25	29.2	117	1	76-127/17
78-87-5	1,2-Dichloropropane	1.0 U		25	26.4	106	25	27.1	108	3	76-124/14
142-28-9	1,3-Dichloropropane	1.0 U		25	25.9	104	25	27.3	109	5	80-118/13
594-20-7	2,2-Dichloropropane	1.0 U		25	28.8	115	25	30.1	120	4	74-139/17
563-58-6	1,1-Dichloropropene	1.0 U		25	27.9	112	25	27.8	111	0	79-131/16
10061-01-5	cis-1,3-Dichloropropene	1.0 U		25	24.9	100	25	23.7	95	5	75-118/23
10061-02-6	trans-1,3-Dichloropropene	1.0 U		25	25.2	101	25	25.0	100	1	80-120/22
100-41-4	Ethylbenzene	0.63	J	25	26.6	104	25	27.4	107	3	81-121/14

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42449
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42617-1MS	B109361.D	1	11/06/15	WV	n/a	n/a	VB4415
MC42617-1MSD	B109362.D	1	11/06/15	WV	n/a	n/a	VB4415
MC42617-1	B109358.D	1	11/06/15	WV	n/a	n/a	VB4415

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42449-1, MC42449-2

CAS No.	Compound	MC42617-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
87-68-3	Hexachlorobutadiene	2.0 U		25	26.8	107	25	28.9	116	8	75-142/19
591-78-6	2-Hexanone	10 U		125	165	132* [a]	125	161	129	2	61-129/18
98-82-8	Isopropylbenzene	6.0		25	32.1	104	25	33.2	109	3	83-132/15
99-87-6	p-Isopropyltoluene	1.9		25	27.9	104	25	28.9	108	4	79-130/16
74-83-9	Methyl Bromide	2.0 U		25	25.6	102	25	23.7	95	8	59-143/19
74-87-3	Methyl Chloride	2.0 U		25	28.7	115	25	26.8	107	7	50-159/19
74-88-4	Methyl Iodide	1.0 U		25	23.5	94	25	25.0	100	6	73-123/16
74-95-3	Methylene Bromide	2.0 U		25	26.6	106	25	27.7	111	4	78-119/14
75-09-2	Methylene Chloride	5.0 U		25	28.4	114	25	29.3	117	3	69-135/16
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0 U		125	166	133* [a]	125	163	130* [a]	2	66-122/16
1634-04-4	Methyl Tert Butyl Ether	1.0 U		25	27.8	111	25	30.3	121* [a]	9	72-117/14
91-20-3	Naphthalene	8.7		25	42.4	135* [a]	25	45.8	148* [a]	8	63-132/25
103-65-1	n-Propylbenzene	4.5		25	31.4	108	25	32.0	110	2	82-133/15
100-42-5	Styrene	1.0 U		25	23.8	95	25	24.7	99	4	78-119/23
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U		25	25.9	104	25	26.3	105	2	77-122/19
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U		25	25.6	102	25	27.6	110	8	72-120/14
127-18-4	Tetrachloroethylene	1.0 U		25	24.3	97	25	26.3	105	8	76-135/16
108-88-3	Toluene	1.0 U		25	24.3	97	25	25.7	103	6	80-120/14
87-61-6	1,2,3-Trichlorobenzene	1.0 U		25	27.2	109	25	28.9	116	6	68-131/25
120-82-1	1,2,4-Trichlorobenzene	1.0 U		25	25.9	104	25	28.3	113	9	73-129/20
71-55-6	1,1,1-Trichloroethane	1.0 U		25	26.9	108	25	27.2	109	1	75-130/16
79-00-5	1,1,2-Trichloroethane	1.0 U		25	24.4	98	25	24.8	99	2	76-119/14
79-01-6	Trichloroethylene	1.0 U		25	26.4	106	25	27.2	109	3	81-126/15
75-69-4	Trichlorofluoromethane	2.0 U		25	27.4	110	25	25.5	102	7	71-156/21
96-18-4	1,2,3-Trichloropropane	2.0 U		25	26.5	106	25	28.7	115	8	77-120/16
95-63-6	1,2,4-Trimethylbenzene	16.4		25	43.0	106	25	42.0	102	2	79-120/18
108-67-8	1,3,5-Trimethylbenzene	4.7		25	30.2	102	25	30.4	103	1	79-120/19
108-05-4	Vinyl Acetate	10 U		125	130	104	125	138	110	6	43-154/14
75-01-4	Vinyl Chloride	1.0 U		25	25.8	103	25	24.9	100	4	69-159/18
	m,p-Xylene	12.9		50	64.5	103	50	66.5	107	3	79-126/15
95-47-6	o-Xylene	1.0 U		25	25.9	104	25	27.0	108	4	80-127/14
1330-20-7	Xylene (total)	12.9		75	90.4	103	75	93.5	107	3	80-126/15

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC42449
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC42617-1MS	B109361.D	1	11/06/15	WV	n/a	n/a	VB4415
MC42617-1MSD	B109362.D	1	11/06/15	WV	n/a	n/a	VB4415
MC42617-1	B109358.D	1	11/06/15	WV	n/a	n/a	VB4415

The QC reported here applies to the following samples: **Method:** SW846 8260B

MC42449-1, MC42449-2

CAS No.	Surrogate Recoveries	MS	MSD	MC42617-1	Limits
1868-53-7	Dibromofluoromethane	104%	101%	98%	83-118%
17060-07-0	1,2-Dichloroethane-D4	109%	102%	102%	79-125%
2037-26-5	Toluene-D8	98%	98%	102%	85-112%
460-00-4	4-Bromofluorobenzene	98%	97%	105%	83-118%

(a) Outside control limits.

* = Outside of Control Limits.

Volatile Surrogate Recovery Summary

Job Number: MC42449
Account: ALNE Accutest Labs of New England, Inc.
Project: HSMAW: Fort Devens, AOC50, Devens, MA

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
MC42449-1	B109373.D	99	100	97	102
MC42449-2	B109374.D	102	102	97	101
MC42617-1MS	B109361.D	104	109	98	98
MC42617-1MSD	B109362.D	101	102	98	97
VB4415-BS	B109352.D	101	103	101	98
VB4415-MB	B109353.D	100	101	101	106

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	83-118%
S2 = 1,2-Dichloroethane-D4	79-125%
S3 = Toluene-D8	85-112%
S4 = 4-Bromofluorobenzene	83-118%

C.2

Data Quality Evaluation Report

Spring 2015 Long-Term Monitoring Event

Data Quality Evaluation
for
Former Fort Devens Area of Contamination 50
Long Term Monitoring Groundwater Samples
Collected June 2015

Introduction

The H&S Environmental team collected a total of 20 aqueous field samples from Area of Contamination (AOC)50, Devens, Massachusetts, from June 16 through 26, 2015. The samples were analyzed at Accutest – New England in Marlborough, Massachusetts for the following site-specific parameter lists:

AOC 50:

- VOCs by SW-846 Method 8260C;
- Dissolved gases (methane, ethane and ethene) by Method RSK-175;
- Dissolved metals (arsenic, iron and manganese) by SW-846 Method 6010C;
- Total alkalinity by SM 2320B;
- Sulfate by EPA Method 300.0;
- Nitrogen, Nitrite/Nitrate by EPA Method 353.2;
- Sulfide by SM4500S F; and
- Total organic carbon (TOC) by SM5310B.

A complete set of analytical results for each AOC, including final data qualifiers, are included as separate tables within this Appendix. Summary tables presenting AOC specific contaminants of concern are included and referenced within each AOC discussion section.

The results were evaluated for acceptability in accordance with the laboratory's defined acceptance limits and the criteria presented in the *Generic Quality Assurance Project Plan (QAPP), Annual Long- Term Monitoring and Maintenance Program, Former Fort Devens Army Installation, Devens, Massachusetts* (H&S, 2015) . The data qualification was performed in accordance with the QAPP requirements and the applicable protocols presented in the *Region 1, EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses* (EPA Region 1, 1996) and *EPA-New England Environmental Data Review Program Guidance* (EPA Region 1, 2013)

Sample Shipment and Receipt

All samples were delivered directly to the laboratory each day during sampling events. All samples arrived at the laboratory with temperatures at or below 6 °C, and the laboratory noted that all sample coolers were packed with sufficient quantities of ice in the field. All samples were appropriately preserved in accordance with the requirements presented in Table 1.

Holding Times

All samples were extracted and analyzed in accordance with the methods and holding time requirements presented in Table 1.

Trip Blanks

Trip blanks are provided by the laboratory to evaluate potential cross contamination during sample storage and shipment. Trip blanks were not submitted for analysis with any of these samples since samples were delivered directly to the laboratory from the field.

Equipment Blanks

Equipment blanks, also known as rinsate blanks, are samples of analyte-free water that are pumped through reusable sampling equipment to confirm decontamination efficacy. Equipment blanks were not collected during the spring sampling round.

Volatile Organic Compound Analysis

Twenty (20) groundwater samples were collected and submitted for VOC analysis by EPA SW-846 Method 8260C from AOC50. Two (2) field duplicate samples were also collected; DUP-1-061915, a duplicate of sample G6M-04-10A; and DUP-2-062115, a duplicate of sample G6M-13-04X.

Laboratory Method Blank Results: All method blanks analyzed with these samples were free of contamination.

Field Duplicate Sample Results: The FD results for FD sample pairs DUP-1-061915/G6M-04-10A and DUP-2-062115/G6M-13-04X showed acceptable precision for all calculated relative percent difference (RPD) or acceptable absolute differences for all low-level results.

Surrogate Results: All surrogate recoveries were within the project acceptance limits from all samples for target VOCs.

Matrix Spike (MS)/MS Duplicate (MSD) Results: Two sets of MS/MSD samples were analyzed for VOCs with these samples. The recovery and precision criteria were met for all MS/MSD analyses

LCS/LCSD Results: LCS/LCSD pairs analyzed with these samples met the project recovery and RPD control limits.

Summary: All VOC results reported for the AOC50 Spring 2015 sampling event were acceptable as reported and may be used for their intended purpose.

Dissolved Gases Analysis

Thirteen (13) groundwater samples were analyzed for dissolved gases (methane, ethane, and ethene) using Method RSK-175 from AOC50. Two (2) field duplicate samples were also collected; DUP-1-061915, a duplicate of sample G6M-04-10A; and DUP-2-062115, a duplicate of sample G6M-13-04X.

Laboratory Method Blank Results: The method blanks analyzed with these samples and reported for methane, ethane and ethane were free of contamination.

Field Duplicate Sample Results: The methane, ethane, and ethene results for field duplicate sample pairs DUP-1-061915/G6M-04-10A and DUP-2-062115/G6M-13-04X presented acceptable precision for all detected compounds.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results: One set of MS/MSD samples was analyzed for methane, ethane, and ethene. Since the methane concentration in sample G6M-13-04X was greater than four times that of the spike, the resulting recoveries were not applicable, and no qualification was required. The %Rs and calculated RPDs for ethane and ethane were acceptable.

Laboratory Control Sample (LCS) Results: LCSs analyzed for methane, ethane, and ethane with these samples met project recovery acceptance criteria.

Dilutions: The methane concentrations for all samples were outside the laboratory calibration range and required dilutions. The laboratory reported the diluted results for methane and the undiluted results for ethane and ethene.

Summary: The dissolved gases results reported for the AOC50 Spring 2015 sampling event were acceptable as reported and may be used for their intended purpose.

Total and Dissolved Metals Analysis

Nineteen (19) groundwater samples from AOC50 were analyzed for dissolved metals (arsenic, iron and Manganese) using EPA SW-846 Methods 6010C. Two (4) sets of field duplicate samples were also collected: DUP-1-061915, a duplicate of sample G6M-04-10A; and DUP-2-062115, a duplicate of sample G6M-13-04X.

Laboratory Method Blank Results: The method blanks analyzed with these samples for total and dissolved metals were free from contamination.

Field Duplicate Sample Results: The target metals results for FD sample pairs from AOC50, G6M-04-10A/DUP-1-061915, showed acceptable precision for all calculated RPDs or acceptable absolute differences for all low-level results.

The target metals results for FD sample pairs from AOC50, G6M-13-04X/DUP-2-062115, showed acceptable precision for all calculated RPDs or acceptable absolute differences for all low-level results with the exception of manganese. Manganese results in the parent and FD sample were qualified as estimated detections (J).

MS/MSD Results: The %Rs and RPD results for the MS/MSD samples analyzed for dissolved metals with these samples were within the project acceptance limits for target analytes that were less than four times the spike levels. The %R result for manganese from the spiked sample G6M-13-04X were above control limits; the sample result for manganese was greater than four times the spike level and could not be calculated.

Laboratory Control Sample (LCS) Results: The LCSs analyzed for target metals analytes with these samples met project recovery acceptance criteria.

Dilutions: Due to elevated concentrations of a few analytes, several samples required dilutions to accurately report metals concentrations. Only the diluted results for these analytes were reported by the laboratory.

Summary: The dissolved metals results reported for the AOC50 Spring 2015 sampling events were acceptable with the qualification for manganese in the FD samples, G6M-13-04X/DUP-2-062115. The results may be used for their intended purpose.

Wet Chemistry Analysis

Fourteen (14) groundwater samples were collected from AOC50 and submitted for total alkalinity, sulfate, nitrogen/nitrate, sulfide and TOC analyses. Two field duplicate sample pairs were also collected: DUP-1-061915, a duplicate of sample G6M-04-10A; and DUP-2-062115, a duplicate of sample G6M-13-04X.

Laboratory Method Blank Results: The method blanks analyzed for all designated wet chemistry parameters were free of contamination with the exception of nitrogen-nitrate/nitrite. Low levels of nitrate/nitrite were reported in all method blanks analyzed by method E352.2. Associated sample results less than five times respective blank levels were qualified as non-detect (ND).

Field Duplicate Sample Results: The wet chemistry parameter results for FD sample pair from AOC50, G6M-04-10A/DUP-1-061915, showed acceptable precision for all calculated RPDs or acceptable absolute differences for all low-level results.

The wet chemistry parameter results for FD sample pair from AOC50, G6M-13-04X/DUP-2-062115, showed acceptable precision for all calculated RPDs with the exception of sulfate. The calculated RPD between the FD results for sulfate was above control limits. Sulfate results in the parent and FD sample were qualified as estimated detections (J).

Laboratory Control Sample (LCS) Results: The LCSs analyzed for the wet chemistry parameters with these samples met project recovery acceptance criteria.

MS/MSD Results: The %Rs and/or RPDs for the MS/MSD samples analyzed for these wet chemistry parameters met the project acceptance criteria for all parameters.

Dilutions: Due to elevated concentrations of a few parameters, several samples required dilutions. Only the diluted results for these analytes were reported by the laboratory.

Summary: The wet chemistry parameter results reported for the AOC 50 Spring 2015 sampling events were acceptable after qualification for nitrogen/nitrate method blank contamination. Qualifications were also required for sulfate in the FD sample pair from AOC50, G6M-13-04X/DUP-2-062115. Sulfate results from these samples were qualified as estimated detections (J). The wet chemistry parameter results with the noted qualifications may be used for their intended purpose.

Conclusion

Data packages were reviewed for adherence to acceptable laboratory practices. Based on the elements evaluated (including holding times, blank sample results, surrogate recoveries, duplicate samples, MS/MSD recoveries and precision, and LCS/LCSD recoveries and precision), all data may be reported and used without qualification, except as summarized below.

VOCs Analysis

- All VOC results reported for the AOC50 Spring 2015 sampling event were acceptable as reported and may be used for their intended purpose.

Dissolved Gases Analysis

- The dissolved gases results reported for the AOC50 Spring 2015 sampling event were acceptable as reported and may be used for their intended purpose.

Dissolved Metals Analysis

- Due to unacceptable precision in FD sample pairs, the manganese results in AOC50 samples G6M-13-04X and DUP-2-062115 were qualified as estimated (J).

Wet Chemistry Analysis

- Due to unacceptable precision in FD sample pairs, the sulfate results in AOC50 samples G6M-13-04X and DUP-2-062115 were qualified as estimated (J).

TABLE 1
Sample Preparation and Analysis Methods, Containers, Holding Times, and Preservatives

Parameter	Analytical Method	Sample Container	Preservation	Holding Time
Aqueous Samples				
VOCs	SW8260C	3 x 40-mL VOA vials	4 °C, HCl to pH <2	Preserved: 14 Days
Dissolved Gases (methane, ethane , ethene)	RSK175	2 x 40-mL VOA vials	4 °C, HCl to pH <2	Preserved: 14 Days
Anions (sulfate)	E300.0/SW9056	1 x 250-mL HDPE	4°C ± 2°C	28 days for Sulfate and Chloride
Nitrate/nitrite	EPA353.2	1 x 500-mL HDPE	4°C, H_2SO_4 to pH <2	28 days
Total Alkalinity	SW2320B	1 x 250-mL HDPE	4°C ± 2°C	14 Days
Sulfide	SM4500D S	1 x 250-mL HDPE	4°C, Zinc acetate + NaOH to pH>9	7 days
TOC	SM5310B	1 x 250-mL HDPE	4°C, H_3PO_4 to pH <2	28 days

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39371
Laboratory: Accutest New England	Date: 08/31/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1054-003

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-13-06X-61615	MC39371-3	6/16/2015	RSK 175	Ground Water
G6M-02-08X-61615	MC39371-5	6/16/2015	RSK 175	Ground Water

Summary - Data validation was performed on the data for two (2) groundwater samples submitted for Methane, Ethane, Ethene analyses by Method RSK 175. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/16/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – One LCS/LCSD pair was associated with all samples in this SDG. The LCS/LCSD for met all %R and RPD control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-13-06X-61615	MC39371-3	RSK175	No qualification needed.			
G6M-02-08X-61615	MC39371-5	RSK175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39371
Laboratory: Accutest New England	Date: 08/31/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1054-003

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-13-05X-61615	MC39371-1	6/16/2015	VOCs	Ground Water
G6M-13-06X-61615	MC39371-3	6/16/2015	VOCs	Ground Water
G6M-02-08X-61615	MC39371-5	6/16/2015	VOCs	Ground Water

Summary - Data validation was performed on the data for three (3) groundwater samples submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/16/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – One LCS/LCSD pair was associated with all samples in this SDG. The LCS/LCSD for met all %R and RPD control limits established in the QAPP.

Qualification: None required.

MS/MSD – Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Blanks – A trip blank was not submitted with these samples.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-13-05X-61615	MC39371-1F	VOCs	No qualification needed.			
G6M-13-06X-61615	MC39371-3F	VOCs	No qualification needed.			
G6M-02-08X-61615	MC39371-5F	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C/6020A/7470A
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39371
Laboratory: Accutest New England	Date: 08/31/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-13-05X-61615	MC39371-1F	6/16/2015	Dissolved Metals	Groundwater Filtered
G6M-13-06X-61615	MC39371-3F	6/16/2015	Dissolved Metals	Groundwater Filtered
G6M-02-08X-61615	MC39371-5F	6/16/2015	Dissolved Metals	Groundwater Filtered

Summary - Data validation was performed on the data for three (3) groundwater samples collected and submitted for dissolved metals analyses by Methods SW846/6010C for target analyte metals, 6020A for arsenic only and 7470A for mercury. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples were reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/16/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – MS/MSD samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	**Lab Value**	Lab Qualifier	Validated Value	Validation Qualifier
G6M-13-05X-61615	MC39371-1F	Dissolved Metals	No qualification needed.			
G6M-13-06X-61615	MC39371-3F	Dissolved Metals	No qualification needed.			
G6M-02-08X-61615	MC39371-5F	Dissolved Metals	No qualification needed.			

Wet Chemistry

Alkalinity (SM2320B), Nitrate/Nitrite (E353.2), Nitrogen/Nitrite (SM4500 NO2), Sulfate (E300.0), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)

USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39371
Laboratory: Accutest New England	Date: 08/31/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-13-06X-61615	MC39371-3	6/16/2015	Miscellaneous Parameters	Ground Water
G6M-02-08X-61615	MC39371-5	6/16/2015	Miscellaneous Parameters	Ground Water

<u>Summary</u> - Data validation was performed on the data for two (2) groundwater samples submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method E300. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples have been reported in this SDG but are not included in this data review report.

<u>Narrative and Completeness Review</u> – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

<u>Sample Delivery and Condition</u> – All samples arrived intact at the laboratory on 6/16/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

<u>Holding Times</u> – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

<u>Method Blank</u> –The method blanks for the following alkalinity, nitrogen/nitrite, sulfate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for nitrate/nitrite by method E352.2 at 0.029 mg/L. Sample results were greater than five time this level; no qualifications are required.

Qualification: None required.

<u>Laboratory Control Sample</u> – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this samples set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table:

Client Sample ID:	**Lab Sample ID:**	**Analysis**	**Lab Value**	**Lab Qualifier**	**Validated Value**	Validation Qualifier
G6M-13-06X-61615	MC39371-3	Miscellaneous Parameters	No qualification needed.			
G6M-02-08X-61615	MC39371-5	Miscellaneous Parameters	No qualification needed.			

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39401
Laboratory: Accutest New England	Date: 08/31/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-02-01X-61715	MC39401-4	6/17/2015	RSK175	Ground Water
G6M-04-05X-61715	MC39401-6	6/17/2015	RSK175	Ground Water

Summary - Data validation was performed on the data for two (2) groundwater samples submitted for Methane, Ethane, Ethene analyses by Method RSK 175. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/17/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – The LCS samples reported in this SDG were within the %R control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Laboratory Duplicate – Sample G6M-04-05X-61715 (Lab Sample ID: MC39401-6) was analyzed as a laboratory duplicate sample. The RPD for methane was 40%. This high RPD is likely due to sample matrix effects or non-homogeneity.

Qualification: The result for methane in sample G6M-04-05X-61715 has been qualified as estimated (J).

Compound Quantitation – The results for methane in sample G6M-02-01X-61715 (Lab Sample ID: MC39401-4) were reported from a re-analysis at a 20X dilution. The ethane and ethane results were reported from the undiluted analysis. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-01X-61715	MC39401-4	RSK175	No qualifications needed.			
G6M-04-05X-61715	MC39401-6	Methane	22.4		22.4	J
G6M-04-05X-61715	MC39401-6	Ethane/ethene	No qualifications needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39401
Laboratory: Accutest New England	Date: 08/31/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-04-09X-61715	MC39401-2	6/17/2015	VOCs	Ground Water
G6M-02-01X-61715	MC39401-4	6/17/2015	VOCs	Ground Water
G6M-04-05X-61715	MC39401-6	6/17/2015	VOCs	Ground Water

Summary - Data validation was performed on the data for three (3) groundwater samples submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/17/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – The %R for acetone in an LCS (MSV1461-BS) analyzed 6/29/15 with analytical batch MSV1461 was above control limits at 173%. The %Rs for acetone in LCS/LCSDs analyzed with analytical batch MSV1463 were acceptable. The results for acetone in all samples were non-detect; qualification was not necessary.

Qualification: None required.

MS/MSD – Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Blanks – A trip blank was not submitted with these samples.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-09X-61715	MC39401-2	VOCs	No qualification needed.			
G6M-02-01X-61715	MC39401-4	VOCs	No qualification needed.			
G6M-04-05X-61715	MC39401-6	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C/6020A/7470A
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39401
Laboratory: Accutest New England	Date: 08/31/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-04-09X-61715	MC39401-2F	6/17/2015	Dissolved Metals	Groundwater Filtered
G6M-02-01X-61715	MC39401-4F	6/17/2015	Dissolved Metals	Groundwater Filtered
G6M-04-05X-61715	MC39401-6F	6/17/2015	Dissolved Metals	Groundwater Filtered

Summary - Data validation was performed on the data for three (3) groundwater samples collected and submitted for dissolved metals analyses by Methods SW846/6010C for target analyte metals, 6020A for arsenic only and 7470A for mercury. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an “H” suffix appended to the field sample ID. The “H” samples were reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/17/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – MS/MSD samples were not submitted with this sample set. The %Rs and RPD for batch MS/MSD samples reported with thie SDG were acceptable.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-09X-61715	MC39401-2F	Dissolved Metals	No qualification needed.			
G6M-02-01X-61715	MC39401-4F	Dissolved Metals	No qualification needed.			
G6M-04-05X-61715	MC39401-6F	Dissolved Metals	No qualification needed.			

Wet Chemistry

Alkalinity (SM2320B), Nitrate/Nitrite (E353.2), Nitrogen/Nitrite (SM4500 NO2), Sulfate (E300.0), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)

USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39401
Laboratory: Accutest New England	Date: 08/31/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-04-09X-61715	MC39401-2	6/17/2015	TOC only	Ground Water
G6M-02-01X-61715	MC39401-4	6/17/2015	Miscellaneous Parameters	Ground Water
G6M-04-05X-61715	MC39401-6	6/17/2015	Miscellaneous Parameters	Ground Water

Summary - Data validation was performed on the data for three (3) groundwater samples submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method E300. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples have been reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory on 6/17/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

Method Blank –The method blanks for the following alkalinity, nitrogen/nitrite, sulfate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for nitrogen-nitrate/nitrite by method E352.2 at 0.029 mg/L. The result for nitrogen-nitrate/nitrite in sample G6M-02-01X-61715 (Lab Sample ID: MC39401-4) was below the 5 times action level and has been qualified as non-detect (0.10 U).

Qualification: The result for nitrogen-nitrate/nitrite in sample G6M-02-01X-61715 (Lab Sample ID: MC39401-4) was below the 5 times action level and has been qualified as non-detect (0.10 U)..

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this samples set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table:

Client Sample ID:	**Lab Sample ID:**	**Analysis**	**Lab Value**	**Lab Qualifier**	**Validated Value**	**Validation Qualifier**
G6M-04-09X-61715	MC39401-2	TOC	No qualification needed.			
G6M-02-01X-61715	MC39401-4	Nitrogen-nitrate & nitrite	0.093	J	0.10	U
G6M-02-01X-61715	MC39401-4	Nitrogen, nitrate	< 0.11		0.11	U
G6M-04-05X-61715	MC39401-6	Other parameters	No qualification needed.			
G6M-04-05X-61715	MC39401-6	Miscellaneous Parameters	No qualification needed.			

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39435
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-03-07X-61815	MC39435-5	6/18/2015	RSK175	Ground Water
G6M-03-09X-61815	MC39435-6	6/18/2015	RSK175	Ground Water
G6M-03-08X-61815	MC39435-8	6/18/2015	RSK175	Ground Water

Summary - Data validation was performed on the data for three (3) groundwater samples submitted for Methane, Ethane, Ethene analyses by Method RSK 175. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/18/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – One LCS/LCSD pair was associated with all samples in this SDG. The LCS/LCSD for met all %R and RPD control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – The results for methane in sample G6M-03-07X-61815 (Lab Sample ID: MC39435-5) were reported from a re-analysis at a 20X dilution. The ethane and ethane results were reported from the undiluted analysis. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-03-07X-61815	MC39435-5	RSK175	No qualification needed.			
G6M-03-09X-61815	MC39435-6	RSK175	No qualification needed.			
G6M-03-08X-61815	MC39435-8	RSK175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39435
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:		Matrix:
G6M-04-02X-61815	MC39435-2	6/18/2015	VOCs	Ground Water
G6M-03-01X-61815	MC39435-4	6/18/2015	VOCs	Ground Water
G6M-03-07X-61815	MC39435-5	6/18/2015	VOCs	Ground Water
G6M-03-09X-61815	MC39435-6	6/18/2015	VOCs	Ground Water
G6M-03-08X-61815	MC39435-8	6/18/2015	VOCs	Ground Water

Summary - Data validation was performed on the data for five (5) groundwater samples submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an “H” suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/18/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – One LCS/LCSD pair was associated with all samples in this SDG. The LCS/LCSD for met all %R and RPD control limits established in the QAPP.

Qualification: None required.

MS/MSD – Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Blanks – A trip blank was not submitted with these samples.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-02X-61815	MC39435-2	VOCs	No qualification needed.			
G6M-03-01X-61815	MC39435-4	VOCs	No qualification needed.			
G6M-03-07X-61815	MC39435-5	VOCs	No qualification needed.			
G6M-03-09X-61815	MC39435-6	VOCs	No qualification needed.			
G6M-03-08X-61815	MC39435-8	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C/6020A/7470A
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39435
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-04-02X-61815	MC39435-2F	6/18/2015	Dissolved Metals	Groundwater Filtered
G6M-03-07X-61815	MC39435-5F	6/18/2015	Dissolved Metals	Groundwater Filtered
G6M-03-09X-61815	MC39435-6F	6/18/2015	Dissolved Metals	Groundwater Filtered
G6M-03-08X-61815	MC39435-8F	6/18/2015	Dissolved Metals	Groundwater Filtered

Summary - Data validation was performed on the data for four (4) groundwater samples collected and submitted for dissolved metals analyses by Methods SW846/6010C for target analyte metals, 6020A for arsenic only and 7470A for mercury. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples were reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/18/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – MS/MSD samples were not submitted with this sample set. The %Rs and RPD for batch MS/MSD samples reported with thie SDG were acceptable.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-02X-61815	MC39435-2F	Dissolved Metals	No qualification needed.			
G6M-03-07X-61815	MC39435-5F	Dissolved Metals	No qualification needed.			
G6M-03-09X-61815	MC39435-6F	Dissolved Metals	No qualification needed.			
G6M-03-08X-61815	MC39435-8F	Dissolved Metals	No qualification needed.			

Wet Chemistry

Alkalinity (SM2320B), Nitrate/Nitrite (E353.2), Nitrogen/Nitrite (SM4500 NO2), Sulfate (E300.0), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)

USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39435
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-03-07X-61815	MC39435-5	6/18/2015	Miscellaneous Parameters	Ground Water
G6M-03-09X-61815	MC39435-6	6/18/2015	Miscellaneous Parameters	Ground Water
G6M-03-08X-61815	MC39435-8	6/18/2015	Miscellaneous Parameters	Ground Water

Summary - Data validation was performed on the data for four (4) groundwater samples submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method E300. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples have been reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory on 6/18/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

Method Blank –The method blanks for the following alkalinity, nitrogen/nitrite, sulfate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for nitrogen-nitrate/nitrite by method E352.2 at 0.037 mg/L..

Qualification: The results for nitrogen-nitrate/nitrite in samples G6M-03-07X-61815 and G6M-03-08X (Lab Sample IDs: MC39435-5 and 8) were below the 5 times action level and has been qualified as non-detect at the reported value.

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this samples set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table:

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-03-07X-61815	MC39435-5	Nitrogen, Nitrate + Nitrite	0.15		0.15	U
G6M-03-07X-61815	MC39435-5	Nitrogen, Nitrate	0.15		0.5	U
G6M-03-07X-61815	MC39435-5	Other Parameters	No qualification needed.			
G6M-03-09X-61815	MC39435-6	Miscellaneous Parameters	No qualification needed.			
G6M-03-08X-61815	MC39435-8	Nitrogen, Nitrate + Nitrite	0.11		0.11	U
G6M-03-08X-61815	MC39435-8	Nitrogen, Nitrate	0.11		0.11	U
G6M-03-08X-61815	MC39435-8	Other Parameters	No qualification needed.			

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39479
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-04-10A-61915	MC39479-2	6/19/2015	RSK175	Ground Water
G6M-97-05B-61915	MC39479-4	6/19/2015	RSK175	Ground Water
DUP-1-061915	MC39479-6	6/19/2015	RSK175	Ground Water

Summary - Data validation was performed on the data for three (3) groundwater samples submitted for Methane, Ethane, Ethene analyses by Method RSK 175. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/19/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – One LCS/LCSD pair was associated with all samples in this SDG. The LCS/LCSD for met all %R and RPD control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Samples G6M-04-10A-61915 (Lab Sample ID: MC39479-2) and DUP-1-061915 (Lab Sample ID: MC39479-6) were field duplicate samples submitted with this sample set. The calculated RPD for methane was 7.2%.

Qualification: None required.

Compound Quantitation – The results for methane in the FD samples G6M-04-10A-61915 (Lab Sample ID: MC39479-2) and DUP-1-061915 (Lab Sample ID: MC39435-5) were reported from a re-analysis at a 10X dilution. The ethane and ethane results were non-detect in both samples reported from the undiluted analysis.

Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-10A-61915	MC39479-2	RSK175	No qualification needed.			
G6M-97-05B-61915	MC39479-4	RSK175	No qualification needed.			
DUP-1-061915	MC39479-6	RSK175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39479
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-04-10A-61915	MC39479-2	6/19/2015	VOCs	Ground Water
G6M-97-05B-61915	MC39479-4	6/19/2015	VOCs	Ground Water
DUP-1-061915	MC39479-6	6/19/2015	VOCs	Ground Water

Summary - Data validation was performed on the data for two (2) groundwater samples and one field duplicate sample submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an “H” suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/19/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – Two LCS/LCSD pairs were associated with the samples in this SDG. The RPD for dichlorodiflurormethane in analytical batch MSV1465 was above control limits at 44%; the %Rs were within control limits. The results for dichlorodiflurormethane were non-detect in associated samples. The LCS/LCSD with analytical batch MSV1463 met all %R and RPD control limits established in the QAPP.

Qualification: None required.

MS/MSD – Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Samples G6M-04-10A-61915 (Lab Sample ID: MC39479-2) and DUP-1-061915 (Lab Sample ID: MC39479-6) were field duplicate samples submitted with this sample set. The calculated RPDs between detected analytes were less than 20%.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-10A-61915	MC39479-2	VOCs	No qualification needed.			
G6M-97-05B-61915	MC39479-4	VOCs	No qualification needed.			
DUP-1-061915	MC39479-6	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C/6020A/7470A
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39479
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-04-10A-61915	MC39479-2F	6/19/2015	Dissolved Metals	Groundwater Filtered
G6M-97-05B-61915	MC39479-4F	6/19/2015	Dissolved Metals	Groundwater Filtered
DUP-1-061915	MC39479-6F	6/19/2015	Dissolved Metals	Groundwater Filtered

Summary - Data validation was performed on the data for three (3) groundwater samples collected and submitted for dissolved metals analyses by Methods SW846/6010C for target analyte metals, 6020A for arsenic only and 7470A for mercury. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples were reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/19/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – MS/MSD samples were not submitted with this sample set. The %Rs and RPD for batch MS/MSD samples reported with thie SDG were acceptable.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Samples G6M-04-10A-61915 (Lab Sample ID: MC39479-2) and DUP-1-061915 (Lab Sample ID: MC39479-6) were field duplicate samples submitted with this sample set. The calculated RPDs between detected analytes were less than 10%, with the exception of cadmium. The RPD between the low level detections of cadmium was 41%. These results are estimated results; no qualifications are needed. .

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	**Lab Value**	**Lab Qualifier**	**Validated Value**	**Validation Qualifier**
G6M-04-10A-61915	MC39479-2F	Dissolved Metals	No qualification needed.			
G6M-97-05B-61915	MC39479-4F	Dissolved Metals	No qualification needed.			
DUP-1-061915	MC39479-6F	Dissolved Metals	No qualification needed.			

Wet Chemistry

Alkalinity (SM2320B), Nitrate/Nitrite (E353.2), Nitrogen/Nitrite (SM4500 NO2), Sulfate (E300.0), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)

USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39479
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-04-10A-61915	MC39479-2	6/19/2015	Miscellaneous Parameters	Ground Water
G6M-97-05B-61915	MC39479-4	6/19/2015	Miscellaneous Parameters	Ground Water
DUP-1-061915	MC39479-6	6/19/2015	Miscellaneous Parameters	Ground Water

Summary - Data validation was performed on the data for three (3) groundwater samples submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method E300. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples have been reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory on 6/19/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

Method Blank –The method blanks for the following alkalinity, nitrogen/nitrite, sulfate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for nitrogen-nitrate/nitrite by method E352.2 at 0.037 mg/L..

Qualification: The results for nitrogen-nitrate/nitrite in samples G6M-04-10A-61915 and DUP-1-061915 (Lab Sample IDs: MC39479-2 and 6) were below the 5 times action level and have been qualified as non-detect at the reported value.

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Samples G6M-04-10A-61915 (Lab Sample ID: MC39479-2) and DUP-1-061915 (Lab Sample ID: MC39479-6) were field duplicate samples submitted with this sample set. The calculated RPDs between detected analytes were less than 15%.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table:

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-10A-61915	MC39479-2	Nitrogen, Nitrate + Nitrite	0.072	J	0.10	U
G6M-04-10A-61915	MC39479-2	Nitrogen, Nitrate	0.072	J	0.11	U
G6M-04-10A-61915	MC39479-2	Other Parameters	No qualification needed.			
G6M-97-05B-61915	MC39479-4	Miscellaneous Parameters	No qualification needed.			
DUP-1-061915	MC39479-6	Nitrogen, Nitrate + Nitrite	0.068	J	0.10	U
DUP-1-061915	MC39479-5	Nitrogen, Nitrate	0.068	J	0.11	U
DUP-1-061915	MC39479-6	Other Parameters	No qualification needed.			

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39533
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-13-04X-62215	MC39533-3	6/22/2015	RSK175	Ground Water
DUP-2-062215	MC39533-4	6/22/2015	RSK175	Ground Water

Summary - Data validation was performed on the data for one (1) groundwater sample and one field duplicate sample submitted for Methane, Ethane, Ethene analyses by Method RSK 175. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/22/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – The LCS analyzed with this SDG met the %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Sample G6M-13-04X-62215 (Lab sample ID: MC39533-3) was spiked and analyzed as Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples. The percent recovery (%R) for methane was below control limits (48%) from the MSD sample. The %R from the MS sample was acceptable. The sample result for methane in this sample was greater than four times the MS spike level. Qualifications are not needed.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Samples G6M-13-04X-62215 (Lab Sample ID: MC39533-3) and DUP-2-062215 (Lab Sample ID: MC39533-4) were field duplicate samples submitted with this sample set. The calculated RPD for methane was 22%.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-13-04X-62215	MC39533-3	RSK175	No qualification needed.			
DUP-2-062215	MC39533-4	RSK175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39533
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-13-01X-62215	MC39533-1	6/22/2015	VOCs	Ground Water
G6M-13-04X-62215	MC39533-3	6/22/2015	VOCs	Ground Water
DUP-2-062215	MC39533-4	6/22/2015	VOCs	Ground Water

Summary - Data validation was performed on the data for two (2) groundwater samples and one field duplicate sample submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an “H” suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/22/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – One LCS/LCSD pair was associated with the samples in this SDG. The RPD for acetone in analytical batch MSV1467 was above the 25% control limit at 38%; the %Rs were within control limits. The results for acetone were non-detect in associated samples.

Qualification: None required.

MS/MSD – Sample G6M-13-04X-62215 (Lab sample ID: MC39533-3) was spiked and analyzed as Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples for all analytes. The percent recoveries (%R) for all analytes met the laboratory %R control limits.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Samples G6M-13-04X-62215 (Lab Sample ID: MC39533-3) and DUP-2-062215 (Lab Sample ID: MC39533-4) were field duplicate samples submitted with this sample set. The calculated RPDs between detected analytes were less than 15%.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-13-01X-62215	MC39533-1	VOCs	No qualification needed.			
G6M-13-04X-62215	MC39533-3	VOCs	No qualification needed.			
DUP-2-062215	MC39533-4	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C/6020A/7470A
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39533
Laboratory: Accutest New England	Date: 09/01/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-13-01X-62215	MC39533-1F	6/22/2015	Dissolved Metals	Groundwater Filtered
G6M-13-04X-62215	MC39533-3F	6/22/2015	Dissolved Metals	Groundwater Filtered
DUP-2-062215	MC39533-4F	6/22/2015	Dissolved Metals	Groundwater Filtered

Summary - Data validation was performed on the data for two (2) groundwater samples and one field duplicate sample collected and submitted for dissolved metals analyses by Methods SW846/6010C for target analyte metals, 6020A for arsenic only and 7470A for mercury. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples were reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/22/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Sample G6M-13-04X-62215 (Lab sample ID: MC39533-3) was spiked and analyzed as Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples for all analytes. The percent recoveries (%R) for manganese and sodium were above control limits. The sample results for manganese and sodium were greater than four times the MS spike level. No qualifications are needed.

Qualification: None required. Laboratory qualifiers have been removed.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Samples G6M-13-04X-62215 (Lab Sample ID: MC39533-3) and DUP-2-062215 (Lab Sample ID: MC39533-4) were field duplicate samples submitted with this sample set. The calculated RPDs between detected analytes were less than 15%, with the exception of manganese. The RPD between the manganese results was 30%.

Qualification: The results for manganese in both samples have been qualified as estimated (J).

Compound Quantitation – Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analyte	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-13-01X-62215	MC39533-1F	Dissolved Metals	No qualification needed.			
G6M-13-04X-62215	MC39533-3F	Arsenic	360	J	360	
G6M-13-04X-62215	MC39533-3F	Manganese	3,855	J	3,855	J
G6M-13-04X-62215	MC39533-3F	Sodium	131,000	J	131,000	
G6M-13-04X-62215	MC39533-3F	Other analytes	No qualification needed.			
DUP-2-062215	MC39533-4F	Manganese	5,200		5,200	J
DUP-2-062215	MC39533-4F	Other analytes	No qualification needed.			

Wet Chemistry

Alkalinity (SM2320B), Nitrate/Nitrite (E353.2), Nitrogen/Nitrite (SM4500 NO2), Sulfate (E300.0), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)

USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39533
Laboratory: Accutest New England	Date: 09/02/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-13-04X-62215	MC39533-3	6/22/2015	Miscellaneous Parameters	Ground Water
DUP-2-062215	MC39533-4	6/22/2015	Miscellaneous Parameters	Ground Water

<u>Summary</u> - Data validation was performed on the data for one (1) groundwater sample and one field duplicate sample submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method E300. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples have been reported in this SDG but are not included in this data review report.

<u>Narrative and Completeness Review</u> – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

<u>Sample Delivery and Condition</u> – All samples arrived intact at the laboratory on 6/22/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

<u>Holding Times</u> – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

<u>Method Blank</u> –The method blanks for the following alkalinity, nitrogen/nitrite, sulfate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for nitrogen-nitrate/nitrite by method E352.2 at 0.026 mg/L..

Qualification: The estimated results for nitrogen-nitrate/nitrite in samples G6M-13-04X-62215 and DUP-2-062215 (Lab Sample IDs: MC39533-3 and 4) were below the 5 times action level and have been qualified as non-detect at the reporting limit.

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Samples G6M-13-04X-62215 (Lab Sample ID: MC39533-3) and DUP-2-062215 (Lab Sample ID: MC39533-4) were field duplicate samples submitted with this sample set. The calculated RPDs for alkalinity and TOC were less than 15%. The calculated RPD for sulfate was 114%. This variation is likely due to sample non-homogeneity.

Qualification: The results for sulfate in both samples have been qualified as estimated (J).

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table:

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-13-04X-62215	MC39533-3	Nitrogen, Nitrate + Nitrite	0.065	J	0.10	U
G6M-13-04X-62215	MC39533-3	Nitrogen, Nitrate	0.065	J	0.11	U
G6M-13-04X-62215	MC39533-3	Sulfate	30.5		30.5	J
G6M-13-04X-62215	MC39533-3	Other Parameters	No qualification needed.			
DUP-2-062215	MC39533-4	Nitrogen, Nitrate + Nitrite	0.077	J	0.10	U
DUP-2-062215	MC39533-4	Nitrogen, Nitrate	0.077	J	0.11	U
DUP-2-062215	MC39533-4	Sulfate	8.4	J	8.4	J
DUP-2-062215	MC39533-4	Other Parameters	No qualification needed.			

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39548
Laboratory: Accutest New England	Date: 09/02/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-02-13X-62315	MC39548-2	6/23/2015	RSK175	Ground Water
MW-3-062315	MC39548-4	6/23/2015	RSK175	Ground Water

Summary - Data validation was performed on the data for two (2) groundwater samples submitted for Methane, Ethane, Ethene analyses by Method RSK 175. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/23/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – The LCS analyzed with this SDG met the %R control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – The results for methane in both samples were reported from re-analyses at a 10X dilution. The ethane and ethane results were reported from the undiluted analyses. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-13X-62315	MC39548-2	RSK175	No qualification needed.			
MW-3-062315	MC39548-4	RSK175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39548
Laboratory: Accutest New England	Date: 09/02/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-02-13X-62315	MC39548-2	6/23/2015	VOCs	Ground Water
MW-3-062315	MC39548-4	6/23/2015	VOCs	Ground Water

Summary - Data validation was performed on the data for two (2) groundwater samples submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/23/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – One LCS/LCSD pair was associated with the samples in this SDG. The LCS/LCSD recoveries met all %R and RPD control limits established in the QAPP.

Qualification: None required.

MS/MSD – Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-13X-62315	MC39548-2	VOCs	No qualification needed.			
MW-3-062315	MC39548-4	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C/6020A/7470A
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39548
Laboratory: Accutest New England	Date: 09/02/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-02-13X-62315	MC39548-2F	6/23/2015	Dissolved Metals	Groundwater Filtered
MW-3-062315	MC39548-4F	6/23/2015	Dissolved Metals	Groundwater Filtered

Summary - Data validation was performed on the data for two (2) groundwater samples collected and submitted for dissolved metals analyses by Methods SW846/6010C for target analyte metals, 6020A for arsenic only and 7470A for mercury. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples were reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/23/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples were not submitted with this sample set.

Qualification: None required. Laboratory qualifiers have been removed.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-13X-62315	MC39548-2F	Dissolved Metals	No qualification needed.			
MW-3-062315	MC39548-4F	Dissolved Metals	No qualification needed.			

Wet Chemistry

Alkalinity (SM2320B), Nitrate/Nitrite (E353.2), Nitrogen/Nitrite (SM4500 NO2), Sulfate (E300.0), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)

USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39548
Laboratory: Accutest New England	Date: 09/02/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-02-13X-62315	MC39548-2	6/23/2015	Miscellaneous Parameters	Ground Water
MW-3-062315	MC39548-4	6/23/2015	Miscellaneous Parameters	Ground Water

Summary - Data validation was performed on the data for two (2) groundwater samples submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method E300. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples have been reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory on 6/23/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

Method Blank –The method blanks for the following alkalinity, nitrogen/nitrite, sulfate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for nitrogen-nitrate/nitrite by method E352.2 at 0.026 mg/L..

Qualification: The estimated results for nitrogen-nitrate/nitrite in samples G6M-04-13X-62315 and MW-3-062315 (Lab Sample IDs: MC39548-2 and 4) were below the 5 times action level and have been qualified as non-detect at the reporting limit.

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: The results for sulfate in both samples have been qualified as estimated (J).

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table:

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-13X-62315	MC39548-2	Nitrogen, Nitrate + Nitrite	0.068	J	0.10	U
G6M-02-13X-62315	MC39548-2	Nitrogen, Nitrate	0.062	J	0.11	U
G6M-02-13X-62315	MC39548-2	Other Parameters	No qualification needed.			
MW-3-062315	MC39548-4	Nitrogen, Nitrate + Nitrite	0.070	J	0.10	U
MW-3-062315	MC39548-4	Nitrogen, Nitrate	0.070	J	0.11	U
MW-3-062315	MC39548-4	Other Parameters	No qualification needed.			

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39667
Laboratory: Accutest New England	Date: 09/02/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-02-11X-62615	MC39667-5	6/26/2015	RSK175	Ground Water

Summary - Data validation was performed on the data for one (1) groundwater sample submitted for Methane, Ethane, Ethene analyses by Method RSK 175. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/26/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – The LCS analyzed with this SDG met the %R control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – The results for methane in sample G6M-02-11X-62615 (Lab Sample ID: MC39667-5) was reported from a re-analyses at a 10X dilution. The ethane and ethane results were reported from the undiluted analysis. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-11X-62615	MC39667-5	RSK175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39667
Laboratory: Accutest New England	Date: 09/02/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-13-02X-62615	MC39667-1	6/26/2015	VOCs	Ground Water
G6M-02-04X-62615	MC39667-3	6/26/2015	VOCs	Ground Water
G6M-02-11X-62615	MC39667-5	6/26/2015	VOCs	Ground Water

Summary - Data validation was performed on the data for three (3) groundwater samples submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an “H” suffix appended to the field sample ID. These samples are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/26/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – One LCS/LCSD pair was associated with the samples in this SDG. The LCS/LCSD recoveries met all %R and RPD control limits established in the QAPP.

Qualification: None required.

MS/MSD – Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-13-02X-62615	MC39667-1	VOCs	No qualification needed.			
G6M-02-04X-62615	MC39667-3	VOCs	No qualification needed.			
G6M-02-11X-62615	MC39667-5	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C/6020A/7470A
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39667
Laboratory: Accutest New England	Date: 09/02/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-13-02X-62615	MC39667-1F	6/26/2015	Dissolved Metals	Groundwater Filtered
G6M-02-04X-62615	MC39667-3F	6/26/2015	Dissolved Metals	Groundwater Filtered
G6M-02-11X-62615	MC39667-5F	6/26/2015	Dissolved Metals	Groundwater Filtered

Summary - Data validation was performed on the data for three (3) groundwater samples collected and submitted for dissolved metals analyses by Methods SW846/6010C for target analyte metals, 6020A for arsenic only and 7470A for mercury. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples were reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 06/26/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples were not submitted with this sample set.

Qualification: None required. Laboratory qualifiers have been removed.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-13-02X-62615	MC39667-1F	Dissolved Metals	No qualification needed.			
G6M-02-04X-62615	MC39667-3F	Dissolved Metals	No qualification needed.			
G6M-02-11X-62615	MC39667-5F	Dissolved Metals	No qualification needed.			

Wet Chemistry
Alkalinity (SM2320B), Nitrate/Nitrite (E353.2), Nitrogen/Nitrite (SM4500 NO2), Sulfate (E300.0), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC39667
Laboratory: Accutest New England	Date: 09/02/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID:	Lab Sample ID:	Date Sampled:	Analysis	Matrix:
G6M-02-11X-62615	MC39667-5	6/26/2015	Miscellaneous Parameters	Ground Water

Summary - Data validation was performed on the data for one (1) groundwater samples submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method E300. Groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID. The "H" samples have been reported in this SDG but are not included in this data review report.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory on 6/26/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

Method Blank – The method blanks for the following alkalinity, nitrogen/nitrite, sulfate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for nitrogen-nitrate/nitrite by method E352.2 at 0.026 mg/L. The results for nitrogen-nitrate/nitrite in sample G6M-02-11X-62615 (Lab Sample ID: MC39667-5) were greater than the 5 times action level; qualifications were not needed.

Qualification: None required.

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: The results for sulfate in both samples have been qualified as estimated (J).

Compound Quantitation – Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table:

Client Sample ID:	Lab Sample ID:	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-11X-62615	MC39667-5	Miscellaneous Parameters	No qualification needed.			

C.3

Data Quality Evaluation Report
Fall 2015 Long-Term Monitoring Event

Data Quality Evaluation for
Former Fort Devens Area of Contamination 50
Long Term Monitoring Groundwater Samples
Collected Fall 2015

Introduction

The H&S Environmental team collected a total of 47 aqueous field samples from Area of Contamination (AOC)50, Devens, Massachusetts, from October 13 through 26, 2015. The samples were analyzed at Accutest – New England in Marlborough, Massachusetts for the following site-specific parameter lists:

AOC 50:

- VOCs by SW-846 Method 8260C;
- Dissolved gases (methane, ethane and ethene) by Method RSK-175;
- Dissolved metals (arsenic, iron and manganese) by SW-846 Method 6010C;
- Total alkalinity by SM 2320B;
- Sulfate by EPA Method 300.0;
- Nitrate/Nitrite by EPA Method 353.2;
- Sulfide by SM4500S F; and
- Total organic carbon (TOC) by SM5310B.

A complete set of analytical results for each AOC, including final data qualifiers, are included as separate tables within this Appendix. Summary tables presenting AOC specific contaminants of concern are included and referenced within each AOC discussion section.

The results were evaluated for acceptability in accordance with the laboratory's defined acceptance limits and the criteria presented in the *Generic Quality Assurance Project Plan (QAPP), Annual Long- Term Monitoring and Maintenance Program, Former Fort Devens Army Installation, Devens, Massachusetts* (H&S, 2015) . The data qualification was performed in accordance with the QAPP requirements and the applicable protocols presented in the *Region 1*, *EPA-New England Data Validation Functional Guidelines for Evaluating Environmental Analyses* (EPA Region 1, 1996) and *EPA-New England Environmental Data Review Program Guidance* (EPA Region 1, 2013)

Sample Shipment and Receipt

All samples were delivered directly to the laboratory each day during sampling events. All samples arrived at the laboratory with temperatures at or below 6 °C, and the laboratory noted that all sample coolers were packed with sufficient quantities of ice in the field. All samples were appropriately preserved in accordance with the requirements presented in Table 1.

Holding Times

All samples were extracted and analyzed in accordance with the methods and holding time requirements presented in Table 1.

Trip Blanks

Trip blanks were provided by the laboratory and were included in sample shipments to the laboratory. Trip blanks are associated with all samples shipped in the same cooler, and the results are only applicable to the VOC analyses. The effects of trip blank contamination are presented in the method-specific discussions below.

Equipment Blanks

Equipment blanks, also known as rinsate blanks, are samples of analyte-free water that are pumped through reusable sampling equipment to confirm decontamination efficacy. Equipment blanks are associated with all samples collected at a site using the same type of reusable equipment employed to collect the samples. Two equipment blanks were submitted for VOC analysis with groundwater samples collected from DCL. The effects of equipment blank contamination are presented in the method-specific discussions below.

Volatile Organic Compound Analysis

Forty-four (44) groundwater samples were collected and submitted for VOC analysis by EPA SW-846 Method 8260C from AOC 50. Four (4) field duplicate samples were also collected; G6M-DUP1, a duplicate of sample G6M-04-03X; G6M-DUP2, a duplicate of sample G6M-07-02X; G6M-DUP3, a duplicate of sample G6M-13-01X, and G6M-DUP-4, a duplicate of sample G6M-97-05B. Seven (7) trip blank samples and two (2) rinsate blank samples were also submitted.

<u>Laboratory Method Blank Results</u>: All method blanks analyzed with these samples were free of contamination.

<u>Trip Blank and Equipment Blank Results</u>: Trichloroethylene (TCE) was reported in the TRIP BLANK analyzed with samples in SDG MC42160. The low level result for TCE in sample G6M-95-02X_FAL15 was qualified as non-detect (ND/U). Chloromethane was reported in the TRIP BLANK analyzed with samples in SDG MC42202; chloromethane was not detected in any associated samples. All other trip blank samples were free of contamination.

The rinsate blanks (G6M-RB1 and G6M-RB2) analyzed with these samples were free of contamination.

<u>Field Duplicate Sample Results:</u> The VOC results for FD samples 32M-DUP-062815/32M-01-17XBR were all non-detect. The FD results for FD sample pairs DUP-1-061915/G6M-04-10A and DUP-2-062115/G6M-13-04X showed acceptable precision for all calculated relative percent difference (RPD) or acceptable absolute differences for all low-level results.

<u>Surrogate Results</u>: All surrogate recoveries were within the project acceptance limits from all samples for target VOCs.

<u>Matrix Spike (MS)/MS Duplicate (MSD) Results</u>: Two sets of MS/MSD samples were analyzed for VOCs with these samples. The recovery and precision criteria were met for all MS/MSD analyses

<u>LCS/LCSD Results</u>: LCS/LCSD pairs analyzed with these samples met the project recovery and RPD control limits.

<u>Summary:</u> All VOC results reported for the AOC32 and AOC50 Fall 2015 sampling events were acceptable as reported and may be used for their intended purpose.

Dissolved Gases Analysis

Twenty (20) groundwater samples were analyzed for dissolved gases (methane, ethane, and ethene) by Method RSK-175 from AOC50. Two (2) field duplicate samples were also collected; G6M-DUP1, a duplicate of sample G6M-04-03X; and DUP-2, a duplicate of sample G6M-07-02X.

Laboratory Method Blank Results: The method blanks analyzed with these samples and reported for methane, ethane and ethane were free of contamination.

Field Duplicate Sample Results: The result comparison for methane from the field duplicate sample pair G6M-DUP2/G6M-07-02X had a calculated RPD of 90%. This large variability is likely due to sample matrix. The results for methane in these samples were qualified as estimated (J). The methane results from the FD sample pair DUP-2-062115/G6M-13-04X presented acceptable precision. Ethane and ethane were non-detect in all samples.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results: One set of MS/MSD samples was analyzed for methane, ethane, and ethene. Since the methane concentration in sample G6M-03-09X was greater than four times that of the spike, the resulting recoveries were not applicable, and no qualification was required. The %Rs and calculated RPDs for ethane and ethane were acceptable.

Laboratory Control Sample (LCS) Results: LCSs analyzed for methane, ethane, and ethane with these samples met project recovery acceptance criteria.

Dilutions: The methane concentrations for all samples were outside the laboratory calibration range and required dilutions. The laboratory reported the diluted results for methane and the undiluted results for ethane and ethene.

Summary: The dissolved gases results reported for the AOC50 Fall 2015 sampling event were acceptable with the noted qualifications and may be used for their intended purpose.

Dissolved Metals Analysis

A total of forty-six (46) groundwater samples and four (4) field duplicate samples were collected from AOC50 and submitted for dissolved arsenic, iron and manganese analyses using EPA SW-846 Methods 6010C.

Laboratory Method Blank Results: The method blanks analyzed with these samples for total and dissolved metals were free from contamination.

Field Duplicate Sample Results: A total of four (4) field duplicate samples were collected for dissolved metals analyses during the AOC50 fall 2015 sampling events.

Four field duplicate samples were collected from AOC50; G6M-07-02X/G6M-DUP2, G6M-04-03X/DUP1_FAL15, G6M-97-05B/DUP4-FA115 and G6M-13-01X/G6M-DUP3. The dissolved arsenic, iron and /or manganese results for three of the four FD sample pairs; G6M-07-02X/G6M-DUP2, G6M-04-03X/DUP1_FAL15 and G6M-13-01X/G6M-DUP3; showed acceptable precision for detected analytes with calculated RPDs less than 12%.

The dissolved iron and manganese results for the FD sample pair, G6M-97-05B/DUP4-FA115, showed variability between reported results. Dissolved iron was 61.5 µg/L in the native sample but was non-detect in the FD sample. Dissolved manganese was 19.5 µg/L in the native sample and 8.0 µg/L in the FD sample. The calculated RPD for manganese was 83%; the results for dissolved manganese in the native and FD samples were qualified as estimated detections (J).

<u>MS/MSD Results</u>: A total of two (2) samples were spiked and analyzed as MS/MSD samples for select metals. The %Rs and RPD results for all MS/MSD samples analyzed with these samples were within the project acceptance limits for target analytes.

<u>Laboratory Control Sample (LCS) Results</u>: The LCSs analyzed for target metals analytes with these samples met project recovery acceptance criteria.

<u>Dilutions:</u> Due to elevated concentrations of a few analytes, several samples required dilutions to accurately report metals concentrations. Only the diluted results for these analytes were reported by the laboratory.

<u>Summary:</u> The dissolved metals results reported for the AOC50 Fall 2015 sampling event were acceptable with the qualification for manganese in the FD samples, G6M-97-05B/DUP-4_FA115. The results may be used for their intended purpose.

Wet Chemistry Analysis

A total of twenty (20) groundwater samples and two (2) field duplicate samples were collected from AOC50 and submitted for total alkalinity, sulfate, nitrogen/nitrate, sulfide and TOC analyses.

<u>Laboratory Method Blank Results</u>: Some of the method blanks analyzed for wet chemistry parameters had low levels detections of nitrate/nitrite, sulfate and/or TOC. Low levels of nitrate/nitrite were reported in some of the method blanks analyzed by method E352.2. Sulfate was present in the method blank reported by method SW9056 in one sample delivery group. Associated sample results for nitrate/nitrite and/or sulfate that were less than five times respective blank levels were qualified as non-detect (ND/U).

A low level of TOC was reported in one method blank; however, associated samples results were all greater than five times the MB level and no qualifications were needed.

<u>Field Duplicate Sample Results</u>: Two field duplicate sample pairs were collected from AOC50: G6M-DUP1, a duplicate of sample G6M-07-02X; and G6M-DUP2_FA115, a duplicate of sample G6M-04-03X.

The wet chemistry parameter results for the FD sample pair from AOC50, G6M-07-02X/G6M-DUP-1, showed acceptable precision for all calculated RPDs with the exception of sulfate. The calculated RPD between sulfate results (10.2 mg/L and 5.7 mg/L) was 56.6%. The result for sulfate in these samples was qualified as estimated (J).

The wet chemistry parameter results for the FD sample pair from AOC50, G6M-04-0-3X/G6M-DUP1_FAL15, showed acceptable precision for all calculated RPDs with the exception of nitrate and sulfate. The calculated RPDs between the FD results for nitrate (0.063 mg/L and 0.13 mg/L) and sulfate (52.5 mg/L and 7 mg/L) were 69% and 153%, respectively. The results for nitrate and sulfate in these samples were qualified as estimated (J).

<u>Laboratory Control Sample (LCS) Results</u>: The LCSs analyzed for the wet chemistry parameters with these samples met project recovery (%R) acceptance criteria.

<u>MS/MSD Results</u>: The %Rs and/or RPDs for the MS/MSD samples analyzed for these wet chemistry

parameters met the project acceptance criteria for all parameters.

Dilutions: Due to elevated concentrations of a few parameters, several samples required dilutions. Only the diluted results for these analytes were reported by the laboratory.

Summary: The wet chemistry parameter results reported for the AOC 50 Fall 2015 sampling event were acceptable after qualification for nitrogen/nitrate and/or sulfate method blank contamination. Qualifications were also required the three (3) FD sample pairs discussed above. The wet chemistry parameter results with the noted qualifications may be used for their intended purpose.

Conclusion

Data packages were reviewed for adherence to acceptable laboratory practices. Based on the elements evaluated (including holding times, method and trip blank sample results, surrogate recoveries, duplicate samples, MS/MSD recoveries and precision, and LCS/LCSD recoveries and precision), all data may be reported and used without qualification, except as summarized below.

VOCs Analysis

- All VOC results reported for the AOC50 Fall 2015 sampling event were acceptable as reported and may be used for their intended purpose.

Dissolved Gases Analysis

- As a result of field duplicate variability, the results for methane in the field duplicate sample pair from AOC50, G6M-DUP2/G6M-07-02X, were qualified as estimated (J).

Dissolved Metals Analysis

- Due to unacceptable precision in FD sample pairs, the manganese results in the AOC50 FD sample pair, G6M-97-05B/DUP4-FA115, were qualified as estimated (J).

Wet Chemistry Analysis

- As a result of method blank contamination, the results for nitrate/nitrite and/or sulfate in the AOC50 groundwater samples were qualified as non-detect (U).

- As a result of field duplicate variability, the sulfate results in the AOC50 FD sample pair, G6M-07-02X/G6M-DUP-1, were qualified as estimated. (J).

- As a result of field duplicate variability, the nitrate and sulfate results in the AOC50 FD sample pair, G6M-04-0-3X/G6M-DUP1_FAL15, were qualified as estimated. (J).

TABLE 1
Sample Preparation and Analysis Methods, Containers, Holding Times, and Preservatives

Parameter	Analytical Method	Sample Container	Preservation	Holding Time
Aqueous Samples				
VOCs	SW8260C	3 x 40-mL VOA vials	4 °C, HCl to pH <2	Preserved: 14 Days
Dissolved Gases (methane, ethane, ethene)	RSK175	2 x 40-mL VOA vials	4 °C, HCl to pH <2	Preserved: 14 Days
Dissolved Metals	SW6010C; SW7470A	1 x 250-mL HDPE	4°C, HNO_3 to pH <2	6 Months (28 days for mercury)
Anions (sulfate)	E300.0/SW9056	1 x 250-mL HDPE	4°C ± 2°C	28 days for Sulfate and Chloride
Nitrate/nitrite	EPA353.2	1 x 500-mL HDPE	4°C, H_2SO_4 to pH <2	28 days
Total Alkalinity	SW2320B	1 x 250-mL HDPE	4°C ± 2°C	14 Days
Sulfide	SM4500D S	1 x 250-mL HDPE	4°C, Zinc acetate + NaOH to pH>9	7 days
TOC	SM5310B	1 x 250-mL HDPE	4°C, H_3PO_4 to pH <2	28 days

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42160
Laboratory: Accutest New England	Date: 11/09/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1054-003

Client Sample ID	Lab Sample ID	Date Sampled:	Analysis	Matrix
G6M-07-02X_FAL15	MC42160-3	10/13/2015	RSK175	Groundwater
G6M-DUP2	MC42160-4	10/13/2015	RSK176	Groundwater
G6M-02-08X_FAL15	MC42160-5	10/13/2015	RSK177	Groundwater
G6M-04-10A_FAL15	MC42160-6	10/13/2015	RSK178	Groundwater
G6M-04-10X_FAL15	MC42160-7	10/13/2015	RSK179	Groundwater
G6M-03-02X_FAL15	MC42160-9	10/13/2015	RSK180	Groundwater

Summary - Data validation was performed on the data for five (5) groundwater samples and one (1) field duplicate sample submitted for Methane, Ethane, Ethene analyses by Method RSK 175.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/13/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Laboratory Control Sample – The Laboratory Control Sample reported in analytical batch GBA1545 with these samples met the %R control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Samples G6M-07-02X and G6M-DUP2 (Lab Sample IDs: MC42160-3 and -4) were field duplicate samples submitted with this sample set. The results for the detected compounds are summarized in the table below:

		G6M-07-02X_FAL15	G6M-DUP2	
		MC42160-3	MC42160-4	RPD
Methane	ug/l	**3200**	**8520**	90.8

Qualification: The results for methane in both samples have been qualified as estimated (J). The large discrepancy is liked due to sample matrix.

Compound Quantitation – Samples MC42160-3, 04, -5, -6 and -9 were reanalyzed at dilutions due to high levels of methane. The results for ethane and ethane in all samples were non-detect. Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The RSK175 results reported in this SDG are acceptable as qualified below. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Compound/Analysis	Lab Value (ug/L)	Lab Qualifier	Validated Value (ug/L)	Validation Qualifier
G6M-07-02X_FAL15	MC42160-3	Methane	3200		3200	J
G6M-DUP2	MC42160-4	Methane	8520		8520	J
G6M-02-08X_FAL15	MC42160-5	RSK175	No qualification needed.			
G6M-04-10A_FAL15	MC42160-6	RSK175	No qualification needed.			
G6M-04-10X_FAL15	MC42160-7	RSK175	No qualification needed.			
G6M-03-02X_FAL15	MC42160-9	RSK175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42160
Laboratory: Accutest New England	Date: 11/09/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1054-003

Client Sample ID	Lab Sample ID	Date Sampled	**Analysis**	**Matrix:**
G6M-95-20X_FAL15	MC42160-1	10/13/2015	VOCs	Groundwater
G6M-13-05X_FAL15	MC42160-2	10/13/2015	VOCs	Groundwater
G6M-07-02X_FAL15	MC42160-3	10/13/2015	VOCs	Groundwater
G6M-DUP2	MC42160-4	10/13/2015	VOCs	Groundwater
G6M-02-08X_FAL15	MC42160-5	10/13/2015	VOCs	Groundwater
G6M-04-10A_FAL15	MC42160-6	10/13/2015	VOCs	Groundwater
G6M-04-10X_FAL15	MC42160-7	10/13/2015	VOCs	Groundwater
G6M-07-02X_FAL15-H	MC42160-8	10/13/2015	VOCs	Groundwater
G6M-03-02X_FAL15	MC42160-9	10/13/2015	VOCs	Groundwater
G6M-03-02X_FAL15-H	MC42160-10	10/13/2015	VOCs	Groundwater
G6M-13-05X_FAL15-H	MC42160-11	10/13/2015	VOCs	Groundwater
G6M-03-01X_FAL15	MC42160-12	10/13/2015	VOCs	Groundwater
TRIP BLANK	MC42160-15	10/13/2015	VOCs	Trip Blank

Summary - Data validation was performed on the data for eight (8) groundwater samples, one (1) field duplicate samples and one (1) trip blank sample submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Select groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/13/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – One LCS/LCSD pair was analyzed with these samples in analytical batch MSH2529. The LCS/LCSD met the %R and RPD control limits established in the QAPP.

Qualification: None required.

MS/MSD – Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Blanks – Sample MC42160-15 was the trip blank (TB) sample. Trichloroethylene (TCE) was reported in the TB at 0.29 µg/L. The result of 0.70 µg/L for TCE in sample G6M-95-02X_FAL15 (Lab Sample ID: MC42160-1) was below the five times action level.

Qualification: The result for TCE in sample MC42160-1 has been qualified as ND at the reporting limit.

Field Duplicate – Samples G6M-07-02X_FAL15 and G6M-DUP2 (Lab Sample IDs: MC42160-3 and -4) were field duplicate samples submitted with this sample set. The results for the detected compounds are summarized in the table below:

Field Sample ID		G6M-07-02X_FAL15	G6M-DUP2	
Lab Sample ID		MC42160-3	MC42160-4	RPD
cis-1,2-Dichloroethene	ug/l	**3.1**	**2.2**	34.0
Tetrachloroethene	ug/l	**482**	**444**	8.2
Trichloroethene	ug/l	**13.0**	**10.8**	18.5

Qualification: The results for cis-1,2-dichloroethene in both samples have been qualified as estimated (J).

Compound Quantitation – Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The VOC results reported in this SDG are acceptable with the qualifications indicated below. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Compound/Analysis	Lab Value (ug/L)	Lab Qualifier	Validated Value (ug/L)	Validation Qualifier
G6M-95-20X_FAL15	MC42160-1	trichloroethylene	0.70	J	1.0	U
G6M-13-05X_FAL15	MC42160-2	VOCs	No qualification needed.			
G6M-07-02X_FAL15	MC42160-3	cis-1,2-dichloroethene	3.1		3.1	J
G6M-DUP2	MC42160-4	cis-1,2-dichloroethene	2.2		2.2	J
G6M-02-08X_FAL15	MC42160-5	VOCs	No qualification needed.			
G6M-04-10A_FAL15	MC42160-6	VOCs	No qualification needed.			
G6M-04-10X_FAL15	MC42160-7	VOCs	No qualification needed.			
G6M-07-02X_FAL15-H	MC42160-8	VOCs	No qualification needed.			
G6M-03-02X_FAL15	MC42160-9	VOCs	No qualification needed.			
G6M-03-02X_FAL15-H	MC42160-10	VOCs	No qualification needed.			
G6M-13-05X_FAL15-H	MC42160-11	VOCs	No qualification needed.			
G6M-03-01X_FAL15	MC42160-12	VOCs	No qualification needed.			
TRIP BLANK	MC42160-15	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42160
Laboratory: Accutest New England	Date: 11/09/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analytes	Matrix
G6M-95-20X_FAL15	MC42160-1F	10/13/2015	Dissolved As, Fe, Mn	Groundwater
G6M-13-05X_FAL15	MC42160-2F	10/13/2015	Dissolved As, Fe, Mn	Groundwater
G6M-07-02X_FAL15	MC42160-3F	10/13/2015	Dissolved As, Fe, Mn	Groundwater
G6M-DUP2	MC42160-4F	10/13/2015	Dissolved As, Fe, Mn	Groundwater
G6M-02-08X_FAL15	MC42160-5F	10/13/2015	Dissolved As, Fe, Mn	Groundwater
G6M-04-10A_FAL15	MC42160-6F	10/13/2015	Dissolved As, Fe, Mn	Groundwater
G6M-04-10X_FAL15	MC42160-7F	10/13/2015	Dissolved As, Fe, Mn	Groundwater
G6M-03-02X_FAL15	MC42160-9F	10/13/2015	Dissolved As, Fe, Mn	Groundwater
G6M-04-22X3_FAL15	MC42160-13F	10/13/2015	Dissolved As	Groundwater
G6M-04-31X3_FAL15	MC42160-14F	10/13/2015	Dissolved As	Groundwater

Summary - Data validation was performed on the data for nine (9) groundwater samples and one (1) field duplicate sample collected and submitted for dissolved metals analyses (arsenic, iron and manganese) by Method SW846/6010C. Samples were analyzed for select analytes as listed above.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/13/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – MS/MSD samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Samples G6M-07-02X_FAL15 and G6M-DUP2 (Lab Sample IDs: MC42160-3F and -4F) were field duplicate samples submitted with this sample set. The results for the detected analytes are summarized in the table below:

Client Sample ID		G6M-07-02X_FAL15	G6M-DUP2	
Lab Sample ID:		MC42160-3F	MC42160-4F	RPD
Iron	ug/l	303	294	3
Manganese	ug/l	32.8	32.3	1.5

Qualification: None required.

Compound Quantitation – Dilutions were required for a few analytes; both sets of results were reported. Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The dissolved metals results reported in this SDG are acceptable as reported. No qualifications were required and the data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analytes	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-95-20X_FAL15	MC42160-1F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-13-05X_FAL15	MC42160-2F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-07-02X_FAL15	MC42160-3F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-DUP2	MC42160-4F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-02-08X_FAL15	MC42160-5F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-04-10A_FAL15	MC42160-6F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-04-10X_FAL15	MC42160-7F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-03-02X_FAL15	MC42160-9F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-04-22X3_FAL15	MC42160-13F	Dissolved As	No qualification needed.			
G6M-04-31X3_FAL15	MC42160-14F	Dissolved As	No qualification needed.			

Wet Chemistry
Alkalinity (SM2320B), Nitrogen.nitrate (E353.2), Sulfate (SW9056), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42160
Laboratory: Accutest New England	Date: 11/09/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix:
G6M-07-02X_FAL15	MC42160-3	10/13/2015	Miscellaneous Parameters	Groundwater
G6M-DUP2	MC42160-4	10/13/2015	Miscellaneous Parameters	Groundwater
G6M-02-08X_FAL15	MC42160-5	10/13/2015	Miscellaneous Parameters	Groundwater
G6M-04-10A_FAL15	MC42160-6	10/13/2015	Miscellaneous Parameters	Groundwater
G6M-04-10X_FAL15	MC42160-7	10/13/2015	Miscellaneous Parameters	Groundwater
G6M-03-02X_FAL15	MC42160-9	10/13/2015	Miscellaneous Parameters	Groundwater

Summary - Data validation was performed on the data for five (5) groundwater samples and one (1) field duplicate sample submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method SW9056.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory on 10/13/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

Method Blank –The method blanks for alkalinity, sulfate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for nitrate/nitrite by method E352.2 at 0.69 mg/L. Sample results were greater than five time this level; no qualifications are required.

Qualification: None required.

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Samples G6M-07-02X_FAL15 and G6M-DUP2 (Lab Sample IDs: MC42160-3 and -4) were field duplicate samples submitted with this sample set. The results for the detected compounds are summarized in the table below:

Client Sample ID:		G6M-07-02X_FAL15	G6M-DUP2		
Lab Sample ID:		MC42160-3	MC42160-4		RPD
Alkalinity, Total as CaCO3	mg/l	10.3	11.3		9.3
Sulfate	mg/l	10.2	5.7	J	56.6

Qualification: The results for sulfate in both the native and FD sample have been qualified as estimated (J).

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The miscellaneous parameter results reported in this SDG are acceptable with the indicated qualifications. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-07-02X_FAL15	MC42160-3	Sulfate	10.2		10.2	J
G6M-DUP2	MC42160-4	Sulfate	5.7	J	5.7	J
G6M-02-08X_FAL15	MC42160-5	Miscellaneous Parameters	No qualification needed.			
G6M-04-10A_FAL15	MC42160-6	Miscellaneous Parameters	No qualification needed.			
G6M-04-10X_FAL15	MC42160-7	Miscellaneous Parameters	No qualification needed.			
G6M-03-02X_FAL15	MC42160-9	Miscellaneous Parameters	No qualification needed.			

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42178
Laboratory: Accutest New England	Date: 12/07/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1054-003

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
G6M-04-03X_FAL15	MC42178-7	10/14/2015	RSK-175	Groundwater
G6M-03-07X_FAL15	MC42178-8	10/14/2015	RSK-176	Groundwater
G6M-DUP1_FAL15	MC42178-10	10/14/2015	RSK-177	Groundwater
G6M-13-06X_FAL15	MC42178-11	10/14/2015	RSK-178	Groundwater

Summary - Data validation was performed on the data for three (3) groundwater samples and one (1) field duplicate samples submitted for Methane, Ethane, Ethene analyses by Method RSK 175.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/14/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Laboratory Control Sample – The Laboratory Control Sample reported in analytical batch GBA1548 on 10/21/15 with these samples met the %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Matrix spike samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Samples G6M-04-03X_FAL15 (lab sample ID: MC42178-7) and G6M-DUP1_FAL15 (Lab Sample ID: MC42178-10) were field duplicate samples. Methane was detected in both samples at 10,200 µg/L and 8,190 µg/L. The calculated RPD between results was 21.8%.

Qualification: None required.

Compound Quantitation – Samples MC42202-7, -8, -10 and -11 were reanalyzed at dilutions due to high levels of methane. Both diluted and undiluted results were reported. Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The RSK175 results reported in this SDG are acceptable as reported. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-03X_FAL15	MC42178-7	RSK-175	No qualification needed.			
G6M-03-07X_FAL15	MC42178-8	RSK-175	No qualification needed.			
G6M-DUP1_FAL15	MC42178-10	RSK-175	No qualification needed.			
G6M-13-06X_FAL15	MC42178-11	RSK-175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level III Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42178
Laboratory: Accutest New England	Date: 12/7/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024-003

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
G6M-04-15X_FAL15	MC42178-1	10/14/2015	VOCs	Groundwater
G6M-04-13X_FAL15	MC42178-2	10/14/2015	VOCs	Groundwater
G6M-95-19X_FAL15	MC42178-3	10/14/2015	VOCs	Groundwater
G6M-96-22B_FAL15	MC42178-4	10/14/2015	VOCs	Groundwater
G6M-96-22A_FAL15	MC42178-5	10/14/2015	VOCs	Groundwater
G6M-04-01X_FAL15	MC42178-6	10/14/2015	VOCs	Groundwater
G6M-04-03X_FAL15	MC42178-7	10/14/2015	VOCs	Groundwater
G6M-03-07X_FAL15	MC42178-8	10/14/2015	VOCs	Groundwater
G6M-04-03X_FAL15-H	MC42178-9	10/14/2015	VOCs	Groundwater
G6M-DUP1_FAL15	MC42178-10	10/14/2015	VOCs	Groundwater
G6M-13-06X_FAL15	MC42178-11	10/14/2015	VOCs	Groundwater
G6M-04-09X_FAL15	MC42178-12	10/14/2015	VOCs	Groundwater
TRIP BLANK	MC42178-13	10/14/2015	VOCs	Groundwater

Summary - Data validation was performed on the data for eleven (11) groundwater samples, one (1) field duplicate sample and one (1) trip blank sample submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Accutest-New England is not DOD certified for VOCs. Corrective actions are in place; samples in this SDG were analyzed at Accutest-New England in order to meet holding times.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/14/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

GC/MS Tuning - All of the BFB tunes in the initial and continuing calibrations met the percent relative abundance criteria.

Qualification: None required.

Initial Calibration - Initial calibration curve analyzed on 10/27/2015 (MSU1360-ICC1360) exhibited acceptable %RSDS (≤30%) for and average RRF (>0.050) values for all target compounds.

Qualification: None required.

Initial Calibration Verification (ICV): - Initial calibration verification analyzed on 10/27/2015 (MSU1360-ICV1360) exhibited acceptable %Ds (≤25.0%).

Qualification: None required.

Continuing Calibration Verification (CCV): - The CCV analyzed on 10/28/2015 (MSU1360-CC1360) exhibited %Ds greater than 20.0% for vinyl acetate (30.4%) and trans-1,3-dichloropropene (26.7%). The %Ds for all other target compounds were less than 20% with acceptable RRF values. .

Qualification: The non-detect results for vinyl acetate and trans-1,3-dichloropropene were qualified as estimated (UJ) in all samples.

Surrogates – Surrogate recoveries were within the control limits for all samples.

Qualification: None required.

Internal Standard (IS) Area Performance: - All samples exhibited acceptable area count for all three internal standards.

Qualification: None required.

Laboratory Control Sample – Percent recoveries for the LCS (MSU1363-BS) analyzed on 10/28/2015 with these samples were within %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Sample G6M-95-19X_FAL15 (Lab Sample ID: MC42178-3) was spiked and analyzed as matrix spike/matrix spike duplicate samples. The calculated RPD for 2-hexanone was above control limits; 2-hexanone was non-detect in all associated samples. The %Rs and calculated RPDs were within control limits for all other target VOCs.

Qualification: None required.

Method Blank – The method blank (MSU1363-MB) analyzed on 10/28/2015 with these samples was free of contamination.

Qualification: None required.

Field Blanks – Sample TRIP BLANK (Lab Sample ID: MC42178-13) was the trip blank submitted with these samples. Target VOCs were all non-detect.

Qualification: None required.

Field Duplicate – Samples G6M-04-03X_FAL15 (Lab Sample ID; MC42178-7) and DUP-1_FAL15 (Lab Sample ID: MC42178-10) were field duplicate samples submitted with this sample set. Detected sample results were comparable with calculated RPDs less than 15%.

Client Sample ID:		G6M-DUP1_FAL15	G6M-04-03X_FAL15	
Lab Sample ID:		MC42178-10	MC42178-7	RPD
Acetone	ug/l	6.3	5.7	10
Chloroethane	ug/l	1.3	1.2	8
Chloromethane	ug/l	1.5	ND	
cis-1,2-Dichloroethene	ug/l	43.2	43.0	0.5
Tetrachloroethene	ug/l	5.0	5.0	0
Trichloroethene	ug/l	3.4	3.2	6.1
Vinyl chloride	ug/l	7.0	6.8	2.9

Qualification: None required.

Compound Quantitation – Sample G6M-13-06X_FAL15 (Lab Sample ID: MC42178-11) was analyzed at a 5X dilution due to high level of target compounds. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The VOC results reported in this SDG are acceptable as reported with the indicated qualifications. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis/Compound	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-15X_FAL15	MC42178-1	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-04-15X_FAL15	MC42178-1	vinyl acetate	5	U	5	UJ
G6M-04-13X_FAL15	MC42178-2	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-04-13X_FAL15	MC42178-2	vinyl acetate	5	U	5	UJ
G6M-95-19X_FAL15	MC42178-3	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-95-19X_FAL15	MC42178-3	vinyl acetate	5	U	5	UJ
G6M-96-22B_FAL15	MC42178-4	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-96-22B_FAL15	MC42178-4	vinyl acetate	5	U	5	UJ
G6M-96-22A_FAL15	MC42178-5	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-96-22A_FAL15	MC42178-5	vinyl acetate	5	U	5	UJ
G6M-04-01X_FAL15	MC42178-6	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-04-01X_FAL15	MC42178-6	vinyl acetate	5	U	5	UJ

Client Sample ID	Lab Sample ID	Analysis/Compound	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-03X_FAL15	MC42178-7	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-04-03X_FAL15	MC42178-7	vinyl acetate	5	U	5	UJ
G6M-03-07X_FAL15	MC42178-8	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-03-07X_FAL15	MC42178-8	vinyl acetate	5	U	5	UJ
G6M-04-03X_FAL15-H	MC42178-9	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-04-03X_FAL15-H	MC42178-9	vinyl acetate	5	U	5	UJ
G6M-DUP1_FAL15	MC42178-10	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-DUP1_FAL15	MC42178-10	vinyl acetate	5	U	5	UJ
G6M-13-06X_FAL15	MC42178-11	trans 1,3-dichloropropene	2.5	U	2.5	UJ
G6M-13-06X_FAL15	MC42178-11	vinyl acetate	25	U	25	UJ
G6M-04-09X_FAL15	MC42178-12	trans 1,3-dichloropropene	0.5	U	0.5	UJ
G6M-04-09X_FAL15	MC42178-12	vinyl acetate	5	U	5	UJ
TRIP BLANK	MC42178-13	trans 1,3-dichloropropene	0.5	U	0.5	UJ
TRIP BLANK	MC42178-13	vinyl acetate	5	U	5	UJ

Dissolved Metals
SW 846/6010C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42178
Laboratory: Accutest New England	Date: 12/08/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analytes	Matrix
G6M-04-15X_FAL15	MC42178-1F	10/14/2015	Dissolved As, Fe, Mn	Groundwater
G6M-04-13X_FAL15	MC42178-2F	10/14/2015	Dissolved As, Fe, Mn	Groundwater
G6M-95-19X_FAL15	MC42178-3F	10/14/2015	Dissolved As, Fe, Mn	Groundwater
G6M-96-22B_FAL15	MC42178-4F	10/14/2015	Dissolved As, Fe, Mn	Groundwater
G6M-96-22A_FAL15	MC42178-5F	10/14/2015	Dissolved As, Fe, Mn	Groundwater
G6M-04-01X_FAL15	MC42178-6F	10/14/2015	Dissolved As, Fe, Mn	Groundwater
G6M-04-03X_FAL15	MC42178-7F	10/14/2015	Dissolved As, Fe, Mn	Groundwater
G6M-03-07X_FAL15	MC42178-8F	10/14/2015	Dissolved As, Fe, Mn	Groundwater
G6M-DUP1_FAL15	MC42178-10F	10/14/2015	Dissolved As, Fe, Mn	Groundwater
G6M-13-06X_FAL15	MC42178-11F	10/14/2015	Dissolved As, Fe, Mn	Groundwater
G6M-04-09X_FAL15	MC42178-12F	10/14/2015	Dissolved As, Fe, Mn	Groundwater

Summary - Data validation was performed on the data for eleven (11) groundwater samples and one (1) field duplicate sample collected and submitted for dissolved metals analyses (arsenic, iron and manganese) by Method SW846/6010C.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/14/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Sample G6M-95-19X_FA115 (Lab Sample ID: MC42178-3) was spiked and analyzed as matrix spike/matrix spike duplicate samples. The %R and calculated RPDs for target analytes were within control limits.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Sample G6M-04-03X_FAL15 (Lab Sample ID: MC42178-7F) and DUP1_FAL15 (Lab Sample ID: MS42178-11F) were field duplicate samples. Detected results for all analytes were comparable with RPDs less than 15%.

Client Sample ID:		**G6M-04-03X_FAL15**	**G6M-DUP1_FAL15**	
Lab Sample ID:		**MC42178-7F**	**MC42178-10F**	**RPD**
Arsenic	ug/l	232	217	6.7
Iron	ug/l	75100	74500	12
Manganese	ug/l	11300	11500	1.7

Qualification: None required.

Compound Quantitation – Several samples were analyzed at varying dilutions due to high levels of target analytes. Both diluted and undiluted results have been reported. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The dissolved metals results reported in this SDG are acceptable as reported. No qualifications were required and the data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analytes	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-15X_FAL15	MC42178-1F	Dissolved As, Fe, Mn	No qualifications needed.			
G6M-04-13X_FAL15	MC42178-2F	Dissolved As, Fe, Mn	No qualifications needed.			
G6M-95-19X_FAL15	MC42178-3F	Dissolved As, Fe, Mn	No qualifications needed.			
G6M-96-22B_FAL15	MC42178-4F	Dissolved As, Fe, Mn	No qualifications needed.			
G6M-96-22A_FAL15	MC42178-5F	Dissolved As, Fe, Mn	No qualifications needed.			
G6M-04-01X_FAL15	MC42178-6F	Dissolved As, Fe, Mn	No qualifications needed.			

Client Sample ID	Lab Sample ID	Analytes	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-03X_FAL15	MC42178-7F	Dissolved As, Fe, Mn	No qualifications needed.			
G6M-03-07X_FAL15	MC42178-8F	Dissolved As, Fe, Mn	No qualifications needed.			
G6M-DUP1_FAL15	MC42178-10F	Dissolved As, Fe, Mn	No qualifications needed.			
G6M-13-06X_FAL15	MC42178-11F	Dissolved As, Fe, Mn	No qualifications needed.			
G6M-04-09X_FAL15	MC42178-12F	Dissolved As, Fe, Mn	No qualifications needed.			

Wet Chemistry
Alkalinity (SM2320B), Nitrogen/nitrate (E353.2), Sulfate (SW9056), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42178
Laboratory: Accutest New England	Date: 12/8/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix:
G6M-04-03X_FAL15	MC42178-7	10/14/2015	Miscellaneous Parameters	Groundwater
G6M-03-07X_FAL15	MC42178-8	10/14/2015	Miscellaneous Parameters	Groundwater
G6M-DUP1_FAL15	MC42178-10	10/14/2015	Miscellaneous Parameters	Groundwater
G6M-13-06X_FAL15	MC42178-11	10/14/2015	Miscellaneous Parameters	Groundwater

Summary - Data validation was performed on the data for three (3) groundwater samples and one (1) field duplicate sample submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method SW9056.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory on 10/14/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

Method Blank –The method blanks for alkalinity, nitrogen/nitrate, sulfide, TOC and sulfate were free from contamination.

Qualification: None required.

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Samples G6M-04-03X_FAL15 and G6M-DUP1_FAL15 (Lab Sample IDs: MC42178-7 and -10) were field duplicate samples. The results for sulfide were non-detect in both samples. The results for alkalinity and TOC were comparable; however, the results for nitrogen/nitrate and sulfate were variable with RPDs greater than 50%. FD results are summarized in the table below.

		G6M-DUP1_FAL15	**G6M-04-03X_FAL15**	
		MC42178-10	**MC42178-7**	**RPD**
Nitrogen, Nitrate	mg/l	0.063	0.13	69
Alkalinity, Total as CaCO3	mg/l	277	337	19.5
Total Organic Carbon	mg/l	8.0	8.2	2.5
Sulfate	mg/l	52.5	7.0	153

Qualification: The results for nitrogen/nitrate and sulfate in the native and FD samples were qualified as estimated.

Compound Quantitation – Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The miscellaneous parameter results reported in this SDG are acceptable with the indicated qualifications. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-03X_FAL15	MC42178-7	Nitrogen/nitrate	0.13		0.13	J
G6M-04-03X_FAL15	MC42178-7	Sulfate	7	J	7	J
G6M-03-07X_FAL15	MC42178-8	Miscellaneous Parameters	No qualification needed			
G6M-DUP1_FAL15	MC42178-10	Nitrogen/nitrate	0.063	J	0.063	J
		Sulfate	52.5		52.5	J
G6M-13-06X_FAL15	MC42178-11	Miscellaneous Parameters	No qualification needed			

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42202
Laboratory: Accutest New England	Date: 12/07/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1054-003

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
G6M-02-12X_FA115	MC42202-1	10/15/2015	RSK-175	Groundwater
G6M-04-05X_FA115	MC42202-3	10/15/2015	RSK-175	Groundwater
MW-3_FA115	MC42202-4	10/15/2015	RSK-175	Groundwater
G6M-02-11X_FA115	MC42202-5	10/15/2015	RSK-175	Groundwater
G6M-03-10X_FA115	MC42202-6	10/15/2015	RSK-175	Groundwater
G6M-03-09X_FA115	MC42202-11	10/15/2015	RSK-175	Groundwater
G6M-13-04X_FA115	MC42202-12	10/15/2015	RSK-175	Groundwater

Summary - Data validation was performed on the data for seven (7) groundwater samples submitted for Methane, Ethane, Ethene analyses by Method RSK 175.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/15/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Laboratory Control Sample – The Laboratory Control Sample reported in analytical batch GBA1545 on 10/19/15 with these samples met the %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Sample G6M-03-09X_FA115 (Lab Sample ID: MC42202-11) was spiked and analyzed as matrix spike/matrix spike duplicate samples. The %R for methane was outside control limits; the spike value was less than four (4) times the sample result and recoveries could not be calculated.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted.

Qualification: None required.

Compound Quantitation – Samples MC42202-1, -4, -5, -6 and -12 were reanalyzed at dilutions due to high levels of methane. Both diluted and undiluted results were reported. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The RSK175 results reported in this SDG are acceptable as reported. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-12X_FA115	MC42202-1	RSK-175	No qualification needed.			
G6M-04-05X_FA115	MC42202-3	RSK-175	No qualification needed.			
MW-3_FA115	MC42202-4	RSK-175	No qualification needed.			
G6M-02-11X_FA115	MC42202-5	RSK-175	No qualification needed.			
G6M-03-10X_FA115	MC42202-6	RSK-175	No qualification needed.			
G6M-03-09X_FA115	MC42202-11	RSK-175	No qualification needed.			
G6M-13-04X_FA115	MC42202-12	RSK-175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42202
Laboratory: Accutest New England	Date: 12/7/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024-003

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
G6M-02-12X_FA115	MC42202-1	10/15/2015	VOCs	Groundwater
MW-7_FA115	MC42202-2	10/15/2015	VOCs	Groundwater
G6M-04-05X_FA115	MC42202-3	10/15/2015	VOCs	Groundwater
MW-3_FA115	MC42202-4	10/15/2015	VOCs	Groundwater
G6M-02-11X_FA115	MC42202-5	10/15/2015	VOCs	Groundwater
G6M-03-10X_FA115	MC42202-6	10/15/2015	VOCs	Groundwater
G6M-97-05B_FA115	MC42202-7	10/15/2015	VOCs	Groundwater
G6M-97-05B_FA115-H	MC42202-8	10/15/2015	VOCs	Groundwater
G6M-DUP-4_FA115	MC42202-9	10/15/2015	VOCs	Groundwater
TRIP BLANK	MC42202-10	10/15/2015	VOCs	Trip Blank
G6M-03-09X_FA115	MC42202-11	10/15/2015	VOCs	Groundwater
G6M-13-04X_FA115	MC42202-12	10/15/2015	VOCs	Groundwater

Summary - Data validation was performed on the data for ten (10) groundwater samples, one (1) field duplicate sample and one (1) trip blank sample submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Accutest-New England is not DOD certified for VOCs. Corrective actions are in place; samples in this SDG were analyzed at Accutest-New England in order to meet holding times.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/15/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – Surrogate recoveries were within the control limits for all samples.

Qualification: None required.

Laboratory Control Sample – Percent recoveries for the LCS analyzed in batch VB4415 with these samples were within %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Sample G6M-03-09X_FA115 (Lab Sample ID: MC42202-11) was spiked and analyzed as matrix spike/matrix spike duplicate samples. The calculated RPD for acetone was above control limits; acetone was not detect in any associated samples. The %Rs and calculated RPDs were within control limits for all other target VOCs.

Qualification: None required.

Method Blank – A low level of methylene chloride (0.34 µg/L) was reported in the method blank analyzed in batch MSU1365. Methylene chloride was not detected in any associated samples.

Qualification: None required.

Field Blanks – Sample TRIP BLANK (Lab Sample ID: MC42202-10) was the trip blank submitted with these samples. Chloromethane was reported in the TB at 2.5 µg/L; chloromethane was not detected in any associated samples. All other target VOCs were non-detect in the TB.

Qualification: None required.

Field Duplicate – Samples G6m-97-05B (Lab Sample ID: MC42202-7) and DUP-4_FA115 (Lab Sample ID: MC42202-9) were field duplicate samples submitted with this sample set. Detected sample results were comparable with calculated RPDs less than 15%.

Client Sample ID:		G6M-97-05B_FA115		G6M-DUP-4_FA115		
Lab Sample ID:		MC42202-7		MC42202-9		
VOCs						
Carbon tetrachloride	ug/l	1.0		0.98	J	10
cis-1,2-Dichloroethene	ug/l	3.4		3.2		6.1
Tetrachloroethene	ug/l	117		115		1.7
Trichloroethene	ug/l	6.9		6.7		2.9

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The VOC results reported in this SDG are acceptable as reported. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-12X_FA115	MC42202-1	VOCs	No qualification needed.			
MW-7_FA115	MC42202-2	VOCs	No qualification needed.			
G6M-04-05X_FA115	MC42202-3	VOCs	No qualification needed.			
MW-3_FA115	MC42202-4	VOCs	No qualification needed.			
G6M-02-11X_FA115	MC42202-5	VOCs	No qualification needed.			
G6M-03-10X_FA115	MC42202-6	VOCs	No qualification needed.			
G6M-97-05B_FA115	MC42202-7	VOCs	No qualification needed.			
G6M-97-05B_FA115-H	MC42202-8	VOCs	No qualification needed.			
G6M-DUP-4_FA115	MC42202-9	VOCs	No qualification needed.			
TRIP BLANK	MC42202-10	VOCs	No qualification needed.			
G6M-03-09X_FA115	MC42202-11	VOCs	No qualification needed.			
G6M-13-04X_FA115	MC42202-12	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42202
Laboratory: Accutest New England	Date: 12/07/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analytes	Matrix
G6M-02-12X_FA115	MC42202-1F	10/15/2015	Dissolved As, Fe, Mn	Groundwater
MW-7_FA115	MC42202-2F	10/15/2015	Dissolved As, Fe, Mn	Groundwater
G6M-04-05X_FA115	MC42202-3F	10/15/2015	Dissolved As, Fe, Mn	Groundwater
MW-3_FA115	MC42202-4F	10/15/2015	Dissolved As, Fe, Mn	Groundwater
G6M-02-11X_FA115	MC42202-5F	10/15/2015	Dissolved As, Fe, Mn	Groundwater
G6M-03-10X_FA115	MC42202-6F	10/15/2015	Dissolved As, Fe, Mn	Groundwater
G6M-97-05B_FA115	MC42202-7F	10/15/2015	Dissolved As, Fe, Mn	Groundwater
G6M-DUP-4_FA115	MC42202-9F	10/15/2015	Dissolved As, Fe, Mn	Groundwater
G6M-03-09X_FA115	MC42202-11F	10/15/2015	Dissolved As, Fe, Mn	Groundwater
G6M-13-04X_FA115	MC42202-12F	10/15/2015	Dissolved As, Fe, Mn	Groundwater

Summary - Data validation was performed on the data for nine (9) groundwater samples and one (1) field duplicate sample collected and submitted for dissolved metals analyses (arsenic, iron and manganese) by Method SW846/6010C.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/15/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Sample G6M-03-09X_FA115 (Lab Sample ID: MC42202-11) was spiked and analyzed as matrix spike/matrix spike duplicate samples. The %R and calculated RPDs for target analytes were within control limits.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Sample G6M-97-05B_FA115 and DUP-4_FA115 (Lab Sample IDS: MS42202-7F/-9F) were field duplicate samples. The results for the detected compounds are summarized in the table below:

Client Sample ID:		G6M-97-05B_FA115		G6M-DUP-4_FA115		
Lab Sample ID:		MC42202-7F		MC42202-9F		RPD
Arsenic	ug/l	4.0	U	4.0	U	
Iron	ug/l	61.5	J	100	U	
Manganese	ug/l	19.4		8.0	J	83.2

Qualification: The results for manganese have been qualified as estimated (J).

Compound Quantitation – Samples MC42202-1, -2, -4, -5, -6 and -12 were reanalyzed at 10X dilutions due to high levels of target analytes. Both diluted and undiluted results have been reported. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The dissolved metals results reported in this SDG are acceptable as reported. No qualifications were required and the data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analytes	Lab Value (ug/L)	Lab Qualifier	Validated Value (ug/L)	Validation Qualifier
G6M-02-12X_FA115	MC42202-1F	Dissolved As, Fe, Mn	No qualification needed.			
MW-7_FA115	MC42202-2F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-04-05X_FA115	MC42202-3F	Dissolved As, Fe, Mn	No qualification needed.			
MW-3_FA115	MC42202-4F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-02-11X_FA115	MC42202-5F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-03-10X_FA115	MC42202-6F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-97-05B_FA115	MC42202-7F	Dissolved Mn	19.4		19.4	J
G6M-DUP-4_FA115	MC42202-9F	Dissolved Mn	8.0	J	8.0	J
G6M-03-09X_FA115	MC42202-11F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-13-04X_FA115	MC42202-12F	Dissolved As, Fe, Mn	No qualification needed.			

Wet Chemistry
Alkalinity (SM2320B), Nitrogen/nitrate (E353.2), Sulfate (SW9056), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42202
Laboratory: Accutest New England	Date: 11/20/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix:
G6M-02-12X_FA115	MC42202-1	10/15/2015	Miscellaneous Parameters	Groundwater
G6M-04-05X_FA115	MC42202-3	10/15/2015	Miscellaneous Parameters	Groundwater
MW-3_FA115	MC42202-4	10/15/2015	Miscellaneous Parameters	Groundwater
G6M-02-11X_FA115	MC42202-5	10/15/2015	Miscellaneous Parameters	Groundwater
G6M-03-10X_FA115	MC42202-6	10/15/2015	Miscellaneous Parameters	Groundwater
G6M-03-09X_FA115	MC42202-11	10/15/2015	Miscellaneous Parameters	Groundwater
G6M-13-04X_FA115	MC42202-12	10/15/2015	Miscellaneous Parameters	Groundwater

Summary - Data validation was performed on the data for seven (7) groundwater samples submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method SW9056.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory on 10/15/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

Method Blank –The method blanks for alkalinity, nitrogen/nitrate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for sulfate by method SW9056 at 0.58 mg/L.

Qualification: The results for sulfate in samples G6M-02-12X_FA115, MW-3_FA115 and G6M-02-11X (Lab Sample IDs: MC42202-1, -4 and 05) were less than five times the blank level and have been qualified as non-detect.

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with these samples.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The miscellaneous parameter results reported in this SDG are acceptable with the indicated qualifications. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-12X_FA115	MC42202-1	Sulfate	1	J	10	U
G6M-04-05X_FA115	MC42202-3	Miscellaneous Parameters	No qualification needed			
MW-3_FA115	MC42202-4	Sulfate	2.8	J	10	U
G6M-02-11X_FA115	MC42202-5	Sulfate	1.1	J	10	U
G6M-03-10X_FA115	MC42202-6	Miscellaneous Parameters	No qualification needed			
G6M-03-09X_FA115	MC42202-11	Miscellaneous Parameters	No qualification needed			
G6M-13-04X_FA115	MC42202-12	Miscellaneous Parameters	No qualification needed			

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42231
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1054-003

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
G6M-02-13X	MC42231-6	10/16/2015	RSK175	Groundwater
G6M-02-01X	MC42231-10	10/16/2015	RSK175	Groundwater
G6M-04-04X_FAL15	MC42231-13	10/16/2015	RSK175	Groundwater

Summary - Data validation was performed on the data for three (3) groundwater samples submitted for Methane, Ethane, Ethene analyses by Method RSK 175.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/16/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Laboratory Control Sample – The Laboratory Control Sample reported in analytical batch GBA1548 on 10/21/15 with these samples met the %R control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted.

Qualification: None required.

Compound Quantitation – Samples MC4231-10 and -13 were reanalyzed at 20X dilutions due to high levels of methane. Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The RSK175 results reported in this SDG are acceptable as reported. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-02-13X	MC42231-6	RSK175	No qualification needed.			
G6M-02-01X	MC42231-10	RSK175	No qualification needed.			
G6M-04-04X_FAL15	MC42231-13	RSK175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42231
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024-003

Client Sample ID	Lab Sample ID	Date Sampled	**Analysis**	**Matrix:**
TRIP BLANK	MC42231-1	10/16/2015	VOCs	Trip Blank
G6M-DUP-3	MC42231-2	10/16/2015	VOCs	Groundwater
G6M-RB-1	MC42231-3	10/16/2015	VOCs	Rinsate Blank
G6M-13-01X	MC42231-4	10/16/2015	VOCs	Groundwater
G6M-13-01X-H	MC42231-5	10/16/2015	VOCs	Groundwater
G6M-02-13X	MC42231-6	10/16/2015	VOCs	Groundwater
G6M-02-04X	MC42231-7	10/16/2015	VOCs	Groundwater
G6M-04-02X-H	MC42231-8	10/16/2015	VOCs	Groundwater
G6M-04-02X	MC42231-9	10/16/2015	VOCs	Groundwater
G6M-02-01X	MC42231-10	10/16/2015	VOCs	Groundwater
G6M-13-03X	MC42231-11	10/16/2015	VOCs	Groundwater
G6M-13-02X	MC42231-12	10/16/2015	VOCs	Groundwater
G6M-04-04X_FAL15	MC42231-13	10/16/2015	VOCs	Groundwater

Summary - Data validation was performed on the data for ten (10) groundwater samples, one (1) field duplicate sample, one (1) trip blank and one (1) rinsate blank submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Samples were submitted to Accutest Southeast in Orlando, FL for VOC analysis. Select groundwater samples were collected using both Region 1 low flow sampling and HydraSleeve™ technology. Samples collected using the HydraSleeve™ technology have an "H" suffix appended to the field sample ID.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/16/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – Surrogate recoveries were within the control limits for the initial analyses of all samples. Surrogate recoveries were outside control limits for the re-analyses of several samples. Results were not qualified since the reported analytes from the re-analyses were non-detect.

Qualification: None required.

Laboratory Control Sample – Percent recoveries for all LCSs analyzed with these samples were within %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Sample G6M-02-01X (Lab Sample ID: MC42231-10) was spiked and analyzed as MS/MSD. The %R and RPDs were within control limits.

Qualification: None required.

Method Blank – Low level target compounds were reported in the method blanks; VC4453-MB and VC4454-MB analyzed on 10/29/15 and 10/30/15 with these samples. Carbon disulfide, trans-1,2-dichoroethlyene and 1,1-dichloropropene were detected in both MBs at estimated values of 0.96 µg/L, 0.45 µg/L and 0.31 µg/L, respectively. Estimated levels of 1,3-dichlorobenzene and vinyl chloride were also detected in VC4454-MB at 0.22 µg/L and 0.26 µg/L. Carbon disulfide, trans-1,2-dichoroethlyene, 1,1-dichloropropene and 1,3-dichlorobenzene were not detected in associated samples. Detected results were reported for vinyl chloride in four samples; these results were reported from the analytical batch VC4453; vinyl chloride was non-detect in the associated method blank VC4453-MB.

Qualification: None required.

Field Blanks – Sample TRIP BLANK (Lab Sample ID: MC42231-1) was the trip blank sample and sample G6M-RB-1 (Lab Sample ID: MC42231-3) was a rinsate blank submitted with these samples. Target VOCs were non-detect in both samples.

Qualification: None required.

Field Duplicate – Samples G6M-13-01X and G6M-DUP3 (Lab Sample IDs: MC42231-4 and -2) were field duplicate samples submitted with this sample set. There was excellent correlation between results. The results for the detected compounds are summarized in the table below:

Client Sample ID:		G6M-DUP-3	G6M-13-01X	
Lab Sample ID:		MC42231-2	MC42231-4	RPD
cis-1,2-Dichloroethylene	ug/l	**2.4**	**2.6**	8.0
Tetrachloroethylene	ug/l	**25.6**	**26.3**	2.7
Trichloroethylene	ug/l	**1.1**	**1.1**	0

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as “ND”; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The VOC results reported in this SDG are acceptable as reported. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
TRIP BLANK	MC42231-1	VOCs	No qualification needed.			
G6M-DUP-3	MC42231-2	VOCs	No qualification needed.			
G6M-RB-1	MC42231-3	VOCs	No qualification needed.			
G6M-13-01X	MC42231-4	VOCs	No qualification needed.			
G6M-13-01X-H	MC42231-5	VOCs	No qualification needed.			
G6M-02-13X	MC42231-6	VOCs	No qualification needed.			
G6M-02-04X	MC42231-7	VOCs	No qualification needed.			
G6M-04-02X-H	MC42231-8	VOCs	No qualification needed.			
G6M-04-02X	MC42231-9	VOCs	No qualification needed.			
G6M-02-01X	MC42231-10	VOCs	No qualification needed.			
G6M-13-03X	MC42231-11	VOCs	No qualification needed.			
G6M-13-02X	MC42231-12	VOCs	No qualification needed.			
G6M-04-04X_FAL15	MC42231-13	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42231
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analytes	Matrix
G6M-DUP-3	MC42231-2F	10/16/2015	Dissolved As, Fe, Mn	Groundwater
G6M-13-01X	MC42231-4F	10/16/2015	Dissolved As, Fe, Mn	Groundwater
G6M-02-13X	MC42231-6F	10/16/2015	Dissolved As, Fe, Mn	Groundwater
G6M-02-04X	MC42231-7F	10/16/2015	Dissolved As, Fe, Mn	Groundwater
G6M-04-02X	MC42231-9F	10/16/2015	Dissolved As, Fe, Mn	Groundwater
G6M-02-01X	MC42231-10F	10/16/2015	Dissolved As, Fe, Mn	Groundwater
G6M-13-03X	MC42231-11F	10/16/2015	Dissolved As, Fe, Mn	Groundwater
G6M-13-02X	MC42231-12F	10/16/2015	Dissolved As, Fe, Mn	Groundwater
G6M-04-04X_FAL15	MC42231-13F	10/16/2015	Dissolved As, Fe, Mn	Groundwater

Summary - Data validation was performed on the data for eight (8) groundwater samples and one (1) field duplicate sample collected and submitted for dissolved metals analyses (arsenic, iron and manganese) by Method SW846/6010C.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/16/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – MS/MSD samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Samples G6M-13-01X and G6M-DUP3 (Lab Sample IDs: MC42231-4F and -2F) were field duplicate samples submitted with this sample set. There was excellent correlation between results. The results for the detected compounds are summarized in the table below:

Client Sample ID:		G6M-DUP-3		G6M-13-01X		
Lab Sample ID:		MC42231-2F		MC42231-4F		RPD
Iron	ug/l	60.5	J	61.3	J	1.3
Manganese	ug/l	15.5		15.6		0.64

Qualification: None required.

Compound Quantitation – Dilutions were required for iron and manganese in some samples; both sets of results were reported. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The dissolved metals results reported in this SDG are acceptable as reported. No qualifications were required and the data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analytes	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-DUP-3	MC42231-2F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-13-01X	MC42231-4F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-02-13X	MC42231-6F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-02-04X	MC42231-7F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-04-02X	MC42231-9F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-02-01X	MC42231-10F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-13-03X	MC42231-11F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-13-02X	MC42231-12F	Dissolved As, Fe, Mn	No qualification needed.			
G6M-04-04X_FAL15	MC42231-13F	Dissolved As, Fe, Mn	No qualification needed.			

Wet Chemistry

Alkalinity (SM2320B), Nitrogen, nitrate (E353.2), Sulfate (SW9056), Sulfide (SM4500 S F) and Total Organic Carbon (TOC) (SW9060)

USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42231
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
G6M-02-13X	MC42231-6	10/16/2015	Miscellaneous Parameters	Groundwater
G6M-02-01X	MC42231-10	10/16/2015	Miscellaneous Parameters	Groundwater
G6M-04-04X_FAL15	MC42231-13	10/16/2015	Miscellaneous Parameters	Groundwater

Summary - Data validation was performed on the data for three (3) groundwater samples submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method SW9056.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory on 10/16/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

Method Blank –The method blanks for alkalinity, sulfate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for nitrate/nitrite by method E352.2 at 0.069 mg/L.

Qualification: The reported results for nitrogen, nitrate in samples MC42231-10 and -13 have been qualified as non-detect at the reporting limit.

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The miscellaneous parameter results reported in this SDG are acceptable with the indicated qualifications. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value (mg/L)	Lab Qualifier	Validated Value (mg/L)	Validation Qualifier
G6M-02-13X	MC42231-6	Miscellaneous Parameters	No qualification needed.			
G6M-02-01X	MC42231-10	Nitrogen, nitrate	0.084	J	0.11	U
G6M-04-04X_FAL15	MC42231-13	Nitrogen, nitrate	0.098	J	0.11	U

Methane, Ethane, Ethene
RSK 175
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42269
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1054-003

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
G6M-04-06X	MC42269-7	10/19/2015	RSK175	Groundwater
G6M-04-07X	MC42269-8	10/19/2015	RSK175	Groundwater

Summary - Data validation was performed on the data for two (2) groundwater samples submitted for Methane, Ethane, Ethene analyses by Method RSK 175.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/19/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Laboratory Control Sample – The Laboratory Control Sample reported in analytical batch GBA1548 on 10/21/15 with these samples met the %R control limits established in the QAPP.

Qualification: None required.

MS/MSD –Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted.

Qualification: None required.

Compound Quantitation – Sample MC42269-8 was reanalyzed at a 10X dilution due to high level of methane. Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The RSK175 results reported in this SDG are acceptable as reported. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-06X	MC42269-7	RSK175	No qualification needed.			
G6M-04-07X	MC42269-8	RSK175	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42269
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1054-003

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
TRIP BLANK	MC42269-1	10/19/2015	VOCs	Trip Blank
XSA-12-98X	MC42269-2	10/19/2015	VOCs	Groundwater
G6M-02-06X	MC42269-3	10/19/2015	VOCs	Groundwater
G6M-02-07X	MC42269-4	10/19/2015	VOCs	Groundwater
XSA-12-97X	MC42269-5	10/19/2015	VOCs	Groundwater
XSA-12-95X	MC42269-6	10/19/2015	VOCs	Groundwater
G6M-04-06X	MC42269-7	10/19/2015	VOCs	Groundwater
G6M-04-07X	MC42269-8	10/19/2015	VOCs	Groundwater
G6M-RB-2	MC42269-9	10/19/2015	VOCs	Rinsate Blank

Summary - Data validation was performed on the data for seven (7) groundwater samples, one (1) trip blank and one (1) rinsate blank sample submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Samples were submitted to Accutest Southeast in Orlando, FL for VOC analysis.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/19/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – Samples XSA-12-95X and G6M-04-06X (Lab Sample IDs: MC42415-6 and -7) were re-analyzed one day out of the 14-day holding time. The results for cis-1,2-dichloroethylene were reported from the re-analysis; these results should be considered estimated. All remaining samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: The results for cis-1,2-dichloroethylene in samples MC42415-6 and -7 have been qualified as estimated.

Surrogates – All surrogate recoveries were within the control limits specified in the QAPP.

Qualification: None required.

Laboratory Control Sample – One LCS/LCSD pair was analyzed with these samples in analytical batch VC4458 on 11/2/2015. The LCS/LCSD met the %R and RPD control limits established in the QAPP.

Qualification: None required.

MS/MSD – Matrix spike/matrix spike duplicate samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Blanks – Sample TRIP BLANK (Lab Sample ID: MC42269-1) was the trip blank sample and G6M-RB2 (Lab Sample ID: MC42269-9) was the rinsate blank sample submitted with this sample set. Target VOC were not detected in either sample.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The VOC results reported in this SDG are acceptable with the qualifications indicated below. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value (ug/L)	Lab Qualifier	Validated Value (ug/L)	Validation Qualifier
TRIP BLANK	MC42269-1	VOCs	No qualification needed.			
XSA-12-98X	MC42269-2	VOCs	No qualification needed.			
G6M-02-06X	MC42269-3	VOCs	No qualification needed.			
G6M-02-07X	MC42269-4	VOCs	No qualification needed.			
XSA-12-97X	MC42269-5	VOCs	No qualification needed.			
XSA-12-95X	MC42269-6	cis-1,2-dichloroethlyene	111	Q	111	J
G6M-04-06X	MC42269-7	cis-1,2-dichloroethlyene	0.67	J	0.67	J
G6M-04-07X	MC42269-8	VOCs	No qualification needed.			
G6M-RB-2	MC42269-9	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42269
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
XSA-12-98X	MC42269-2F	10/19/2015	Dissolved Metals, As, Fe, Mn	Groundwater
G6M-02-06X	MC42269-3F	10/19/2015	Dissolved Metals, As, Fe, Mn	Groundwater
G6M-02-07X	MC42269-4F	10/19/2015	Dissolved Metals, As, Fe, Mn	Groundwater
XSA-12-97X	MC42269-5F	10/19/2015	Dissolved Metals, As, Fe, Mn	Groundwater
XSA-12-95X	MC42269-6F	10/19/2015	Dissolved Metals, As, Fe, Mn	Groundwater
G6M-04-06X	MC42269-7F	10/19/2015	Dissolved Metals, As, Fe, Mn	Groundwater
G6M-04-07X	MC42269-8F	10/19/2015	Dissolved Metals, As, Fe, Mn	Groundwater

Summary - Data validation was performed on the data for seven (7) groundwater samples collected and submitted for dissolved metals analyses (arsenic, iron and manganese) by Method SW846/6010C.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/19/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – MS/MSD samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Dilutions were required for manganese in samples MC42269-6F and -8F; both sets of results were reported. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The dissolved metals results reported in this SDG are acceptable as reported. No qualifications were required and the data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
XSA-12-98X	MC42269-2F	Dissolved Metals, As, Fe, Mn	No qualification needed.			
G6M-02-06X	MC42269-3F	Dissolved Metals, As, Fe, Mn	No qualification needed.			
G6M-02-07X	MC42269-4F	Dissolved Metals, As, Fe, Mn	No qualification needed.			
XSA-12-97X	MC42269-5F	Dissolved Metals, As, Fe, Mn	No qualification needed.			
XSA-12-95X	MC42269-6F	Dissolved Metals, As, Fe, Mn	No qualification needed.			
G6M-04-06X	MC42269-7F	Dissolved Metals, As, Fe, Mn	No qualification needed.			
G6M-04-07X	MC42269-8F	Dissolved Metals, As, Fe, Mn	No qualification needed.			

Wet Chemistry
Alkalinity (SM2320B), Nitrogen, nitrate (E353.2), Sulfate (SW9056), Sulfide (SM4500 S F)
and Total Organic Carbon (TOC) (SW9060)
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42269
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
G6M-04-06X	MC42269-7	10/19/2015	Miscellaneous Parameters	Groundwater
G6M-04-07X	MC42269-8	10/19/2015	Miscellaneous Parameters	Groundwater

Summary - Data validation was performed on the data for two (2) groundwater samples submitted for the miscellaneous wet chemistry analyses listed above. The samples submitted for sulfate analyses were shipped to Accutest Laboratory in Dayton, NJ for sulfate analysis by method SW9056.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived intact at the laboratory on 10/19/2015, in acceptable condition and temperature, and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the respective holding times required by the QAPP for preserved aqueous samples.

Qualification: None required.

Method Blank –The method blanks for alkalinity, sulfate, sulfide, and TOC were free from contamination. Low level contamination was detected in the method blank analyzed for nitrate/nitrite by method E352.2 at 0.047 mg/L. The results for nitrogen, nitrate in both samples was non-detect.

Qualification: None required.

Laboratory Control Sample – The LCS %R results for all methods associated with these samples met the control limits established by the QAPP.

Qualification: None required.

MS/MSD – Batch matrix spike/duplicate samples analyzed with these samples met the control limits established by the QAPP.

Qualification: None required.

Field Blanks – Field blank samples were not submitted with this sample set.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted with this sample set.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as “ND”; these results should be considered the equivalent of “PQL U.” Analyte detections below the PQL were reported as J-qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The miscellaneous parameter results reported in this SDG are acceptable with the indicated qualifications. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-06X	MC42269-7	Miscellaneous Parameters	No qualifications needed.			
G6M-04-07X	MC42269-8	Miscellaneous Parameters	No qualifications needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42415
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024-003

Client Sample ID	Lab Sample ID	Date Sampled	**Analysis**	**Matrix:**
TRIP BLANK	MC42415-1	10/23/2015	VOCs	Trip Blank
XSA-12-96X_FAL15	MC42415-2	10/23/2015	VOCs	Groundwater

Summary - Data validation was performed on the data for one (1) groundwater samples and one (1) trip balnk sample submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Samples were submitted to Accutest Southeast in Orlando, FL for VOC analysis.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/23/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – Surrogate recoveries were within the control limits for all samples.

Qualification: None required.

Laboratory Control Sample – Percent recoveries for all LCSs analyzed with these samples were within %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Matrix spike samples were not submitted with these samples.

Qualification: None required.

Method Blank – The method blanks associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Blanks – Sample TRIP BLANK (Lab Sample ID: MC42415) was the trip blank submitted with these samples. Target VOCs were non-detect in both samples.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The VOC results reported in this SDG are acceptable as reported. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
TRIP BLANK	MC42415-1	VOCs	No qualification needed.			
XSA-12-96X_FAL15	MC42415-2	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42415
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analytes	Matrix
XSA-12-96X_FAL15	MC42415-2F	10/23/2015	Dissolved As, Fe, Mn	Groundwater

Summary - Data validation was performed on the data for one (1) groundwater sample collected and submitted for dissolved metals analyses (arsenic, iron and manganese) by Method SW846/6010C.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/23/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – MS/MSD samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted.

Qualification: None required.

Compound Quantitation – Dilutions were required for manganese; both diluted and undiluted results (As, Fe) were reported. Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The dissolved metals results reported in this SDG are acceptable as reported. No qualifications were required and the data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analytes	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
XSA-12-96X_FAL15	MC42415-2F	Dissolved As, Fe, Mn	No qualification needed.			

Volatile Organic Compounds
SW-846 Method 8260C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42449
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024-003

Client Sample ID	Lab Sample ID	Date Sampled	Analysis	Matrix
G6M-04-14X_FA115	MC42449-1	10/26/2015	VOCs	Groundwater
TRIP BLANK	MC42449-2	10/26/2015	VOCs	Trip balnk

Summary - Data validation was performed on the data for one (1) groundwater samples and one (1) trip blank sample submitted for Volatile Organic (VOC) analyses by SW-846 Method 8260C DOD. Samples were submitted to Accutest Southeast in Orlando, FL for VOC analysis.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/26/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required.

Holding Times – All samples were analyzed within the 14-day holding time required by the QAPP for preserved aqueous samples.

Qualification: None required.

Surrogates – Surrogate recoveries were within the control limits for all samples.

Qualification: None required.

Laboratory Control Sample – Percent recoveries for the LCS analyzed in batch VB4415 with these samples were within %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – Matrix spike samples were not submitted with these samples.

Qualification: None required.

Method Blank – The method blank analyzed in batch VB4415 associated with the samples in this SDG were free of contamination.

Qualification: None required.

Field Blanks – Sample TRIP BLANK (Lab Sample ID: MC42449-2) was the trip blank submitted with these samples. Target VOCs were non-detect in both samples.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The VOC results reported in this SDG are acceptable as reported. The data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analysis	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-14X_FA115	MC42449-1	VOCs	No qualification needed.			
TRIP BLANK	MC42449-2	VOCs	No qualification needed.			

Dissolved Metals
SW 846/6010C
USEPA Level II Review

Site: Former Fort Devens, MA – AOC 50	SDG #: MC42449
Laboratory: Accutest New England	Date: 11/11/2015
H&S Environmental, Inc. Reviewer: Laurie Ekes H&S Peer Reviewer:	Project: 1024

Client Sample ID	Lab Sample ID	Date Sampled	Analytes	Matrix
G6M-04-14X_FA115	MC42449-1F	10/26/2015	Dissolved As, Fe, Mn	Groundwater

Summary - Data validation was performed on the data for one (1) groundwater sample collected and submitted for dissolved metals analyses (arsenic, iron and manganese) by Method SW846/6010C.

Narrative and Completeness Review – The case narrative and data package were checked for completeness. No discrepancies were noted.

Qualification: None required.

Sample Delivery and Condition – All samples arrived at the laboratory on 10/26/2015 in acceptable condition and temperature and were properly preserved. Proper custody was documented.

Qualification: None required

Holding Times – All samples were analyzed within the 6-month holding time required by the QAPP for preserved aqueous samples.

Qualification: None required

Laboratory Control Sample – The LCS recoveries for the reported target analytes met all %R control limits established in the QAPP.

Qualification: None required.

MS/MSD – MS/MSD samples were not submitted with this sample set.

Qualification: None required.

Method Blank – The method blanks associated and analyzed with these samples were non-detect for all target analytes.

Qualification: None required.

Field Duplicate – Field duplicate samples were not submitted.

Qualification: None required.

Compound Quantitation – Analyte non-detections were reported as "ND"; these results should be considered the equivalent of "PQL U." Analyte detections below the PQL were reported as J qualified results. These J qualifiers were retained unless superseded by a more severe qualifier.

Qualification: None required.

Qualification Summary Table - The dissolved metals results reported in this SDG are acceptable as reported. No qualifications were required and the data may be used for its intended purpose.

Client Sample ID	Lab Sample ID	Analytes	Lab Value	Lab Qualifier	Validated Value	Validation Qualifier
G6M-04-14X_FA115	MC42449-1F	Dissolved As, Fe, Mn	No qualification needed.			

APPENDIX D

September 2007 Addendum
for Real Property Master Plan Long Range Component
for Devens Reserve Forces Training Area

REAL PROPERTY MASTER PLAN LONG RANGE COMPONENT FOR DEVENS RESERVE FORCES TRAINING AREA

ADDENDUM – SEPTEMBER 2007

This addendum applies to Chapter 4.C. (Land Use Policies and Constraints) and Chapter 5.E. (Environmental Concerns) of the *Real Property Master Plan*, *Long Range Component for Devens Reserves Forces Training Area*, *June 1999.* The addendum provides supplemental information on Land-Use Controls (LUCs) established under BRAC and CERCLA programs that are applicable to the following areas:

Area A (Main Cantonment)

The CERCLA remedy for the former AAFES Gas Station located on Queenstown Street is addressed in the Record of Decision (ROD) for Area of Contamination (AOC) 43G. The remedy is based on Army retention of this area and continued restricted access to groundwater; however, any proposed actions that affect this property must consider the following ROD requirements and site environmental conditions:

- Assure that the Property is not used for residential purposes and prohibit the use of groundwater beneath the site. If the Army changes the land-use within the AOC, then additional assessment and/or possible remedial action may be needed based upon the possible resultant changed risk factors.

- If the Army transfers this property by lease or deed, an Environmental Baseline Assessment (EBS) will be conducted to ensure that the remedy remains protective by incorporating all necessary environmental protection provisions within the Finding of Suitability to Transfer (FOST) and the property transfer deed.

- Any intrusive construction work must consider that residual soil and groundwater contamination has been documented for AOC 43G and that such actions should be coordinated with the DPW, the BRAC Environmental Office and the BRAC Clean-up Team (BCT).

Area C (Range & Training Area)

The CERCLA remedy for the South Post range and training areas is addressed in the ROD for the South Post Impact Area (SPIA) and AOCs 25, 26, 27 and 41. The "no action" remedy is based on Army retention of the South Post; however, any proposed actions that affect this property must consider the following ROD requirements:

- If the Army should close or transfer or change the use of this property, an Environmental Baseline Survey (EBS) will be conducted, and the "no action" decision in the ROD will be re-examined in light of the changed use and risk factors resulting from this closure/transfer.

- The Army will not develop new drinking water sources within the SPIA monitored area.

Area F (3700 Area – Barnum Road Maintenance Yards)

The CERCLA remedy for the former Cannibalization Yard and TDA Maintenance Yard is addressed in the ROD for AOCs 44 and 52, respectively. The remedy is based on Army retention of this property; however, any proposed actions that affect this property must consider the following ROD requirements:

- Assure the Property is not used for residential purposes. If the Army transfers this property by lease or deed, an EBS will be conducted to ensure that the remedy remains protective by incorporating all necessary environmental protection provisions within the FOST and the property transfer deed.

- Maintain the existing paved areas and storm water collection systems to prevent long-term worker exposure to residual oil contaminated soils 2-5 feet BGS associated with AOC 44/52 remedy.

- Assure that Soil Management Plans and Health and Safety Plans are prepared and executed prior to subsurface excavations.

- Any intrusive construction work must consider that residual soil contamination has been documented for AOC 44/52 and that such actions should be coordinated with the DPW, the BRAC Environmental Office and the BCT.

Area G (3800 Area – RTS Maintenance)

The CERCLA remedy for the former Moore Army Airfield is addressed in the ROD for AOC 50. Active remediation and monitoring of the AOC 50 chlorinated solvent plume, which is under building 3813 is ongoing. Treatment transects and associated monitoring wells are located in the RTC vehicle storage area and on the Southwest Corner of Building 3813 former hanger, along the axis of the plume through Army retained Parcel H. Any proposed actions that affect this property must consider the following ROD requirements:

- Provide continued access to treatment transects and monitoring wells and access to install additional injection or monitoring wells, if necessary.

- Coordinate construction plans with the BCT to facilitate ongoing remediation and future access to plume areas

- No groundwater extraction or injection for any purpose

- Coordinate construction plans for modifications to storm water systems with the BCT including engineered storm water management plans and hydrologic/ mounding studies. (Continue use of existing storm water system to direct storm water away from the plume)

APPENDIX E

Land-Use Control Letters and Annual Land-Use Control Plan Checklist Forms

Annual Land Use Checklist & Interview Forms

The checklist and interview form will be completed annually and submitted with the annual long-term monitoring report. The checklist will also be used to assist in compiling information for the five-year review.

I. Site Information		
Site Name:	Fort Devens AOC 50	**Name:** **Elizabeth Anderson** **Affiliation:** H&S Environmental, Inc. **Date:** 05/31/2015 **Weather:** Sun/Humid/Partly Cloudy, 78°
Location:	Ayer, MA	
Remedy Includes: Long-Term Monitoring Operation and Maintenance (SVE, ERD, IWS) Institutional Controls		
Inspectors:	Elizabeth Anderson	
Site Map Attached:	NA	

II Documentation & Records		
Item	**Check One**	**Comments**
Any related notices filed with Devens Enterprise Commission?	Yes [ ] No [X]	
Any related Department of Public Works permits found?	Yes [ ] No [X]	
Any related zoning permits or variances found?	Yes [ ] No [X]	
Any related Conservation Commission findings, proposals or notices of intent found?	Yes [ ] No [X]	

III Physical On-site Inspection		
Item	**Check One**	**Comments**
Any evidence of new construction or excavation present in the area of the remedy?	Yes [ ] No [X]	No construction activities noted. Sites are in good condition.
Is there evidence of damage to the remedy?	Yes [ ] No [X]	
Any groundwater extraction wells present?	Yes [ ] No [ ]	
Is there sufficient access to the site for monitoring?	Yes [X] No [ ]	Monitoring events are scheduled around Massachusetts State Police training.
Any signs of increased exposure potential?	Yes [ ] No [X]	


T-3824

IV Interview		
Name of Interviewer:	Elizabeth Anderson	
Name of Interviewee:	Libby Herland, US FWS	
Date:	5/14/2015	
Position:		
Owner		
Manager	US Fish and Wildlife Services	
Other - Please specify		
Location:		
Site:	Oxbow National Wildlife Refuge	
Office:	40 Eastern MA NWR Complex, Weire Hill, Sudbury, MA	
Phone:		
Telephone/Email:	978-443-4661	Libby_Herland@fws.gov

Item	Circle One		Comments
Has the interviewee received/read the annual IC notification/reinforcement letter from the Army	YES	NO	
Is the interviewee familiar with the land use controls imposed upon the property and documentation of these controls?	YES	NO	
Are there any pumping wells or other sources of water other than those aupplied by the Town at the property?	YES	NO	
Are there any proposed plans for property sale, future development, construction or demolition activities a the property?	YES	NO	
Are there any issued with the site access for monitoring and remediation?	YES	NO	

V Response Actions			
Item	Check One		Comments
Were violations of the LUCs present?	YES	NO	
Are there Reposne Actions necessary based on the violations?	YES	NO	
Are modification/terminations of LUCs necessary?	YES	NO	
Have enforcement actions been taken during this reporting period?	YES	NO	

If any of the reponses are YES please provide comments

Annual Certification

Name:	Elizabeth Anderson
Affiliation:	H&S Environmental, Inc.
Signature:	Elizabeth Anderson
Date:	5/14/2015

IV Interview			
Name of Interviewer:	Elizabeth Anderson		
Name of Interviewee:	Henry Woodle		
Date:	5/14/2015		
Position:			
Owner			
Manager			
Other - Please specify	Groton Ayer Realty Trust		
Location:			
Site:			
Office:			
Phone:			
Telephone/Email:	978-449-0100		
Item	Circle One		Comments
Has the interviewee received/read the annual IC notification/reinforcement letter from the Army	YES	NO	
Is the interviewee familiar with the land use controls imposed upon the property and documentation of these controls?	YES	NO	
Are there any pumping wells or other sources of water other than those aupplied by the Town at the property?	YES	NO	
Are there any proposed plans for property sale, future development, construction or demolition activities a the property?	YES	NO	
Are there any issued with the site access for monitoring and remediation?	YES	NO	

V Response Actions			
Item	Check One		Comments
Were violations of the LUCs present?	YES	NO	
Are there Reposne Actions necessary based on the violations?	YES	NO	
Are modification/terminations of LUCs necessary?	YES	NO	
Have enforcement actions been taken during this reporting period?	YES	NO	

If any of the reponses are YES please provide comments

Annual Certification

Name: Elizabeth Anderson

Affiliation: H&S Environmental, Inc.

Signature: Elizabeth Anderson

Date: 5/14/2015

IV Interview			
Name of Interviewer:	Elizabeth Anderson		
Name of Interviewee:	Ron Ostrowski		
Date:	5/14/2015		
Position:			
Owner			
Manager			
Other - Please specify	Environmental Services Rep, MassDevelopment		
Location:			
Site:			
Office:			
Phone:			
Telephone/Email:	978-784-2900		Rostrowski@massdevelopment.com
Item	Circle One		Comments
Has the interviewee received/read the annual IC notification/reinforcement letter from the Army	YES	NO	
Is the interviewee familiar with the land use controls imposed upon the property and documentation of these controls?	YES	NO	
Are there any pumping wells or other sources of water other than those applied by the Town at the property?	YES	NO	
Are there any proposed plans for property sale, future development, construction or demolition activities a the property?	YES	NO	
Are there any issued with the site access for monitoring and remediation?	YES	NO	Contact State Police prior to accessing runway areas (2 through 5)

V Response Actions			
Item	Check One		Comments
Were violations of the LUCs present?	YES	NO	
Are there Reposne Actions necessary based on the violations?	YES	NO	
Are modification/terminations of LUCs necessary?	YES	NO	
Have enforcement actions been taken during this reporting period?	YES	NO	

If any of the reponses are YES please provide comments

Annual Certification

Name:	Elizabeth Anderson
Affiliation:	H&S Environmental, Inc.
Signature:	Elizabeth Anderson
Date:	5/14/2015

APPENDIX F

Response to Comments

Responses to EPA Comments dated September 16, 2016 on the

***2015 Annual Operation & Maintenance (O&M) and Monitoring Report* for AOC 50 dated August, 2016**

GENERAL COMMENTS

1. The Conclusions and Evaluation section of the Source Area MiHPT Investigation Summary report, dated June 2015, discussed that the results were evaluated relative to the ROD-specified treatment time frame for ERD of 10 to 15 years, with the expected completion time to reach cleanup goals being 2019, since injections were initiated in 2004. Following that study, Supplemental ERD Injections, including direct push delivery of substrate within the Source Area and a change of substrate for some areas/transects, were proposed to and approved by EPA and MassDEP, with a Final Work Plan, dated August 2015, detailing the work. Before that time, and through 2014, ERD injections were conducted at least semi-annually (monthly in earlier years of the remedy). However, only one injection event was conducted during 2015 (the Supplemental ERD Injection) and appears to be recommended for 2016, as well. The appropriateness of the reduced frequency of ERD injections to effectively treat the remaining contamination to cleanup goals needs to be evaluated in the Annual Reports. In addition, the term "supplemental" is confusing, as it implies injections in addition to those "regularly" scheduled. Please address.

   RESPONSE: *The information referenced from the Source Area MiHPT Investigation Summary report is incorrect. The remedial duration estimate for AOC 50 was 27 years; therefore, the expected completion date would be 2031. As shown on the Annual Report figures the PCE plume has been reduced over time, indicating that remediation via ERD has been successful. Localized areas of residual impacts remain within portions of the site.*

   Based on the results of the MiHPT investigation, in 2015 the Army completed direct push injections in the source area at deeper depths to target impacts in this area and to evaluate the effectiveness of direct-push injections. The Army also injected longer-lasting amendments (zero valent iron and oleic acid) in the source area and other areas where injections are performed to enhance and prolong ERD. These proposed changes were discussed in the text in Section 4.1.4 and were presented at previous RAB meetings. The Army has been monitoring wells to evaluate the results of the 2015 injections and thus far these changes appear to be positive. Changes to the injection program will be documented in an updated LTMMP to be submitted to the agencies in December 2016. Future monitoring will continue and the results will be evaluated in the 2016 Annual Report to determine the overall effectiveness of direct push and the change in the amendments. The report will also include an assessment of the frequency of injection of the new amendments, and make recommendations for optimizing the injection process.

2. Depending on the area or transect, PCE contamination has either been persistent, or not clearly delineated, along the western edge of the plume. Specifically, the 2014 and 2015 data show that significant contamination either remains or is not fully characterized along the western edge of Area 1 and Transects 4 and 5. Future expansion of the monitoring and/or

injection networks will be needed along the western edges of Areas 1, 4, and 5. Also, see Specific Comment 4, regarding the western part of Area 1.

RESPONSE: *Groundwater impacts across AOC50 have decreased significantly since ERD was instituted. This is observed by reviewing figures 20 through 23 of the 2015 Annual Report. The plume is now disconnected and attenuating. The Army acknowledges that additional injections will be necessary to address residual impacts per Section 8 of the Annual Report and has already taken steps to improve the remedial operation performance by directly injecting the ERD substrate. A revised LTMMP is being submitted to address additional monitoring and direct injection of the ERD substrate to target remaining hot spots.*

3. The final version of the MiHPT report was included as Appendix A of the previous year's (2014) Annual Report. Within that MiHPT report, the overall project goals were to investigate two source areas, being the parachute shakeout tower area and the former drum storage area. To date, only the parachute shakeout tower area has been investigated using MiHPT. Please indicate when the MiHPT investigation is planned for the former drum storage area. Although the October 2015 data show a PCE concentration of 482 ug/L in G6M-07-02X, the 2014 concentrations were much higher in this well, at 14,000 ug/L and 6,200 ug/L in November and December 2014, respectively. These concentrations warrant further investigations of "hot spots" in this area.

   RESPONSE: *As part of the revised injection plan, the use of direct injection significantly reduced concentrations around the source area. Additional injections of ERD substrate via direct injection will be used to address hot spots across AOC 50. As was recommended in Section 8 of the Annual Report and contained in the LTMMP, additional injections of the ERD substrate would be used to address the hot spot locations in the source area. The Army will continue to monitor the concentrations in the drum storage area as we adjust our injection strategy, and should the concentrations in G6M-07-02X rebound again, the Army will develop an appropriate high resolution site characterization strategy for better understanding the source..*

4. The structure of the 2015 report should be improved to aid navigation and understanding for the reader. For example, the locations of direct push injections within the Source Area are very important in evaluating the effectiveness of ERD treatment, yet they are only shown on a Figure located within Appendix A. EPA suggests that these direct push locations be shown on a Figure within the body of the Annual Report. Likewise, the fifteen "Charts" that are located in an appendix to an appendix (specifically Appendix B within Appendix A), are central to the discussion in Section 2.0, but are poorly referenced and difficult for the reader to find. EPA suggests that these charts either be moved to, or repeated in, the Figures section of the Annual Report. Otherwise, clearer referencing in Section 2 and an expansion of the Table of Contents to show appendices within appendices would help. See Specific Comment 2.

   RESPONSE: *Report format has been revised for reviewing ease. Charts have been renumbered as Figures and inserted into the discussion of Section 2.*

5. The 2014 Annual Report mentioned an obstruction in G6M-03-08X in the IWS area. Has this been repaired? Also, the 2014 report mentioned a problem with the CPU for the IWS system. Has the CPU been repaired or replaced? If so, please provide a date of repair/replacement.

When the IWS system was shut-down by agreement, it was agreed to maintain its functionality in case it needs to be restarted.

RESPONSE: *A pump was stuck in well G6M-03-08X. It was successfully removed during the fall 2015 sampling event. The IWS system has remained off line. The CPU has not been replaced.*

SPECIFIC COMMENTS

1. Section 1.3, p. 1-3, 2nd paragraph – The last sentence should be clarified to the effect that heads in deeper wells are low relative to those within wells screened at a shallower depth.

   RESPONSE: *Agreed. The statement was revised to "Groundwater elevations within deeper wells at and to the north of AOC 50 typically have lower heads than wells screened at shallower depths indicating that there is a downward hydraulic gradient within this area."*

2. Section 2.1, p. 2-1, 2nd paragraph – Charts 1 through 5 are central to this discussion, and their location within the report should be referenced immediately after they are mentioned in the first paragraph. It is not readily apparent that the charts are in Appendix B, within Appendix A, as opposed to the report's Appendix B. Considering the importance of the charts, EPA recommends that they be presented as Figures. The same comment applies to the first sentences of the sub-sections for each Area (2, 3, 4, and 5).

   RESPONSE: *Agreed. Charts have been renumbered as Figures and inserted into the discussion of Section 2.*

3. Section 2.1, p. 2-1, 3rd paragraph – This paragraph discusses an increase in PCE and TCE in G6M-03-01X (Chart 4 is referenced, but it should be Chart 5) in 2015 and attributes the increase to ERD substrate injections nearby. Please include further discussion as to why the substrate injections would cause these increases observed.

   RESPONSE: *The increase in PCE, TCE and the associated daughter products may be attributable to the decrease in pH that often occurs during the ERD process. Low pH has a substantial effect on the activity of Dehalococoides (DHC). At pH below approximately 6, the activity of most strains decline rapidly, particularly the vinyl chloride reductase activity. This could explain persistence of CVOCs after the injections. Attention will be paid to pH during future injections, and if necessary, a buffer may be added along with substrate to promote better DHC activity.*

   Chart numbers have been corrected in the text.

4. Section 2.1, p. 2-1, fourth paragraph – Elevated concentrations of PCE, up to 1,700 ug/L, have been detected in samples from G6M-13-05X since June 2014. The western edge of the plume has yet to be identified in this area and an additional monitoring well is needed west of this well to delineate the plume. Further, attributing these relatively high levels of PCE and TCE within G6M-13-05X to a "delay response to historical ERD injections" is questionable. It appears that the only nearby injection was in 2014 into G6M-04-12X which was converted from a monitoring well to an injection well. It appears as though Army may have intended another injection within G6M-04-12X in 2015, based on the observation noted in Appendix A, Table 1 – ERD Injections Log, which states "well is blocked at 15.4 ft with thick orange substrate". Are the screen depths in that converted injection well and in G6M-13-05X suitable for effective treatment? Are reducing conditions present in G6M-13-05X? Further

evaluation of this “hot spot” is needed, with future treatment of this area warranted. Also note that the text in this paragraph refers to Chart 5, which should be Chart 4.

RESPONSE: *PCE concentrations monitoring well G6M-13-05X decreased somewhat in 2015 after substrate injections. This decrease may have been a result of the ERD process. Additional injections via direct push are planned in this area. Future monitoring events may incorporate G6M-96-25 B located west and side gradient of G6M-13-05X. In addition, previous profile investigations conducted in 2013 (Sovereign) indicated concentrations below the MCL (GP-13-23). Date from the MiHPT investigation west of G6M-13-05X at location MiHPT-10 showed minimal CVOC contamination at this location, in both the MIP log and the two confirmatory water samples collected at this location from 25 and 44 feet bgs (PCE concentrations of less than 0.5 and 1.6 ug/L, respectively). Further refinement of the delineation in this area is not warranted.*

Monitoring data of G6M-13-05X indicates reduced DO from after the July injection event suggesting that the substrate may be promoting a reducing environment. As indicated in Response to General Comment #3 additional injections are planned around the source area to address hot spots.

The chart reference will be revised.

5. Section 2.1, p. 2-2, Area 4 paragraph – There is a typo on the first line. The well name should be G6M-06-01X, not 10X.

   RESPONSE: *Agreed. Typo was corrected.*

6. Section 2.1, p. 2-2, Area 5 paragraph and Figure 4.4 – New injection well IW-39 was installed in 2014 to address bypass to the west of Transect 5. Results illustrated on Figure 5.1 in the 2014 report and on Figure 4.4 in the 2015 report indicate that additional injections farther to the west are also needed. See G6M-97-05B. As presently configured, Transect 5 is oblique to the plume axis. Also, for completeness, please discuss Chart 15.

   RESPONSE*: See Response to General Comment #2. Concentrations in Area 5 have significantly reduced since ERD injections began in 2004. Previous investigations and profile sampling conducted in 2013 upgradient of G6M-97-05B indicated concentrations below the MCL. Groundwater chemistry in this area is approaching a reduced environment. Additional and localized application of the ERD substrate may be conducted in areas of hot spots to enhance the reduced conditions. A discussion of Chart 15 was included in the report.*

7. Section 3.4.2, p. 3-2, last paragraph – Groundwater flow direction is to the southwest in most of the plume, but in the far southwestern portion of the plume, beyond Area 5, groundwater contours in Figures 3.1a and 3.1b show a significant area in which the groundwater flow is westerly. This likely accounts for the persistence of contamination in this area.

   RESPONSE*: Comment noted.*

8. Section 3.4.2, p. 3-3 – Groundwater gradients would be much greater, if XSA-12-98X or G6M-02-07X were considered in the calculation.

   RESPONSE: *The Army will consider revising hydraulic gradient calculations in future annual reports.*

9. Section 4.1.2, p. 4-2, 5th paragraph – In the paragraph that discusses Figure 4-3, "increased levels (of VOCs) along the westernmost edges on the perimeter of Areas 4 and 5 transects" are noted. Apparent increases shown by the western shift in contours (comparing Figure 4-2 to Figure 4-3) may largely be the result of expanded monitoring in that area and not primarily due to concentration increases or actual plume shift.

   RESPONSE: *Text was revised to indicate that the increased levels of VOCs may be the result of expanded monitoring in the area.*

10. Section 4.1.4, p. 4-3, 4th paragraph – Well G6M-97-05B is an exception to the statement that historic PCE concentrations in groundwater are reducing throughout the ERD injection areas.

    RESPONSE: *Comment noted.*

11. Section 4.1.4, p. 4-3, 5th paragraph – The discussion in this paragraph would be much easier to understand and verify if it were illustrated with a map figure.

    RESPONSE: *The Army will consider adding figures to depict chemical results for additional compounds and geochemical parameters in future annual reports.*

12. Section 4.1.4, p. 4-4, 2nd paragraph – The explanation that increases in VOC concentrations in three wells is attributable to decreases in pH should be re-evaluated using 2016 data in next year's report.

    RESPONSE: *Comment noted.*

13. Section 5.0, p. 5-1, 5th paragraph – EPA appreciates the cautious approach in evaluating the use of HydraSleeve technology. EPA awaits the evaluation of percent differences between this and conventional methods during 2016 data collection.

    RESPONSE: *Comment noted.*

14. Section 7.0, p. 7-1, 1st paragraph – The overall conclusion stated in this paragraph (regarding "all areas") is too broad and neglects portions of the source area in which contamination is increasing or cannot yet be bounded with existing information. Complete dehalogenation is not yet occurring in several portions of the source area (western edge and former drum storage area) and downgradient plume. Portions of the deep aquifer and low permeability zones have yet to experience complete dehalogenation.

    RESPONSE: *The overall conclusion that downward trends are occurring is true; however, the Army agrees that localized areas of impact will require additional remedial efforts.*

15. Section 7.0, p. 7-1, 2nd paragraph – EPA agrees that the conversion of some monitoring wells to injection wells downgradient and near the western edges of Areas 4 and 5 has helped to stimulate reductive dechlorination along the western edge of the plume. However, in some of these locations it is no longer possible to monitor progress along the western edge or to contour the edge of the plume, due to lack of data. Specifically, the well with the highest PCE concentration in 2015 is G6M-13-05X, located at the western edge of the Source Area (Area 1), and there are no monitoring results to the west of this well. Therefore, the extent of the plume in this area is unknown. Similarly, although G6M-13-02X was installed in the western portion of Area 4 (to replace G6M-06-01X which was converted to an injection well), the western edge of the plume in Area 4 is not well defined. West of Area 5, G6M-97-05B has PCE levels greater than 100 ug/L, but there are no other wells farther to the west that

would allow determination as to the western extent of the plume. This location is several hundred feet away from the nearest injection point. Please propose a plan to characterize and address these issues. Existing wells in this area should be added to the monitoring program, or new monitoring wells installed to the west within these areas.

RESPONSE: *See Response to Specific Comment #4. Additionally, the groundwater flow direction is southwest in the source area therefore G6M-96-25 B, G6M-03-05B and G6M-04-11X are sufficient monitoring locations for G6M-13-05X. Historical profile sampling conducted at GP-13-23 and MiHPT-10 indicated that the CVOC concentrations in the aquifer west of G6M-13-05X are below the MCLs and therefore no additional monitoring wells are planned immediately west of G6M-13-05X.*

H*istorical profile sampling conducted along the western edge of Area 4 and 5 indicated results below the MCL, therefore additional monitoring wells west of transect 4 and 5 are not planned at this time.*

16. Section 8.0, p. 8-1, bullet - Supplemental wording within the text is confusing, as it implies injections in addition to those regularly scheduled. Please reword.

    RESPONSE: *Comment noted. Bullet has been revised.*

17. Section 8.0, p. 8-1, 2nd bullet – Text within this section discusses that ERD injections are not recommended for Area 2 at this time. Area 2 discussions in Section 2.1 include monitoring well G6M-04-02X, which is located just upgradient, but probably not within the treatment zone, of Area 3. Since PCE has fluctuated within G6M-04-02X, with a 2015 concentration (105 ug/L) that is similar to those being proposed for additional direct push injections in Areas 4 and 5, EPA recommend that direct push injection(s) be added nearby/upgradient of G6M-04-02X to stimulate reductions in this well, while direct push equipment has been mobilized.

    RESPONSE: *The Army will continue evaluating PCE concentrations in conjunction with additional groundwater chemistry to determine if future injection events are warranted in this area.*

18. Section 8.0, p. 8-1, 3rd and 4th bullets – Please list which wells are recommended for injection in 2016.

    RESPONSE: *Potential injection wells were added to the 3rd and 4th bullets.*

19. Section 8.0, p. 8-1, last paragraph – The third sentence states that a post-injection sampling event "may occur prior to the fall 2016 LTM event". Please elaborate. Is Army planning to do this?

    RESPONSE: *An injection event is scheduled following the Fall LTM event. The paragraph has been revised.*

20. Figure 3.1a -- While contouring is always somewhat subjective, the present data set allows for refinement. First, significant segments of contours extend beyond existing data points and should be dashed where speculative. Second, a groundwater depression appears to be present in the vicinity of G6M-02-05X, MW-4, and G6M-13-04X; an enclosed 202-foot contour line with inward hachures should be drawn. If this low in the potentiometric surface is due to vertical gradients between wells screened at different depths, an explanatory note could be added. Also, the groundwater levels in XSA-12-98X and XSA-02-07X are more

than 50 feet lower than any other measured water levels. Unless these are believed to be erroneous, contouring should be extended to this area.

RESPONSE:*. Contour lines will be dashed when the lines extend beyond the known data points. Specific data points XSA-12-98X and XSA-02-07X were removed from the contours as the data points are erroneous. Water levels in these wells will be measured during the 2016 LTM events. The groundwater elevation indicated at G6M-02-05X is the elevation for G6M-13-01X. The figure has been corrected.*

21. Figure 4.1 – Several PCE concentrations have the suffix “B”, but this is not defined in the notes. Please add a definition for “B”.

    RESPONSE: *The legend was updated to indicate that “B” represents detected in lab blank.*

22. Figure 4.2 – The 5 ug/L contour line should not extend (or be dashed) through G6M-03-07X, downgradient of Area 3, as PCE was not detected in this well. See Figure 4.3, in which contouring in this area is more appropriate, for the same situation.

    RESPONSE: *The figure was revised.*

23. Figure 4.4 – In the inset, contouring extends to the west of the well with the highest concentration, G6M13-05X, even though there are no data points to the west of this well. Until data from points to the west are obtained, the 5 ug/L contour, the 100 ug/L contour, and maybe even the 1,000 ug/L contour cannot be closed off, to the west. Similarly, the highest concentration in the vicinity of Area 5 occurs in the westernmost well (G6M-97-05B) in that immediate area. Therefore, the western boundary of the plume is unknown in this vicinity, and closing the contours in this area is deceptive.

    RESPONSE: *See Response to Specific Comments #4 and #15. Historical concentrations indicate groundwater immediately west of G6M-13-05X was below the MCL. In addition, historical profile and monitoring well concentrations both upgradient and west of G6M-96-25B, as well as current downgradient concentrations (XSA-12-97X) all indicate that this area can generally be defined as the western limit of the plumeand therefore, the contour line can be closed.*

24. Figure 4.5 – This figure contains too much information, making it very difficult to understand. Specifically, there are too many wells with too many overlapping plots. This figure should be divided into a minimum of two separate figures.

    RESPONSE:*. Figure 4.5 has been revised into two separate figures as requested.*

25. Appendix A, p. 8, 2nd paragraph – Figures 5 and 6 are referenced for methane concentration maps, but Figure 5 shows PCE, not methane.

    RESPONSE: *The reference was revised to the correct figure.*

26. Appendix A, p. 8, 4th paragraph – Increased PCE in G6M-13-05X has been attributed to a delay response to ERD injections. EPA understands how a steady response could be attributed to a delay; please explain how an increase in concentration is caused by delay. Is there another explanation for the increase?

    RESPONSE: *Comment noted. The concentration at G6M-13-05X showed concentrations increasing after the abutting well (G6M-04-12X) was converted to an injection point. This may be attributable to changes in pH and available organic carbon. Since injecting at G6M-*

04-12X, concentrations at G6M-13-05X have decreased moderately. It is likely too early to make definitive conclusions about the impacts of substrate injections upgradient of G6M-13-05X. As indicated in the earlier responses, additional injections in the vicinity of G6M-13-05X are likely to occur in upcoming substrate injection events.

27. Appendix A, p. 10, last sentence – EPA agrees with the recommendation for additional injections upgradient of G6M-97-05B. When and where will a new injection well be installed, and what is the proposed screen depth? EPA looks forward to discussing and reviewing a plan for this action soon.

    RESPONSE: *The Army is reviewing the site data and will determine if direct injection or additional injection wells are the best method to address the impacts at G6M-97-05B.*

28. Appendix A, Appendix B – EPA recommends that these charts be presented as report figures instead of, or in addition to, their presentation as an appendix within an appendix. Chart 10 uses a different color scheme for TCE and methane than the other charts; consistent colors for these are recommended.

    RESPONSE: *The document will be revised to show the charts as figures within the document.*

Responses to MassDEP Comments dated September 9, 2016 on the
***2015 Annual Operation & Maintenance (O&M) and Monitoring Report* for AOC 50**
Dated August 4, 2016

1. Section 1.1: The report indicates that a single “supplemental” injection event was conducted during 2015; however, as noted here, semi-annual injections were conducted during 2008 to 2014, and semi-annual injections were expected during 2015. Consequently, the report should explain the decision to only conduct a single injection event during 2015. In particular, the report should explain why the reducing conditions needed to support contaminant degradation were expected to persist for more than 6 months.

   RESPONSE: *Please see response to EPA General Comment 1.*

2. Section 2.2: MassDEP agrees with the recommendation to extend the Area 5 treatment zone westward sufficiently to treat groundwater upgradient of wells G6M-97-05B, G6M-13-01X, and G6M-13-04X, where PCE concentrations have increased during recent sampling events.

   RESPONSE: *Comment noted.*

3. Section 8.0: MassDEP agrees with the recommendations listed here; in addition, the frequency of recommended injections should be specified and explained (refer to Comment 1).

   RESPONSE: *See response to EPA General Comment #1.*

4. Figure 2.1b: For future reference, please add the locations of the Geoprobe injection points that were used to treat Area 1 during 2015.

   RESPONSE: *A revised figure has been prepared showing the Geoprobe injection points in Area 1.*

5. Table 2.1: Daylighting in several injection wells (IW-17D, IW-7, and IW-11) suggests that these wells may not be capable of distributing substrate effectively. The report should include a recommendation to determine if reconditioning, repair, or replacement of these wells is necessary to ensure adequate performance.

   RESPONSE: *This recommendation will be taken into consideration. Section 4.1.4 includes discussion of direct injection instead of using well points.*

6. Table 2.1, First Row: Well G6M-04-12X should be restored and converted to an injection well as planned, or a replacement injection well should be installed to treat the PCE hotspot at well G6M-13-05X.

   RESPONSE: *This recommendation will be taken into consideration, however direct injection of the substrate at Area 1 will create a reducing environment that will degrade the concentrations at G6M-13-05X.*

7. Table 2.1 does not include data from injection wells G6M-07-01X (Area 2), G6M-06-01X (Area 4), G6M-02-05X (Area 5), and IW-39 (Area 5), suggesting that injections were not performed on the west ends of Area 2, Area 4 and Area 5 during 2015. The table should be revised to include the missing data, or the report should be revised to explain the reason(s) injections were not performed at these critical locations.

   RESPONSE:*. Table 2.1 was reviewed and any missing data was incorporated.*

8. Table 5.1: Based on the results presented here, the low-flow groundwater sampling protocol should not be replaced by the HydraSleeve sampling technique.

   RESPONSE: *As was noted in the report, additional Hydrasleeve samples will be collected for further evaluation.*

9. Appendix E: The Annual Land Use Checklist & Interview Form is incomplete. Rather than indicating interviews were “previously conducted”, Section IV (Interview) should document the results from the 2015 LUC interviews (including updates to the three questions listed in the lower part of the section) to support an evaluation of the performance of the land use controls. In addition to interviewing Army and MassDevelopment representatives, USFWS, Groton Ayer Realty Trust (Merrimack Warehouse Realty Company?), and any other site property owner representatives should have been interviewed.

   RESPONSE: *The LUC Checklist was updated to reflect the interviews.*

Responses to PACE Comments dated September 6, 2016 on the *2015 Annual Operation & Maintenance (O&M) and Monitoring Report* for AOC 50 dated August, 2016

AOC 50

1. Table 3 indicates that the tetrachloroethylene (PCE) concentration in well G6M-07-02X (in the Former Drum Disposal Area) rose to 14,000 parts per billion (ppb) in November 2014. Figure 5 indicates that this well is scheduled for annual sampling. Given the large increase in PCE concentration in this well, why was this well not sampled in 2015? If the well ehas been destroyed, are there plans for its replacement?

***RESPONSE:**. Location G6M-07-02X was sampled after the injection event in October 2015. The concentration decreased to 482 ug/L. Monitoring location G6M-04-13X was sampled in 2014 and was below the MCL. This monitoring point is located near G6M-07-02X. This well will continue to be sampled per the LTMMP.*

2. Section 4.1.2 references Figures 4.1 through 4.4. These figures were not found in the Figures section of the report.

***RESPONSE:**. Comment noted. The figures have been renumbered as 20 through 23.*